

COGNITIVE STYLE COMPATIBILITY AND JOB  
SATISFACTION OF UNIVERSITY PERSONNEL:  
AN EXPLORATORY STUDY

By

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## PREFACE

This study is concerned with the cognitive styles of field-dependence/independence and their relationship to job satisfaction of university personnel. The Embedded Figures Test (EFT) was the instrument used to measure differentiation of cognitive styles. The Minnesota Satisfaction Questionnaire (MSQ) was the instrument used to measure the tendency toward job satisfaction/dissatisfaction. Since most persons will spend a large portion of their lives working in organizations, job satisfaction (as opposed to job dissatisfaction) is considered desirable for self-esteem as well as self-preservation. There are many variables that may contribute to a person's satisfaction on the job. This study deals with only one of them--cognitive style.

I wish to acknowledge the assistance of my committee members and their contributions to this study: My major adviser, Dr. Kenneth St. Clair, who never gave up hope in my finishing the dissertation, and who assisted me not only in the content and methodology of the study, but also in the footwork and coordination of both paperwork and meetings of the committee while I commuted from Nebraska; Dr. Wayne Meinhart, who introduced me to organizational theory and the likes of March and Simon, Barnard, Cyert, Thompson, and others whose insightful works provided the impetus for my pursuing a program emphasizing administration and organization theory; Dr. Bill Elsom who, because of his expertise in research design and methodology, scares the hell out of most graduate students (and some doctoral committees), for helping

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## TABLE OF CONTENTS

Chapter	Page
I. THE RESEARCH PROBLEM . . . . .	1
Introduction . . . . .	1
Statement of the Problem . . . . .	2
Purpose of the Study . . . . .	3
Background and Value of the Study . . . . .	4
Research Questions . . . . .	6
Assumptions of the Study . . . . .	7
Limitations of the Study . . . . .	7
Definition of Terms . . . . .	8
Summary . . . . .	9
II. REVIEW OF THE LITERATURE . . . . .	12
Introduction . . . . .	12
Cognitive Style . . . . .	13
Reliability and Validity--Embedded Figures Test (EFT) . . . . .	18
Job Satisfaction . . . . .	21
Reliability and Validity--Minnesota Satisfaction Questionnaire (MSQ) . . . . .	26
Summary . . . . .	27
III. METHODS AND PROCEDURES . . . . .	31
Introduction . . . . .	31
Sample . . . . .	31
Instrumentation . . . . .	33
Data Collection . . . . .	41
Analysis of Data . . . . .	41
Summary . . . . .	43
IV. ANALYSIS OF DATA . . . . .	45
Introduction . . . . .	45
Description of Subjects . . . . .	45
Results . . . . .	47

Chapter	Page
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . . .	57
Summary . . . . .	57
Conclusions . . . . .	59
Recommendations . . . . .	61
Concluding Comments . . . . .	62
SELECTED BIBLIOGRAPHY . . . . .	65
APPENDIXES . . . . .	68
APPENDIX A - STUDIES CONCERNING VALIDITY OF THE EFT . . . . .	69
APPENDIX B - PACKET OF MATERIALS GIVEN TO DEPARTMENT HEADS . . . . .	71
APPENDIX C - MINNESOTA SATISFACTION QUESTIONNAIRE . . . . .	78

## LIST OF TABLES

Table	Page
I. Norms for Embedded Figures Test . . . . .	19
II. Reliabilities for Embedded Figures Test . . . . .	20
III. Summary Data on Embedded Figures Test (EFT) . . . . .	50
IV. Summary Data on Minnesota Satisfaction Questionnaire . . . . .	50
V. MSQ Scores of Faculty Compared to Norm Group . . . . .	52
VI. Normative Data of Professionals - MSQ . . . . .	53
VII. Embedded Figures Test (EFT) Summary of Grouped Scores . . . . .	54
VIII. Minnesota Satisfaction Questionnaire (MSQ) Summary Data of Grouped Scores . . . . .	55
IX. Normative Data on EFT Compared to Faculty . . . . .	56

## LIST OF FIGURES

Figure	Page
1. Samples of Cards Used in EFT Test . . . . .	35
2. Data Sheet for Scoring EFT . . . . .	37
3. Distribution of Scores on the EFT and the MSQ . . . . .	48
4. Scatter Diagram of MSQ and EFT Scores . . . . .	49



## CHAPTER I

### THE RESEARCH PROBLEM

#### Introduction

"That #@%!\*#\*!! doesn't know his --- from a hole in the ground!" How often have you heard this expression (or used similar expletives yourself) in reference to an administrator or supervisor? Such a statement suggests, at the least, a certain degree of job dissatisfaction experienced by an employee in a working situation. Job dissatisfaction is a problem indigenous to all organizations, including universities. Though a solution is not immediately foreseen, a better understanding of the phenomena of job satisfaction and job dissatisfaction would be useful to students of organization.

Too often causes of job dissatisfaction are assumed to be inadequate working conditions, lack of job enrichment, low salaries, lack of opportunities for advancement, and a variety of other reasons. While any of the foregoing can be contributing factors, job dissatisfaction may in fact be related directly to a faculty member's interaction with his/her immediate administrator or supervisor.

Interaction between faculty members and administrators does not necessarily mean a face-to-face type of situation. During the course of a day, interaction may also be in the form of written messages concerning rules, regulations, or procedures; verbal messages delivered by another staff member or secretary; or other organizational and social

behaviors exhibited by the administrator. These and other elements of specific patterns of strategies (cognitive styles) employed by an administrator, may generate hostility from personnel who prefer different ways of dealing with various situations. Thus, in many instances, faculty members may be either satisfied or dissatisfied with their jobs depending upon the cognitive style of the administrator to whom they report. Perhaps job satisfaction in organizations could be enhanced if the cognitive styles of administrators were more compatible with those of their staffs.

### Statement of the Problem

The problem addressed in this study was cognitive style compatibility and job satisfaction of university personnel. A quotation from Etzioni's Modern Organizations is pertinent to the understanding of the problem:

We are born in organizations, educated by organizations, and most of us spend much of our lives working for organizations. We spend much of our leisure time paying, playing, and praying in organizations. Most of us will die in an organization, and when the time comes for burial, the largest organization of all--the state--must grant official permission.<sup>1</sup>

If Etzioni is correct, it is desirable that the working force in our society maintain some degree of job satisfaction in organizations. Interaction between personnel and their administrators or supervisors is a daily fact of life in most organizations. In view of, or in spite of, this interaction, persons strive to maintain their individual differences. Studies of individual differences have shown that the concept of cognitive style is present in the perceptual and conceptual behavior of individuals interacting with their environment.<sup>2</sup> In a university setting, if the cognitive style of an administrator is in direct

contrast to that of a faculty member, it is possible that a conflict may arise between the two, eventually leading to job dissatisfaction of either the administrator, the faculty member, or both persons involved.

#### Purpose of the Study

Studies in the field of psychology, focusing specifically on cognitive styles, are fairly recent beginning with the efforts of Herman A. Witkin and associates.<sup>3</sup> Moreover, the works of Eriksen, Allport, Bruner, and others<sup>4</sup> have generated much research in the areas of cognition and cognitive processes. There is, however, a paucity of research in the specific area of cognitive style and administration. The purpose of this study was to investigate the degree to which cognitive style compatibility (between an administrator and his/her faculty member) was related to the job satisfaction of the faculty member. This exploratory investigation provided further information on the dynamics of interaction between administrators and university personnel.

In most organizations, job satisfaction is contingent on many variables including salary, working conditions, job assignments, motivation, and status. Since many persons have a preferred way of dealing with varied and complex situations, differences between the cognitive styles of university faculty members and administrators may generate conflict within the working situation resulting in job dissatisfaction. Furthermore, job dissatisfaction on the part of faculty members leads to less productivity, a lack of cooperation toward the goals of the organization, and even outward hostility toward the administrator. This is not to suggest that greater satisfaction on the job will lead to an

increase in happiness, greater productivity in the organization, or even friendly relations in the world of academia.<sup>5</sup> But if, as Etzioni suggests, persons do spend much of their time in organizations--in this case, the university--it appears that a satisfactory working relationship between administrators and faculty members would be desirable. If this is the case, their satisfaction in the university might be dependent upon their respective cognitive styles and, thus, their compatibility.

#### Background and Value of the Study

In 1973, the Gallup Poll registered a ten-point drop in job satisfaction from 1969 to 1973. In 1974, Strauss asserted that we are in the middle of a national debate concerning issues relating to worker alienation and job enrichment.<sup>6</sup> More recently, inflation running wild, heightened interest in foreign affairs, and the seeming disinterest in domestic problems by our government have increased malcontent among our working force. Together, social critics and establishment representatives (an unusual alliance), agree that worker discontent is rapidly rising and that work reforms are urgently needed. Job design schemes such as job enlargement, participatory decision making, and job enrichment may increase satisfaction and productivity in some cases; however, their main advantages are in providing a more flexible work force, improving communications among workers, and increasing the supply of desirable features on the job.<sup>7</sup>

In reference to Maslow's hierarchy,<sup>8</sup> once basic extrinsic needs are satisfied (those in the preceding paragraph, for example), intrinsic needs--self-actualization, self-esteem--assume greater importance.

Furthermore, such needs are desired on the job. And, since most persons will spend much of their lives working in organizations, it appears that a compatible working relationship between administrators and staff is a necessity.

Based on the findings of Witkin and Associates in their studies of psychological differentiation, the cognitive styles of field-dependence and field-independence (characteristics of differentiation) refer to specific aspects of behavior. They reflect the quality of a person's experience in the environment, the way of perceiving and using one's body, the nature of a person's relationship to other people, and aspects of one's controls and defenses. According to Witkin, these experiences do not appear to be a random conglomeration of happenings but, instead, intrinsically coherent patterns. These patterns suggest a consistency in psychological functioning which pervades a person's perceptual, intellectual, emotional, motivational, social, and defensive operations.<sup>9</sup> While the characteristics of cognitive styles, such as field-dependence and field-independence, may reflect opposite ends of a continuum, persons do not necessarily exhibit one style of behavior exclusive of the other. Rather, cognitive styles of individuals may range anywhere between both ends of a continuum.<sup>10</sup> In addition, depending upon the circumstances of behavior, a person may modify his/her style to accommodate the situation or an individual with whom one is interacting.

Early studies of adults and children with different ways of perceiving showed clearly that the formal features of personality-- characteristics of functioning based on given structural arrangements-- were critical. On the basis of a common perceptual (cognitive) style, persons who were grouped together resembled one another in particular

aspects of how they satisfied their needs, resolved their conflicts, handled their aggressions, and formed their attitudes. But, these same persons differed in what they wanted, were in conflict about, became angry over, and believed in as well as the life themes that ran through their developmental histories.<sup>11</sup> Thus, if there are differences in cognitive style compatibility between administrators and faculty members, there will be some degree of relationship to job satisfaction experienced by university personnel. These types of situations and occurrences led the investigator to conduct the present study.

Tyler asserts that there are hundreds of traits or characteristics in which measurable individual differences have been shown to exist. Cognitive style is only one of them. There is little we can do with that information, however, until researchers have gone beyond reporting that variability is present. If trait measurements are to be useful in human affairs, correlational research is one method that has been devised to produce additional knowledge.<sup>12</sup> From the unique aspects of a person's developmental history, a preferred way of dealing with complex situations is acquired. Thus, these preferred ways--the administrator's and faculty member's cognitive styles--relate to job satisfaction of university personnel. The study reported herein was designed to investigate the degree of that relationship.

#### Research Questions

The research questions formulated for this investigation were as follows:

Question 1: Given the knowledge of cognitive styles of both administrators and their faculty members, what is the degree of relationship between cognitive

style compatibility and job satisfaction of the faculty members in the study?

Question 2: What is the relationship between cognitive style compatibility and job satisfaction in terms of each college of learning?

Question 3: What is the relationship between cognitive style compatibility and job satisfaction of each department selected in the study?

Question 4: What is the relationship between cognitive style compatibility and job satisfaction in terms of professorial rank?

### Assumptions of the Study

Witkin and associates have found that cognitive style characteristics can be traced back to developmental histories of individuals.<sup>13</sup>

For the purposes of this study, the following assumptions were made:

The cognitive styles of field-dependence/independence are definite and stable characteristics of individuals.

The responses of professors to the items on the EFT are accurate according to their perceptions.

The Minnesota Satisfaction Questionnaire (MSQ) was selected for use in this exploratory study because of its high reliability, its ease of administration and scoring, and its appeal to face validity of the trait being measured.

The responses of professors on the MSQ are representative of their actual perceptions concerning their job satisfaction/dissatisfaction.

### Limitations of the Study

1. Although there are other cognitive style characteristics, such as levelers/sharpeners, repressers/intellectualizers, and others, the investigator limited the study to field-dependence/independence.

Unlike other cognitive style characteristics, field-dependence/independence are basic theoretical principles resulting from careful and extensive experimentation by Witkin and associates.<sup>14</sup>

2. Because of the exploratory nature of this investigation, the results may not be generalized beyond the academic colleges, departments, administrators, and faculty members who participated in the study.

3. The subjects and the university in this investigation may not be representative of similar subjects and institutions in the United States.

4. The subjects in the study were limited to a distinct population within a land-grant institution; i.e., Assistant, Associate, and Full Professors.

#### Definition of Terms

1. Cognitive Style--This concept involves characteristic, self-consistent modes of functioning which individuals show in their perceptual and intellectual activities as measured by the Embedded Figures Test. Manifestations appear in the cognitive sphere of still broader dimensions of personal functioning which cut across diverse psychological areas. Behaviors are characterized as stable processes of perceivers who organize and use information through interaction with their environment.

2. Field-dependence/independence--These are specific patterns of strategies used by a person in an array of situations of a given structure. Strategies are related to performance of disembedding a broad number of perceptual tasks.



In a field-dependent mode of perceiving, perception is strongly dominated by the overall organization of the surrounding field, and parts of the field are experienced as "fused."

In a field-independent mode of perceiving, parts of the field are experienced as discrete from organized ground. Scores tend toward one or the other end of a continuum in the Embedded Figures Test.

3. University Administrator (used interchangeably with supervisor)--A person designated as a Department Head, Director, or Chairperson of an academic college whose function fulfills two objectives of a university department--coordinating staff functions and overseeing departmental budgets.

4. University Faculty Member (used interchangeably with staff member and university personnel)--Individuals reporting to a university administrator in a department whose function fulfills two objectives of a university--teaching and research.

5. Job Satisfaction/Dissatisfaction--A faculty member's satisfaction/dissatisfaction with his/her job as measured by the Minnesota Satisfaction Questionnaire.

#### Summary

Chapter I presented an introduction to the problem and the purpose of the study, as well as supplementary information concerning the mechanics of the study. To reiterate, the purpose of this study was to investigate the degree to which cognitive style compatibility is related to the job satisfaction/dissatisfaction of faculty members, as measured by the MSQ and the EFT. The following chapter is a review of the literature concerning the concepts of cognitive style and job satisfaction.

## ENDNOTES

<sup>1</sup>Amitai Etzioni, Modern Organizations (Englewood Cliffs, New Jersey, 1964), p. 1.

<sup>2</sup>Herman A. Witkin, R. B. Dyk, H. D. Faterson, D. R. Goodenough, and S. A. Kays, Psychological Differentiation (New York, 1962).

<sup>3</sup>Herman A. Witkin and Associates, Personality Through Perception (New York, 1954).

<sup>4</sup>C. W. Eriksen, "The Case for Perceptual Defense," Psychological Review, Vol. 61 (1954), pp. 175-182; G. W. Allport, "Perception, Perception, and Public Health," Personality and Social Encounter (Boston, 1960), Chapter 18; and Jerome S. Bruner, The Process of Education (Cambridge, Mass., 1962). See also, S. Asch, Social Psychology (Englewood Cliffs, New Jersey, 1952); J. S. Bruner, J. Goodnow, and G. Austin, A Study of Thinking (New York, 1956); and Piaget's numerous works in cognitive development.

<sup>5</sup>See Victor H. Vroom, Work and Motivation (New York, 1964), pp. 181-187, for a review of the literature relating to satisfaction and productivity.

<sup>6</sup>George Strauss, "Job Satisfaction, Motivation, and Job Redesign," Organizational Behavior: Research and Issues (Madison, Wisc., 1974).

<sup>7</sup>Ibid.

<sup>8</sup>A. H. Maslow, Motivation and Personality (New York, 1954).

<sup>9</sup>Witkin, Psychological Differentiation, p. 4.

<sup>10</sup>In a recent work in the Review of Educational Research, Witkin and others point out that scores on tests of field independence form a continuous distribution which reflects a tendency toward varying degrees on one or the other perception. They make it clear that there are no two distinct types of human beings. Herman A. Witkin and Associates, "Field-Dependent and Field-Independent Cognitive Styles and Their Educational Implications," Review of Educational Research, Vol. 47, No. 1 (Winter, 1977), pp. 1-64.

<sup>11</sup>Ibid., p. 8.

<sup>12</sup>Leona E. Tyler, Individual Differences--Abilities and Motivational Directions (Englewood Cliffs, New Jersey, 1974).

<sup>13</sup>Witkin, Psychological Differentiation, p. 4.

<sup>14</sup>Ibid.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

Characteristics of individuals evolve from various sources including heredity, environment, culture, and societal aspects of the particular group of persons concerned. A term borrowed from Buchler, "proception," takes into account the view that each individual develops behaviors according to past experiences, emotional dispositions, and expectancies for the future. Proceptive directions provide an individual's potential for seeing, hearing, doing, thinking, making, and saying. If there were no proceptive directions, there could be no characterization of the course of an individual's life except, perhaps, in a biological sense.<sup>1</sup>

It would be difficult, if not impossible, to describe all the broad types of proceptive directions which distinguish individuals from each other. Some persons pattern their lives as a result of the past, others of the present, and still others of the future.<sup>2</sup> It is somewhat easier to study limited proceptive dispositions called "perceptual response dispositions," "personal constructs," "mental sets," or simply "cognitive styles," the terms used in this study. This section of the study concerns a review of the literature on the concept of cognitive style.

## Cognitive Style

Research conducted by various investigators in the area of cognitive style has resulted in an important finding. During various testing situations, subjects behaved consistently on quite different types of tests. Some persons were unable to change their cognitive styles when objective conditions demanded it; and, by contrast, others were quite flexible. Witkin and associates called the first group "field-dependent," the second group "field-independent."<sup>3</sup>

After rigid testing, interviews, and other procedures, Witkin and associates found that the field-dependent subjects were, in general, very dependent on environmental supports and had difficulty divorcing themselves from the restrictions of particular testing situations. In addition, they discovered that field-dependent persons lacked the ability to initiate behaviors and, in many respects, were passive and submitted readily to the forces of authority. Moreover, field-dependent persons were not insightful concerning their inner life. They feared their own aggressive and sexual impulses, and they tended to have low self-esteem and low self-acceptance.

By contrast, Witkin and associates found that field-independent subjects did not demand environmental supports; they had initiative and organizing ability; they were active and wanted to achieve; they were aware of their inner life and accepted their impulses, even while they had good control over them. Furthermore, the field-independent subjects had high self-esteem and high self-acceptance.<sup>4</sup>

Witkin and associates have had much supportive evidence by other investigators approaching the same problem from different perspectives. Klein's work resulted in what he termed levelers--individuals who

characteristically hold tight to their categories of perception and judgment; and sharpeners--who seem, like the field-independent type, to be more adventurous in coping with their environment.<sup>5</sup>

In much the same way, Eriksen distinguished between "repressers" and "intellectualizers." During a testing situation, repressers "played safe" by keeping strictly within the field--excluding adventure-some perceptions and judgments. The intellectualizers were able to detach themselves from the field presented and made bolder judgments during the testing situations.<sup>6</sup>

In other studies, Goldstein and Scheerer made a distinction between "concrete thinkers--those who keep close to literal-minded reality; and abstract thinkers--those who can be detached from reality and are more flexible."<sup>7</sup> Although evidence on cognitive styles has been acquired from various sources, all individual styles have not yet been identified. Nevertheless, the evidence thus far is strong enough to make the point, as Allport does, that personality and procepts (cognitive styles) go hand-in-hand.<sup>8</sup>

Allport summarizes a short review of cognitive style literature when he says, "A person who is insecure, self-distrustful, who feels threatened by life or is otherwise inadequate, tends to have a congruent cognitive style which is rigid, field-bound, concrete and acquiescent."<sup>9</sup> This definition fits the field-dependent type of person. By contrast, "the more active, able, secure, relaxed individual is able to perceive and think in channels that are flexible and, on the whole, better adapted to the objective demands of a particular situation."<sup>10</sup> This definition fits the field-independent type of person.

How do individuals develop different cognitive styles? Shaffer and associates worked with ten-year-olds to whom perceptual tests, similar to Witkin's, had been given. They found that,

. . . The background and training of the field-dependent and field-independent children differed markedly. Parents of field-dependent children on the whole had punished them more severely, using both aggressive modes of punishment and the withdrawal of love. They had forbade them to show assertive or overly independent behavior, and in general imposed their own standards upon the children. By contrast, the parents of field-independent children encouraged them to make their own decisions and were more likely to give punishment for being too passive or babyish than for asserting independence. In short, these children were free to develop autonomy and were not punished for it.<sup>11</sup>

Thus, it appears that the roots of cognitive styles may lie, partly at least, in patterns of child training and development.

Cognitive styles of individuals are evident in various aspects of behavior. In 1968, Dockett found that "decision-making behavior is related to cognitive styles, specifically goodness of decision."<sup>12</sup> Also, the use of relevant information when making decisions was reflective of a class or kind of cognitive style. Thus, the type of decision, as well as the information used when making a decision, may depend upon the cognitive style of an administrator in a university setting. To the extent that a decision made concerns a staff member with a contrasting cognitive style, a conflict may arise (spoken or unspoken), resulting in a degree of dissatisfaction for the staff member.

Davis' study in 1969, suggested that cognitive styles are not necessarily a unitary process.<sup>13</sup> It appears that although a person behaves usually with a specific cognitive style, this does not necessarily mean to the exclusion of all other kinds of cognitive styles. For example, a department head's explanation to the staff concerning the reorganization of the department, would be different than the head's same type of

explanation to a ten-year-old daughter or son (assuming, of course, that the child is interested in such affairs). Thus, if the department head uses a particular cognitive style with the staff, it might be modified, and could be, when dealing with a child or someone outside the department.

Empathy has been cited by researchers as a prime requisite for effective counselors. In a study by Loewenstein, it was found that counselors who were field-independent, low dogmatic types exhibited higher levels of empathy than counselors who were field-dependent, high dogmatic types.<sup>14</sup> Although administrators are not necessarily regarded as counselors, they are involved in daily interaction with their staff members which often requires them to behave in a counseling or advisory capacity. By implication then, it appears that field-independent administrators may be more effective in dealing with their staff members than field-dependent administrators.

In a recent work, Witkin and others cited several studies on cognitive style and its implications for the field of education. The investigations cited dealt mainly with teachers and their students in the classroom. DiStefano<sup>15</sup> found that teachers and students matched in cognitive styles viewed each other negatively. The evaluations in that investigation centered on both cognitive and personal characteristics. In 1973, James<sup>16</sup> used a questionnaire similar to that used by DiStefano and confirmed the latter's findings of significantly greater interpersonal attraction in matched than in mismatched teacher/student combinations. In that same investigation, James asked each teacher to grade students on their classroom performance before giving them a final exam for the course. His findings showed that field-independent



teachers gave their field-independent students higher grades than the field-dependent students. Conversely, the field-dependent teachers gave their field-dependent students higher grades than their field-independent students. Thus, as Witkin asserts,

. . . It seems plausible that interaction between people should proceed more smoothly, and mutual feelings between them should be more positive, when, as a function of similarity in style, they share the same interests, have common personality attributes, and use similar communication modes.<sup>17</sup>

Witkin's comments construe a wide range of implications in the dynamics of interaction between administrators and faculty members, as well as supervisors and employees in occupations other than those in an academic setting.

In their extensive investigations, Witkin and associates have found that the characteristic approach a person brings to a wide array of situations, encompasses both perceptual and intellectual activities. This view was extended by demonstrating that this cognitive style cuts across perceptual and intellectual domains and extends into other areas traditionally labeled "personality." This idea becomes clearer as interpersonal-attraction effects are discussed.

In some of the studies cited in Witkin's investigation, interpersonal-attraction effects were evident after only a short time of interaction between matched and mismatched subjects. The attraction effects may, in fact, have been discovered sooner had they been sought in Witkin's study. Nonetheless, it was impressive that persons not knowledgeable about cognitive styles responded naturally and with apparent ease to cues about another person's field-dependence or field-independence. It may be that some behaviors associated with cognitive styles are inherently obvious to individuals.<sup>18</sup>

## Reliability and Validity--Embedded Figures

### Test (EFT)

In Chapter I, the assumption was made that the cognitive style characteristics of field-dependence/independence can be assessed through the use of the Embedded Figures Test. These characteristics have resulted from careful and extensive experimentation by Witkin and his associates. The theory of psychological differentiation inculcates these characteristics, as well as others, and is being studied currently by researchers in the field of psychology. The EFT has been shown to be a reliable and valid measure of the cognitive style characteristics dealt with in this study.

The EFT used in this investigation is a shortened version of a larger, original series of 24 cards, also developed by Witkin and associates. In addition, the allotted time for subjects to search for and find the embedded figure was reduced from the original 5 minutes to 3 minutes; and the series of 24 cards was reduced to 12 cards by Witkin and associates. In spite of the reduction in the number of cards and in the amount of time to find the figures, neither the reliability nor the validity of the instrument were affected. They found that the 12-trial, 3-minute format is an adequate substitute for the original EFT. Correlations between the original test and the shortened version were: .92 for a group of college males; .97 for 17-year-old males; and .92 for 17-year-old females.<sup>19</sup>

Selected reliabilities and norm groups of subjects for the EFT are presented in Tables I and II. Since there is presently no norm group fitting the description of subjects used in this study, the most appropriate groups are marked with asterisks. Both these groups were administered the shortened version of the EFT. Appendix A presents a bibliography of studies that validate the concept of EFT as a test of

TABLE I  
NORMS FOR EMBEDDED FIGURES TEST\*

Age Level	Sex	Number	Mean (Sec./Item)	S.D.
15	M	25	34.6	30.5
15	F	25	47.1	22.8
17	M	23	32.0	25.7
17	F	25	50.4	26.9
College	M	51	45.5	28.5
College	F	51	66.9	33.6
College**	M	34	48.3	22.4
College	F	34	69.4	41.0
College	M	150	54.3	36.8
30-39	M	21	55.6	32.7
30-39	F	32	84.2	34.4
37**	M	80	47.7	26.3
33	F	80	63.6	34.9

\*These data for the EFT were obtained by recomputing scores for the tests given in the original 24-figure, 5-minute form. The college group (34 males and 34 females) and the group aged 33 and 37, were given the short version of the EFT. The data show sex differences in the age ranges considered, a characteristic finding in numerous studies.

\*\*Norm group used in this study. These groups were administered the 12-card, 3-minute format of the EFT.<sup>20</sup>

TABLE II  
RELIABILITIES FOR EMBEDDED FIGURES TEST\*

Age Level	Sex	Number	Reliability
15	M	25	.92
15	F	25	.74
17	M	23	.84
17	F	25	.61
College Students	M	51	.82
College Students	F	51	.79
College Students	M	150	.85
33	M	21	.90
34	F	32	.82

\*Reliabilities for the 12-figure, 3-minute format are all based on data obtained by recomputing scores for tests given in the original full 24-figure, 5-minute form. In many studies, high odd-even reliabilities have been found for the original full form of the test: Linton (1952), .90 for college men; Longenecker (1956), .92 for college men; Gardner, Jackson & Messick (1960), .95 for college women. Bauman (1951) reported a test-retest reliability of .89 after a 3-year interval for both a group of young men in their 20s, and a group of young women of similar age.<sup>21</sup>

field-dependence/field-independence in perception, and that it reflects the extent of competence at disembedding in intellectual functioning as well. Other studies that contribute to the validity of the concepts relate performance on the EFT to social behavior: Bell determined that field-dependent subjects were more "other-directed" in their behaviors; Crandall and Sinkledam found that field-dependent children showed less autonomous play; Linton and Graham determined that field-dependent subjects showed greater attitude change in response to authoritative-sounding communication; and Zuckerman discovered that field-dependent subjects showed greater stress response to sensory and social isolation.<sup>22</sup>

The studies cited above, and those by Witkin and associates, are pertinent to the present investigation. Interaction among teachers and students in the classroom, and of individuals in social and occupational atmospheres are essentially "givens" in the nature of our society. Most persons seek a measure of compatibility among personal and occupational contacts or, at the least, wish to avoid conflict within these relationships. In a university setting, if an administrator is aware of a faculty member's cognitive style, this knowledge can be used as an aid for the administrator to adapt his/her strategies if necessary to accommodate each member's style. The ultimate objective would be cognitive style compatibility which, hopefully, would have a bearing on some degree of job satisfaction of university personnel, the major focus of the present investigation.

#### Job Satisfaction

There are many factors that affect the job satisfaction of the working force in our society. It is a rare individual who does not

wish to maintain positive attitudes toward other workers, supervisors, job responsibilities, and the particular organization of which one is a part. The numerous studies on job satisfaction attest to the desire of individuals to have these needs fulfilled.

In any study of job satisfaction, the pioneering work of Elton Mayo and his colleagues at the Harvard Business School comes to the fore. In their studies, they found that the relationship between workers and their supervisors had a more positive influence on output than any manipulation of environmental conditions. In addition, the informal associations of a group of workers acted as critical stabilizers on the level of production. This approach (designated as human relations) led to fruitful research and to changes in industrial practice.<sup>23</sup> After Mayo and associates' initial contribution, studies of motivation and job attitudes quickly followed.

Herzberg and associates<sup>24</sup> posited two groups of factors which contribute to either positive or negative job attitudes--motivators and hygiene. Motivators revolve around the need to develop in one's occupation. They lead to positive job attitudes because they satisfy the individual's need for self-actualization or self-realization, the ultimate goal according to personality theorists. Hygiene operates as an essential base to the motivators and is associated with fair treatment in compensation, supervision, working conditions, administrative practices, benefits, and job security.

The fulfillment of the needs of the hygiene group does not motivate the individual to high levels of job satisfaction and extra performance on the job. Rather, when these factors deteriorate to a level below what an employee considers acceptable, then job dissatisfaction occurs.

According to Herzberg and associates, "The profoundest motivation to work comes from the recognition of individual achievement and from the sense of personal growth in responsibility."<sup>25</sup>

Much research has been conducted in terms of employee job satisfaction and the contributing factors toward positive interrelations within organizations. In a well-known survey of the literature, Brayfield and Crockett came to the conclusion that there is no relationship between job attitudes and performance on the job.<sup>26</sup> This prompted other investigations concerning job attitudes.

In 1963, Glaser found that the relationship between scientists and supervisors involved in basic research contributed to the goals of the organization. The mutual attraction and association that result in an integrated work relationship between supervisor and subordinate are based on each person's research competence. Both persons find this relationship enjoyable and engage in it on a person-to-person basis. This mutual attraction based on competence results in a stable work relationship between the scientist and his supervisor.<sup>27</sup> (See page 25, of this study for other information on interpersonal attraction effects.)

Glaser's study reinforces the Likert studies which point out that employees who accept current supervisory behavior do not record low levels of satisfaction.<sup>28</sup> Indeed, the relationship between low satisfaction levels and certain supervisory styles arises primarily from the desire of certain less satisfied employees to modify the kind of supervision they receive. Thus, the relationship between supervisor and employee is a crucial factor in the continuing goal of job satisfaction in organizations. Competence of employees and relationships to supervisors are only two areas that job satisfaction studies have addressed.

Research on job satisfaction differs in many ways; i.e., in design, population, organization, and other factors. Common to most of these studies, however, is the "affective feeling" responses or states experienced by persons during the course of their employment. These feelings, either real or implied, are important because they are related directly to the continuance of employee participation in organizational activities. Support for this view is found in the study by Smith, Kendall, and Hulin who defined job satisfaction as feelings of affective responses to the work situation. They posited that these responses are best explained by a discrepancy between the work motivation attitudes and the incentives offered by the organization.<sup>29</sup>

Other similar conceptualizations are found in March and Simon's and Barnard's inducements-contributions theories, the cognitive dissonance theory by Festinger, and the inequity theory by Adams.<sup>30</sup> Thus, if persons perceive their performances in organizations as justly rewarded, job satisfaction very likely will be experienced. If persons perceive rewards as inequitable, attitudes toward their work and the organization will shift to accommodate the inequity. This accommodation or shift results in decreasing the job satisfaction of the employee.<sup>31</sup> The more overt form of job dissatisfaction--job seeking or transfer--then becomes quite evident. Seldom do we see an employee who is satisfied with his/her salary, prestige in the organization, and specific responsibilities "hitting the bricks."

In addition to a proper balance of inducements-contributions in an organization, other factors affect job satisfaction of employees. Belasco and Alutto found that decisional climate is a major aspect influencing, for example, teacher satisfaction levels. Those persons



with low satisfaction also have the highest level of decisional deprivation. The investigators defined satisfaction as the willingness to remain in the organization despite a variety of inducements to leave.<sup>32</sup>

Their findings support a study by Lyons and Goldman who concluded that:

1. An individual will tend to be more satisfied with those aspects of his life or job in which he has more control than in those areas over which he has less or none.
2. The amount of satisfaction decreases as the difference between perceived actual influence and perceived ideal influence increases; in other words, as the expectation gap increases, satisfaction decreases.
3. Satisfaction was significantly related to the amount of individual control teachers perceived themselves as having.<sup>33</sup>

In effect, teachers will be less satisfied if they perceive themselves as having too little control over their job situation.

Paradoxically, in the Belasco and Alutto study, it was found also that teachers who perceived themselves as having too much control were the least satisfied of all. It is possible that these teachers were looking to the organization to provide a certain amount of structure or stability to their lives, a characteristic found in persons who are classified as field-dependent. In giving them an unwarranted amount of control over their jobs, the organization or supervisor may be removing this support from them.<sup>34</sup>

In a study on research professors' satisfaction and productivity, Glueck and Thorp found that the behavior of research administrators influenced positively the satisfaction of their research staff.<sup>35</sup> The administrators' behaviors also influenced research productivity, especially when the administrators acted in a resource person and coordinator role.<sup>36</sup> This investigation further substantiates the

findings by Glaser on mutual attraction of scientist and supervisor;<sup>37</sup> and that of DiStefano on interpersonal attractiveness effects.<sup>38</sup> The foregoing studies show that job satisfaction levels are related to the perceived difference between what is expected or desired by employees as a fair and reasonable return, and what is actually experienced in the job situation.

#### Reliability and Validity--Minnesota Satisfaction

##### Questionnaire (MSQ)

In Chapter I, the assumption was made that the MSQ is a reliable indication of job satisfaction/dissatisfaction of the subjects tested. In general, the reliability coefficients for the instrument were high for each of the occupational groups tested by the Minnesota Work Adjustment Project. For overall general satisfaction, the coefficients varied from .87 for assemblers to .92 for engineers. Median reliability for general satisfaction was .90. Reliability on the short-form of the MSQ (which was used in this study), can be inferred from general satisfaction of the long-form, since both scales use the same 20 items. Stability coefficients on general satisfaction of the long-form were .89, for a one-week period, and .70 over a one-year interval.

The MSQ did not have a norm group corresponding exactly to professors in a college setting. The investigator selected the most appropriate norm group who had college degrees and professional positions similar to the subjects in this study. The group normative data are presented in Chapter IV. Since the short-form of the MSQ is based on a subset of the long-form, validity for the form may, in part, be inferred from validity for the long-form. Other evidence for the

between satisfaction and satisfactoriness, as specified by the Work Adjustment Project. "Group differences in variability were not statistically significant for any scale."<sup>40</sup> These results parallel those obtained for the long-form MSQ, and those generally found in studies of job satisfaction.

### Summary

In the preceding studies on job satisfaction, data reveal that attitudes of both administrators and staff toward each other are most important, if not requisite for satisfaction on the job. Coupled with attitudes are the particular patterns of strategies (cognitive styles) employed by the administrator to "get the job done." If the cognitive styles of both administrator and staff member are in direct contrast, conflict may arise which in turn could generate job dissatisfaction of persons concerned. Herzberg and associates sum up this idea clearly when they say,

A man [sic] who finds the work he does, his salary, and his opportunities for advancement excellent may have a high score on a morale test but may actually feel very negatively about the job if he is faced with an impossible conflict with his supervisor.<sup>41</sup>

Chapter II was a review of the literature concerning cognitive style and job satisfaction. The following chapter presents the methods and procedures used to conduct the investigation.

## ENDNOTES

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<sup>17</sup>Herman A. Witkin, C. A. Moore, D. R. Goodenough, P. W. Cox, "Field-Dependent and Field-Independent Cognitive Styles and Their Educational Implications," Review of Educational Research, Vol. 47, No. 1 (Winter, 1977), p. 35.

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<sup>21</sup>Ibid., p. 19.

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<sup>37</sup>Glaser, "Attraction, Autonomy, and Reciprocity in the Scientist-Supervisor Relationship," pp. 379-398.

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<sup>39</sup>Minnesota Satisfaction Questionnaire, Work Adjustment Project, Industrial Relations Center (University of Minnesota, 1967), p. 24.

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## CHAPTER III

### METHODS AND PROCEDURES

#### Introduction

A review of the literature on cognitive style characteristics and job satisfaction revealed many studies concerning administrators and their staffs. Most of these studies focused on leadership, decision making, supervisory styles, or productivity of employees. There were few articles, however, in the specific area of cognitive style and administration, the focus of this investigation. The methods and procedures used in this study were designed to determine whether further research in this area would be productive and meaningful to the field of education. The techniques employed are presented in the following order: (1) Sample, (2) Instrumentation, (3) Data Collection, and (4) Analysis of Data.

#### Sample

The subjects in this investigation were faculty members from the academic colleges of a land-grant institution of higher education. Personnel classified as secretaries, work/study students, graduate students and assistants, groundskeeping attendants, maintenance workers, and instructors were not included among the subjects. Of those persons selected--Assistant, Associate, and Full Professors--all were employed at the university for a minimum of six months. In addition,

administrators selected were employed at this level for at least six months. The period of six months is an arbitrary figure but appeared to be a reasonable amount of time for administrators and faculty to at least become acquainted with each other's particular patterns of strategies (cognitive styles). This does not infer, however, equal interaction among subjects.

Selection Procedures. Prior to selecting subjects, the investigator contacted several departments in the university to secure a current list of department heads and their staff. Initial contact was made with the Payroll Processing Division, the Public Information Office, Personnel Services, and the office of the president of the university. The president's secretary mailed a list entitled, "Current Administrative Personnel with Direct Supervisory Responsibilities for Faculty Personnel," to the investigator. To ensure a current roster, a representative of the university updated the list of administrative personnel for the investigator.

Following the above procedures, the investigator contacted deans of colleges within the university to present information concerning the proposed study, and to ask their permission to contact department heads in their respective colleges. After permission was given, the investigator sent a packet of materials (see Appendix B) to department heads within the colleges. A table of random digits was used to select a sample from each of the colleges. The investigator contacted the department heads to arrange an interview and testing session on the Embedded Figures Test. Testing time of department heads ranged from 18 to 45 minutes. All tests were conducted between 9:00 - 11:30 A.M. After administering the EFT, the investigator received a list of current



staff members from department head secretaries. All information was crosschecked with the university telephone directory and university catalog, as well as the current class schedules.

Using a table of random digits, the investigator selected faculty members from each department to participate in the study. To ensure their anonymity, code letters and numbers were used for all professors. In preparation for testing department heads and faculty members, and as recommended in the manual for the EFT, the investigator tested a minimum of 15 subjects on the EFT, so that the actual testing procedures would go smoothly. As with department heads, all testing of faculty was conducted during the morning hours. Testing periods ranged from 12 to 55 minutes.

### Instrumentation

Embedded Figures Test (EFT). The cognitive style characteristics of field-dependence and field-independence have resulted from careful and extensive experimentation by Witkin and his associates. The theory of psychological differentiation inculcates these characteristics as well as others that are being studied currently by researchers in the field of psychology and other disciplines. The EFT has been shown to be a reliable and valid measure of the cognitive style characteristics dealt with in this study. The EFT is a shortened version of a larger, original series of 24 cards also developed by Witkin and associates. In spite of the reduction of the number of cards and in the amount of time to find the figures, neither the reliability nor the validity of the instrument were affected. Witkin and associates found that the 12-trial, 3-minute format is an adequate substitute for the original EFT.

Correlations between the original test and the shortened version were: .92 for a group of college males; .97 for 17-year-old males; and .92 for 17-year-old females.<sup>1</sup> (See Tables I and II in Chapter I, for reliabilities and norm groups of subjects for the EFT.)

Procedures, Materials, and Scoring--EFT. The test materials consist of three sets of cards: two sets of 12 cards with complex figures, numbered consecutively in order of presentation, and a set of 8 cards with simple forms. There is one practice card, labeled P-X, and an accompanying card with the simple form. (See Figure 1, for samples of cards used in the study.) A stylus is provided for subjects to trace the outline of the simple form in each complex figure. A stopwatch with a second hand is necessary to stop and restart during the administration of the test.

Directions to Subjects. The subject is seated next to the examiner so that the examiner can present the cards and observe the subject's tracing easily. The examiner then says:

I am going to show you a series of colored designs. Each time I show you one, I want you to describe it (to yourself) in any way you wish. I will then show you a Simple Form which is contained in that larger design. You will then be given the larger design again, and your job will be to locate the Simple Form in it. Let us go through a practice trial to show you how it is done.

The examiner then shows the subject the Practice Complex Figure for 15 seconds. She then covers it by placing the Practice Simple Form over it. After 10 seconds, she says:

I will now show you the colored design again and you are to find the Simple Form in it. As soon as you have found the Simple Form let me know, and start tracing the Simple Form with this stylus. When you are tracing, do not let the stylus touch the surface of the card.

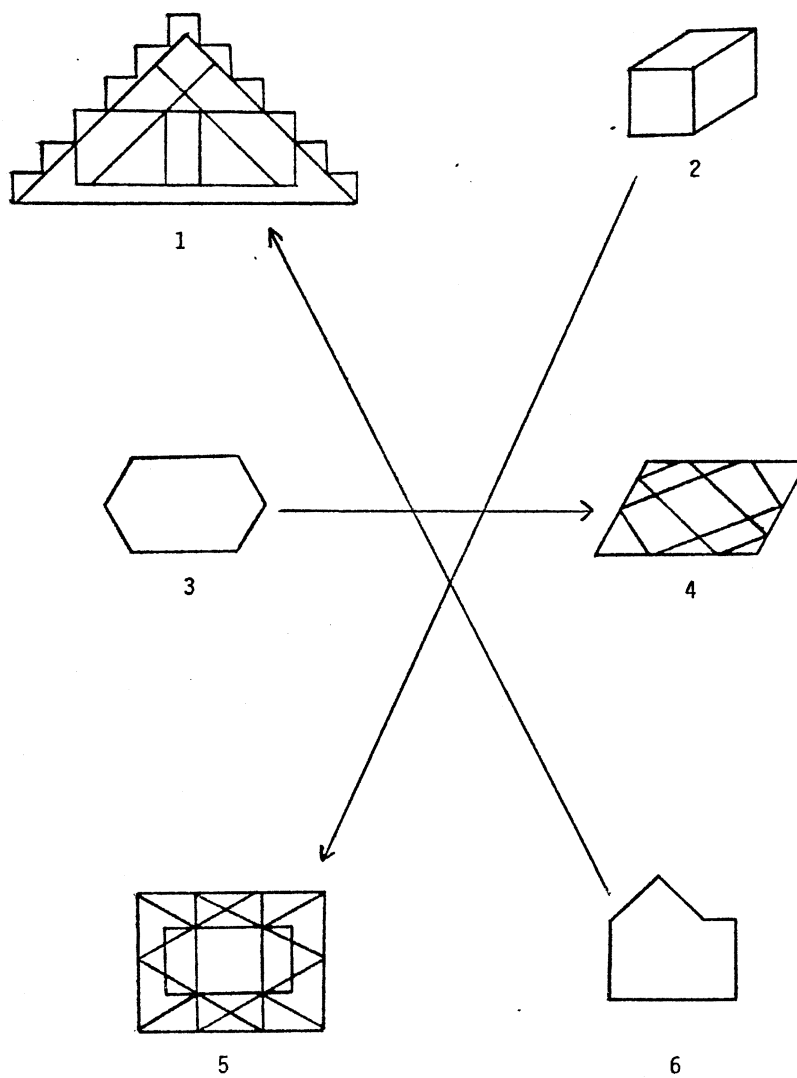


Figure 1. Samples of Cards Used in EFT Test

The examiner again shows the Complex Figure to the subject by removing the Simple Form and turning it over. Using the stopwatch, the examiner now starts timing the subject. As soon as the subject says he sees the Simple Form, the examiner notes the time; if the subject traces the Form correctly, the time is recorded as the solution time. (See Figure 2, for data sheet used for scoring tests.) Subjects usually have no difficulty finding the Simple Form in the practice card. If a subject does have difficulty, the examiner may show the subject where the Simple Form is in the Complex Figure. After the practice item, the examiner says:

This is how we will proceed on all trials. In every case, the simple form will be present in the larger design. It will always be in the upright position, so don't turn the card around. There may be several of the simple forms in the same design, but you are to find and trace only one. Work as quickly as you possibly can, since I will be timing you, but be sure that the form you find is exactly the same as the original simple form in shape, size and proportions. As soon as you have found the form, tell me at once and then start to trace it. If you ever forget what the simple form looks like, you may ask to see it again, and you may do so as often as you like. Are there any questions?

The examiner then presents the first Complex Figure (1-A) and proceeds as above with this and the remaining 11 test items.

Timing. The stopwatch is started from zero as soon as the Simple Form is removed, and the subject is to locate and trace it in the Complex Figure. As soon as the subject reports seeing the Simple Form, the examiner notes the time elapsed, but does not stop the watch. If the subject's tracing is correct, the time noted before the tracing began is recorded on the Data Sheet. If the subject's tracing is incomplete or inaccurate, the examiner says, "No, that's not it," and continues to let the watch run. The time and an X are recorded on the

NAME \_\_\_\_\_ SEX: M \_\_\_ F \_\_\_ DATE \_\_\_\_\_

GROUP \_\_\_\_\_ EXAMINER \_\_\_\_\_

Form Administered: A (Items 1-12) \_\_\_ Practice Item: Solution Time \_\_\_  
B (Items 13-24) \_\_\_

Item No.	Comments	Time Data	Solution
1-A			
2-B			
3-C			
4-D			
5-E			
6-A			
7-F			
8-E			
9-C			
10-G			
11-A			
12-H			

COMMENTS: \_\_\_\_\_ TOTAL TIME: (In seconds) \_\_\_\_\_

Figure 2. Data Sheet for Scoring EFT

data sheet, to indicate that the solution was incorrect. If the subject does not find the Simple Form within 3 minutes, the examiner says, "Let's try another one," and goes on to the next card. The time recorded if the subject does not locate the Simple Form is 180.

The subject may look at the Simple Form as often as he/she wishes. If he/she asks to see the form again, stop the watch and place the Simple Form over the Complex Figure for no more than 10 seconds. When the 10-second period is up, remove the Simple Form, expose the Complex Figure, and restart the watch.

Determining the Subject's Score. The time of solution for each item is converted into seconds and recorded in the last column of a form accompanying the test materials. Failed items are entered as 180 seconds. The solution times for the 12 items are summed and divided by 12. The resulting value, which is the mean solution time per item, is the subject's score for the test.

Minnesota Satisfaction Questionnaire (MSQ). Many studies concerning job satisfaction have been conducted in factories, manufacturing plants, and other industrial, business, and government corporations. The inputs/outputs of such organizations have been "things" readily identifiable, such as televisions, pipe fittings, turbines, cars, etc. Under these circumstances, some degree of job satisfaction/dissatisfaction is relatively easy to discern through analyzing employees' attendance records, observing their work habits and work capacities, administering surveys or questionnaires, and noting interactions among workers and/or supervisors.

By contrast, the university is somewhat unique (along with

hospitals, prisons, mental institutions), in that its inputs/outputs are people. Moreover, due to isolated teaching assignments, individual research efforts, or participation in various committees, job attitudes of university personnel are neither directly nor easily observable on a daily basis. Thus, if job dissatisfaction occurs, it is not necessarily evident through duties performed for the university or in interaction among colleagues. To state precisely that job satisfaction/dissatisfaction is observable in a university setting is presumptuous.

In reviewing the literature on job satisfaction, the investigator traced studies and reviews of several instruments used by various researchers. Although most appeared to have face validity, some had adverse reviews or insufficient data to be used in this study.<sup>2</sup> By contrast, the Minnesota Satisfaction Questionnaire had acceptable reviews, was used on various populations, and is undergoing continuous refinement by the Minnesota Work Adjustment Project. Thus, in view of its high reliability and validity measures, the investigator selected this instrument for the present exploratory study. (See Appendix C, for a copy of the MSQ.) As mentioned in Chapter II, for overall general satisfaction, the coefficients varied from .87 for assemblers to .92 for engineers. The median reliability for general satisfaction was .90. Reliability on the short-form of the MSQ (that was used in this investigation), can be inferred from general satisfaction of the long-form since both scales use the same 20 items. Test-retest correlations on general satisfaction of the long-form were .89, for a one-week period. Validity for the short-form may, in part, be inferred from validity for the long-form of the MSQ.

Administration. The short-form of the MSQ is self-administering.

Directions for the respondent appear on the form and are stated as follows:

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with. On the basis of your answers and those of thousands of other individuals throughout the nation, we hope to get a better understanding of the things individuals like and dislike about their jobs. On the following pages you will find statements about your present job. Read each statement carefully. Decide how satisfied you feel about the aspect of your job described by the statement. Keeping the statement in mind:

\_\_\_\_\_ if you feel that your job gives you more than you expected, check the box under "VS" (Very Satisfied);

\_\_\_\_\_ if you feel that your job gives you what you expected, check the box under "S" (Satisfied);

\_\_\_\_\_ if you cannot make up your mind whether or not the job gives you what you expected, check the box under "N" (Neither Satisfied nor Dissatisfied);

\_\_\_\_\_ if you feel that your job gives you less than you expected, check the box under "DS" (Dissatisfied);

\_\_\_\_\_ if you feel that your job gives you much less than you expected, check the box under "VD" (Very Dissatisfied).

Do this for all statements. Please answer every item. Be frank and honest. Give a true picture of your feelings about your present job. The following items are representative samples from the MSQ:

On my present job, this is how I feel about . . .

- A. The chance to work alone on the job.
- B. The competence of my supervisor in making decisions.
- C. The chance to do something that makes use of my abilities.
- D. The chances for advancement on this job.
- E. The working conditions.
- F. The feeling of accomplishment I get from the job.<sup>3</sup>



### Data Collection

As mentioned above, prior to data collection, a packet of materials and information was given to each of the department heads selected from the academic colleges. Interviews and testing of department heads were then scheduled and were conducted on a set schedule of from 9:00 - 11:30 A.M. After test administration of the EFT to department heads was completed, interviews were then scheduled with their faculty members. Again, testing was completed during the morning hours. The administration of both tests to faculty members covered a time period of from 12 to 55 minutes.

The investigator conducted all tests with faculty members. The procedure was to administer the EFT to faculty, and immediately following the completion of the test, to administer the MSQ. After answering any questions the faculty member might have concerning the MSQ, the investigator left the room so that the subject could feel at ease in completing the questionnaire.

### Analysis of Data

This exploratory study was designed to investigate the degree of relationship between cognitive style compatibility and job satisfaction of university personnel. The Embedded Figures Test was the instrument used to measure a professor's tendency toward field-dependence or field-independence. The Minnesota Satisfaction Questionnaire measures a person's tendency toward job satisfaction or job dissatisfaction. Scores on the EFT range from 1 to 180; on the MSQ from 20 to 100. The investigator administered all tests to subjects; testing periods ranged from 12 to 55 minutes for all subjects.

The four research questions used in this study and the appropriate treatment for each are presented in the following section.

QUESTION 1: Given the knowledge of cognitive styles of both administrators and their faculty members, what is the degree of relationship between cognitive style compatibility and job satisfaction of the faculty members?

The investigator intended to use either the Pearson Product Moment or Point Bi-serial Correlations to determine a degree of relationship between the EFT and MSQ, if the application of these techniques were appropriate for the data collected. After plotting EFT and MSQ scores on a scatter diagram, it was noted that the regression line was non-linear. The means of all groups of professors--by rank, by department, and by college--clustered around the level of mean values for both the MSQ and the EFT. Thus, the correlation techniques mentioned above were not appropriate for these data.

Since the biserial coefficient of correlation is a product-moment  $r$  and is designed to be a good estimate of the Pearson  $r$ , the same requirement as for the latter must be satisfied--linear regression--in addition to the unique requirement that the distribution of the values on the dichotomous variable, when continuously measured, shall be normal.<sup>4</sup>

In view of the data collected, it appeared that the most appropriate methods to use for the type of results emanating from the measures were nonparametric tests. Thus, the investigator applied the sign test (using the .05 level of significance), and the simple chi-square (applied to the means of scores on both tests), to determine if scores obtained on the Embedded Figures Test were associated with the scores on the Minnesota Satisfaction Questionnaire.

QUESTION 2: What is the relationship between cognitive style compatibility and job satisfaction in terms of each college of learning?

QUESTION 3: What is the relationship between cognitive style compatibility and job satisfaction of each department selected?

QUESTION 4: What is the relationship between cognitive style compatibility and job satisfaction in terms of professorial rank?

As in research question 1, the responses to the above three questions could not be determined appropriately using correlation techniques. Since the variability of scores among the subjects was slight and the distribution was not normal, the responses to each question are presented in a descriptive mode in the results of the study.

The size of  $r$  is very much dependent upon the variability of measured values in the correlated sample. The greater the variability, the higher will be the correlation, everything being equal . . . . If the variability were zero, there should be no correlation whatever--the limiting case in which, of course, no  $r$  could be computed at all.<sup>5</sup>

#### Summary

This chapter was a description of the sample, instrumentation, data collection, and analysis of data resulting from the various aspects of the investigation. Although the investigator intended to employ correlation techniques to the scores on the MSQ and the EFT, the assumptions underlying the uses of these measures were not fulfilled by the variability of scores, the regression line, and the distribution of scores. Instead, it appeared that the most appropriate techniques for these data were nonparametric tests. The results of the study are presented in the next chapter.

## ENDNOTES

<sup>1</sup>Herman A. Witkin, Philip K. Oltman, Evelyn Raskin, and Stephen A. Karp, A Manual for the Embedded Figures Test (Palo Alto, California, 1971), p. 15.

<sup>2</sup>A few of these instruments can be found in the following works: Arthur H. Brayfield and Harold F. Rothe, "An Index of Job Satisfaction," Journal of Applied Psychology, Vol. 35, No. 5 (October, 1951), 307-311; G. Gurin, J. Veroff, and Sheila Feld, Americans View Their Mental Health (New York, 1960); R. Hoppock, Job Satisfaction (New York, 1935); C. L. Hulin, Patricia Smith, L. M. Kendall, and R. A. Locke, Cornell Studies of Job Satisfaction: II: Model and Method of Measuring Job Satisfaction (Cornell University Press, 1963); Delbert C. Miller, Handbook of Research Design and Social Measurement, Second Ed. (New York, 1970).

<sup>3</sup>Minnesota Satisfaction Questionnaire, Work Adjustment Project, Industrial Relations Center (University of Minnesota, 1967), p. 111.

<sup>4</sup>J. P. Guilford, Fundamental Statistics in Psychology and Education (New York, 1965), p. 320.

<sup>5</sup>Ibid., p. 341.

## CHAPTER IV

### ANALYSIS OF DATA

#### Introduction

The purpose of this chapter is to report the results of the data obtained through the use of the Methods and Procedures described in Chapter III. To reiterate, this was an exploratory study designed to investigate the degree of relationship between cognitive style compatibility and job satisfaction of faculty members. To determine the significance of results on the EFT and MSQ, the investigator utilized nonparametric tests. The results reported herein provide information to draw conclusions concerning the usefulness of further research on cognitive style compatibility and job satisfaction/dissatisfaction of university personnel.

#### Description of Subjects

The subjects in the investigation were department heads and faculty members from a land-grant institution of higher education. The subjects were drawn from three academic colleges, and 10 departments within those colleges. The investigator conducted all interviews and testing of subjects within a period of 18 months. The amount of time expended during each session ranged from 12 minutes to 55 minutes. Of the initial 15 department heads tested, 10 were considered usable in the investigation. Of the 87 faculty members tested, 72 were considered

appropriate for use in the study. Of the subjects not used in the investigation, the reasons are listed below:

A. Department Heads

1. Only one or two members of their faculty wished to participate in the study;
2. The investigator's stopwatch failed on one occasion;
3. One department head had an emergency phone call and could not complete the testing;
4. One department head cancelled the interview and did not wish to have it rescheduled.

B. Faculty Members

1. Professors refused to finish testing; (2)
2. Professors did not wish to participate in the study; (3)
3. Only one or two professors from a department participated; (6)
4. Professors would not fill out the MSQ. (4)

The Embedded Figures Test has a scoring scale of 1 to 180, with 90 being the neutral point in the scale. The cognitive style of field-independence (i.e., the tendency toward that particular style) is represented by a score of 1 to 90. The tendency toward field-dependence is represented by a score of 91 to 180. The figure below depicts the scoring range:

Field-Independence 1 ——— - 90, 91 + ——— 180 Field-Dependence

In formulating the present study, the investigator had expected to obtain a wide range of scores from professors on the Embedded Figures Test. Instead, with the exception of one professor, all department heads and their faculty members had scores below the midpoint of 90 on the scale. Therefore, since the variability of scores was slight, only a matter of points within the concept of field-independence,

this is reflected in the results of the study as well as in the methods used to analyze the data. The EFT scores imply that department heads and faculty members have similar cognitive styles, and these styles tend toward the characteristic of field-independence, as defined in this study.

The Minnesota Satisfaction Questionnaire has a scoring range of 20 to 100, with 50 being the midpoint of the scale. The figure below depicts the scoring range of tendency toward low job satisfaction and high job satisfaction.

Low Job Satisfaction 1 ——— - 50, 51 + ——— 100 High Job Satisfaction

Again, the investigator expected to obtain a broad range of variability among scores on the MSQ. With the exception of two professors, all scores were on the 51 plus side of the scale. The implication here is that most professors scored above average in job satisfaction.

Figure 3 is a graphic representation of the distribution of scores on both the EFT and the MSQ. Scores on the EFT ranged from 8 to 95, and on the MSQ from 31 to 97. (A scatter diagram is presented in Figure 4.) It is clearly evident in Figure 3, that scores on the MSQ represent a skewed distribution; the mean score on the MSQ is 76.29. The EFT scores also represent a somewhat skewed distribution; the mean score on the EFT is 42.50. (See Tables III and IV, for Summary Data on the EFT and the MSQ.)

## Results

The remainder of this chapter is a presentation of the results of the investigation as applicable to the subjects and the four research questions used in the study.

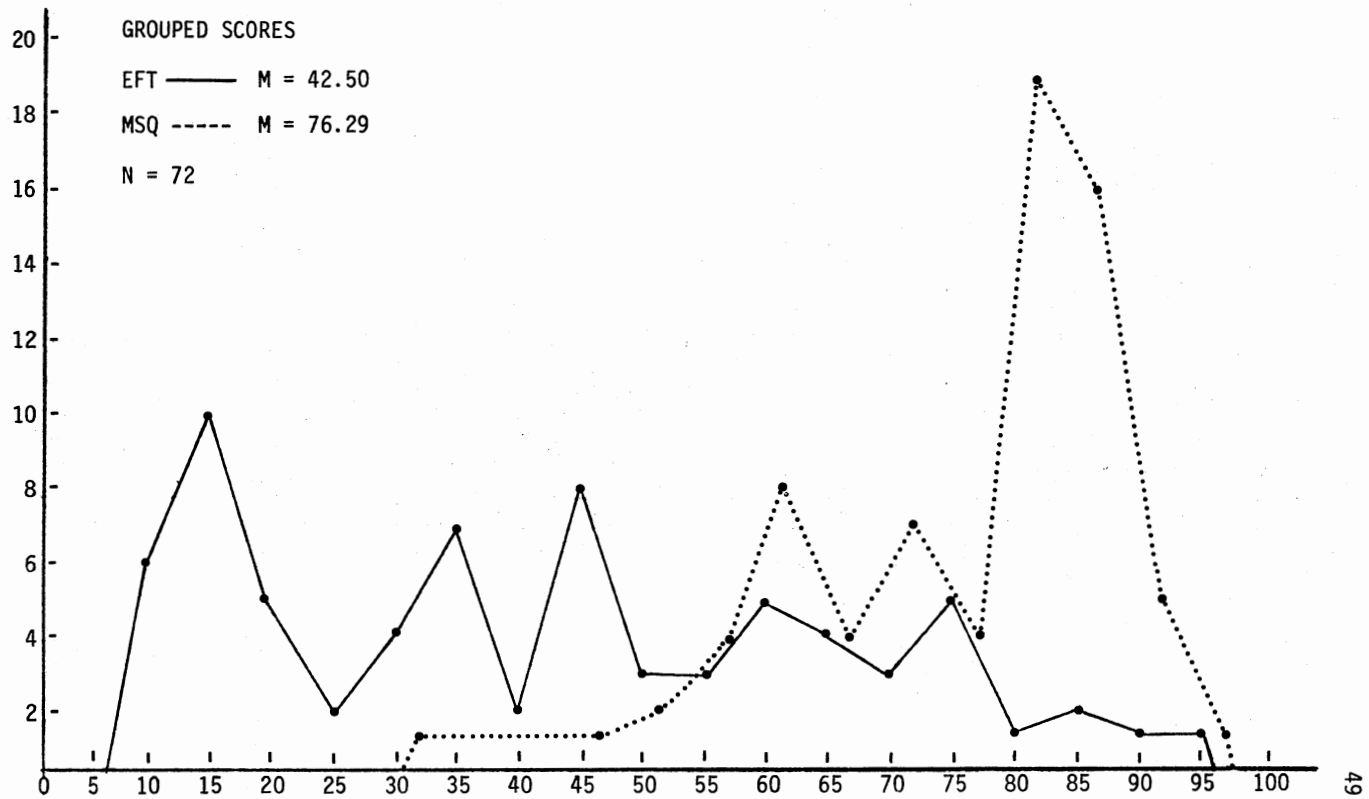


Figure 3. Distribution of Scores on the EFT and the MSQ



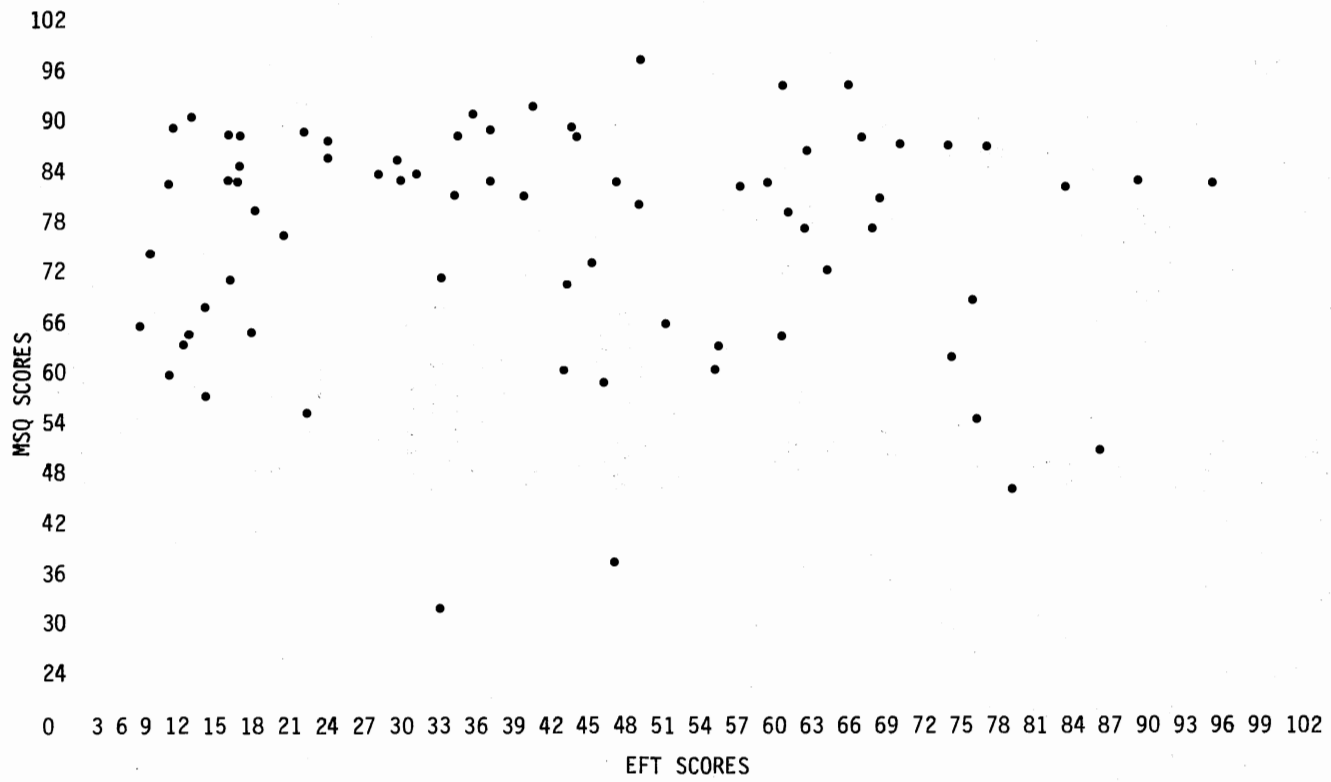


Figure 4. Scatter Diagram of MSQ and EFT Scores

QUESTION 1: Given the knowledge of cognitive styles of both administrators and their faculty members, what is the degree of relationship between cognitive style compatibility and job satisfaction of the faculty members?

TABLE III  
SUMMARY DATA ON EMBEDDED FIGURES TEST (EFT)

Classification	N	Mean	Median	Mode	S.D.
Faculty Members	72	42.50	39.51	15	23.54
Department Heads*	10	26.30	29.50		10.99

\*For the purposes of this investigation, department heads' scores served only as a point of reference in deciding upon cognitive style compatibility between faculty and department heads; thus, their scores are reported separately from faculty members. Department head scores ranged from 9 to 43 on the EFT.

TABLE IV  
SUMMARY DATA ON MINNESOTA SATISFACTION  
QUESTIONNAIRE (MSQ)

Classification	N	Mean	Median	Mode	S.D.	Hoyt Rel. Coef.
Faculty Members	72	76.29	79.80	86.82	12.80	.99517

The cognitive styles of both administrators and their faculty members were all in the direction toward the characteristic of field-independence. Although the mean score of faculty members on the EFT was much higher than the mean score of the department heads, the mean of 42.50 was still much below the midpoint of 90 on the EFT scale.

QUESTION 2: What is the relationship between cognitive style compatibility and job satisfaction in terms of each college of learning?

QUESTION 3: What is the relationship between cognitive style compatibility and job satisfaction of each department selected?

QUESTION 4: What is the relationship between cognitive style compatibility and job satisfaction in terms of professorial rank?

As with Question 1, the intended correlational techniques could not appropriately be applied to the research questions in this study. The investigator did, however, apply the sign test to the raw scores on the two measures to determine whether a significant difference (at the .05 level of significance) was indicated between the scores. The results were that  $\underline{L}$  was equal to 34, and  $T$  was equal to 72, indicating that there was no evidence that the EFT scores had an influence upon or were associated with the MSQ scores of faculty members. Moreover, when the investigator applied the simple chi-square to the data (using the mean scores on each test), the frequency count in one of the four cells was 3. The simple chi-square can be applied to data only if all cells have a frequency count of at least 5. The data did not fulfill this requirement. Since none of the above methods were applicable, the obtained data from the two measures are presented in a descriptive mode.

The tables that follow show the patterns of scoring and dispersion among the three colleges, the 10 departments, and the three ranks of professors. The Hoyt Reliability Coefficient for scores by faculty on the MSQ is in Table V. The "correct" answers represent scores above the MSQ mean. The .995 coefficient reveals that, for this particular group of subjects, the variation in job satisfaction/dissatisfaction is miniscule. The obtained mode of 86.82, and the skewed distribution of faculty scores on the MSQ support the obtained Hoyt coefficient.

TABLE V  
MSQ SCORES OF FACULTY COMPARED TO NORM GROUP

Classification	N	Mean	Mode	S.D.	SE <sub>M</sub>	Hoyt Rel. Coef.
Faculty Members	72	76.29	86.82	12.80	1.52	.99517*

\*Correct answers were based on scores above the mean of 76.29

For the short-form of the MSQ, there was no norm group similar in occupation to the subjects in this study. The most appropriate group was engineers, who are classified as professionals, and who (97%) also had college degrees. Table VI presents the normative data of this group.

TABLE VI  
NORMATIVE DATA OF PROFESSIONALS - MSQ

Classification	N	Mean	S.D.	SE <sub>M</sub>	Hoyt Rel. Coef.
Engineers	387	77.88	11.92	3.29	.92

In comparing the norm group of professionals to scores on the MSQ of faculty members, measures of central tendency and dispersion are not far apart. Both groups are fairly homogeneous within their occupational groups and somewhat to each other as professionals.

Tables VII and VIII present summary data of grouped scores on the EFT and the MSQ. The scores on both tables show some variability among scores, but not enough to alter drastically the obtained measures of central tendency and dispersion. The standard deviations of Colleges 2 and 3 are interesting to note. Usually the greater the N, the more variation in scores is obtained. It appeared to have the opposite effect on the EFT scores recorded for College 1 in Table VII, and in the scores on the MSQ recorded for College 2, to a lesser extent. Table IX shows data comparing faculty group with the most appropriate norm group on the EFT. The norm group was college males who were tested using the 12-trial, 3-minute test.

All three groups' scores are fairly similar in terms of their mean scores; i.e., they all tend toward the characteristic of field-independence. In numerous studies using the EFT, one finding has been

TABLE VII  
 EMBEDDED FIGURES TEST (EFT)  
 SUMMARY OF GROUPED SCORES

Classification	N	Mean	S.D.	SE <sub>M</sub>	
By College:					
College 1	28	39.43	13.82	2.66	
College 2	20	40.80	23.32	5.35	
College 3	24	47.33	24.56	5.12	
By Rank:					
Full Professors	31	41.19	22.00	4.01	
Associate Professors	23	37.87	26.19	5.58	
Assistant Professors	18	49.50	21.23	5.15	
By Department:					
					Dept. Heads' EFT
Department A	7	26.00	11.62	4.74	30
Department B	7	36.42	18.02	7.36	29
Department C	7	45.43	18.02	7.36	26
Department D	7	49.86	18.80	7.67	32
Department E	7	37.71	19.62	8.00	10
Department F	7	51.00	25.46	10.40	9
Department G	6	32.50	24.89	11.11	37
Department H	8	50.50	24.43	9.20	33
Department I	8	35.38	25.51	9.60	43
Department J	8	47.33	23.73	8.92	14

TABLE VIII  
 MINNESOTA SATISFACTION QUESTIONNAIRE (MSQ)  
 SUMMARY DATA OF GROUPED SCORES

Classification	N	MEAN	S.D.	SE <sub>M</sub>
By College:				
College 1	28	77.96	11.43	2.20
College 2	20	75.10	13.38	3.07
College 3	24	76.00	10.40	2.17
By Rank:				
Full Professors	31	77.32	13.44	2.45
Associate Professors	23	74.39	12.85	2.74
Assistant Professors	18	77.00	11.06	2.68
By Department:				
Department A	7	79.43	7.17	2.93
Department B	7	80.43	8.99	3.67
Department C	7	78.71	13.64	5.57
Department D	7	73.29	15.92	6.50
Department E	7	80.29	9.72	3.97
Department F	7	73.86	20.84	8.51
Department G	6	70.50	9.57	4.27
Department H	8	82.25	11.05	4.15
Department I	8	73.13	10.43	3.92
Department J	8	72.63	9.70	3.66

that males and females differ in their tendencies toward one or the other continuum on the scale of EFT scores. Males generally score toward field-independence; females toward field-dependence. Although there were no females in the group that was tested in this study, all scores of males (with the exception of one professor) fell within the field-independence range.

TABLE IX  
NORMATIVE DATA ON EFT COMPARED TO FACULTY

Classification	N	Sex	Mean	S.D.	SE <sub>M</sub>	Median
Norm Group A	51	M	45.5	28.5	4.03	N/A
Norm Group B	80	M	47.7	26.3	2.96	N/A
Faculty Members	72	M	42.5	23.5	2.79	39.51



## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

The problem in this exploratory study was cognitive style compatibility and job satisfaction of university personnel. The subjects were faculty members--Assistant, Associate, and Full Professors--from 10 departments within three academic colleges in a land-grant institution of higher education. The instruments used for testing the subjects were the Embedded Figures Test (EFT) and the Minnesota Satisfaction Questionnaire (MSQ). The EFT measures the tendency toward characteristics in cognitive styles. Cognitive styles are defined as self-consistent modes of functioning which individuals show in their perceptual and intellectual activities. These characteristics are manifestations in the cognitive sphere of still broader dimensions of personal functioning--psychological differentiation--which cut across diverse psychological areas. Cognitive style behaviors are characterized as stable processes of perceivers who organize and use information through interaction with their environment.<sup>1</sup>

The cognitive styles used in this study were field-dependence/field-independence. These are specific patterns of strategies used by a person in a wide variety of situations related to performance of disembedding a broad number of perceptual tasks. In a field-dependent mode, perception is strongly dominated by the overall organization of

the surrounding environment, and parts of this environment are experienced as fused. For example, in seek-and-find exercises, some persons are able to elicit words from a mass of letters quicker and more consistently than others. Or, in newspapers there often are puzzles for readers to try to find the hidden figure in a park, jungle, or whatever. A field-dependent type of person might experience a great deal of difficulty in locating the figure or word, since that person sees the entire puzzle as fused.

In a field-independent mode of perceiving, parts of the field or environment are experienced as discrete from the rest of the picture or puzzle at hand. A field-independent type of person would experience less difficulty in locating an object within a particular field. These are only a few and perhaps minor examples of the differences in perceptual and intellectual activities characterized by these particular cognitive styles. As measured by the EFT, scores received by individuals tend toward one or the other end of a continuum of these characteristics.

The Minnesota Satisfaction Questionnaire is a measure of general satisfaction, as used in this study, of persons' attitudes concerning their particular occupations. The MSQ has been used to obtain information about particular jobs for use in counseling processes. Such data may elicit information concerning the element of reinforcing systems to contribute to an employee's satisfaction on the job. The university is a unique system and is unlike business or industrial organizations of the 8-5 variety. Job satisfaction of persons considered as "professionals" is usually much higher than persons in occupations not

considered "professional."<sup>2</sup> This phenomenon is reflected in the scores of subjects in this study.

### Conclusions

This investigation was conducted to determine the usefulness of further research in the areas of cognitive styles and administration. The specific focus was on job satisfaction/dissatisfaction of a specific group in an unique organization. Given the nature of the organization and the characteristics of the subjects in the study, the following conclusions are made:

1. There was no relationship between cognitive style compatibility and job satisfaction of university personnel in this study. The slight variability among scores of subjects in departments and colleges was reflected in all areas of the study. The cognitive styles of administrators and their faculty members were compatible and all tended toward field-independence. The homogeneity of the group was reflected in the Hoyt Reliability Coefficient of the Minnesota Satisfaction Questionnaire (.995), the obtained mode of that test (86.82), and the negatively skewed distribution of scores on the MSQ.

2. There was no relationship between cognitive style compatibility and job satisfaction among the three academic colleges. As mentioned above, the slight variability is reflected in all scores of faculty members by colleges, by departments, and by professorial ranks. It appears that the findings of homogeneity in compatibility and job satisfaction are applicable to Witkin's assertion that,

. . . It seems plausible that interaction between people should proceed more smoothly, and mutual feelings between them should be more positive, when, as a function of

similarity in style, they share the same interests, have common personality attributes, and use similar communication modes.<sup>3</sup>

and the findings of Glaser that the relationship between scientists and their supervisors contributed to the goals of the organization. The mutual attraction and association that results in an integrated work relationship is based on each person's competence. Both persons find this relationship enjoyable and engage in it on a person-to-person basis. Mutual attraction based on competence results in a stable work relationship between the scientist and the supervisor.<sup>4</sup>

While not all professors are considered scientists, the interaction between administrators and faculty members is on a professional basis. As professionals pursuing the same or like goals in the university, the high scores on the MSQ may reflect the "mutual attraction" aspect of the administrators and faculty members in this investigation.

3. The lack of a broad range of variability on the scores of the instruments used can be attributed to the relatively small number of subjects. If the number was expanded to include all professors in all departments in all colleges, perhaps the scores would have reflected a wider range of variability.

4. The fact that some of the subjects either refused to finish the test or to participate in the study was a handicap in trying to obtain a viable sample. In some instances, faculty would schedule an interview with the investigator and then cancel the meeting at the last moment. The interviews were rescheduled and again cancelled by the faculty member (most often through a secretary). There is no doubt that this attrition of subjects affected the results of the study.

5. In view of the data collected and the results of the study, it is concluded also that university personnel in this study are similar in their tendencies toward the cognitive style characteristic of field-independence and in their overall ratings of job satisfaction.

6. The job satisfaction questionnaire used in this study may not have been the most appropriate instrument for the subjects, given their professional occupation, level of education, and the unique environment of an university setting. Perhaps a more sophisticated instrument, taking these characteristics into account, would provide a more accurate measure of similar subjects' job satisfaction.

#### Recommendations

1. Persons interested in conducting a study similar to that reported herein, should consider drawing their subjects from diverse occupational groups. If, for instance, a study were replicated in a university setting, subjects might represent various levels of the occupations that are under the purview of an university administrator. For example, subjects might include secretaries, instructors, graduate assistants, work/study students, professors, etc., rather than only one group of employees as was done in this study.

2. If the EFT is to be used, perhaps an instrument other than the MSQ could be used to investigate the possibility of a relationship between the EFT and another test. Other areas of relationship to consider are the age of subjects; their perceptions of their contributions to the organization; activities engaged in outside of their organizational roles; perceived characteristics of their particular occupational roles; perceptions of their group cohesiveness within their roles; and

even an alienation test concerning individuals or the organizational atmosphere as a whole. There are many untapped areas in which the EFT may be used productively in the realm of administration.

3. In the field of educational administration, a replication of the study could be conducted in an elementary school, a secondary school, or a vocational-technical school. In fact, testing a representative sample from all three systems and comparing the results would provide valuable information for administrators and for students of organizational behavior. Variability in cognitive styles of these diverse groups may be reflected in measures of job satisfaction.

4. A study utilizing the EFT in the above school systems would be extremely useful in view of the sex differences in the results of numerous studies on cognitive style characteristics. As mentioned in the study, males most often tend toward field-independence whereas females generally tend toward the field-dependence range on the continuum. What better place to test these findings than in an elementary school, composed mainly of females, and a secondary school, composed mainly of males within the respective faculties.

#### Concluding Comments

The cognitive style characteristics of field-dependence/independence have been shown to be reflected in the quality of a person's experience with the environment, the nature of a person's relationships with others, and in certain aspects of one's controls and defenses. These patterns suggest a consistency in psychological functioning which pervades a person's perceptual, intellectual, emotional, motivational, social, and defensive operations. Cognitive

style is a viable concept. It behooves educators and others in the field of administration to take advantage of its potential benefits in facilitating positive interaction among persons, whether in the confines of a classroom, a business organization, or in an university or college setting.

## ENDNOTES

<sup>1</sup>Herman A. Witkin, R. B. Dyk, H. D. Faterson, D. R. Goodenough, and S. A. Kays, Psychological Differentiation (New York, 1962).

<sup>2</sup>F. Herzberg, B. Mausner, R. O. Peterson, and D. F. Capwell, Job Attitudes: Review of Research and Opinion (Pittsburgh, 1957).

<sup>3</sup>H. A. Witkin, C. A. Moore, D. R. Goodenough, and P. W. Cox, "Field-Dependent and Field-Independent Cognitive Styles and Their Educational Implications," Review of Educational Research, Vol. 47, No. 1 (Winter, 1977), p. 35.

<sup>4</sup>Barney G. Glaser, "Attraction, Autonomy, and Reciprocity in the Scientist-Supervisor Relationship," Administrative Science Quarterly, Vol. 8 (December, 1963), p. 390.



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APPENDIXES

APPENDIX A

STUDIES CONCERNING VALIDITY OF THE EFT

Studies validating the concept that the EFT is a test of field-dependence/independence in perception and reflects extent of competence at disembedding in intellectual functioning as well:

Fenchell, G. H. "Cognitive Rigidity as a Behavioral Variable Manifested in Intellectual and Perceptual Tasks by an Outpatient Population." Unpublished doctoral dissertation, New York University, 1958.

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APPENDIX B

PACKET OF MATERIALS GIVEN TO DEPARTMENT HEADS

Dear Department Head:

As a doctoral candidate in the Department of Educational Administration, College of Education, I am presently working on my dissertation entitled "Cognitive Style Compatibility and Job Satisfaction of University Personnel." The purpose of this letter is to ask the cooperation of you and your staff members in the investigation by providing information as needed for the study.

More specifically, I wish to determine the cognitive styles of department heads and their staff members through the use of the Embedded Figures Test (EFT) designed by Herman A. Witkin and associates. The use of this instrument would require a personal interview of the subjects. Should number of subjects warrant, an alternative test, the Group Embedded Figures Test (GEFT) will be used instead of the individually-administered EFT. There are no right/wrong or pass/fail implications in the test.

Interviews and test administration of department heads would be conducted separately from staff members in your department. Following administration of the EFT to staff members, they will then be given the Minnesota Satisfaction Questionnaire (MSQ) to complete. Code numbers will be used for all participants to ensure anonymity.

When results of both tests are tabulated, I hope to discern the degree of relationship between cognitive style compatibility and job satisfaction of university personnel. The results of the investigation will be available to you at your request.

I have enclosed an abstract of the study for your information, as well as a sample letter for professors in your department, and a form for information on professors to be filled in by your secretary. This listing will provide for random sampling of professors selected for the study. Moreover, I have enclosed a copy of the Minnesota Satisfaction Questionnaire and a copy of a sample figure similar to those used in the Embedded Figures Test.

Your name was selected randomly from a list of department heads in your college. I hope to begin collecting data from professors during the latter part of this month, and would appreciate hearing from you if you decide to participate in the study. Simply leave word with your secretary, and I will contact him/her next week to learn of your decision.

Thank you for your time and consideration.

Sincerely,

Student of  
Educational Administration

Enclosures (5)



## ABSTRACT

COGNITIVE STYLE COMPATIBILITY AND JOB  
SATISFACTION OF UNIVERSITY PERSONNELIntroduction

That fool doesn't know what he's talking about!! How often have you heard this expression (or used similar expletives yourself) in reference to an administrator? Many persons cannot accept administrators as authority figures or, at the least, find it difficult to work with such persons. In some instances, this difficulty may result in job dissatisfaction of employees.

Too often, causes of job dissatisfaction are assumed to be inadequate working conditions, lack of job enrichment, low salaries, lack of opportunities for advancement, and a variety of other reasons. While any of these reasons can be a contributing factor, job dissatisfaction may in fact be related directly to the employee's interaction with a supervisor.

Interaction between employee and administrator does not necessarily mean a face-to-face type of encounter between the two. Indeed, interaction may also come in the form of written directives, messages concerning rules and regulations, verbal messages delivered by another staff member or secretary, and other organizational or social behavior exhibited by the administrator. These and other elements of specific patterns of strategies (cognitive styles) employed by an administrator may generate hostility from employees who prefer different ways of dealing with complex situations. Thus, depending upon the cognitive style of the administrator to whom they report, employees may either be satisfied or dissatisfied with their particular jobs. Perhaps job satisfaction could be increased if the cognitive styles of administrators were more compatible with those of their staff.

Purpose of the Study

The purpose of this study is to investigate the degree of relationship between cognitive style compatibility and job satisfaction of university personnel. Studies in the field of psychology focusing on the area of cognitive style are fairly recent, beginning with the pioneering efforts of Herman A. Witkin and associates. In addition, the works of Erickson, Allport, Bruner, and others have generated much research in the areas of cognition and cognitive processes. However, there is a paucity of research in the specific area of cognitive style and administration. A study of the characteristics of cognitive style in relation to job satisfaction will provide further information into the dynamics of interaction between administrators and personnel.

Methodology

A random sample of colleges of learning within a land-grant institution will be selected for the study. Initially, the investigator will

administrator the Embedded Figures Test (EFT) to a random sample of department heads within each college, to determine their cognitive styles. The investigator will then administer the EFT to a random sample of university personnel reporting to the department heads selected. Immediately following administration of the EFT, the faculty will then fill out the Minnesota Satisfaction Questionnaire.

Department heads and faculty members will be matched according to cognitive styles. A correlation ratio will then be computed between cognitive style compatibility and job satisfaction of faculty members.

#### Summary

From the unique aspects of a person's developmental history, a preferred way of dealing with complex situations is acquired. Thus, these preferred ways--cognitive styles--relate to some degree of job satisfaction of university personnel. This study is designed to investigate the degree of that relationship.

Lilian Bautista-Myers

## SAMPLE LETTER FOR STAFF MEMBERS

Dear Staff:

A study concerning cognitive style compatibility and job satisfaction is presently being undertaken by a doctoral student in the Department of Educational Administration, College of Education. I have consented to cooperate in the investigation and have given the student permission to contact faculty members in our department. You, of course, are free to make the decision as to whether or not you will participate.

The investigator will be contacting some of you (from a random sample of faculty members) to cooperate in the study. I have been advised that the instruments to be used will require 10 minutes at the least, to 45 minutes at the most. In addition, code numbers will be used to ensure anonymity for all participants.

Department Head

Information required for proposed study on cognitive style compatibility and job satisfaction of university personnel.

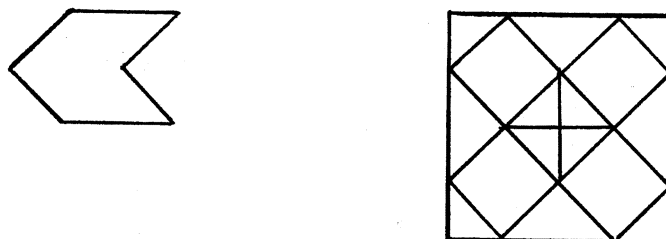
List faculty members at ranks of Assistant, Associate, and Full Professor.

Do not include work/study students, graduate assistants, instructors, secretaries.

NAME	Ext. #	RANK	YEARS (months) AT THIS RANK

DAPARTMENT HEAD: \_\_\_\_\_ COLLEGE: \_\_\_\_\_ DEPT.: \_\_\_\_\_

## SAMPLE OF FIGURES USED IN THE EMBEDDED FIGURES TEST (EFT)



In this embedded-figures situation, the subject is shown the simple figure on the left. It is then removed and the subject is shown the complex figure on the right, with the directive to locate the simple figure within it.

Source: Witkin, H.A., et al., "Field-Dependent and Field-Independent Cognitive Styles and Their Educational Implications," Review of Educational Research, Winter, 1977, Vol. 47, No. 1, pp. 1-64.

APPENDIX C

MINNESOTA SATISFACTION QUESTIONNAIRE

Ask yourself: How **satisfied** am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

<b>On my present job, this is how I feel about . . .</b>	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. Being able to keep busy all the time .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The chance to work alone on the job .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The chance to do different things from time to time .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The chance to be "somebody" in the community .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The way my boss handles his men .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The competence of my supervisor in making decisions .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Being able to do things that don't go against my conscience .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The way my job provides for steady employment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The chance to do things for other people .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The chance to tell people what to do .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. The chance to do something that makes use of my abilities .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The way company policies are put into practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. My pay and the amount of work I do .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The chances for advancement on this job .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The freedom to use my own judgment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. The chance to try my own methods of doing the job .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. The working conditions .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The way my co-workers get along with each other .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. The praise I get for doing a good job .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. The feeling of accomplishment I get from the job .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Very Dissat.	Dissat.	N	Sat.	Very Sat.

2  
VITA

Lilian Bautista-Myers

Candidate for the Degree of

Doctor of Education

**Thesis:** COGNITIVE STYLE COMPATIBILITY AND JOB SATISFACTION OF  
UNIVERSITY PERSONNEL: AN EXPLORATORY STUDY

**Major Field:** Educational Administration

**Biographical:**

**Personal Data:** Born in San Diego, California, the daughter of  
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**Education:** Graduated from the Regina Coeli Academy, San Diego,  
California, in June, 1964; received the Associate in Arts  
degree from Santa Monica City College in January, 1969;  
received the Bachelor of Arts degree in English from  
California State University, Northridge in July, 1970;  
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Development and Instruction from the State University of  
New York at Albany in May, 1972; completed requirements for  
the Doctor of Education degree in Educational Administration  
at Oklahoma State University, July, 1980.

**Professional Experience:** Administrator/Editor, Capitol Hill  
Educator, Albany, New York, 1971-73; teacher/researcher,  
the Open School, Schenectady, New York, 1971-72; Author/  
Co-editor, Open Education Re-examined, 1972; Copyeditor,  
Teacher Power, Professionalization and Collective Bargaining,  
1972; Instructor, Sapulpa Teacher Corps Project, College of  
Education, Oklahoma State University, 1976-77; Technical  
Editor/Writer, Office of Research and Projects, College of  
Education, Oklahoma State University, 1976-79; Consultant/  
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