

A STUDY OF SELECTED FACTORS
INFLUENCING JOB PREFERENCE
(PAY, JOB ENLARGEMENT,
JOB ENRICHMENT)

Dissertation for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
JOHN NEVBOYERI ORIFE
1974



This is to certify that the

thesis entitled

A STUDY OF SELECTED FACTORS INFLUENCING JOB
PREFERENCE (PAY, JOB ENLARGEMENT, JOB ENRICHMENT)

presented by

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has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Business Administration

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Major professor

Date February 20, 1974





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ABSTRACT

A STUDY OF SELECTED FACTORS INFLUENCING JOB PREFERENCE (PAY, JOB ENLARGEMENT, JOB ENRICHMENT)

By

John Nevboyeri Orife

The purpose of this study is to find out what things non-supervisory employees want to get from their jobs as could be determined from their behavior (decisions made by employees) in real life work situations. The study is an attempt to examine on-the-job worker behavior in an effort to provide more convincing evidence as to the relative importance of certain kinds of job motivation and job satisfaction to non-managerial employees. The study attempts to determine whether or not workers in the process of their daily work seek out jobs with higher levels of enrichment more than they seek out more routine jobs. The study also attempts to determine whether or not the lower-level employee is motivated mainly by financial rewards.

The design of the study is to compare the jobs that employees apply for when openings occur in their organizations (favored jobs) and those which they elected to leave in order to fill the new

openings (disfavored jobs). The jobs affected by the voluntary transfers of employees at two plants of two companies in different industries during a year were identified by a search of the job postings file. Eighty-one different jobs were affected by the voluntary transfer of seventy-one employees. These jobs were rated by the job supervisor on a numerical rating scale designed for this study. The job factors selected for rating are:

- (i) determination of work pace
- (ii) determination of work methods
- (iii) responsibility for quality control
- (iv) responsibility for machine setup and repair
- (v) number of tasks
- (vi) variety of tasks
- (vii) repetitiveness of tasks
- (viii) length of job cycle
- (ix) amount of planning
- (x) the enrichment inherent in the job defined as the sum of i, ii, iii, iv, and ix above
- (xi) the routineness (extension) or enlargement of the job defined as the sum of v, vi, vii, and viii above
- (xii) the enrichment and routineness of the job
- (xiii) the required physical effort

(xiv) the advancement opportunity

(xv) the pay

The differences between the pay for the favored jobs and the disfavored jobs were tested for statistical significance by a two-tail t-test. The obtained ratings on each of the other job factors for the two groups of jobs were compared and tested for statistical significance by the sign test or a modified form of the sign test.

The findings show that workers transferred into jobs with higher pay rates significantly more than they transferred into jobs with either the same or lower pay rates. The findings further indicate that when the transfer also meant a pay increase, employees moved into the jobs with higher enrichment ratings significantly more than they moved into the jobs with lower enrichment ratings. Similarly, when the transfer meant a pay increase, more employees moved into the jobs that were rated as giving the worker more control over work pace, more responsibility for quality control and machine setup and repair, more planning of work activities, requiring more formal education, and more complexity (requiring more time to master).

When the transfers did not provide a pay increase, the number of workers who sought jobs with higher ratings on each of the factors under study were not significantly different from the numbers of those

who sought jobs with lower ratings on each of the factors except for variety and determination of work methods. When the transfers did not provide a pay increase, employees moved into jobs that were rated as having less variety significantly more than they moved into jobs rated as having more variety. Similarly, more employees moved into jobs rated as giving the worker less control over work methods when the transfer did not provide a pay increase.

The number of employees who sought jobs that were rated as having more advancement opportunities was not significantly different from the number of employees who sought jobs that were rated as having lower advancement opportunities. This transfer pattern is also true for the factors of determination of work methods, number of tasks, variety, repetitiveness, length of job cycle, physical exertion, and the composite factor of routineness.

It was concluded that the opportunity for higher earnings was the primary motivating factor influencing employees to change jobs. Although the study does indicate that employees sought a higher paying job which also provided more autonomy, responsibility, and the opportunity to use their specialized skills at more complex jobs, it is doubtful that the employees would have changed jobs unless there was also an opportunity for higher earnings.

The finding that when transfers meant a pay increase, more employees moved into the jobs that were more enriched or had more autonomy and responsibility or more complex, may ordinarily be used as evidence to support the viewpoint that workers seek autonomy and responsibility at work. It was, however, not possible to tell in those cases when workers transferred into more enriched and higher paying jobs whether the primary motivator was the pay or the enrichment factors inherent in the job.

This difficulty arises, in part, because of the traditional association between higher pay and more responsibility that usually result from the job evaluation methods of setting wage rates.

This study indicates that the most important factor which motivated employees to change jobs is the opportunity for higher earnings. This study rejects the viewpoint that pay is not of paramount importance to the motivation and job satisfaction of the rank and file worker. It appears that the lower level worker seeks autonomy and higher earnings in one package at work. It is doubtful, however, that the rank and file employees would have changed jobs if there was no opportunity for higher earnings.

A STUDY OF SELECTED FACTORS INFLUENCING JOB PREFERENCE
(PAY, JOB ENLARGEMENT, JOB ENRICHMENT)

By

John Nevboyeri Orife

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Management

1974

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JOHN NEVBOYERI ORIFE

1974

DEDICATION

In memory of my father, Samuel Moniruvwe Orife, who kindled my desire for education, and taught me to uphold that which is right, no matter the hardship for so doing nor the beneficial rewards for doing otherwise.

ACKNOWLEDGEMENTS

This dissertation marks the end of a very long and tiring journey through the course of a doctoral program. The author is grateful to those persons, too many to mention individually, who made it possible to arrive at the desired destination.

First, I would like to thank the members of my dissertation committee, Dr. Dalton E. McFarland, Dr. R. Winston Oberg, and Dr. Rollin H. Simonds (chairman), for their counsel, suggestions, and constructive criticisms. A special note of thanks is due to Dr. Simonds, not only for serving as chairman but also for suggesting the idea which led to the selection of the research problem. Dr. Oberg also served as my major professor until the dissertation stage of this program, and was in effect the linking pin between the guidance committee and the dissertation committee.

I would also like to thank Dr. Carl F. Frost, and Dr. E. Jerome McCarthy, the other members of my guidance committee, for serving as my advisors in industrial psychology and marketing, respectively. I am especially grateful to Dr. Frost for actively supporting my earliest dreams for graduate education while he was at the University of Nigeria.

A special note of thanks is due to the companies and to the personnel managers, who must remain anonymous. It would have been impossible to obtain the data without their interest and cooperation in this study.

The assistance of the Statistical Consulting Unit of the Department of Statistics and Probability at Michigan State University with the tests used for analyzing the data is appreciated. I am especially indebted to Mrs. Janet T. Eyster, for long hours of assistance with the computer and consultation, and to Dr. Martin Fox and Mr. Robert Lovall, who helped to develop one of the tests used for analyzing the data.

The assistance of Dr. Abel Ekpo-Ufot with the Job Enrichment Index is also appreciated. His encouragement, criticisms, suggestions, and interest in the study were very helpful.

I am also grateful to the Dean of the Graduate School of Business Administration for three years of financial support in the form of a graduate assistantship.

I am particularly indebted to the taxpayers of Nigeria, who in the final analysis, bore the cost of my first two years of graduate education through a fellowship sponsored by the University of Nigeria, Michigan State University, and the Agency for International Development.

It is regretted that the Agency for International Development and its agent, Michigan State University's International Programs (University of Nigeria Program), attempted to hinder the author's progress in the doctoral program with the services of the Immigration Authorities. The author should probably be thankful for this kind of help which reinforced the determination to successfully complete the program. In this regard, I am indebted to the anti-secessionist Nigerian students at Michigan State University during 1968-1970, who supported me in my struggles within a hostile environment. I am also grateful to the officers of the Nigerian Embassy in Washington, D.C., and to the office of Senator Robert Griffin for help with my unending immigration problem at various times.

Throughout this long doctoral program, Dr. Alfred E. Opubor and Mr. Abebayo Ogunbi have been invaluable friends.

I am especially indebted to my brother, James Mavuaye, who has shouldered the heavy burden of family responsibility single-handedly since the passing of our father. The knowledge that he is there made it possible for me to persevere.

Last and definitely not the least, I thank my bride, Bonnie Louise, for years of encouragement, and never losing the faith. She

not only typed most of the earlier drafts, but also spent her honeymoon typing and typing.

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CHAPTER I

INTRODUCTION

This study is an attempt to examine on-the-job worker behavior in an effort to provide more convincing evidence as to the relative importance of certain kinds of job motivation and job satisfaction to non-managerial employees.

The opportunity for employees to gratify their needs at work has been recognized as a potent method for motivating employees and achieving employee job satisfaction. The strength of this method is derived from the fact that people seek to gratify the various needs they bring to their jobs.

Prior to the work of Elton Mayo¹ at the Hawthorne Works of the Western Electric Company, the needs that were perceived as requiring gratification at work were primarily the economic needs. The Hawthorne Studies, however, established the idea that people at work seek to gratify needs other than their economic needs. These landmark studies unveiled the worker's social needs which seek on-the-job gratification.

¹Elton Mayo, The Social Problems of an Industrial Civilization (Cambridge: Harvard University Press, 1945).

A comprehensive classification of the needs that could be satisfied by work has been proposed by Maslow.² According to Maslow, there are five basic human needs. The basic physiological, safety, love, esteem, and self-actualization needs are organized in a hierarchy of prepotency respectively. Therefore, a person's lower order need for food, clothing, shelter, and safety must be substantially satisfied before the higher order needs for love, esteem, and self-actualization can emerge as important. Another tenet of Maslow's need hierarchy theory is that a satisfied need is not a motivator of behavior. The behavior of a person is dominated and determined by the lowest order needs which are not yet satisfied. Thus if the physiological needs are substantially satisfied, attention to these needs would not be as effective in motivating behavior as would attention to the next higher order class of needs.

The Maslow need hierarchy theory gives a historical insight and perspective to the needs that have been emphasized as requiring satisfaction at work. In the United States, there was an emphasis on the satisfaction of the physical needs³ by work by focusing attention

²A. H. Maslow, "A Theory of Human Motivation," Psychological Review, L (1943), 370-396.

³Douglas McGregor groups human needs into three clusters--physical, social, and egoistic--in "A Philosophy of Management," in Leadership and Motivation, ed. by Warren G. Bennis and Edgar H. Schein (Cambridge: The M.I.T. Press, 1966), pp. 40-41.

on wages during the early 1900's. The influence of the scientific management movement⁴ and the belief that the worker is an "economic man"⁵ also contributed to the emphasis on wages as the major motivator of people at work. In the 1920's and 1930's, the emphasis on safety and job security developed. The Hawthorne Studies (1927-1932) pioneered the challenge to the "economic man" model of the worker who is motivated mainly by economic rewards. These studies generated an emphasis on the satisfaction of the social needs at work, and turned the 1930's and 1940's into a glorious era for the human relations movement's⁶ crusade for the recognition of the worker's affiliative needs which seek gratification at work. In the 1950's an emphasis on the satisfaction of egoistic needs at work began to emerge. The ability of the work itself to be challenging and meaningful to the worker has been emphasized as a basis for the motivation and job satisfaction of employees in the last decade.

⁴Higher wages were the only recognized means of motivating an employee to increase output under Taylor's scientific management.

⁵The "economic man model" of the worker assumes that employees are motivated primarily by economic incentives (wages and other financial benefits) and that employees will seek to maximize their economic rewards.

⁶The human relations movement, associated with Elton Mayo and his followers, assumes that social relationships at work contribute to employee job satisfaction.

The relatively recent emphasis on the provision of opportunities for higher order need gratification at work as the basis for motivation and job satisfaction is based on two facts. First, higher order needs are largely unsatisfied and are less likely to be permanently satisfied. Secondly, the lower order needs have been substantially satisfied by most people who are regularly employed in industrialized societies. Thus, the higher order needs would be the motivators because, according to Maslow's theory, satisfied needs are not motivators of behavior.

The importance of on-the-job higher order need gratification for managers and professional employees has been well recognized. There is clear evidence that the higher order needs for autonomy, challenge, and self-actualization are important to the motivation and job satisfaction of managers, professional employees, and generally highly educated people.⁷ Just how important relative to other needs or how the phenomenon varies among people is not so clear. Furthermore, we lack knowledge of how the lower-level employees or the less-educated workers see the on-the-job gratification of higher order needs

⁷The following two articles are typical of the evidence of higher order need satisfaction for professional employees: D. C. Pelz and F. M. Andrews, "Organizational Atmosphere, Motivation and Research Contribution," American Behavioral Scientist, VI (1962), 43-47; and Edward E. Lawler, III and Douglas T. Hall, "The Relationship of Job Characteristics to Job Involvement, Satisfaction and Intrinsic Motivation," Journal of Applied Psychology, LIV (1970), 305-312.

as basis for their motivation and job satisfaction. Goodwin,⁸ in an effort to indicate the general goals Americans expect to fulfill through work, found that workers on the lower levels of the occupational and social structure are more concerned than others about environmental factors in their jobs and about monetary return. The more educated workers in the higher levels of the occupational and social structure showed greater concern about avoiding routine tasks and having the opportunity to do worthwhile work and develop their own abilities. Beer,⁹ however, found that the most important needs listed by clerical employees (mainly female) are self-actualization, autonomy, and social, respectively. Kahn¹⁰ had earlier found that management greatly overestimated the importance workers attached to high wages and underestimated the importance of the higher order needs of their employees. Another study which is an extension of Kahn's original study, found that

⁸Leonard Goodwin, "Occupational Goals and Satisfactions of the American Work Force," Personnel Psychology, XXII (1969), 313-325.

⁹Michael Beer, "Needs and Need Satisfaction Among Clerical Workers in Complex and Routine Jobs," Personnel Psychology, XXI (1968), 209-222.

¹⁰Robert L. Kahn, "Human Relations on the Shop Floor," in Human Relations and Modern Management, ed. by E. M. Hugh-Jones (Chicago: Quadrangle Books, 1958).

economic incentives and other work contextual factors were ranked high by factory workers and intrinsic job variables . . . were ranked much lower. But the office employees ranked the intrinsic job characteristics much higher than the factory employees and resemble more closely the management . . . profiles The importance of the intrinsic job characteristics even for the factory workers was underestimated by the union representative.¹¹

Although the evidence about the importance of on-the-job higher order need gratification to the operative worker is inconclusive, proponents of the "self-actualizing man"¹² model of the worker have vigorously advocated higher order need gratification at work as the basis for motivation and job satisfaction. The rationale for this viewpoint is based on the philosophical concept of human nature and also on the conclusions drawn from the findings of research studies.¹³

The research studies which have been reported as supporting higher order need gratification at work are mainly of two types. One type of studies report on the success of experimental programs designed to provide for higher order need gratification at work.¹⁴ The other

¹¹Ury M. Gluskinos and Bruce J. Kestelman, "Management and Labor Leaders' Perception of Worker Needs as Compared with Self-Reported Needs," Personnel Psychology, XXIV (1971), 239-246, p. 243.

¹²Chris Argyris and Douglas McGregor whose works represent this viewpoint will be discussed in the next chapter.

¹³The next chapter will discuss the theoretical foundations of this viewpoint and the relevant research.

¹⁴Examples of such studies are: Clayton P. Alderfer, "Job Enlargement and the Organizational Context," Personnel Psychology,

type of studies have reported on the importance of the various needs to different classes of employees. The latter type of studies have used questionnaires, interviews, rank order studies, and critical incidents to obtain the reported results.¹⁵ The results and conclusions which the researchers have drawn have subsequently been cited as evidence to support programs which are designed to provide for higher order need gratification at work. This state of affairs provides little and limited empirical evidence for what things workers seek to get from their jobs that would maintain their satisfaction with their jobs.

The Need for the Study

The research evidence supporting higher order need gratification at work has been based mainly on off-the-job measurements of employee attitudes towards various aspects of their jobs. Although the knowledge of attitudes sometimes allows for the prediction of behavior,

XXII (1969), 419-426; Robert N. Ford, Motivation Through the Work Itself (New York: American Management Association, 1969); and William J. Roche and Neil L. MacKinnon, "Motivating People with Meaningful Work," Harvard Business Review, XLVIII, No. 3 (1970), 97-110.

¹⁵ Glenn P. Fournet, M. K. Distefano, Jr., and Margaret W. Prye, "Job Satisfaction: Issues and Problems," Personnel Psychology, XIX (1966), 165-183.

"attitudes do not always predict behavior."¹⁶ Therefore research evidence based on actual work behavior would be preferable to predictions based on attitude measurement. A study based on actual work behavior introduces a reality, for which there is no substitute, into the situation. Actual work behavior would be a better predictor of worker behavior than the measures of worker attitudes. There is a need to validate the research evidence supporting higher order need gratification at work by focusing attention on actual work behavior. An analysis of actual worker behavior in real life situations should provide a much sounder basis for theory and prediction of worker action.

The study of actual work behavior would eliminate some of the problems of the methods of attitude measurement that have raised doubts as to the validity of the obtained results. Questionnaires indicate the amount of respondent agreement with a particular item.¹⁷ The self-selection of respondents in questionnaire studies raised the question of the randomness of the samples used. The data obtained by interviews may also be of questionable validity.¹⁸ The data obtained

¹⁶ Milton L. Blum and James C. Naylor, Industrial Psychology (New York: Harper and Row, Publishers, 1968), p. 277.

¹⁷ J. R. Glennon, et al., "New Dimension in Measuring Morale," Harvard Business Review, XXXVIII, No. 1 (1960), 106-107.

¹⁸ Lynn Ulrich and Don Trumbo, "The Selection Interview Since 1949," Psychological Bulletin, LXIII (1965), 100-116.

through interviews and questionnaires are particularly prone to the tendency of responding in the manner that respondents feel to be most socially desirable. The validity of the data obtained in rank order studies is not impeccable. Likert¹⁹ questions the use of rank order studies because the fact that an item has been ranked first does not mean that it is the most important factor in overall attitude. The results obtained by the critical incidents method have been criticized as being biased and method bound.²⁰

The prevalence of attitude measurement in job satisfaction research and the methods of attitude measurement (questionnaires, interviews, rank order studies and critical incidents) have allowed researchers to examine practically all aspects of the work situation but the work itself. According to Davis,²¹ the most striking feature of most past and present research on job satisfaction is its failure to study the job itself.

The subjects in the reported job satisfaction research have been mainly managerial and professional employees and college students.

¹⁹Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, 1961), p. 195.

²⁰See: M. D. Dunnette, J. P. Campbell, and M. D. Haskel, "Factors Contributing to Job Satisfaction and Job Dissatisfaction in Six Occupational Groups," Organizational Behavior and Human Performance, II (1967), 143-174.

²¹Louis E. Davis, "Job Satisfaction Research: The Post-Industrial View," Industrial Relations, X (1971), 176-194, p. 181.

The proportion of the studies reporting on this class of personnel is much more than the proportion of this group of employees in the labor force. The study of the motivation and job satisfaction of the lower level employee has not attracted as much attention as that of the managerial and professional class.²² A large proportion of the studies that have focused on the lower level employee's motivation and job satisfaction were primarily validation studies for the research on the managerial and professional personnel.²³

There is a need to study the motivation and job satisfaction of lower level employees, especially the operative worker. There is

²²There is a systematic study of the need gratification of managers by Porter that does not have a counterpart for lower level employees: (a) L. W. Porter, "A Study of Perceived Need Satisfaction in Bottom and Middle Management Jobs," Journal of Applied Psychology, XLV (1961), 1-10; (b) L. W. Porter, "Job Attitudes in Management: I. Perceived Deficiencies in Need Fulfillment as a Function of Job Level," Journal of Applied Psychology, XLVI (1962), 375-384; (c) L. W. Porter, "Job Attitudes in Management: II. Perceived Importance of Needs as a Function of Job Level," Journal of Applied Psychology, XLVII (1963), 141-148; (d) L. W. Porter, "Job Attitudes in Management: III. Perceived Deficiencies in Need Fulfillment as a Function of Line versus Staff Type of Job," Journal of Applied Psychology, XLVII (1963), 267-275; and (e) L. W. Porter, "Job Attitudes in Management: IV. Perceived Deficiencies in Need Fulfillment as a Function of Size of Company," Journal of Applied Psychology, XLVII (1963), 386-397.

²³See for example: (a) M. R. Malinovsky and J. R. Barry, "Determinants of Work Attitudes," Journal of Applied Psychology, XL (1965), 446-451; (b) R. Bloom and J. R. Barry, "Determinants of Work Attitudes Among Negroes," Journal of Applied Psychology, LI (1967), 291-294; and (c) R. Wild, "Job Needs, Job Satisfaction, and Job Behavior of Women Manual Workers," Journal of Applied Psychology, LIV (1970), 157-162.

a need to study the on-the-job behavior of workers as they seek to gratify their needs at work as the basis for formulating theories as to the motivation and job satisfaction of employees. The study of the behavior of workers as they seek to gratify their needs at work would provide behaviorally based empirical evidence as to what things workers want to get from their jobs.

The work itself should be a central part of the study of worker response to the various aspects of the job. "The study of man at work is exposed to dangerous errors if it does not rest on the study of work itself, on the principles of the unity of its several aspects and their reciprocal relationship."²⁴

There is also a need to introduce more objectivity into the study of worker motivation and job satisfaction. The self-reporting that is characteristic of the research in motivation and job satisfaction may not provide an objective reality of the determinants of the work behavior of employees as they seek to gratify their needs at work.

This study is an attempt to avoid some of the limitations of the previous research in job satisfaction by focusing on actual work behavior, the nature of the job, and the operative worker. Some subjectivity of the previous approaches would be avoided by substituting

²⁴Alan Touraine, "L'Evolution du Travail ouvrier aux usines Renault" (Paris: Centre National de la Recherche Scientifique, 1955), cited by Davis, op. cit.

the supervisor's description of the job for the usual incumbent's description of his own job.

The Purpose of the Study

The general objective of this study is to find out what things rank and file workers seek in their jobs as could be determined from their behavior (decisions made by the employees) in real life work situations. The study will test empirically the validity of the viewpoint that workers seek autonomy, challenge, responsibility, and self-actualization at work. The study will attempt to determine whether or not workers in the process of their daily work seek out jobs with higher levels of enrichment and concomitantly turn away from jobs with lower levels of enrichment more than they seek out jobs that are more routine. The study will also test empirically the validity of the viewpoint that the lower level employee is motivated mainly by financial reward.

Specifically, the study will investigate the differences, if any, between the new jobs that workers apply for when openings occur in their organizations (favored jobs) and those jobs which they elected to leave in order to fill the new openings (disfavored jobs). The job factors selected for the focus of the study are:

I. The Nature of the Job

- (i) determination of work pace
- (ii) determination of work methods
- (iii) responsibility for quality control
- (iv) responsibility for machine setup and repair
- (v) number of tasks
- (vi) variety of tasks
- (vii) repetitiveness of tasks
- (viii) length of job cycle
- (ix) amount of planning
- (x) the enrichment inherent in the job, defined as the sum of i, ii, iii, iv, and ix above
- (xi) the routineness (extension) of the job defined as the sum of v, vi, vii, viii, above.
- (xii) the enrichment and routineness (extension) of the job
- (xiii) the required physical effort

II. The Advancement Opportunity

III. The Pay

Summary

In the last fifteen years, the opportunity for higher order need gratification at work has been emphasized as the basis for employee motivation and job satisfaction. The research evidence supporting this viewpoint has been based mainly on the study of the attitudes of managerial and professional employees. The proponents of on-the-job higher order need gratification have neglected actual job behavior in their study of employee motivation and job satisfaction, and concentrated on off-the-job study of employee attitudes.

This study is concerned with the needs that operative employees seek to gratify at work as could be determined from their actual work behavior. The study focuses on work attributes in the attempt to find out what things workers want to get from their jobs.

In conclusion of this introductory chapter, the plan of the rest of this report is presented. The following chapter will review the relevant literature. Chapter three describes the instrument designed for and used in this study, the methods and procedures used for gathering and analyzing the data. Chapter four reports the findings of the study, while the last chapter discusses the implications of the findings from the author's viewpoint.

CHAPTER II

A REVIEW OF THE RELEVANT LITERATURE

The objective of this chapter is to review the theory and the reported research of motivation and job satisfaction based on the gratification of higher order needs at work and the nature of the work itself. There is no claim that this review is exhaustive in scope. The intention here is to examine the theoretical foundations of the higher order need gratification models of motivation and job satisfaction, and to provide a picture of the kinds of research studies that have been reported in this area.

Theory

Needs, Motivation, and Job Satisfaction

The theoretical foundations of higher order need gratification models of motivation and job satisfaction are rooted in the relationship between human needs, motivation, and job satisfaction. This

relationship is perhaps best explained in terms of Maslow's Theory of human needs,¹ a "motivational cycle,"² and Wolf's need gratification theory.³

Maslow's theory of human needs was briefly explained in the last chapter. To reiterate, Maslow has classified human needs into five different categories:

1. Physiological needs: the basic needs necessary for existence such as food, water, air, etc.
2. Safety needs: the need for the security of a person's existence and the freedom from any threat to the security of that existence.
3. Love needs: the need to belong to a group and be an accepted member of the group.
4. Esteem needs: the need for self-esteem and for the respect of others.

¹A. H. Maslow, "A Theory of Human Motivation," Psychological Review, L (1943), 370-396.

²Milton L. Blum and James C. Naylor, Industrial Psychology (New York: Harper and Row, Publishers, 1968), p. 331.

³Martin G. Wolf, "Need Gratification Theory: A Theoretical Reformulation of Job Satisfaction/Dissatisfaction and Job Motivation," Journal of Applied Psychology, LIV (1970), 87-94.

5. Self-actualization needs: the need for self-fulfillment and the need to realize one's full growth potential.

The five groups of needs are organized in a hierarchy of prepotency as listed above. Thus the behavior of any person is determined by the most basic group of unfulfilled needs.

"A motivational cycle is a process having three distinct parts:

- (a) Need or motive: A state of physiological or psychological imbalance.
- (b) Response of motivated behavior: An action directed toward alleviating the imbalance.
- (c) Goal: That which has to be obtained to reduce the imbalance--the object of the motivated behavior."⁴

An individual could therefore be motivated only in terms of his needs--physiological or psychological. This position is very clearly stated in Koontz and O'Donnell's chapter on motivation. In discussing the relationship of human needs to employee motivation, the authors state:

⁴Blum and Naylor, op. cit.

It is important to realize that motivation (providing with a motive--or, in this usage, a motive to act in a desired manner) has no meaning outside the needs of subordinates. Efforts to provide a motive not related to needs would have zero results.⁵

Job satisfaction, the result of positive attitudes an employee holds towards his job, is dependent on the extent to which the employee's needs are perceived as being satisfied from the job. The relationship of between needs, motivation, and job satisfaction may be further clarified by Wolf's⁶ need gratification theory. Wolf, in proposing a theory of job motivation based on Maslow's need hierarchy which could account for the discrepant research results concerning job satisfaction, asserts that:

Job motivation occurs when an individual perceives an opportunity to gratify an active need through job-related behaviors Satisfaction results from the gratification of any need; however, satisfaction is greater when a previously ungratified need is gratified than when a previously gratified need is gratified on an on-going basis Satisfaction is an end state, while motivation is a force ("drive") to achieve an end state.⁷

While Wolf relates needs to satisfaction through motivation, other writers see a direct link between needs and job satisfaction.

⁵Harold Koontz and Cyril O'Donnell, Principles of Management (New York: McGraw-Hill Book Company, 1964), pp. 486-487.

⁶Wolf, op. cit.

⁷Ibid., pp. 90-91.

These writers see job satisfaction as need gratification. In an article titled "Job Satisfaction as Need Satisfaction," Froehlich and Wolins "recognize that satisfaction involves need fulfillment: the fulfillment of aspects of the job environment important to the employee."⁸ Schaffer's view of job satisfaction as need gratification is even more clear:

Overall job satisfaction will vary directly with the extent to which those needs of an individual which can be satisfied in a job are actually satisfied; the stronger the need, the more closely will job satisfaction depend on its fulfillment.⁹

It has become traditional to discuss motivation and job satisfaction in terms of need gratification and to discuss motivation and job satisfaction simultaneously. It is not unusual to see "motivation" discussed under the title of "job satisfaction" or to see "job satisfaction" discussed under the title of "motivation," depending on the author's viewpoint. Vroom,¹⁰ in organizing and integrating the existing knowledge in the field of work and motivation discusses job

⁸Herbert P. Froehlich and L. Wolins, "Job Satisfaction as Need Satisfaction," Personnel Psychology, XIII (1960), 407-420.

⁹Robert H. Schaffer, "Job Satisfaction as Related to Need Satisfaction in Work," Psychological Monographs, LXVII, No. 14 (Whole No. 364) (1953), p. 3; See J. C. Wofford, "The Motivational Bases of Job Satisfaction and Job Performance," Personnel Psychology, XXIV (1971), 501-508, for recent confirming evidence.

¹⁰Victor H. Vroom, Work and Motivation (New York: John Wiley and Sons, Inc., 1964).

satisfaction in a volume titled "Work and Motivation." A review of job satisfaction research of 1966-67 shows that a sizeable proportion of the "reports focus on the motivation to work" and "relate needs or need hierarchies to job satisfaction."¹¹

Although this writer would classify this study as a job satisfaction study, much of the material in this chapter would be drawn from what is usually classified under motivation. Some of the material could also be classified under "leadership" or supervision. But their focus in this study is how the various viewpoints are related to the satisfaction of employee needs at work.

Higher Order Needs, Motivation and Job Satisfaction

In the last section, the need gratification basis of motivation and job satisfaction was outlined. In this section, the emphasis on the gratification of higher order needs at work as the basis for motivation and job satisfaction is examined by presenting the various viewpoints of the major proponents of this school of thought.

The dominant theme underlying the theories of the prominent writers who advocate the gratification of higher order needs at work

¹¹ Nathaniel J. Pallone, Fred S. Rickard, and Robert B. Hurley, "Job Satisfaction Research of 1966-1967," Personnel and Guidance Journal, XLVIII (1970), 469-478.

as the basis for employee motivation and job satisfaction is that the amount of higher order need gratification provided by the job is the chief determinant of employee reactions to the job, especially job satisfaction, internalization of organization goals, commitment, and identification with the organization. The needs for achievement, autonomy, responsibility, status, and self-actualization are said to be gratified on the job through the opportunities to work on challenging and meaningful assignments that make use of the employee's best abilities, the opportunity to participate in decisions that affect his job, general or supportive supervision, and the opportunities for personal growth and development. The gratification of higher order needs at work are supposed to be frustrated by simple, routine and boring tasks, close supervision, the lack of control over work goals, pace and methods, and the lack of opportunities for personal growth.

The various human relations theorists stress different potential sources of higher order need gratification at work even though they would all agree that: job dissatisfaction and the lack of positive motivation to accomplish organization goals result mainly from the lack of opportunities for higher order need gratification at work and that increasing the amount of such gratification provided by the job would increase job satisfaction, internalization of organization goals, commitment and identification with the company. The different

human relations theorists also have different bases for their propositions. Some writers have based their theories on the philosophical concept of human nature or on their philosophy of management while others have built their theories on empirical research evidence.

The work of Chris Argyris¹² is perhaps the earliest prominent plea for higher order need gratification at work based on his understanding of human nature. In 1957, Argyris proposed his personality-organization incongruency hypothesis: the formal organization makes demands on the individual that are inconsistent with the needs of healthy mature individuals in the American culture. According to Argyris, the human personality is inherently striving for self-actualization--the person's need to find expression for his own developmental trends. The developmental growth trends in the American culture according to Argyris are:

(1) ... from a state of passivity as infants to a state of increasing activity as adults.

(2) ... from a state of dependence on others as infants to a state of relative independence as adults.

¹²Chris Argyris, Personality and Organization (New York: Harper and Row, Publishers, 1957).

- (3) ... from being capable of behaving only in a few ways as an infant to being capable of behaving in many different ways as an adult.
- (4) ... from having erratic, casual, shallow, quickly dropped interests as an infant to having deeper interests as an adult.
- (5) ... from having a short time perspective . . . as an infant to a much longer time perspective as an adult.
- (6) ... from being in a subordinate position in the family and society as an infant to aspiring to occupy an equal and/or superordinate position relative to their peers.
- (7) ... from a lack of awareness of self as an infant to an awareness of and control over self as an adult.¹³

Argyris expects all individuals, except in the case of unhealthy personality development, to be predisposed to moving from the infant end to the adult end of the development continua above. Thus when healthy mature individuals become organization members,

they will want to express needs . . . related to the adult end of each specific developmental continuum. Theoretically, this means that healthy adults will tend to obtain optimum personality expression while

¹³Ibid., pp. 50-51.

at work if they are provided with jobs which permit them to be more active than passive; more independent than dependent; to have longer rather than shorter time perspectives, to occupy higher position than their peers; to have control over their world; and to express many of their deeper, more important abilities. These developmental trends may be considered as basic properties of the human personality. They are the "givens" that an administrator accepts the moment he decides to accept human beings as agents of the organization.¹⁴

Argyris is convinced that human beings "will always be striving for self-actualization while behaving as agents of the organization."¹⁵

The healthy adult will, however, have to cope with the restraints imposed on him by the formal organization. According to Argyris, if the principles of formal organization as ideally defined were used, people will tend to work where they have little or no control over their work environment, and are expected to be passive dependent, subordinate, have short time perspective and to use only their lower abilities. These demands that the formal organization makes on the individual are not congruent with the needs of healthy adults but only compatible with the needs of infants.¹⁶

If organizations are to satisfy the needs of their employees, there must be opportunities for higher order need gratification or

¹⁴Ibid., p. 53.

¹⁵Ibid., p. 20.

¹⁶Ibid., p. 66.

provide for self-actualization according to Argyris. This type of need gratification could be provided for by having the employee work on a job that is meaningful and by giving the worker some control over his work environment.

In a revision of the personality-organization incongruency hypothesis, Argyris¹⁷ uses the concept of "psychological success" to describe the dilemma between the needs of individuals and the demands of the pyramidal structure of the formal organization. According to the revised version, individuals are striving for psychological success and self-esteem, but the jobs have been fractionized and specialized according to the principles of scientific management which require workers to be dependent, submissive, and use few of their specialized abilities. Thus if employees aspire toward psychological success, they will tend to experience psychological failure, frustration, and conflict. The message for the provision of higher order need gratification opportunities at work is very clear in the author's view of the organizations of the future.¹⁸

Douglas McGregor is another prominent human relations theorist whose plea for the gratification of higher order needs at work is based

¹⁷Chris Argyris, Integrating the Individual and the Organization (New York: John Wiley and Sons, 1964).

¹⁸Ibid., Chapter 13.

on the nature of the human being. In one of the best known works critical of traditional management theory and practice, McGregor¹⁹ claims that the implicit assumptions about human nature and human behavior which underlie most of the literature of traditional organization principles and current managerial practice are inconsistent with the accumulated knowledge about human nature and behavior. McGregor lists these assumptions which he labels as "Theory X" as:

- (1) The average human being has an inherent dislike of work and will avoid it if he can.
- (2) Because of his human characteristic of dislike of work, most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives.
- (3) The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all.²⁰

¹⁹Douglas McGregor, The Human Side of Enterprise

²⁰Ibid., pp. 33-34.

McGregor proposes a different set of assumptions about human nature and behavior which he calls "Theory Y" which he claims are more consistent with the knowledge about human behavior:

- (1) ... The average human being does not inherently dislike work . . .
- (2) ... Man will exercise self-direction and self-control in the service of objectives to which he is committed.
- (3) Commitment to objectives is a function of the rewards associated with their achievement. The most significant of such rewards, e.g. the satisfaction of ego and self-actualization needs can be direct efforts of effort directed toward organizational objectives.
- (4) The average human being learns . . . not only to accept but to seek responsibility. Avoidance of responsibility . . . and emphasis on security are generally . . . not inherent human characteristics.
- (5) The capacity to exercise . . . imagination, ingenuity and creativity in the solution of organizational problems is widely . . . distributed in the population.

- (6) Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only being partially utilized.²¹

McGregor notes that modern industrial technology has provided most people at work with the opportunities to satisfy their basic physiological and safety needs but that the same technology has been unable to provide workers with the opportunities to satisfy at work the needs that are now important to them. He urges management to create conditions such that the worker is encouraged and enabled to seek satisfactions of such needs as the need for self-respect and the respect of his fellows and the need for self-fulfillment.

McGregor's philosophy of management advocates on-the-job higher order need gratification as the basis for motivation and job satisfaction for the operative worker:

Unless the job itself can be satisfying, unless there are opportunities right in the work situation to get fun out of working, we will never get people to direct their efforts voluntarily towards organizational goals You, as management, frequently underestimate the importance of this problem for the people who work for you. . . . You automatically get a greater degree of need satisfaction in work itself. You have greater freedom, more opportunities for achievement, for acquiring additional knowledge, for being creative. All of the things that can provide satisfaction at work

²¹ Ibid., pp. 47-48.

are more available to you than they are to the fellow on the bottom.²²

While the works of Argyris and McGregor deal with the inherent nature of the human being in postulating their theories of motivation and job satisfaction, Bennis²³ recognizes the socializing process or environmental factors influencing human nature. In his forecast about the decline of bureaucracy and organizations of the future, Bennis believes that the aggregate population characteristics of the United States will lead to work values, organizational structures, and tasks and goals of firms which would make the gratification of higher order needs at work inevitable. Bennis notes that the population will become more educated, and job mobility will increase.

The increased level of education and mobility will change the values we hold vis-a-vis work. People will be more intellectually committed to their jobs and will probably require more involvement, participation, and autonomy in their work.²⁴

The social structure of the future organization will, according to Bennis,

²²Douglas McGregor, "A Philosophy of Management," in Leadership and Motivation: Essays of Douglas McGregor, ed. by Warren G. Bennis and Edgar H. Schein (Cambridge, Mass.: The M.I.T. Press, 1968), pp. 42-43.

²³Warren G. Bennis, Changing Organizations (New York: McGraw-Hill Book Company, 1966).

²⁴Ibid., p. 11.

increase motivation . . . because of the satisfactions intrinsic to the task. There is a congruence between the educated individual's need for meaningful, satisfactory, and creative tasks and flexible structure or autonomy.²⁵

The gratification of higher order needs at work, according to Bennis, is required not only because of the type of people organizations employ, but also of the need of the organizations to survive and be effective. The rapidly changing technology and the need of firms to adapt in order to survive would require the organizations to be more "democratic." Democracy in this context is a system of values which is compatible with the people who "derive their rewards from inward standards of excellence, . . . and from the intrinsic satisfaction of their task . . . and uncommitted except to the challenging environments."²⁶

The needs of the organization to be effective and productive are also a primary concern of Likert's "supportive leadership" style and "participative-group"²⁷ i.e. "System 4"²⁸ form of organization which advocate on-the-job higher order need gratification. Likert

²⁵Ibid., p. 13.

²⁶Ibid., p. 25.

²⁷Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, 1961), Chapter 14.

²⁸Rensis Likert, The Human Organization (New York: McGraw-Hill Book Company, 1967), Chapter 3.

believes that people react favorably to experiences which they feel are supportive and contribute to their sense of importance and personal worth. People, Likert asserts, want appreciation, recognition, influence, a feeling of accomplishment and respect and that the pattern of reacting favorably to these needs "seems to be the basis for the general principle used by the high-producing managers in developing their highly motivated cooperative organizations."²⁹

The general principle which Likert labels as the "principle of supportive relationships" emphasizes higher order need gratification at work. This is evident in the author's brief definition of the principle and in the elaboration that follows. The principle, "briefly stated":

The leadership and other processes of the organization must be such as to ensure a maximum probability that in all interactions, and all relationships with the organization each member will, in the light of his background, values, and expectations, view the experience as supportive and one which builds and maintains his sense of personal worth and importance.³⁰

In elaborating on the principle of supportive relationships as an organizing concept, Likert asserts that:

This general principle provides a fundamental formula for obtaining the full potential of every major motive which can be constructively harnessed

²⁹Likert, New Patterns of Management, p. 102.

³⁰Ibid., p. 103.

in a working situation To be highly motivated, each member of the organization must feel that the organization's objectives are of significance and that his own particular task contributes in an indispensable manner to the organization's achievement of its objectives. He should see his role as difficult, important, and meaningful. This is necessary if the individual is to achieve and maintain a sense of personal worth and importance. When jobs do not meet this specification they should be reorganized so that they do so.³¹

Likert does not underestimate the importance of lower order needs even while emphasizing higher order need gratification at work. He sees "the principle of supportive relationships" as a means of tapping more effectively economic motivations.

as motives are used in the ways called for by this general principle . . . the different motivational forces will be cumulative and reinforcing. Under these circumstances, the full power from each of the available motives will be added to that from the others to yield a maximum of coordinated, enthusiastic effort.³²

Likert's advocacy of higher order need gratification at work is based mainly on the need of the firm to be productive and empirical evidence showing that the System 4 form of organization is more effective than the other systems in making employees more productive.

Research findings support the perceptions of managers that management systems more . . . toward System 4, are more productive . . . than do those

³¹ Ibid.

³² Ibid.

systems falling more . . . toward System 1. Those firms or plants where System 4 is used show high productivity, low scrap loss, low costs, favorable attitudes, and excellent labor relations. The converse tends to be the case for companies or departments whose management is well toward System I Shifts toward System 4 are accompanied by long-range improvement in productivity, labor relations, costs, and earnings. The long-range consequences of shifts toward System I are unfavorable.³³

The work of Blake and Mouton is another major plea for the gratification of higher order needs at work. The authors' plea for the satisfaction of higher order needs at work is similar to that of Bennis and Likert in that it is based partly on the need of the organization to be productive and effective. Blake and Mouton have outlined a schematic model of management known as "The Managerial Grid."³⁴

The Managerial Grid (Figure 1) has two independent dimensions which the authors claim are critical to effective management: 1) concern for production and 2) concern for people. Each of the dimensions is expressed as a nine point scale of concern where the number 1 represents minimum concern and 9 stands for maximum concern. The writers recognize five "pure" theories of the Managerial Grid even though they realize that a total of eighty-one mixtures of the two concerns is possible.

³³Likert, The Human Organization, p. 46.

³⁴Robert R. Blake and Jane S. Mouton, The Managerial Grid (Houston: Gulf Publishing Co., 1964).

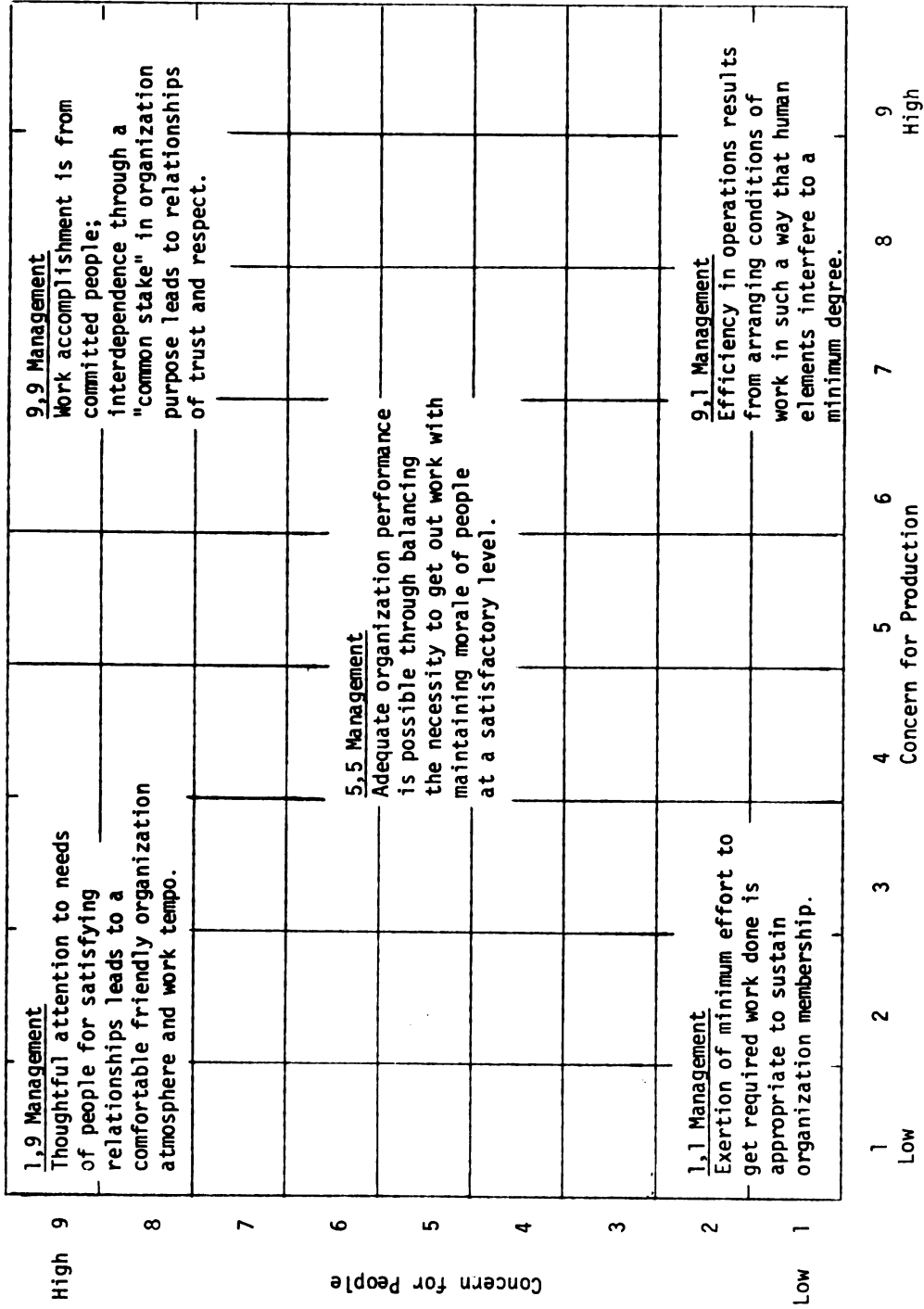


Fig. 1.--The Managerial Grid

Source: Blake, Robert R., and Mouton, Jane S. The Managerial Grid. Houston: Gulf Publishing Co., 1964, p. 10.

At the lower left corner of the Grid is the 1,1 style. This has a minimum of both concerns At the top left corner of the Grid is found the 1,9 style. Here there is a minimum concern for production but a maximum concern for people. In the lower right corner is the 9,1 style. This style has a maximum concern for production and a minimum for human aspects. In the upper right hand corner is the 9,9 style, where concern for both people and production reaches maximum. Then in the center is the 5,5 style which is a "middle of the road" or an intermediate amount of both kinds of concerns.³⁵

Although the Managerial Grid offers a comprehensive framework for conceptualizing and explaining various managerial styles, the authors go beyond a mere description of the schematic model. The authors' preferred managerial style is the 9,9 and they advocate the 9,9 approach to organization development.³⁶ The authors' preference of the 9,9 style over the other styles is evident in their discussion of this style:

Unlike the other basic approaches, it is assumed in the 9,9 managerial style that there is no necessary and inherent conflict between organization purpose of production and the needs of people. Under 9,9 effective integration of people with production is possible by involving them and their ideas in determining the conditions and strategies of work. Needs of people to think, to apply mental effort in productive work and to establish sound and mature relationships on a

³⁵Ibid., pp. 9 and 11.

³⁶Ibid., Chapters 7 and 12.

hierarchical plane and with one another are utilized to accomplish organization requirements.

. . . . By utilizing both the mental and execution skills of people this approach aims at the highest attainable level of production. This highest level is only possible through work situations that meet mature needs of people.³⁷

The mature needs of people referred to above is the same as that discussed earlier under Argyris.

Blake and Mouton list two main factors as conditions which prompt 9,9 as an organizational style. These are: an upward shift in the education of the general population, and the need for a competitive advantage. But the emphasis is on the need for competitive advantage.

A primary condition is when a competitive advantage can be gained by an organization managed in this way. The combined efforts of committed people through better management is the only advantage still to be realized by organizations in certain industries. A reason is that capital investment, facilities and process, technological knowledge and skills, all tend to be relatively equal across certain organizations. Thus the only way to gain a significant competitive advantage is through better management--the kind of management that can tap its creative potential and achieve increased performance through having people who are involved in attaining organization goals. This indeed is motivation that pushes organizations in the 9,9 direction.³⁸

This section reviewing the major higher order need gratification models of motivation and job satisfaction is concluded by

³⁷ Ibid., p. 142.

³⁸ Ibid., pp. 177-178.

examining the work associated with Frederick Herzberg.³⁹ Herzberg's theory about work and the nature of man emphasizing higher order need gratification at work as the basis for employee motivation and job satisfaction is perhaps the most significant development in the literature since the Hawthorne studies. Herzberg's theory is based on his understanding of the human nature and human needs as well as his research studies.

As a result of a research study designed to test the major hypothesis that the factors leading to positive attitudes and those leading to negative attitudes would differ, Herzberg and his associates proposed "the motivation-hygiene theory" or the "dual-factor theory of motivation and job satisfaction" in 1959. The verification of "the motivation-hygiene theory" was one of the primary objectives of another work by Herzberg in 1966.

According to Herzberg's theory, the factors involved in producing job satisfaction are separate and distinct from the factors that lead to job dissatisfaction. In emphasizing the dual nature of

³⁹The three major works under reference listed in chronological order are: (a) F. Herzberg, B. Mausner, and B. B. Snyderman, The Motivation to Work (New York: John Wiley and Sons, Inc., 1959); (b) Frederick Herzberg, Work and the Nature of Man (Cleveland: The World Publishing Company, 1966); and (c) Frederick Herzberg, "One More Time: How Do You Motivate Employees?," Harvard Business Review, XLVI, No. 1 (Jan.-Feb. 1968), 53-62.

the factors leading to job satisfaction and job dissatisfaction,

Herzberg et al. notes:

Theoretically, given an individual operating from a neutral point, with neither positive nor negative attitudes towards his job, the satisfaction of the factors, which we may call the "satisfiers," would increase his job satisfaction beyond the neutral point. The absence of satisfaction to these factors would merely drop him back to this neutral level but would not turn him into a dissatisfied employee. Contrariwise, there should be a group of factors that would act as "dissatisfiers." Existence of these negative factors would lead to an unhappy employee. The satisfying of these factors, however, would not create a happy employee.⁴⁰

In a re-affirmation of the dual-factor theory, Herzberg insists that

the opposite of job satisfaction would not be job dissatisfaction, but rather no job satisfaction; similarly, the opposite of job dissatisfaction is no job dissatisfaction, not satisfaction with one's job . . . job satisfaction is made up of two unipolar traits.⁴¹

According to the motivation-hygiene theory, the satisfiers are related to the actual job--the intrinsic nature or content of the job. The dissatisfiers are related to the conditions that surround the job--the context of the job. The dissatisfiers are labeled "hygiene factors" because

⁴⁰ Herzberg, et al., The Motivation to Work, p. 111.

⁴¹ Herzberg, Work and the Nature of Man, p. 76.

they act in a manner analogous to the principles of medical hygiene. Hygiene operates to remove health hazards from the environment of man Similarly when there are deleterious factors in the context of the job, they serve to bring about poor attitudes. Improvement in the factors of hygiene will serve to remove impediments to positive job attitudes.⁴²

These hygiene factors the satisfaction of which, according to Herzberg, do not lead to job satisfaction but to no job dissatisfaction are: supervision, interpersonal relations, physical working conditions, salary, company policies and administrative practices, benefits, and job security.

The satisfiers which are the primary motivators are: achievement, recognition, work itself, responsibility, and advancement. These factors lead to positive job attitudes because of their ability to satisfy the individual's need for self-actualization at work.⁴³

Herzberg contends that both the hygiene factors and the motivators are related to man's basic needs. The hygiene factors satisfy man's need for avoiding pain stemming from the environment, while the motivators satisfy man's need for self-fulfillment.⁴⁴

⁴²Herzberg, et al., The Motivation to Work, pp. 113-114.

⁴³Ibid., p. 114.

⁴⁴Herzberg, Work and the Nature of Man, p. 76.

It is therefore apparent that for employees to experience job satisfaction in Herzberg's terms, the content of their work should gratify their needs for self-actualization. And it is only through such work that provides for the gratification of the higher order needs that can provide for employee job satisfaction. Herzberg therefore advocates the restructuring of jobs "to increase to the maximum the ability of workers to achieve goals meaningfully related to the doing of the job."⁴⁵ The process which Herzberg advocates for the restructuring of jobs is that the "work be enriched to bring about effective utilization of personnel."⁴⁶

Herzberg is careful to distinguish between what he calls "job enrichment" and "job enlargement."

Job enrichment provides the opportunity for the employee's psychological growth while job enlargement merely makes a job structurally bigger . . . job enlargement which I shall call horizontal job loading (as opposed to vertical loading or providing motivator factors) . . . merely enlarges the meaninglessness of the job.⁴⁷

This section of the literature review has surveyed the major theoretical viewpoints advocating higher order need gratification at work as the basis for employee motivation and job satisfaction. No

⁴⁵ Herzberg, et al., The Motivation to Work, p. 132.

⁴⁶ Herzberg, "One More Time . . . ," pp. 58-59.

⁴⁷ Ibid., p. 59.

criticism of this viewpoint has been presented partly because there is hardly any philosophical viewpoints that oppose higher order need gratification at work per se. The indirect criticism of higher order need gratification at work by the criticism of "job enlargement" or "job enrichment" are mainly research based and will be attended to in the next section which reviews the relevant research evidence.

The Research Evidence

The reported research evidence relevant to higher order need gratification at work as the basis for the motivation and job satisfaction of employees may be classified into four groups. One group of these research studies has been primarily concerned with the Herzberg motivation-hygiene theory. The controversy over the dual-factor theory of motivation and job satisfaction has contributed a substantial amount of research studies to the literature. A second group of research studies is concerned with the work characteristics sought by employees. A third group of studies have dealt with the importance of various goals to various classes of employees. The last group of research studies to be considered in this report are the reports of various special projects at different organizations.

The voluminous amount of the reported research in the above four categories makes an attempt at an exhaustive review of the literature a virtually impossible task. An exhaustive research literature review in this particular area would not increase the value of the effort since there are numerous research reports that come basically to similar conclusions. Therefore, there is no claim that this review of the research evidence is exhaustive. The objective of this survey of the research literature is to present a picture of the kinds of research that have been reported in this area and how they relate to the issue of higher order need gratification at work.

The Research on Herzberg's Theory

The research on Herzberg's motivation-hygiene theory has dominated much of the reported research studies in the area of job satisfaction and motivation. The reported research in response to the motivation hygiene theory have been mainly concerned with the validity of the two-factor theory of job satisfaction.

Ewen⁴⁸ in testing the generality of the motivation-hygiene theory concluded that "There is as yet no justification for

⁴⁸Robert B. Ewen, "Some Determinants of Job Satisfaction: A Study of the Generality of Herzberg's Theory," Journal of Applied Psychology, XLVIII (1964), 161-163.

generalizing the Herzberg results beyond the situation in which they were obtained."⁴⁹ Ewen criticized the Herzberg theory because of the narrow-range of jobs investigated, the use of only the critical incidents method for measuring job attitudes, the absence of any measure of overall job satisfaction and the absence of reliability or validity data.

Ewen⁵⁰ and his associates also report another test of Herzberg's theory. The purpose of the study was to empirically test the two-factor theory. Using different measures of job satisfaction (The Job Descriptive Index, (JDI) and the General Motors Faces Scale) the writers tested four hypotheses for which the traditional unidimensional theory and Herzberg's two-factor theory of job satisfaction make different predictions. The results did not support either the traditional theory or Herzberg's theory. Instead the results indicate that the intrinsic factors are more strongly related to both overall job satisfaction and job dissatisfaction than the extrinsic factor of pay.⁵¹

⁴⁹Ibid., p. 163.

⁵⁰Ewen, et al., "An Empirical Test of the Herzberg Two-Factor Theory," Journal of Applied Psychology, L (1966), 544-550.

⁵¹The following are some of the many works which basically conclude that both satisfiers and dissatisfiers contribute to both satisfaction and dissatisfaction: (a) George B. Green, "Addendum to 'An Empirical Test of the Herzberg Two-Factor Theory,'" Journal of

While some Herzberg generated research have been primarily concerned with the testing of the validity of the two-factor theory, a substantial portion of the reported research has concentrated on the evaluation of the methodology Herzberg employed. Hinton's⁵² empirical test of Herzberg's methodology and two-factor theory is a good example of the type of studies devoted to the verification of the Herzberg methodology. Hinton, noting that the different methods employed in attempts to verify Herzberg's work produced different results, embarked on an extensive study in order to provide some answers to the conflicts in the literature. Hinton's methodology was a replication of Herzberg's critical incident method, the ranking of the importance of job factors and the identification of motivation-hygiene factors identified by the subjects. The results failed to support the validity of the two-factor theory as well as the reliability of the critical incident method as measure of job satisfaction.

Applied Psychology, L (1966), 551-555; (b) Paul R. Wernimont, "Intrinsic and Extrinsic Factors in Job Satisfaction," Journal of Applied Psychology, L (1966), 41-50; (c) Ronald J. Burke, "Are Herzberg's Motivators and Hygienes Unidirectional?," Journal of Applied Psychology, L (1966), 317-321; and (d) Martin G. Wolf, "The Relationship of Content and Context Factors to Attitudes Toward Company and Job," Personnel Psychology, XX (1967), 121-132.

⁵²Bernard L. Hinton, "An Empirical Investigation of the Herzberg Methodology and Two-Factor Theory," Organizational Behavior and Human Performance, III (1968), 286-309.

Soliman's⁵³ work is also a test of the methodological issues of the motivation-hygiene theory. Soliman's method was to replicate Herzberg's methodology, and to ask respondents to complete the Job Descriptive Index, the Brayfield and Rothe index of job satisfaction (which measures overall job satisfaction) and to measure the need-fulfillment deficiency using Porter's method. The author's results led him to conclude that

the theory was found to be a function of its own particular methodology The multidimensionality of the concept job satisfaction was not substantiated. Satisfaction and dissatisfaction were found to be obverse of each other, that is, opposite ends of the same continuum and motivation and hygiene needs were found to be related to both.⁵⁴

While the efforts of Ewen, Hinton, and Soliman are representative of studies critical of both the methodology and the theory of job satisfaction advanced by Herzberg, other reports using methods which differ from Herzberg's have affirmed the validity of the two-factor theory. Friedlander⁵⁵ agrees with Herzberg that job satisfaction and job dissatisfaction are not opposites of one another. Using

⁵³Hanofi M. Soliman, "Motivation-Hygiene Theory of Job Attitudes: An Empirical Investigation and An Attempt to Reconcile Both One and the Two-Factor Theories of Job Attitudes," Journal of Applied Psychology, LIV (1970), 452-461.

⁵⁴Ibid., p. 459.

⁵⁵Frank Friedlander, "Job Characteristics as Satisfiers and Dissatisfiers," Journal of Applied Psychology, XLVII (1964), 388-392.

correlational and variance analyses on data gathered from respondents on two different questionnaires ranking the importance of satisfaction and the importance of dissatisfaction to various job characteristics, Friedlander concluded that

satisfaction and dissatisfaction are not negatively poles of a single continuum Herzberg's findings that satisfiers and dissatisfiers were not opposite ends of a common set of dimensions were substantiated by the current study.⁵⁶

In another work focusing on the reasons for remaining with an organization (positive motivation) and the reasons for leaving the organization (negative motivation) Friedlander and Walton confirm Herzberg's position by concluding that "the degree to which an individual is satisfied would seem contingent upon the intrinsic content and process of the work itself, while the degree to which he is dissatisfied is influenced by the contextual and environmental setting of the job."⁵⁷

Weissenberg and Gruenfeld⁵⁸ provide another report which is supportive of the motivator-hygiene model of motivation and job

⁵⁶Ibid., p. 391.

⁵⁷Frank Friedlander and Eugene Walton, "Positive and Negative Motivations toward Work," Administrative Science Quarterly, IX (1964), 194-207, p. 207.

⁵⁸Peter Weissenberg and Leopold W. Gruenfeld, "Relationship between Job Satisfaction and Job Involvement," Journal of Applied Psychology, LII (1968), 469-473.

satisfaction. The study tested the hypothesis that satisfaction with motivator sources will be related to increased job involvement, but satisfaction with hygiene will be unrelated to job involvement. The Wernimont job-satisfaction scale and the Lodahl and Kejner job involvement scale were used to obtain data from the respondents. A correlation analysis of the data revealed that job involvement is related to satisfaction with recognition, achievement, and responsibility. The authors concluded that their results did not support "The majority of studies critical of the two-factor theory . . . that both hygiene and motivator variables contribute linearly to overall job satisfaction."⁵⁹

While the research on Herzberg's motivation-hygiene theory has dwelt extensively on testing the validity of the theory⁶⁰ or on the validity or appropriateness of Herzberg's critical incident method,

⁵⁹Ibid., p. 472.

⁶⁰The pre-occupation of the writers with the testing of the validity of the two-factor theory is exemplified in the following: (a) Nathan King, "Clarification and Evaluation of the Two-Factor Theory of Job Satisfaction," Psychological Bulletin, LXXIV (1970), 18-31; (b) L. K. Waters, and Darrell Roach, "The Two-Factor Theories of Job Satisfaction: Empirical Tests for Four Samples of Insurance Company Employees," Personnel Psychology, XXIV (1971), 697-705; and (c) Charles L. Hulin and L. K. Waters, "Regression Analysis of Three Variations of the Two-Factor Theory of Job Satisfaction," Journal of Applied Psychology, LV (1971), 211-217.

and on criticism⁶¹ and support⁶² of the two-factor theory, there has been very little research on whether people at work actually seek to gratify higher order needs at work. In the opinion of this writer, the overwhelming majority of job satisfaction research since the Herzberg controversy began have not directly addressed themselves to the central issue of the implications of the motivation-hygiene theory for personnel management practice--the question of whether or not employees seek to gratify higher order needs at work.

This study addresses itself to this issue by investigating the differences between the characteristics of the pairs of jobs affected in employee voluntary transfers.

The Nature of Work and Job Satisfaction

The relationship between work characteristics and job satisfaction in the literature is represented by two viewpoints. The viewpoint associated with the human relationists is that of the work itself to

⁶¹The Herzberg critics viewpoint is well represented by: Robert J. House and Lawrence A. Widgor, "Herzberg's Dual-Factor Theory of Job Satisfaction and Motivation: A Review of the Evidence and a Criticism," Personnel Psychology, XX (1967), 369-389.

⁶²The Herzberg supporter's viewpoint and criticism of the critics of the motivation-hygiene theory is represented by: David A. Whitsett, and Erick K. Winslow, "An Analysis of the Motivation-Hygiene Theory," Personnel Psychology, XX (1967), 391-415.

be satisfying, the nature of the work should be interesting, meaningful, challenging and give a sense of accomplishment to the employee as opposed to a job characterized by boring, repetitive, routine, and simple tasks.⁶³ This school of thought would advocate job enrichment as a remedy for employee dissatisfaction at work. The other viewpoint is that some workers do prefer the repetitive job. The empirical evidence reported in the literature lends support to both viewpoints.

One of the early research studies that apparently supports the position that job dissatisfaction is related to repetition in work, also reports that many employees liked their job because it was simple, straightforward, and carried no responsibility. In that study, Walker and Marriott⁶⁴ found that about 33% of mass production employees complained about boredom as against 8% for rolling mill operators. The boredom was widespread among conveyor workers, and workers who had previously held a skilled job. The proponents of higher order need gratification at work would assume that the enlarged jobs of the rolling mill operators account for the low incidence of boredom while

⁶³This viewpoint is clearly evident in the Job Descriptive Index (JDI), an instrument developed for measuring job satisfaction at Cornell University, and extensively used in job satisfaction research. See P. C. Smith, L. M. Kendall, and C. L. Hulin, The Measurement of Satisfaction in Work and Retirement (Chicago: Rand-McNally, 1969).

⁶⁴C. R. Walker, and R. A. Marriott, "A Study of Attitudes to Factory Work," Occupational Psychology, XXV (1951), 181-191.

the monotonous and repetitive tasks of mass production would explain the high incidence of boredom among the conveyor workers.

Walker⁶⁵ also reports on the experience of one company's early attempt at job enlargement. "The initial phase of the job enlargement program . . . was to add skills and responsibilities to the minimum skills of the single operation worker."⁶⁶ It is claimed that this experiment at job enlargement has enriched the job of the worker and has increased "the chances for personal satisfaction on the job."⁶⁷

Davis and Werling⁶⁸ report a study which confirms the viewpoint that a job which gives the employee more autonomy and uses the skills of the worker would be more satisfying than one which does not. The writers attempted to isolate and identify job content and job perception factors which correlated with available quantitative criteria of effective performance. Jobs in a manufacturing company were enlarged and the effects of the experiment were studied. The authors stated that their results agree with the writings of Argyris as discussed earlier. According to the authors,

⁶⁵C. R. Walker, "The Problem of the Repetitive Job," Harvard Business Review, XXVIII, No. 3 (1950), 54-58.

⁶⁶Ibid., p. 55.

⁶⁷Ibid., p. 57.

⁶⁸Louis E. Davis and Richard Werling, "Job Design Factors," Occupational Psychology, XXXIV (1960), 109-132.

Job enlargement that increases the skills of jobs, adds control over work content, rate, and quality, adds completion activities, and permits development of wide job knowledge seems to yield reductions in operating costs, and increased quality and quantity output. And when enlargement proceeds to the point of providing a skilled job, workers seem to become positively more responsive to . . . issues of concern to management. This responsiveness seems to be what management strives for in attempting to develop what is referred to as job interest.⁶⁹

Alderfer⁷⁰ reports a special job enlargement project in which he concludes that enlarged jobs provide for higher satisfaction with pay, use of skills and job complexity. The satisfaction with respect from superior, however, decreased.

A detailed report of job enrichment studies in the Herzberg tradition is reported by Ford.⁷¹ The studies reported by Ford were experiments which were designed to attack the problem of turnover. The experiments entailed deliberately keeping the surroundings of the task constant while the tasks were improved by providing greater chance for achievement, recognition, responsibility, advancement, and psychological growth and challenge. The results of the experiments show that turnover, costs, and absenteeism were much lower in the

⁶⁹Ibid., p. 130.

⁷⁰Clayton P. Alderfer, "Job Enlargement and the Organizational Context," Personnel Psychology, XXII (1969), 418-426.

⁷¹Robert N. Ford, Motivation Through the Work Itself (New York: American Management Association, 1969).

experimental group in comparison to the control group. These results were not attributable to the Hawthorne effect (the effect of being in the spotlight) because this was controlled by not informing the experimental group of the study. These results are the evidence that proponents of higher order need gratification at work would point to as evidence of the cause and effect relationship between enriched jobs and employee motivation and job satisfaction.

Foulkes⁷² reports the "conscious attempts to increase the meaningfulness of work at the nonmanagement level" of several companies which is similar to the Ford report for one company. These efforts ranged from a mere rotation of employees amongst jobs without ever changing the work itself to actual job redesign and new job design. The results of the programs described in the report tend to confirm the idea that employees can get more satisfaction from their work by the process of job enrichment.

A review of the literature on job enrichment or job enlargement projects would lead to the conclusion that job satisfaction and motivation tend to be higher in the enriched jobs as compared to the more routine jobs.⁷³ This viewpoint is also supported by other studies

⁷²Fred R. Foulkes, Creating More Meaningful Work (New York: American Management Association, 1969).

⁷³Other reports of job enrichment projects are: (a) Robert H. Guest, "Job Enlargement--A Revolution in Job Design," Personnel

which were not primarily concerned with the reports of special job enrichment projects. In reviewing what has been learned about the relationship of work characteristics and the quality of working life Davis reports:

when the attributes and characteristics of jobs were such that the individual or group become largely autonomous in the working situation, then meaningfulness, satisfaction, and learning increased significantly

The content of jobs has to be such that individuals can learn from what is going on around them, can grow, can develop, can adjust . . . the psychological concept of self-actualization or personal growth, . . . appears to be central to the development of motivation and commitment through satisfaction of the higher order intrinsic needs of the individuals.

If people are to be alert and responsive to their working environments, they need variety in the work situation. Routine, repetitious tasks tend to extinguish the individual.

when tasks and activities within jobs fell into meaningful patterns, . . . then enhanced performance, satisfaction and learning took place

Self-regulation and control at the workplace through autonomous or semi-autonomous jobs and groups yield high levels of satisfaction, self-development and learning, and higher performance in output and quality. They form the basis for further organization design to reduce the repressive and coercive character of organizations and the resulting alienation.⁷⁴

Administration, XX, No. 2 (1957), 9-16; (b) Frederick Herzberg, "One More Time . . . ,"
op. cit.; and (c) William J. Paul, Jr., Keith B. Robertson and Frederick Herzberg, "Job Enrichment Pays Off," Harvard Business Review, XLVII, No. 2 (1969), 61-78.

⁷⁴Louis E. Davis, "Quality of Working Life: National and International Developments," Proceedings of the 25th Anniversary Meeting, Industrial Relations Research Association (Toronto, 1972), 121-128, pp. 123, 124, 125, 126-127.

The viewpoint expressed by Davis and generally accepted by the proponents of higher order need gratification at work has not gone unchallenged. The challenge has been in the form of a modification or a refutation of the basic human relations viewpoint that people seek to gratify higher order needs at work.

Dubin has argued against the position that most workers seek self-actualization at work. According to Dubin,

Work, for probably a majority of workers, and even extending into the ranks of management, may represent an institutional setting that is not a central life interest for its participants. The consequence of this is that while participating in work, a general attitude of apathy and indifference prevails . . . self-realization may, however, be a matter of indifference to people for whom work is not a central life interest. Their self-realization come in other institutional settings outside the productive institution.⁷⁵

Dubin suggests that self-realization at work is only valid for those whom work is a central life interest. Dubin also suggests that whether work is a central life interest or not may be independent of the work characteristics. If people are non-job oriented, they can be expected to be indifferent to the work environment regardless of its specific content.⁷⁶

⁷⁵Robert Dubin, Human Relations in Administration (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968), pp. 90-91.

⁷⁶Robert Dubin, The World of Work (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1958), pp. 255-259.

Although Dubin's viewpoint is based on a study reported in 1956,⁷⁷ a more recent study confirms the viewpoint that the work place may not be a central life interest of a substantial portion of the working population.⁷⁸

Turner and Lawrence⁷⁹ report a study which is only partly supportive of the viewpoint that employees seek self-actualization at work. Turner and Lawrence had sought to find out how "industrial workers respond to various characteristics of the intrinsic job."

Specifically the objectives of the study were:

1. To develop a scheme for classifying relevant task attributes, and a methodology for measuring them quantitatively across a wide range of technologies and types of work.
2. To formulate and test a general hypothesis that workers would express a more favorable response to more complex or involving tasks than to more highly programmed, less demanding work.
3. To account for results inconsistent with the above hypothesis; for example, by examining response to

⁷⁷Robert Dubin, "Industrial Workers' Worlds: A Study of the 'Central Life Interests' of Industrial Workers," Social Problems, III (1956), 131-142.

⁷⁸Arthur M. Whitehill, Jr., "Cultural Values and Employee Attitudes: United States and Japan," Journal of Applied Psychology, XLVII (1964), 69-72.

⁷⁹Arthur N. Turner and Paul R. Lawrence, Industrial Jobs and the Worker (Boston: Harvard University, Division of Research, Graduate School of Business Administration, 1965).

the nature of work by various subpopulations of workers included in the total sample studied.⁸⁰

The results of the study show that "when the task was relatively 'complex' . . . they were likely to have nearly perfect attendance records; when the task was relatively 'simple' . . . they were more likely to be absent more frequently."⁸¹ This was claimed as being indicative of the very strong influence of job design on attendance. This finding did not hold true for all segments of the population.

Town and City Job Satisfaction response to individual task attributes reveals the following pattern. Town workers responded especially positively to high scores on Object Variety, Required Interaction, Learning Time, and Responsibility. This response is similar to that reported by Herzberg, Mausner, and Snyderman (1959), who found opportunity at work for achievement, responsibility, learning and recognition to be the most important positive 'motivators' City workers, apparently, have a predisposition to respond favorably to relatively repetitive work

Town workers . . . wanted out of their job experience . . . a relatively large amount of variety, autonomy, interaction, skill, and responsibility Apparently they were predisposed to respond favorably to a relatively "challenging" or "involving" work environment

City workers appeared genuinely to find more simple tasks less stress producing and more satisfying than more complex work.⁸²

⁸⁰Ibid., p. 2.

⁸¹Ibid., p. 49.

⁸²Ibid., pp. 78, 93, 98.

While some writers would hesitate to generalize the concept of self-actualization at work to the general working population, some researchers have provided some evidence that repetitive work is not necessarily responsible for poor attitudes toward the job. Kennedy and O'Neil have reported a study which shows that automotive assembly line operators whose tasks were "highly repetitive, routine, deskilled (and) mechanically paced" did not hold a less favorable opinion toward their work than did the "utility men" whose jobs contained some discretion and more variety of the same tasks.⁸³

Turner and Miclette⁸⁴ have indicated that repetition of tasks alone is a poor indicator of worker response to the job. This viewpoint is based on interviews with assemblers in an electronics plant. Although the work was highly repetitive and routine, most of the workers were satisfied with their work. The authors concluded that "our findings suggest that repetitive work by itself is not a reliable predictor of response to a given type of work A repetitive job does not necessarily interfere with improved morale" ⁸⁵

⁸³J. E. Kennedy and H. E. O'Neill, "Job Content and Worker's Opinions," Journal of Applied Psychology, XLII (1958), 372-375.

⁸⁴Arthur N. Turner and Amelia L. Miclette, "Sources of Satisfaction in Repetitive Work," Occupational Psychology, XXXVI (1962), 215-231.

⁸⁵Ibid., p. 230.

Kilbridge⁸⁶ has raised doubts about the validity of the theory that workers whose tasks are repetitive are repelled by the very nature of their jobs. In an interview study conducted among assembly-line workers in a radio and television-set factory, Kilbridge reports that, "Expressed in terms of large and small tasks, the employees answers give little support to the view that the repetitiousness of assembly-line work breeds dissatisfaction and frustration."⁸⁷ This study also refutes the idea that the mechanical pacing of work which infringes on the worker's autonomy (lack of control by the worker) is inherently distasteful to most workers.

Kilbridge⁸⁸ also reports another study that is critical of the supposed negative relationship between repetitive work and high turnover, absence, and transfer rates.

The intent was to determine whether these rates could be used, in themselves, as indicators of employee dissatisfaction with specialized, repetitive work In general, it shows that . . . there is no discernible correlation between the repetitiveness of work and job satisfaction⁸⁹

⁸⁶M. D. Kilbridge, "Do Workers Prefer Larger Jobs?," Personnel, XXXVII, No. 5 (1960), 45-48.

⁸⁷Ibid., p. 47.

⁸⁸Maruice D. Kilbridge, "Turnover, Absence, and Transfer Rates as Indicators of Employee Dissatisfaction with Repetitive Work," Industrial and Labor Relations Review, XV, No. 10 (1961), 21-32.

⁸⁹Ibid., p. 22.

Sexton⁹⁰ has rejected the idea that there is a basic conflict between the individual's satisfaction of egoistic needs and the demands placed upon him by the implementation of the organization and control principles of present-day management. In a study designed to test for the negative relationship between higher order need satisfaction and "the degree to which the individual's range of behavior as an organization member is restricted, confined or reduced by virtue of organization and control techniques,"⁹¹ Sexton concluded that "the popular notion that the imposition of procedure, methods, standardization, etc., has an inhibiting or restrictive effect on the worker's satisfaction of his egoistic needs is rejected."⁹²

Sexton is of the opinion that a worker who is doing a mechanically repetitive job is not required to concentrate on the job. The individual whose work demands little attention may perform his job habitually, and thus, his mind has a maximum freedom and autonomy to wander.⁹³

⁹⁰William P. Sexton, "Organizational and Individual Needs: A Conflict?," Personnel Journal, XLVI (1967), 337-343.

⁹¹Ibid., p. 339.

⁹²Ibid., p. 341.

⁹³A similar viewpoint had earlier been advanced by Peter F. Drucker. According to Drucker, The General Motors Contest is evident of the fact that monotonous operations can yield the greatest job satisfaction and provide the most stimulus to the imagination. See: Peter F. Drucker, The New Society (New York: Harper and Row Publishers, 1949), p. 168.

The literature is not unequivocal about what job characteristics lead to employee job satisfaction. It is hoped that by studying the various job characteristics of the revealed preferences by employees at work, this study may contribute actual work behavior evidence to the body of literature describing the job characteristics that are important to the motivation and job satisfaction of employees.

Employee Goals and Job Satisfaction

The goals employees seek to satisfy at work is another favorite topic for researchers in the area of motivation and job satisfaction. This type of studies seeks to determine the importance of various work aspects to the motivation and satisfaction of people at work.

Goodwin reported a study which indicated "the general goals Americans expect to fulfill through work, the factors that influence satisfaction and dissatisfaction in their present jobs, (and) how these vary by level of education."⁹⁴ Goodwin's results show that the ranking of the positive and negative occupational goals as seen by the general work force indicate support for Herzberg's viewpoint, i.e. the basic environmental conditions of a job can lead to dissatisfaction but do

⁹⁴ Leonard Goodwin, "Occupational Goals and Satisfaction of the American Work Force," Personnel Psychology, XXII (1969), 313-325, p. 313.

not provide for job satisfaction, which is basically provided by work which involves self-actualization and fuller development for the individual. Goodwin's results also show that financial reward and interpersonal relations which Herzberg would classify as not providing for job satisfaction were emphasized by workers.

This study also differentiated between the factors which are important to workers of different occupational and social levels. The more educated worker shows greater concern about developing his own abilities while there is more concern for money at lower educational levels.

Goodwin's study is representative of the literature of the goals employees seek at work. It is usually stated in the research literature that professional employees (including managers and other highly educated groups) and white collar workers rank intrinsic job factors which provide higher order need gratification at work higher than they rank the extrinsic job factors. A world wide study by Sirota and Greenwood⁹⁵ indicated the importance of job autonomy and high earnings for employees. Of the fourteen goals included in the study "the five most important goals concern achievement in particular, individual achievement . . . as the list progresses downward, concern

⁹⁵David Sirota and J. Michael Greenwood, "Understand Your Overseas Work Force," Harvard Business Review, IXL, No. 1 (1971), 53-60.

shifts from individual achievement and opportunity to . . . working hours, physical working conditions, and benefits."⁹⁶ This ranking of goals is consistent with the viewpoint that professional employees seek higher order need gratification at work.

Hofstede⁹⁷ reported a study which showed that differences between job categories in employee motivation.

professional technical personnel . . . rate as their most important goals . . . the ones concerned with achievement (training, challenge, autonomy, use of skills Finally we find goals related to the company and the working environment (security . . . benefits, working conditions) The job content comes first, then the interpersonal relationships, then the environmental factors.

The goal ranking for unskilled workers is almost a reversal of that for professional technical personnel. The unskilled workers rate as their most important goals, physical working conditions, security, earnings and benefits The typical job content goals--challenge, use of skills and autonomy--rank relatively low in importance.

The goal ranking for the managers are closest to the professionals but they attach relatively more importance to the social goals of cooperation and the relationship with their own manager.⁹⁸

⁹⁶Ibid., pp. 54-55.

⁹⁷Geert H. Hofstede, "The Colors of Collars," Columbia Journal of World Business, VII, No. 5 (1972), 72-80.

⁹⁸Ibid., pp. 73-74, 77.

Slocum, et al.,⁹⁹ reported a different ranking for American operatives in contrast to Hofstede. Slocum and his associates found that American operatives rank security as the most important job factor. Self-actualization is ranked as the second most important factor followed by social goals, autonomy and esteem respectively.

A study reported by Starcevic¹⁰⁰ is also contradictory of the Hofstede position. According to this study, achievement, work itself, use of best abilities, recognition, growth on the job were consistently ranked high while employee benefits was ranked lowest. This viewpoint basically supports the position that the gratification of higher order needs at work is important to the job satisfaction of all employees.

The goals which employees seek to gratify at work are important motivating factors at work. The reported studies, however, do not usually give any indications of opportunities at work to fulfill these goals. Some researchers while asking workers to rank goals, also instruct the workers to disregard the extent to which their present jobs provide for the fulfillment of these goals.¹⁰¹ This type of research

⁹⁹J. W. Slocum, et al., "A Cross-Cultural Study of Need Satisfaction and Need Importance for Operative Employees," Personnel Psychology, XXIV (1971), 435-445.

¹⁰⁰Malt M. Starcevic, "Job Factor Importance for Job Satisfaction and Dissatisfaction Across Different Occupational Levels," Journal of Applied Psychology, LVI (1972), 467-471.

¹⁰¹Hofstede, op. cit., p. 73.

endeavor deliberately divorces the job from a study of employee job satisfaction. One of the objectives which this study hopes to achieve is to involve jobs in the study of job satisfaction and to determine which job characteristics seem to attract employees to various jobs. The next chapter will describe the methods and procedures which have been employed in this study so that the work itself and actual employee work behavior in revealing job preferences could be used to determine what employees want to get from their jobs.

CHAPTER III

METHOD

The Research Sites

Two plants of two Michigan manufacturing companies served as the research field for this study. One of the companies (Company A) produces pharmaceuticals, biologicals, medical-surgical products, antibiotics, and diagnostic instruments as its main products. The plant of Company A in which part of this study was done is located in a big city and its main productive activity is the manufacture, packaging, and distribution of pharmaceuticals. The pharmaceutical plant employed an average of nine hundred and fifty ³(950) workers during the period covered by this study (July 1971 through June 1972). The second company (Company B) is a producer of office, institutional furniture and fabrics. The plant of Company B in which the other part of this study was done is located in a small town. The furniture plant employed an average of three hundred and fifty (350) hourly workers during the period covered by this study.

The Selection of the Research Sites

The two plants which served as the research field for this study were selected for the study mainly because of the willingness of the companies' representatives to allow the plants to cooperate in this research effort. The procedure by which these two plants were selected for the study follows. First, a letter of first contact was sent out to the head of the personnel management function of various manufacturing companies in central, southeastern, and western Michigan which employed at least two hundred (200) hourly production workers at each plant (see Appendix A). This letter was followed up by a telephone call to the addressees to ask if the letter was indeed received and to inquire about the possibility of a visit to the company to discuss the research project. If the company representative showed an interest in the study, a company visit was scheduled. During the company visit the objectives of, and the methods for gathering the data for the study were explained in detail. The questions that were raised by the company representatives were answered by the researcher. After the exchange of viewpoints between the researcher and the company representative during the company visit, a decision had to be made by the company representative to permit the study to be done in the company's plant(s) or to turn down the request for cooperation with the research project. When all the companies which received the first

letter of contact had gone through all the processes up to the point of deciding to participate in the study or not, only the two companies in which the study was done permitted the researcher to gather data for the study from their plants.

Data Collection Procedure

The jobs that were under study had to meet two requirements: 1) the duties of the job had no supervisory responsibilities; 2) the job had been involved in a decision by an employee to transfer from one job to another job at the initiative of the employee. The rationale for the first requirement is based on the fact that the researcher wants to restrict the inquiry to this class of personnel. The second requirement was imposed in order to eliminate those jobs that were involved in bumping activities that were induced by management's action to reduce the size of the labor force. It is hoped that this study will shed some light on what things this class of employees do want to get from their jobs. Therefore, transfers which were made at the request of the employee without an adverse management influence would be a better indicator of what workers want to get from their jobs than transfers that were forced on the employee by adverse economic conditions.

The jobs under study were identified by a search of the job postings file in order to isolate those individuals who responded to job postings during July 1971 through June 1972 and got a new job through the process. The job which the employee chose to leave (old job) in order to assume the posted (new job) formed a pair of disfavored and favored jobs respectively. A list of these pairs of jobs was prepared and the company representative asked the current supervisor of each job on the list to rate the job under his supervision by checking the appropriate columns on the Job Enrichment Index, the instrument specifically designed for this study. The supervisors returned their ratings of the jobs to the company representative who forwarded the scored instrument for all the jobs that were involved in the transfers to the researcher.

The Sample

This study is based on eighty-one (81) jobs in two plants of two different industries. Forty-one (41) of these jobs were in the pharmaceutical plant and forty (40) were in the furniture plant. The eighty-one jobs formed a total of seventy-one (71) pairs of favored and disfavored jobs. Thirty-seven (37) of these pairs were in the pharmaceutical plant and thirty-four (34) were in the furniture plant.

The list of the titles for the eighty-one jobs is as follows:

1. A0 2 Assembler
2. Assistant Laboratory Technician (6B)--Research
3. Autoscrubber Operator (2A)--Building Services
4. Boring Machine Operator
5. Capsule Filling Machine Operator (6B)--Capsule Filling
6. Capsule Inspector (6B)--Capsule Manufacturing
7. Capsule Sorter (3B)--Capsule Inspection & Packaging
8. Carloader (4A)--Export Shipping
9. Chair Assembler
10. Cold Press Helper
11. Cold Press Operator
12. Cover Puller
13. Crater
14. Distributor (5A)--Distributing Center
15. Edgebander Helper
16. Edgebander Set Up Operator
17. Equipment Cleaner--Capsule Manufacturing
18. Fabric Sewer
19. Fill and Cap Operator (4B)--Biological
20. Fill and Cap Operator (4B)--General Pharmaceutical
21. Fill and Seal Operator (4B)--Parenteral

22. Final Inspector
23. Finish Sprayer
24. Finishing Operator (3B)--Dry Packaging
25. Finishing Operator--Fluid Packaging
26. Finishing Operator (3B)--Vial Packaging
27. Furniture Repairman
28. Granulation Maker-Finisher (6A)--Pill and Tablet
29. Inspector-Repairman
30. Inventory Planner
31. Junior Draftsman
32. Key Punch Operator
33. Laboratory Service Worker (4B)--Microbiological Control
34. Laboratory Worker B (3B)--Biological
35. Laboratory Worker B (3B)--Research
36. Laundry Sorter and Ironer (4B)--Plant Services
37. Library Product Assembler-5
38. Lozenge Maker (6A)--Pill and Tablet
39. Material Checker (4A)--Dry Packaging
40. Material Handler
41. Medicated Throat Disc Operator (4B)--Pill and Tablet
42. Metal Fabricator
43. Metal Fabricator Set Up and Operator

44. #3 Miscellaneous Trimmer
45. Multigraph Machine Operator (5B)--Label Stores
46. Power Truck Operator (4A)--Receiving
47. Processor II (6A)--Extract
48. Production Machine Operator (8A)--Biological Filling
49. Production Machine Operator (8A)--Fluid Packaging
50. Production Welder
51. Purchasing Expeditor
52. Raval Sewer
53. Raval Sprayer
54. RCA Ampoule Inspection Machine Operator (4B)--Parenteral
55. Receiving Clerk
56. Recovery Finishing Operator (4B)--Recovery
57. Rubber Polisher
58. Service Worker A (1A)--Building Services
59. Service Worker A (1A)--Research
60. Service Worker B (1B)--Building Services
61. Specials Assembler
62. Specials Dept. Machinist
63. Statistical Control Inspector-Producer (6B)--Product Quality Control
64. Sterilizer Operator (4A)--Parenteral
65. Sticker Operator and Set Up

66. Stopper Preparation Operator (4A)--General Pharmaceutical
67. Storeskeeper A (5A)--Packaging Stores
68. Traffic Clerk
69. #2 Trimmer
70. Tool and Fixture Maker
71. Upholsterer
72. Upholstery Trimmer
73. Utility Man
74. Utility Service Worker (3A)--Capsule Inspection and Packaging
75. Utility Service Worker (3A)--Packaging Stores
76. Utility Service Worker (3A)--Receiving
77. Utility Service Worker (3A)--Vial Packaging
78. Van Loader
79. Veneer Cutter
80. Veneer Jointer Operator
81. Wax Capsule Machine Operator (4B)--General Pharmaceutical

The Job Enrichment Index Instrument

The instrument designed for this study is a rating scale called Job Enrichment Index (Appendix B). The objective of the instrument is to rate different levels of the selected job factors by

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means of objective descriptions of these factors. The instrument is designed for use of either the immediate supervisor of the job to be rated or a job analyst who is familiar with the job. The rater is required to check only one of several statements which best describes the job being rated for each item on the rating scale. Where the item does not apply to the job being rated the rater is instructed to write "NA" under the item in question.

The items selected for inclusion in the instrument are:

i) work attributes which are either characteristic or uncharacteristic of enlarged or enriched jobs; ii) work attributes that have been cited as aspects of job enlargement or job enrichment. The Job Enrichment Index items are divided into two parts. Part A contains those items which are directly related to the performance of the tasks of the job or the intrinsic aspects of the work itself. Part B contains those items which are closely associated with the nature of the job but not requisite to the performance of the duties of the job.

Part A of the Job Enrichment Index is made up of nine items. Items one, two, three, four, and nine (I, II, III, IV, IX) are indicators of how much autonomy and responsibility are to be found in the performance of the duties or tasks of the job. The items, determination of work pace, determination of work method, responsibility for quality control, and responsibility for machine setup and repair

(I, II, III, IV, respectively were adopted from Hulin and Blood¹ definition of "job enlargement." These four items are in general agreement with Turner and Lawrence Requisite Task Attribute's Scale of autonomy.² The item, "amount of planning," as an indicator of autonomy and responsibility is based on the fact that it is closely related to the control the worker has over his work pace and/or work methods. The closeness of the planning of a job to the doing of that job is a good indicator of how much autonomy and responsibility is inherent in the work itself.³

The four other items that make up Part A of the Job Enrichment Index are, number of tasks involved in the job, variety of tasks involved in the job, repetitiveness of tasks, and length of job cycle (V, VI, VII, VIII respectively). The item, number of tasks involved in the job is an indicator of the size of the job. Kilbridge's⁴ study

¹Charles L. Hulin, and Milton R. Blood, "Job Enlargement, Individual Differences, and Worker Responses," Psychological Bulletin, LXIX, No. 1 (1968), 41-55.

²Arthur N. Turner and Paul R. Lawrence, Industrial Jobs and the Worker (Boston: Harvard University, Division of Research, Graduate School of Business Administration, 1965), p. 26.

³See Myers' definition of meaningful work in M. Scott Myers, "Every Employee A Manager," California Management Review, X, No. 3 (1968), 9-20, p. 12.

⁴M. D. Kilbridge, "Do Workers Prefer Larger Jobs?," Personnel, XXXVII, No. 5 (1960), 45-48.

whose purpose was to illuminate the issue of whether "job enlargement" is the clue to greater job satisfaction included "size of task" in the structured interview questions. Conant and Kilbridge⁵ also included "number of job tasks" as one of the "aspects of job enlargement."

The item, "variety of tasks," was included in the instrument because variety is regarded as an aspect of job enlargement or in Herzberg's terms, "job enrichment," by several other writers in this field. Walker states that job enlargement has enriched the job of the worker and introduced interest, variety, and responsibility which were not present before.⁶ The Turner and Lawrence Requisite Task Attribute⁷ has a scale of "object variety" and "motor variety." Reif and Schoderbek⁸ also include "variety" in their definition of job enlargement.

The item, repetitiveness of tasks, is a contrast to the item of variety. The literature of "job enlargement" usually advocates making work more varied and less repetitive. Walker⁹ referred to

⁵Eaton H. Conant and Maruice D. Kilbridge, "An Interdisciplinary Analysis of Job Enlargement: Technology, Costs, and Behavioral Implications," Industrial and Labor Relations Review, XVIII (1965), 377-395.

⁶C. R. Walker, "The Problem of the Repetitive Job," Harvard Business Review, XXVIII, No. 3, 54-58, p. 56.

⁷Turner and Lawrence, op. cit.

⁸W. E. Reif and P. P. Schoderbek, "Job Enlargement: Antidote to Apathy," Management of Personnel Quarterly, V, No. 1 (1966), 16-23.

⁹Walker, op. cit.

enlarging and enriching the basic content of the jobs as a head-on attack on the problem of the repetitive job.

The item, length of the job cycle, attempts to indicate how long it takes the employee to complete all the operations of the job. It is expected that a short-cycle job would be more prone to being routine than a job with a substantially longer cycle. Conant and Kilbridge¹⁰ report a job enlargement project in which the operations of the enlarged job required the operator to increase the length of the job cycle by just under 500%. Jaques'¹¹ concept of "time span of discretion" -- maximum time before marginal substandard work is detected--is also indicative of the expectation that jobs with shorter cycles will tend to be less enriched than jobs with longer cycles.

Part B of the Job Enrichment Index is made up of five items. The item, education (X), indicates the formal education which is usually required as adequate for the performance of the duties of the job. The item, however, is more indicative of the personnel hiring policy than it characterizes the nature of the job. The item was included in the instrument with the rater in mind. In the judgment of this writer, a foreman rating the job of his subordinates may not understand how he could be asked to describe a job without stating

¹⁰Conant and Kilbridge, op. cit., p. 381.

¹¹Elliott Jaques, Equitable Payment (Carbondale, Ill.: Southern Illinois University Press, 1970), Chapter 5.

the educational requirements of the job since most shop job descriptions include the item of education.

The item, skill proficiency (XI), is an indicator of how long it takes the average employee to master all aspects of the job after he has been placed on the job. A high level of skill is usually associated with enlarged or enriched jobs, while a low level of skills or no skills are associated with more repetitive jobs."¹²

The item, advancement opportunity (XII), is an indicator of how well placed the job is on the ladder of upward mobility. The nature of advancement opportunity attached to a job is an objective estimate of the growth possibility of a job. While Herzberg¹³ separates "growth" from "advancement" on his Job Reaction Survey, it is rather difficult to imagine how an employee can be advanced in the business (Herzberg's "advancement") without having the opportunity to learn (Herzberg's "growth"). It is practically impossible to operationalize Herzberg's growth factor in a job in an objective manner. The Job Reaction Survey does not attempt to measure the growth factor in an objective way but "gives the person's perception of the presence

¹²See Hulin and Blood, op. cit., and Conant and Kilbridge, op. cit.

¹³Frederick Herzberg, "Reactions to Your Job Opinion Questionnaire" (personal correspondence, Nov. 1971).

(or lack) in the job opportunities to 'grow'" ¹⁴ It is the judgment of this writer that the most visible form of recognition that a worker can get in his work is the promotion he receives. A job that is noted as a "crown prince" for a more important job is a very visible form of recognition for the incumbent from management, and is perhaps more recognition than other forms of recognition that an employee can receive on the job that involves the nature of his job. Thus the item, "advancement opportunity," can be regarded as the operationalization of Herzberg's "advancement," "growth," and "recognition" in an objective way.

The item, "pay," is a statement of what the company gives the employee for his services on that job. This is the financial compensation that the worker receives in regular intervals of each week, two weeks, or month. "Pay" as it is used in this case, therefore, includes only wages and salaries. It is therefore different from Lawler's ¹⁵ definition of pay which includes wages and salaries, fringe benefits and other commodities that have financial value which the company gives to the employee in return for his services.

¹⁴Frederick Herzberg, "Job Reaction Survey" a description of "Reactions to Your Job Opinion Questionnaire" (personal correspondence, Nov. 1971).

¹⁵Edward E. Lawler, III, Pay and Organizational Effectiveness: A Psychological View (New York: McGraw-Hill Book Co., 1971), p. 1.

The item, "required physical effort," is an indicator of how difficult the job is in terms of physical exertion. Although factors such as "heat," "noise," etc. are related to physical exertion, different individuals have different reactions to heat and noise. Thus, "required physical effort," in the judgment of this writer is a more objective way of estimating the physical exertion attached to a job than such factors as heat or noise.

For the purposes of this study, three scales have been derived from the instrument. The addition of the scores of items one, two, three, four, and nine yields an autonomy-responsibility or job enrichment score. The addition of the scores of items five, six, seven, and eight yields the job routineness (extension) score. The addition of the scores of the items one through nine yields the job enrichment and job routineness (extension) score. These scores throw some light on the area of job enrichment that is not possible by the analysis of each item separately. The enrichment or autonomy-responsibility scale will approximate Herzberg's definition of job enrichment while the job routineness (extension) scale scans that field of jobs that have been characterized as routine through what Herzberg calls "enlarged" job or the process of "job extension" according to Hulin and Blood.¹⁶

¹⁶Hulin and Blood, op. cit., p. 42.

Analysis of Data

Three tests were used to examine the extent to which specific job factors influenced employee job preference. The extent to which pay influenced employees to change jobs was examined by means of the matched pairs t-test.

The extent to which the other job factors under investigation influenced employees' decisions to change jobs were examined by the sign test¹⁷ for those factors where the ties within the pairs of favored jobs and disfavored jobs were minimal. For those job factors where there were many ties, a new test was developed by the Statistical Consulting Unit of the Department of Statistics and Probability, Michigan State University, under the direction of Professor Fox. This test minimizes the effect of ties in pairs of ordinal data which may also be analyzed by the sign test (see Appendix C).

When an employee changes jobs, the rating for each job factor for the new job has three possible outcomes in relation to the rating for the old job.

¹⁷Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Co., 1956), pp. 68-75.

Let A = score for old job

B = score for new job

$$p_1 = p(A > B)$$

$$p_2 = p(A = B)$$

$$p_3 = p(A < B)$$

The operational hypothesis was to test extent to which higher ratings and lower ratings did not exceed each other with respect to each job factor under investigation by more than a predetermined limit. In this study, this limit was set at .10, i.e., $H_0: |p_1 - p_3| \leq .10$

In order to test this hypothesis, these additional specifications were made:

Let N = number of job changers

T_1 = number of job transferees with a higher score in the old job than in the new job.

T_2 = number of transferees with a lower score in the old job than in the new job

T_3 = number of transferees with the same score on the old job than in the new job

$$p = \frac{T_1 + T_2}{2N}$$

$X = (T_1 - T_2)$, $N(E, 2Np(1 - 2p))$
where $|E| \leq .10$ in this study.

The test statistic is then:

$$\frac{|X| - .10 \times N}{\sqrt{2Np(1 - 2p)}} > Z_1 - \frac{\alpha}{2}$$

where $Z_1 - \frac{\alpha}{2}$ is the Z - value in the normal table.

The null hypothesis therefore is that the percentage of people who moved to a job which was rated lower is not more than 10% more than those who moved to a job which was rated higher, and vice versa. The null hypothesis is tested under two conditions:

- (i) those voluntary transfers where the pay either remained the same or the pay decreased, i.e. no monetary benefits as a result of the transfer, and
- (ii) those transfers where there was either a monetary benefit or no monetary benefit.

CHAPTER IV

RESULTS

The findings of the study are reported in three parts.

First, the findings for the total study which combines the data from the two companies will be presented. The other two parts of this chapter will report the findings for each of the companies where data were collected.

Although the study is based on seventy-one internal voluntary job transfers, not all of the factors under investigation had seventy-one pairs of job ratings. Similarly, not all the twenty transfers that involved a lower pay scale or no change in pay scale had twenty pairs of job ratings for the factors under investigation. The missing data are attributed to either the failure of the rater to rate that factor for either one of the jobs in the pair of disfavored and favored jobs or the factors did not apply to either of the jobs in the pair.

Two levels of significance are used in the study-- $.05$ and $.01$.

Total StudyDetermination of Work Pace

There were seventy-one pairs of job ratings for this factor (Table 1). There was no difference between the rating for the "determination of work pace" of the job which forty-seven workers sought and that of the job which they left. Four workers sought a job that was rated as giving the worker less control over his work pace than the job which they left. Twenty workers sought a job that was rated as giving the worker more control over his work pace than the job which they left. This represents a net gain of sixteen for the jobs which give the worker more control over his work pace. This movement of workers into the jobs that give the worker more control over his work pace is statistically significant at .05.

The twenty cases, where the transfer did not mean a pay increase, do not show the same transfer pattern. Seventeen employees sought a job which was rated as giving the worker the same amount of control over work pace. Two employees sought a job with more control and one employee sought a job with less control. This pattern of transfer shows that the favored jobs were not significantly different from the disfavored jobs on the amount of worker control over the pace of work.

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TABLE 1.--Total Study: Determination of Work Pace and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		4	17	0	21
0.01-5.00% Increase		14	13	3	30
Same		1	15	0	16
0.01-5.00% Cut		1	2	1	4
Total		20	47	4	71

Determination of Work Methods

There were seventy pairs of job ratings for this factor (Table 2). There was no difference between the rating for the "determination of work methods" of the job which thirty-two employees sought and that of the job which they left. Twelve employees moved into a job that was rated as giving the worker less responsibility in the determination of his work methods than that of the job from which they moved. Twenty-six employees moved into a job that was rated as giving the worker more responsibility in the determination of his work methods than that of the job from which they moved. This is a net gain of

fourteen for the jobs which give the worker more control over his work methods. The movement of workers into the jobs that allow the worker more responsibility in the determination of his work methods is not statistically significant.

The twenty transfers which did not yield a pay increase show a different pattern. Nine employees sought a job that was rated as giving the worker the same amount of control over work methods. Two employees sought a job with more control and nine employees sought a job with less control. There is a net gain of seven for the jobs with less control over work methods. This pattern of transfers showing preference for the jobs with less control over work methods is statistically significant at .05.

TABLE 2.--Total Study: Determination of Work Methods and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	13	6	2	21
0.01-5.00% Increase	11	17	1	29
Same	1	6	9	16
0.01-5.00% Cut	1	3	0	4
Total	26	32	12	70

Responsibility for Quality Control

There were sixty-nine pairs of job ratings for this factor (Table 3). There was no difference between the rating for the "responsibility for quality control" of the jobs which forty-six people sought and that of the job which they left. Four people sought a job that was rated as giving the worker less responsibility for the quality of the worker's output than the job which they left. Nineteen people sought a job that was rated as giving the worker more responsibility for the quality of the worker's output than the job which they left. This represents a net gain of fifteen for the jobs that give the worker more responsibility for the quality of what the worker produces. The movement of people into the jobs that give the worker more responsibility for quality control is statistically significant at .05.

The nineteen transfers which did not mean a pay increase shows that fifteen employees moved into a job that gave them the same level of responsibility for quality control. Three employees moved into a job with more responsibility and one moved into a job with less responsibility for quality control. This transfer pattern indicates that the new jobs were not significantly different from the old jobs on the workers' responsibility for quality control.

TABLE 3.--Total Study: Quality Control Responsibility and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		5	13	2	20
0.01-5.00% Increase		11	18	1	30
Same		3	11	1	15
0.01-5.00% Cut		0	4	0	4
Total		19	46	4	69

Responsibility for Machine Setup and Repair

There were forty-four pairs of job ratings for this factor (Table 4). There was no difference between the rating for the "responsibility for machine setup and repair" of the job which eighteen workers sought and that of the job which they left. Six workers sought a job that was rated as giving the worker less responsibility for machine setup and repair than the job which they left. Twenty workers sought a job that was rated as giving the worker more responsibility for machine setup and repair than the job which they left. There was a net gain of fourteen for the jobs that give the worker more

responsibility for machine setup and repair. The movement of workers into the jobs where the worker has more responsibility for machine setup and repair is statistically significant at .01.

In the eleven cases where the transfers yielded no pay increase, five employees sought a job with the same amount of responsibility for machine setup and repair as their old jobs. Three sought a job with more responsibility and one sought a job with less responsibility for machine setup and repair. The transfer patterns of the employees who did not seek a pay increase shows that the old jobs were not significantly different from the new jobs on the amount of worker responsibility for machine setup and repair.

TABLE 4.--Total Study: Setup and Repair Responsibility and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		9	5	1	15
0.01-5.00% Increase		9	8	1	18
Same		2	3	4	9
0.01-5.00% Cut		0	2	0	2
Total		20	18	6	44

Number of Tasks

There were seventy-one pairs of job ratings for this factor (Table 5). There was no difference between the rating for the "number of tasks" of the job which twenty-three employees sought and that of the job which they left. Twenty-three employees sought a job that was rated as having a smaller number of tasks than the job which they left. Twenty-five employees sought a job that was rated as having a larger number of tasks than the job which they left. There was a net gain of three for the jobs with the larger number of tasks. The movement of workers into the jobs with the larger number of tasks is not statistically significant.

TABLE 5.--Total Study: Number of Tasks and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	13	4	4	21
0.01-5.00% Increase	9	11	10	30
Same	2	5	9	16
0.01-5.00% Cut	1	3	0	4
Total	25	23	23	71

In the twenty transfers where there was no pay increase, eight employees moved into a job that was rated as having the same number of tasks, while three employees sought a larger job and nine employees sought a smaller job. This trend toward the smaller job is also not statistically significant.

Variety of Tasks

There were seventy-one pairs of job ratings for this factor (Table 6). There was no difference between the rating for the "variety" of the job which thirty-two people sought and that of the job which they left. Twenty people sought a job that was rated as having less variety than the job which they left. Nineteen people sought a job that was rated as having more variety than the job which they left. There was a net gain of one for the jobs with less variety. This movement of workers into jobs with less variety is not statistically significant.

The twenty transfers which did not result in a pay increase show a different pattern. Six employees sought a job with similar amount of variety, while three employees sought a job with more variety and eleven sought a job with less variety. The transfer patterns of those employees who did not seek a pay increase shows a preference for the job with less variety that is statistically significant at .01.

TABLE 6.--Total Study: Variety and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	3	15	3	21
0.01-5.00% Increase	13	11	6	30
Same	2	5	9	16
0.01-5.00% Cut	1	1	2	4
Total	19	32	20	71

Repetitiveness

There were seventy-one pairs of job ratings for this factor (Table 7). There was no difference between the rating for the "repetitiveness of the job" which thirty-one workers sought and that of the job which they left. Fifteen workers sought a job that was rated as being more repetitive than the job which they left. Twenty-five workers sought a job that was rated as being less repetitive than the job which they left. There was a net gain of ten for the less repetitive jobs. This movement of workers to jobs that are less repetitive is not statistically significant.

TABLE 7.--Total Study: Repetitiveness and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		3	7	11	21
0.01-5.00% Increase		8	11	11	30
Same		4	10	2	16
0.01-5.00% Cut		0	3	1	4
Total		15	31	25	71

The transfer patterns of those employees who did not seek a pay increase shows that the new jobs were not significantly different from the old jobs on the factor of repetitiveness. Thirteen employees sought a job with similar repetitiveness while three employees sought a less repetitive job and four employees sought a more repetitive job.

Length of Job Cycle

There were sixty-eight pairs of job ratings for this factor (Table 8). There was no difference between the rating for the "length of the job cycle" of the job which twenty employees sought and that of the job which they left. Twenty-five employees sought a job that was

rated as having a shorter cycle than the job which they left. Twenty-three employees sought a job that was rated as having a longer cycle than the job which they left. There was a net gain of two for the jobs with the shorter job cycles. This trend is not statistically significant.

The twenty employees who did not seek a pay raise shows a similar pattern. Seven employees sought a longer cycle job, seven employees sought a shorter cycle job while six employees sought a job with a similar length of job cycle.

TABLE 8.--Total Study: Length of Job Cycle and Pay Changes.

Pay	Job Factor	Longer	Same	Shorter	Total
Over 5.00% Increase		6	8	5	19
0.01-5.00% Increase		10	6	13	29
Same		5	4	7	16
0.01-5.00% Cut		2	2	0	4
Total		23	20	25	68

Amount of Planning

There were sixty-seven pairs of job ratings for this factor (Table 9). There was no difference between the rating for the "amount of planning" of the jobs which thirty-five people sought and that of the job which they left. Seven people sought a job that was rated as requiring less planning on the part of the worker than the job which they left. Twenty-nine people sought a job that was rated as requiring more planning on the part of the worker than the job which they left. There was a net gain of twenty-two for the jobs that required more planning on the part of the worker. This movement of workers to the jobs that allow the worker to do more planning of his duties is statistically significant at .01.

The twenty transfers which did not mean a pay increase shows a different pattern. Twelve workers moved into a job with similar planning opportunities while five sought a job with more planning and three sought a job with less planning by the worker. These results do not show a significant shift toward the jobs requiring more planning by the worker.

TABLE 9.--Total Study: Amount of Planning and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		12	5	4	21
0.01-5.00% Increase		12	18	0	30
Same		5	10	1	16
0.01-5.00% Cut		0	2	2	4
Total		29	35	7	71

Education

There were seventy pairs of job ratings for this factor (Table 10). There was no difference between the rating for the level of formal education required by the job which thirty-five workers sought and that of the job that they left. Eight workers sought a job that was rated as requiring a lower level of formal education than the job which they left. Twenty-seven workers sought a job that was rated as requiring a higher level of formal education than the job they left. This represents a net gain of nineteen for the jobs that require more formal education. This movement of workers to the jobs that require a higher level of formal education is statistically significant at .01.

The twenty transfers which did not mean a pay increase show a proportionately similar pattern. Twelve employees sought a job requiring similar levels of formal education while six employees sought a job requiring a higher level of education and two sought a job requiring a lower educational level. This trend of movement into the jobs requiring a higher level of education is not statistically significant for our small sample size.

TABLE 10.--Total Study: Education and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	9	11	1	21
0.01-5.00% Increase	12	12	5	29
Same	5	10	1	16
0.01-5.00% Cut	1	2	1	4
Total	27	35	8	70

Skill Proficiency

There were seventy pairs of job ratings for this factor (Table 11). There was no difference between the rating of the length

of time it takes the average employee to master the job for the job which twenty-one employees sought and that of the job which they left. Fourteen employees moved into a job that was rated as requiring a shorter time to master than the job which they left. Thirty-five employees moved into a job that was rated as requiring a longer time to master than the job which they left. There was a net gain of twenty-one for the jobs which take the average worker a longer time to master. The movement of workers to jobs that require a longer time to master is statistically significant at .01.

TABLE 11.--Total Study: Skill Proficiency and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	15	4	2	21
0.01-5.00% Increase	14	12	4	30
Same	4	5	7	17
0.01-5.00% Cut	2	0	1	3
Total	35	21	14	70

The twenty transfers which did not mean a pay increase show a different pattern. Six employees sought a job with similar length of

mastery time while six others sought a job with longer mastery time and eight sought a job with a shorter mastery time. The net gain of two for the more easily mastered job is, however, not statistically significant.

Advancement Opportunity

There were sixty-six pairs of job ratings for this factor (Table 12). There was no difference between the rating for the opportunities of the job which thirty-three people sought and that of the job which they left. Nineteen people sought a job that was rated as having a lower advancement opportunity than the job which they left. Eighteen people sought a job that was rated as having a higher advancement opportunity than that of the job which they left. This represents a net gain of one for the jobs with the lower advancement opportunity. This movement of workers into the jobs with the lower advancement opportunity is not statistically significant.

The twenty transfers which did not result in a pay increase show a similar pattern. Nine employees sought a job with the same advancement opportunities, while four employees sought a job with more advancement opportunities and six sought a job with a lower opportunity for advancement. The trend toward the job offering lower advancement opportunities is also not statistically significant.

TABLE 12.--Total Study: Advancement Opportunity and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	7	11	3	21
0.01-5.00% Increase	7	13	10	30
Same	3	7	6	16
0.01-5.00% Cut	1	2	0	3
Total	18	33	19	70

Pay

Fifty-one of the seventy-one workers transferred into a job that meant an increase in pay for the transferees. Sixteen of the transfers meant no change in pay and four transfers resulted in a lower pay for the transferee (Table 13).

The lowest pay increase was 0.46% and the highest was an increase of 17.80%. Most of the pay increases were under 10% and only two employees received a pay increase of over 10%. The smallest pay cut for a transferee was a 0.25% cut and the largest pay cut was a 4.35% cut.

The average hourly pay for the favored jobs was \$3.38 and that of the disfavored jobs was \$3.30. The standard error of the mean of the differences between the hourly pay for the old job and that of the new job was \$0.017. The t-ratio is 4.83. The favored jobs were a higher paying group of jobs than the disfavored group and this is statistically significant at .01.

TABLE 13.--Total Study: Physical Exertion and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	8	11	2	21
0.01-5.00% Increase	3	19	8	30
Same	0	13	3	16
0.01-5.00% Cut	2	0	2	4
Total	13	43	15	71

Physical Effort

There were seventy-one pairs of job ratings for this factor (Table 13). There was no difference between the rating for the required "physical exertion" of the job which forty-three workers sought and

that of the job which they left. Fifteen workers sought a job which was rated as requiring a lower level of physical exertion than that of the job which they left. Thirteen workers sought a job that was rated as requiring a higher level of physical exertion than that of the job which they left. There was a net gain of two for the jobs that require a lower level of physical exertion. This movement of workers into the jobs that require a lower level of physical exertion is not statistically significant.

The twenty transfers that did not result in a pay increase for the transferees show a similar pattern. Thirteen employees sought a job that was required a similar amount of physical exertion, while two sought a job requiring more effort and five sought an easier job. This trend toward the easier job is also not statistically significant.

Enrichment

There were forty-four pairs of job ratings for this composite factor (Table 14). Eight employees sought a job that was rated as having a similar level of enrichment (determination of work pace, determination of work methods, responsibility for quality control, responsibility for machine setup and repair and amount of planning). Six employees sought a job with a lower level of enrichment and thirty employees sought a job with a higher level of enrichment. This

movement of employees into the jobs with higher enrichment ratings is statistically significant at .01.

The transfers of the eleven employees who did not receive a pay increase shows a different pattern. Three employees sought a job with similar enrichment, while three others sought a job with lower enrichment and five sought a more enriched job. This movement toward the more enriched job, however, is not statistically significant.

TABLE 14.--Total Study: Enrichment and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	12	0	2	14
0.01-5.00% Increase	13	5	1	19
Same	5	1	3	9
0.01-5.00% Cut	0	2	0	2
Total	30	8	6	44

Routineness

There were sixty-eight pairs of job ratings for this composite factor (Table 15). Eleven workers sought a job that was rated as

having a similar level of routineness (number of tasks, variety, repetitiveness, and length of job cycle). Twenty-three workers sought a job that was more routine while thirty-four workers sought a job that was less routine. This movement of workers into the less routine job is, however, not statistically significant.

The nineteen transfers which did not yield a pay increase to the transferee show a different pattern. Eight employees moved into jobs rated as being more routine while seven sought less routine jobs and four moved into jobs with similar routineness. This net gain of one for the more routine job is also not statistically significant.

TABLE 15.--Total Study: Routineness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	5	1	12	18
0.01-5.00% Increase	10	6	15	31
Same	8	4	4	16
0.01-5.00% Cut	0	0	3	3
Total	23	11	34	68

Enrichment and Routineness
(Extension)

There were forty-four pairs of job ratings for this composite factor (Table 16). Thirty-two employees moved into a job that was either more enriched or less routine while twelve employees moved into a job that was either more routine or less enriched. This movement of employees into a job that is either more enriched or less routine is statistically significant at .01.

The eleven transfers where there was no pay increase show a different pattern. Seven employees moved into a job that was either more enriched or less routine, while four moved into a job that was more routine or less enriched. This movement toward the more enriched or less routine job is, however, not statistically significant.

TABLE 16.--Total Study: Enrichment and Routineness and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		10	0	5	15
0.01-5.00% Increase		15	0	3	18
Same		5	0	4	9
0.01-5.00% Cut		2	0	0	2
Total		32	0	12	44

Company ADetermination of Work Pace

There were thirty-seven pairs of jobs ratings for this factor (Table 17). Twenty-three people sought a job with a similar rating in determination of work pace while ten people sought a job with more control over work pace and four people sought a job with a lower rating of determination of work pace. This net gain of six for the jobs with more control over work pace is not statistically significant.

Ten of the eleven transferees who did not see a pay increase moved into jobs with a similar rating in determination of work pace, and one employee sought a job with less control over work pace. This pattern of transfer is also not statistically significant.

TABLE 17.--Company A: Work Pace Control and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	1	4	0	5
0.01-5.00% Increase	9	9	3	21
Same	0	8	0	8
0.01-5.00% Cut	0	2	1	3
Total	10	23	4	37

Determination of Work Methods

There were thirty-six pairs of job ratings for this factor (Table 18). Eighteen workers sought a job with a similar rating in determination of work methods while eleven workers sought a job with more control over work methods and seven workers sought a job with less control over work methods. This net gain of four for the jobs with more control over work methods is not statistically significant.

The eleven workers who did not seek a pay increase show a different pattern. Three workers sought a job with a similar rating in determination of work methods. Two workers sought more control over work methods and six workers moved into a job with less control over work methods. This pattern of transfers is also not statistically significant.

TABLE 18.--Company A: Work Methods Control and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	3	2	0	5
0.01-5.00% Increase	6	13	1	20
Same	1	1	6	8
0.01-5.00% Cut	1	2	0	3
Total	11	18	7	36

Responsibility for Quality Control

There were thirty-seven pairs of job ratings for this factor (Table 19). Twenty-seven employees sought a job with a similar rating in responsibility for quality control. Nine employees sought a job with more responsibility for quality control and one employee moved into a job with less responsibility for quality control. The net gain of eight for the jobs with more responsibility for quality control is not statistically significant.

Ten of the eleven transferees who did not receive a pay increase on transferring, moved into a job with a similar rating on responsibility for quality control and the other transferee moved into a job with more responsibility for quality control. The one transfer into a job with more responsibility for quality control is obviously not statistically significant.

TABLE 19.--Company A: Quality Control Responsibility and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		1	4	0	5
0.01-5.00% Increase		7	13	1	21
Same		1	7	0	8
0.01-5.00% Cut		0	3	0	3
Total		9	27	1	37

Responsibility for Machine
Setup and Repair

There were twenty-one pairs of job ratings for this factor (Table 20). Eleven people sought a job with a similar rating in responsibility for machine setup and repair. Seven people sought a job with more responsibility while three people sought a job with less responsibility for machine setup and repair. The net gain of four for the job with more responsibility for machine setup and repair is not statistically significant.

There were five employees whose transfers did not result in a pay increase. Two employees sought a job with a similar responsibility, two others sought a job with less responsibility, and one sought more responsibility. This net gain of one for the job with less responsibility for machine setup and repair is also not significant.

TABLE 20.--Company A: Setup and Repair Responsibility and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	0	3	0	3
0.01-5.00% Increase	6	6	1	13
Same	1	0	2	3
0.01-5.00% Cut	0	2	0	2
Total	7	11	3	21

Number of Tasks

There were thirty-seven pairs of job ratings for this factor (Table 21). Eleven employees sought a job with a similar number of tasks and fifteen sought a job with a smaller number of tasks. The net gain of four for the job with a smaller number of tasks is not statistically significant.

The eleven employees whose transfers did not result in a pay increase show a different pattern. Four employees sought a job with a similar number of tasks, while one sought a job with more tasks and six sought a job with a smaller number of tasks. This movement toward the smaller job is also not statistically significant.

TABLE 21.--Company A: Number of Tasks and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	2	1	2	5
0.01-5.00% Increase	8	6	7	21
Same	0	2	6	8
0.01-5.00% Cut	1	2	0	3
Total	11	11	15	37

Variety of Tasks

There were thirty-seven pairs of job ratings for this factor (Table 22). Twelve employees moved into a job with similar variety, while twelve others sought a job with more variety and thirteen moved into a job with less variety. This pattern of transfers is not statistically significant.

The eleven employees who did not seek a pay increase show a different pattern. One employee sought a job with similar variety, two sought a job with more variety, and eight sought a job with less variety. This movement into the job with less variety is also not significant.

TABLE 22.--Company A: Variety and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		1	4	0	5
0.01-5.00% Increase		9	7	5	21
Same		1	1	6	8
0.01-5.00% Cut		1	0	2	3
Total		12	12	13	37

Repetitiveness

There were thirty-seven pairs of job ratings for this factor (Table 23). Sixteen workers moved into a job with similar repetitiveness, while eleven moved into a less repetitive job and ten sought a more repetitive job. This movement into the less repetitive job is not significant.

The eleven employees who did not seek a pay increase show a similar pattern. Two employees sought a more repetitive job, while one employee sought a less repetitive job, and eight employees sought a job with similar repetitiveness. This pattern of transfers is also not significant.

TABLE 23.--Company A: Repetitiveness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	1	2	2	5
0.01-5.00% Increase	7	6	8	21
Same	2	6	0	8
0.01-5.00% Cut	0	2	1	3
Total	10	16	11	37

Length of Job Cycle

There were thirty-seven pairs of job ratings for this factor (Table 24). Eighteen employees sought a shorter cycle job while twelve sought a longer cycle job and seven sought a job with a similar cycle. This movement into the shorter cycle job is not statistically significant.

The eleven employees who did not seek a pay increase show a similar pattern. Six employees sought a shorter cycle job while four employees sought a longer cycle job, and one employee sought a job with a similar cycle. This movement into the shorter cycle job is also not significant.

TABLE 24.--Company A: Length of Job Cycle and Pay Changes.

Pay	Job Factor	Longer	Same	Shorter	Total
Over 5.00% Increase		2	1	2	5
0.01-5.00% Increase		6	5	10	21
Same		2	0	6	8
0.01-5.00% Cut		2	1	0	3
Total		12	7	18	37

Amount of Planning

There were thirty-seven pairs of job ratings for this factor (Table 25). Twenty-five employees sought a job with a similar amount of planning while ten employees sought a job with more planning and two employees sought a job with less planning by the worker. The movement of the employees into the jobs that required more planning by the worker is not statistically significant.

Six of the eleven transfers who did not seek a pay increase moved into a job with a similar amount of planning while two employees moved into a job with more planning and one employee moved into a job with a lower amount of planning. This movement into the jobs with more planning is also not significant.

TABLE 25.--Company A: Planning and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	1	3	1	5
0.01-5.00% Increase	7	14	0	21
Same	2	6	0	8
0.01-5.00% Cut	0	2	1	3
Total	10	25	2	37

Education

There were thirty-seven pairs of job ratings for this factor (Table 26). Fifteen employees transferred into a job requiring the same level of formal education while sixteen sought a job requiring a higher level of education and six employees sought a job requiring a lower level of education. This movement of employees into the jobs requiring a higher level of formal education is statistically significant at .05.

The eleven transfers which did not result in a pay increase show a similar pattern that is not statistically significant. Five employees moved into a job requiring more education, while four employees sought a job requiring a similar level of education and two sought a job requiring less formal education.

TABLE 26.--Company A: Education and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		3	2	0	5
0.01-5.00% Increase		8	9	4	21
Same		5	2	1	8
0.01-5.00% Cut		0	2	1	3
Total		16	15	6	37

Skill Proficiency

There were thirty-six pairs of job ratings for this factor (Table 27). Twelve workers sought a job requiring a similar length of time to master while thirteen moved into a job requiring a longer time to master while eleven sought a job requiring a shorter time to master. This pattern of transfers is, however, not statistically significant.

The ten transferees who did not seek a pay increase show a similar transfer pattern. Four employees sought a job requiring a longer time to master while five moved into a job requiring a shorter time to master and one employee moved into a job with a similar mastery time.

TABLE 27.--Company A: Skill Proficiency and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	1	2	2	5
0.01-5.00% Increase	8	9	4	21
Same	2	1	5	8
0.01-5.00% Cut	2	0	0	2
Total	13	12	11	36

Advancement

There were thirty-six pairs of job ratings for this factor (Table 28). Ten employees sought a job with increased advancement opportunities while seventeen moved into a job with lower prospects for advancement and nine transferred into a job with similar advancement opportunities. This net gain of seven for the jobs with lower prospects for advancement is not statistically significant.

The ten employees who did not seek a pay increase also show a similar transfer pattern. Five workers sought a job with lower advancement opportunities, while three workers sought a job with more advancement opportunities and two workers moved into a job with similar advancement opportunities. The revealed preference for the job with the lower advancement opportunities is also not significant.

TABLE 28.--Company A: Advancement and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		1	2	2	5
0.01-5.00% Increase		6	5	10	21
Same		2	1	5	8
0.01-5.00% Cut		1	1	0	2
Total		10	9	17	36

Pay

Twenty-six of the thirty-seven employees who sought new jobs moved into a higher-paid job. The pay of eight transferees remained the same while three employees transferred into a job with lower pay (Table 29).

The lowest pay increase was 1.17% and the highest was an increase of 8.5%. The smallest pay cut for a transferee was a 0.28% cut and largest was a 4.35% pay cut.

The average hourly pay for the disfavored jobs was \$3.54 and that of the favored jobs was \$3.62. The standard error of the mean of the differences between the hourly pay for the disfavored job and the favored job was \$0.0171. The t-ratio is 4.61. The favored jobs were a higher paying group of jobs compared to the disfavored jobs and this is statistically significant at .01.

TABLE 29.--Company A: Physical Exertion and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	2	2	1	5
0.01-5.00% Increase	3	15	3	21
Same	0	8	0	8
0.01-5.00% Cut	2	0	1	3
Total	7	25	5	37

Physical Exertion

There were thirty-seven pairs of job ratings for this factor (Table 29). Twenty-five employees sought a job requiring a similar amount of physical effort while seven employees sought a job demanding more effort and five employees sought a job requiring less physical effort. The net gain of two for the more physically demanding job is not significant.

The eleven transfers where there was no pay increase show a similar pattern. Eight sought jobs that were similar in required physical effort while two sought a more exerting job and one sought an easier job.

Enrichment

There were twenty-one pairs of job ratings for this composite factor (Table 30). Thirteen employees transferred into jobs that were rated as being more enriched (determination of work pace and work methods, responsibility for quality control and machine setup and repair and amount of planning) than their old jobs. Two transferred into jobs rated as being less enriched and six transferred into jobs with similar enrichment ratings. This movement of workers into the more enriched job is statistically significant at .01.

The five transfers where there was no pay increase show a different pattern. Two transferred into jobs rated as being more enriched, while two others transferred into jobs rated as being similar in enrichment and one transferred into a job rated as being less enriched than the old job. This pattern of transfers is however not statistically significant.

TABLE 30.--Company A: Enrichment and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		2	0	1	3
0.01-5.00% Increase		9	4	0	13
Same		2	0	1	3
0.01-5.00% Cut		0	2	0	2
Total		13	6	2	21

Routineness

There were thirty-seven pairs of job ratings for this composite factor (Table 31). Sixteen employees transferred to a job rated as being more routine (number of tasks, variety, repetitiveness, length

of job cycle), just as sixteen transferred into a less routine job while five transferred into a job with similar routineness ratings. This pattern of transfers does not reveal any employee preferences either for the more routine job or the less routine job.

The eleven transfers where there was no pay increase show a similar pattern. Six employees transferred into the more routine job while five transferred into the less routine job. This gain of one for the more routine job is not statistically significant.

TABLE 31.--Company A: Routineness and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		3	0	2	5
0.01-5.00% Increase		7	5	9	21
Same		6	0	2	8
0.01-5.00% Cut		0	0	3	3
Total		16	5	16	37

Enrichment and Routineness

There were twenty-one pairs of job ratings for this composite factor (Table 32). Fourteen employees transferred into a job that was

rated as either being more enriched or less routine while seven transferred into a job that was rated as being less enriched or more routine. This two to one ratio in favor of the more enriched or less routine job is however not statistically significant.

Four of the five transferees who did not seek a pay increase sought a job rated as either being more enriched or less routine than the job which they left. One employee sought a job that was rated as being less enriched or more routine than the job which he left. The net gain of three for the more enriched or less routine job is also not statistically significant.

TABLE 32.--Company A: Enrichment and Routineness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	0	0	3	3
0.01-5.00% Increase	10	0	3	13
Same	2	0	1	3
0.01-5.00% Cut	2	0	0	2
Total	14	0	7	21

Company BDetermination of Work Pace

There were thirty-four pairs of job ratings for this factor (Table 33). There was no difference between the rating for the "determination of work pace" of the job which twenty-four workers sought and that of the job which they left. Ten workers sought a job that was rated as giving the worker more control over his work pace than that of the job which they left. This movement of workers into the jobs which allow the worker more control over his work pace is statistically significant at .05.

Two of the nine transferees who did not seek a pay increase, sought a job with more worker control over work pace and seven sought a job with similar control over work pace.

TABLE 33.--Company B: Work Pace Control and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		3	13	0	16
0.01-5.00% Increase		5	4	0	9
Same		1	7	0	8
0.01-5.00% Cut		1	0	0	1
Total		10	24	0	34

Determination of Work Methods

There were thirty-four pairs of job ratings for this factor (Table 34). There was no difference in the rating for the "determination of work methods" of the job which fourteen employees sought and that of the job which they left. Five employees sought a job that was rated as giving the worker less authority in the determination of work methods than that of the job which they left. Fifteen employees sought a job which was rated as giving the worker more authority in the determination of work methods than that of the job which they left. There was a net gain of ten for the jobs which allow the worker more control over his work methods. This movement of workers into the jobs that permit the worker control over his work methods is statistically significant at .05.

TABLE 34.--Company B: Work Methods Control and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	10	4	2	16
0.01-5.00% Increase	5	4	0	9
Same	0	5	3	8
0.01-5.00% Cut	0	1	0	1
Total	15	14	5	34

The nine transferees who did not seek a pay increase show a different pattern. Six employees sought a job with more control over work methods while three sought a job with less control over work methods. This movement of workers into the jobs which allow the worker a lower amount of control over work methods is not statistically significant.

Responsibility for Quality Control

There were thirty-two pairs of job ratings for this factor (Table 35). Nineteen employees sought a job with similar responsibility for quality control while ten employees sought a job with more responsibility and three employees sought a job with less responsibility. The net gain of seven for the jobs which allow the worker more responsibility for quality control is not statistically significant.

The eight employees who did not seek a pay increase when they transferred show a similar pattern. Two employees sought jobs with more responsibility while five sought jobs with similar responsibility and one sought a job with a lower level of responsibility for quality control. This transfer pattern is also not statistically significant.

TABLE 35.--Company B: Quality Control Responsibility and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00%	Increase	4	9	2	15
0.01-5.00%	Increase	4	5	0	9
Same		2	4	1	7
0.01-5.00%	Cut	0	1	0	1
Total		10	19	3	32

Responsibility for Machine
Setup and Repair

There were twenty-three pairs of job ratings for this factor (Table 36). There is no difference between the rating for the "responsibility for machine setup and repair" of the job which seven people sought and that of the job which they left. Three people sought a job that was rated as giving the worker less responsibility for machine setup and repair than that of the job which they left. Thirteen people sought a job that was rated as giving the worker more responsibility for machine setup and repair than that of the job which they left. There was a net gain of ten for those jobs which allow the

worker more responsibility for machine setup and repair. This movement of workers into the jobs where they can do more repairs and machine setup is statistically significant at .01.

The six employees whose transfers left their pay unchanged show a different pattern. Three employees sought a job with similar responsibility while one sought a job with more responsibility and two sought a job with less responsibility for machine setup and repair. This movement of workers into the jobs with less responsibility for machine setup and repair is not significant.

TABLE 36.--Company B: Setup and Repair Responsibility and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		9	2	1	12
0.01-5.00% Increase		3	2	0	5
Same		1	3	2	6
0.01-5.00% Cut		0	0	0	0
Total		13	7	3	23

Number of Tasks

There were thirty-four pairs of job ratings for this factor (Table 37). Fourteen employees sought a job with a larger number of

tasks while twelve sought a job of similar size, and eight sought a smaller job. The net gain of six for the jobs with the larger number of tasks is not statistically significant.

The nine employees whose transfer left their pay unchanged show a different pattern. Four employees sought a job of similar size while two sought a job with more tasks and three sought a job with a smaller number of tasks. This movement into the smaller jobs is also not significant.

TABLE 37.--Company B: Number of Tasks and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		11	3	2	16
0.01-5.00% Increase		1	5	3	9
Same		2	3	3	8
0.01-5.00% Cut		0	1	0	1
Total		14	12	8	34

Variety

There were thirty-four pairs of job ratings for this factor (Table 38). Twenty employees sought a job with as much variety as

their old job. Seven employees sought a job with more variety and seven sought a job with less variety. This transfer pattern indicates that the favored jobs and the disfavored jobs were not significantly different from one another in terms of the variety of the jobs.

The nine transfers where there was no pay increase show that five employees sought a job with similar variety while three sought less variety and one sought more variety. This trend toward the job with less variety is also not significant.

TABLE 38.--Company B: Variety and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	2	11	3	16
0.01-5.00% Increase	4	4	1	9
Same	1	4	3	8
0.01-5.00% Cut	0	1	0	1
Total	7	20	7	34

Repetitiveness

There were thirty-four pairs of job ratings for this factor (Table 39). There was no difference between the rating for the

"repetitiveness" of the job which fifteen workers sought and that of the job which they left. Five workers sought a job that was rated as being more repetitive than the job which they left. Fourteen workers sought a job that was rated as being less repetitive than the job which they left. There was a net gain of nine for the less repetitive jobs. This movement of workers to the less repetitive jobs is not statistically significant.

The nine employees who did not seek a pay increase do not show any preference for the less repetitive job. Two employees sought a less repetitive job and two sought a more repetitive job and five sought a job with similar repetitiveness.

TABLE 39.--Company B: Repetitiveness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	2	5	9	16
0.01-5.00% Increase	1	5	3	9
Same	2	4	2	8
0.01-5.00% Cut	0	1	0	1
Total	5	15	14	34

Length of Job Cycle

There were thirty-one pairs of job ratings for this factor (Table 40). Thirteen employees sought a job with a similar cycle while eleven sought a job with a longer cycle and seven sought a job with a shorter cycle. The net gain of four for the jobs with the longer job cycle is not statistically significant.

The nine employees who did not seek a pay increase show a similar pattern. Five employees sought a job with a similar cycle, while three sought a job with a longer cycle and one sought a job with a shorter job cycle. This gain of two by the longer cycle job is also not statistically significant.

TABLE 40.--Company B: Length of Job Cycle and Pay Changes.

Pay	Job Factor	Longer	Same	Shorter	Total
Over 5.00% Increase		4	7	3	14
0.01-5.00% Increase		4	1	3	8
Same		3	4	1	8
0.01-5.00% Cut		0	1	0	1
Total		11	13	7	31

Amount of Planning

There were thirty-four pairs of job ratings for this factor (Table 41). There was no difference between the rating for the "amount of planning" required of the worker for the job which ten employees sought and that of the job which they left. Five employees sought a job that was rated as requiring less planning of the worker than that of the job which they left. Nineteen employees sought a job that was rated as requiring more planning of the worker than the job which they left. There was a net gain of fourteen for the job that required the worker to do more of the planning of his activities. This movement of workers into the jobs that allow them to do more of the planning of their duties is statistically significant at .01.

TABLE 41.--Company B: Planning and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		11	2	3	16
0.01-5.00% Increase		5	4	0	9
Same		3	4	1	8
0.01-5.00% Cut		0	0	1	1
Total		19	10	5	34

The nine employees who did not seek a pay increase show a different pattern. Three people sought a job requiring more planning by the worker while two sought a job requiring less planning by the worker and four people sought a job with similar planning responsibility. The gain of one by the jobs requiring more planning by the worker is not significant.

Education

There were thirty-three pairs of job ratings for this factor (Table 42). There was no difference between the rating for the formal education requirement of the job which twenty workers sought and that of the job which they left. Two workers sought a job that was rated as requiring less formal education than the job they left. Eleven workers sought a job that was rated as requiring a higher level of formal education than the job they left. This represents a gain of none for the jobs that require more years of formal schooling. This movement of workers into jobs that require more formal education is statistically significant at .05.

Eight of the nine employees who did not seek a pay increase moved into jobs requiring similar educational levels while one worker moved into a job requiring a higher level of formal education. The

gain by the jobs requiring more formal education is, however, not significant.

TABLE 42.--Company B: Education and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		6	9	1	16
0.01-5.00% Increase		4	3	1	8
Same		0	8	0	8
0.01-5.00% Cut		1	0	0	1
Total		11	20	2	33

Skill Proficiency

There were thirty-four pairs of job ratings for this factor (Table 43). There is no difference between the rating for the time it takes the average worker to master the duties of the job which nine people sought and that of the job which they left. Three people sought a job that was rated as requiring less time to master than the job which they left. Twenty-two people sought a job that required more time to master than the job which they left. There was a net gain of nineteen for the jobs which require a longer time for the average

worker to master. This movement of workers into the more difficult jobs is statistically significant at .01.

The nine employees who did not seek a pay increase show a different pattern. Four sought jobs with similar mastery time while three sought jobs with shorter mastery time and two sought jobs with longer mastery time. This preference ratio of 2:3 in favor of the shorter mastery time jobs is, however, not statistically significant.

TABLE 43.--Company B: Skill Proficiency and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	14	2	0	16
0.01-5.00% Increase	6	2	0	8
Same	2	4	2	8
0.01-5.00% Cut	0	0	1	1
Total	22	9	3	34

Advancement

There were thirty-four pairs of job ratings for this factor (Table 44). Twenty-four people sought a job with similar advancement opportunities while eight moved into jobs with better advancement

opportunities and two people moved into jobs with less opportunities for advancement. The net gain of eight for the jobs with better advancement opportunities is not statistically significant.

The nine employees who did not seek a pay increase do not show any preference for the jobs with better advancement opportunities. Seven employees moved to jobs with similar advancement opportunities while one employee moved to a job with improved advancement opportunities and another moved to a job with poorer advancement opportunities.

TABLE 44.--Company B: Advancement and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		6	9	1	16
0.01-5.00% Increase		1	8	0	9
Same		1	6	1	8
0.01-5.00% Cut		0	1	0	1
Total		8	24	2	34

Pay

Twenty-five of the thirty-four workers transferred into a job with more pay. There was no change in pay for eight job changers and one employee moved into a job in a lower pay scale than the old job (Table 45).

The lowest pay increase was 2.80% and the highest was an increase of 17.80%. All the increases were under 10% except for two cases. The only pay cut was a 0.25% cut.

The average hourly pay for the favored jobs was \$3.07 and that of the disfavored job was \$3.16. The standard error of the mean of the differences between the hourly pay for the old job and that of the new job was \$0.0294. The t-ratio was 2.90. The favored jobs were a higher paying group of jobs than the disfavored jobs and this is statistically significant at .01.

TABLE 45.--Company B: Physical Exertion and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	6	9	1	16
0.01-5.00% Increase	0	4	5	9
Same	0	5	3	8
0.01-5.00% Cut	0	0	1	1
Total	6	18	10	34

Physical Exertion

There were thirty-four pairs of job ratings for this factor (Table 45). Eighteen employees transferred to a job that required a similar level of physical effort. Ten employees transferred into a job requiring a lower level of physical exertion while six transferred into a more exerting job. This movement into the jobs requiring less physical effort is, however, not statistically significant.

The nine employees who did not seek a pay increase moved either into a job requiring a similar level of physical effort or into a job requiring less physical exertion. Five transferred into the former category and four were in the latter category. This movement into the jobs requiring less physical exertion is, however, not statistically significant.

Enrichment

There were twenty-three pairs of job ratings for this composite factor (Table 46). Seventeen people transferred to a job rated as being more enriched (determination of work pace and work methods, responsibility for quality control and machine setup and repair and planning) than their old jobs. Two people transferred into a job with a similar enrichment rating while four people transferred into a job

with a lower enrichment rating. This movement of employees into the more enriched jobs is statistically significant at .01.

The six employees who did not seek a pay increase did not prefer the more enriched job by a wide margin. Three sought a job with a higher enrichment rating, while two sought a job with a lower enrichment rating and one sought a job with a similar rating in enrichment. The gain of one by the more enriched job, however, is not statistically significant.

TABLE 46.--Company B: Enrichment and Pay Changes.

Pay	Job Factor	More	Same	Less	Total
Over 5.00% Increase		10	0	1	11
0.01-5.00% Increase		4	1	1	6
Same		3	1	2	6
0.01-5.00% Cut		0	0	0	0
Total		17	2	4	23

Routineness (Extension)

There were thirty-one pairs of job ratings for this composite factor (Table 47). Six employees sought a job with a similar rating

in routineness (number of tasks, variety, repetitiveness, length of job cycle). Seven transferred into jobs rated as being more routine than their old jobs and eighteen transferred into jobs rated as being less routine than the jobs they left. This movement of employees into the less routine job is statistically significant at .05.

The eight employees who did not seek a pay increase do not show any preference for the less routine jobs. Two employees transferred into a more routine job as two others transferred into a less routine job and four transferred into jobs with similar routineness ratings as the jobs which they left.

TABLE 47.--Company B: Routineness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	2	1	10	13
0.01-5.00% Increase	3	1	6	10
Same	2	4	2	8
0.01-5.00% Cut	0	0	0	0
Total	7	6	18	31

Enrichment and Routineness
(Extension)

There were twenty-three pairs of job ratings for this composite factor (Table 48). Eighteen people transferred into a job rated as being either more enriched or less routine than the job which they left. Five people transferred into jobs that were rated as being either more routine or less enriched than their old jobs. This movement of workers into jobs that were either more enriched or less routine is statistically significant at .01.

The six workers who did not seek a pay increase were equally divided in their preference for the more routine or less enriched job on the one hand and the less routine and more enriched job on the other.

TABLE 48.--Company B: Enrichment and Routineness and Pay Changes.

Job Factor Pay	More	Same	Less	Total
Over 5.00% Increase	10	0	2	12
0.01-5.00% Increase	5	0	0	5
Same	3	0	3	6
0.01-5.00% Cut	0	0	0	0
Total	18	0	5	23

CHAPTER V

DISCUSSION

The purpose of this chapter is to present the author's interpretation of the findings reported in the last chapter. The implications of the obtained results for the whole study and for each company will be discussed. The limitations of the study will also be noted.

The findings of the study show that:

- 1) Employees transferred into jobs with higher pay rates significantly more than they transferred into jobs with either the same or lower pay rates.
- 2) When the transfers also meant an increase in pay:
 - i) employees transferred into the jobs with higher enrichment ratings (determination of work pace and methods, responsibility for quality control and machine setup and repair and amount of planning) significantly more than they transferred into the jobs with lower enrichment ratings.

- ii) employees moved into jobs that were rated as giving the worker more control over work pace significantly more than they moved into jobs with lower ratings in control over work pace.
- iii) employees transferred into the jobs rated as giving the worker more responsibility for quality control and machine setup and repair significantly more than they transferred into jobs with lower ratings in responsibility for quality control and machine setup and repair.
- iv) employees moved into jobs that were rated as giving the worker more authority to plan work activities significantly more than they transferred into the jobs that were rated as allowing the worker less authority to plan work activities.
- v) employees sought jobs that were rated as requiring a higher level of formal education significantly more than they sought jobs that were rated as requiring a lower level of formal education.
- vi) employees transferred into the jobs rated as being more complex (requiring more time to master) significantly

more than they transferred into the jobs that were rated as less complex (requiring a shorter time to master).

vii) employees sought jobs that were rated as either more enriched or less routine significantly more than they sought jobs that were rated as more routine or less enriched.

- 3) When the transfers did not provide a pay increase, the numbers of workers who sought jobs with a higher rating on each of the factors under study were not significantly different from the numbers of those who sought jobs with a lower rating on each of the factors, except for the factors "variety" and "determination of work methods."

When the transfers did not provide a pay increase, employees moved into jobs that were rated as having less variety significantly more than they moved into jobs rated as having more variety. Similarly, more employees moved into jobs rated as giving the worker less control over work methods when the transfer did not provide a pay increase.

- 4) The number of employees who sought jobs that were rated as having more advancement opportunities was not significantly different from the number of workers who sought jobs that were

rated as having lower advancement opportunities. This transfer pattern is also true for the factors of determination of work methods, number of tasks, variety, repetitiveness, length of job cycle, physical exertion, and the composite factor of routineness (number of tasks, variety, repetitiveness, and length of job cycle). This transfer pattern is also true for those cases where the change of jobs did not result in a pay increase except for determination of work methods and variety, as noted in (3) above.

These findings indicate that financial reward was a very definite motivating factor influencing the employees to change jobs. The influence of money as the primary motivation for changing jobs is clearly shown in those cases where the employee transferred to a job that received the same rating on each of the factors under investigation. When the rating for the old job and that of the new job were the same for a particular factor, the number of employees who moved into the jobs with higher pay rates was always higher than that of those who did not seek a pay increase. The ratio was 2:1 in favor of the jobs with the higher pay rates for all factors except repetitiveness and the composite factors of enrichment and routineness with ratios of 18:13, 5:3, and 7:4 respectively in favor of the jobs with the higher pay. The potency of pay as a motivator of employees at this

level is further emphasized by the fact that where the transfers did not result in a pay increase, such factors as enrichment, autonomy, responsibility and the challenge of working at a complex job were not important in the employees' decisions to change jobs.

The results also indicate that when the transfers meant a pay increase, significantly more employees moved into the jobs that were more enriched or had more autonomy and responsibility, or were more complex. This finding may ordinarily be used as evidence to support the viewpoint that workers seek responsibility and autonomy. But in this study, it is not possible to separate the higher pay rate factor of the job from any other job attributes which may influence the employee decision to trade jobs. Therefore the revealed preferences of employees in this study only show that workers seek a job with higher pay that also provides more autonomy, responsibility, and job complexity.

The association between autonomy and the higher pay revealed in this study may be explained by the job evaluation methods used in constructing wage rates. The more responsibility inherent in the job--the higher the pay scale. Thus it will be very unlikely to find a job with a reasonable amount of autonomy for the workers without a relatively higher pay than other jobs without such autonomy. The current industrial practice of evaluating jobs before setting wage

rates ensures that jobs with more responsibility also pay a higher wage rate. It is therefore not surprising that the lower pay scales were not accompanied with more autonomy and the higher pay scales were associated with significantly more autonomy. Similarly the jobs that were rated as requiring more formal education or a longer mastery time should be expected to be paid at higher rates than the jobs with lower ratings on education and skill proficiency.

While this study does indicate that employees seek a higher paying job which also provides more autonomy, responsibility, and the opportunity to use their specialized skills, it is doubtful that workers would have changed jobs unless there was also an opportunity for higher earnings. This study indicates that the most important factor that motivated employees to change their jobs is the opportunity for higher earnings. This study does not support the viewpoint that pay is not of paramount importance to the motivation and job satisfaction of these employees.

The results show that the employees moved more (even though, not at a significant level) into the jobs rated as having lower advancement opportunities. Although this finding could be advanced as evidence that employees do not seek to advance themselves at work, it is the opinion of this writer that this finding is more indicative of the restricted advancement opportunities at the non-supervisory levels

in these industries. The non-supervisory and non-professional jobs in the pharmaceutical industry and the unskilled jobs in the furniture industry may not be the type of jobs that help a worker to rise to the top in the company without specialized training and a change of jobs from the rank and file class.

The findings also indicate that factors of variety, number of tasks, repetitiveness of tasks, length of job cycle, and physical exertion were also not important in the employees' decisions to change jobs. This finding is indicative of the similarities of the jobs at the non-supervisory level. The finding that variety, number of tasks, repetitiveness and the length of the job cycle were not associated with the decision to change jobs lends some credence to Herzberg's two-factor theory of job satisfaction. According to the two-factor theory, the factors which motivate people at work are those which add responsibility and autonomy to the job. In this study, only those factors which may be classified as Herzberg's motivators and the item "pay" were associated with the motivation for changing jobs. The support which this finding lends to the two-factor theory is, however, confounded by the relationship between higher pay and these factors based on job evaluation methods of setting wage rates, as explained earlier in this chapter. This relationship between higher wage rates and autonomy is also supported by the significantly higher number of

employees who transferred into jobs with lower ratings on determination of work methods and variety, when the employees either sought jobs with the same or lower pay rates.

The results from Company A, the city pharmaceutical plant, indicate that the primary motivation for changing jobs was the opportunity for higher earnings. The composite factor of enrichment (determination of work pace and work methods, responsibility for quality control and machine setup and repair, and planning) was also associated with the decision to change jobs. It is, however, very doubtful that the employees would have changed jobs for enrichment which did not include a higher wage rate. The findings in the pharmaceutical company, which is unionized, supports the definition of job enrichment and worker job satisfaction advanced by William W. Wimpisinger at the twenty-fifth Anniversary Meeting of the Industrial Relations Research Association at Toronto in 1972. "If you want to enrich the job, enrich the pay check. The better the wage, the greater the job satisfaction."¹

The results from Company B, the small town furniture plant show a general similarity to the results for the total study. The transfers in this company may be attributed to higher pay and the

¹William W. Wimpisinger, "Job Enrichment--Another Part of the Forest," Proceedings of the 25th Anniversary Meeting, Industrial Relations Research Association (Toronto, 1972), pp. 156-157.

increased autonomy, responsibility and the opportunity to use special skills and abilities at complex tasks.

The comparison of the results from Company A, the city plant, and Company B, the small town plant, tends to support the viewpoint advanced by Turner and Lawrence, that city workers do not seek autonomy and responsibility at work while the small town residents seek autonomy and responsibility at work.² The results from the furniture company may, however, be partly dependent on the managerial philosophy. The company is operated on the Scanlon Plan which grants employees the opportunity to participate in decision making in the course of their daily work. Therefore the quest for the jobs with higher pay rates and more autonomy may not be wholly indicative of the small town worker attitudes as advanced by Turner and Lawrence.

Limitations of the Study

The findings of this study would be of greater significance if the data were obtained from larger manufacturing companies with a

²Arthur N. Turner and Paul R. Lawrence, Industrial Jobs and the Worker (Boston: Harvard University, Division of Research, Graduate School of Business Administration, 1965), pp. 78, 93, 98.

larger range of jobs and a larger sample of pairs of favored and disfavored jobs.

Another factor limiting the findings in this study is that about half of the obtained results came from a Scanlon Plan company. The vast majority of industrial workers do not work for companies operated under this managerial philosophy.

It is also recognized that not all the factors which could motivate employees to change jobs have been considered in this study. It is realized that employees may seek a change of jobs because of the "status" of the job, or a more desirable shift (hours of work), or supervisor. These factors were, however, not included in the study because the focus of the study was on the inherent job characteristics that may motivate an employee to change jobs, and thereby reveal what things employees do seek in their jobs.

Summary and Conclusion

The general objective of this study was to find out what rank and file workers seek to get from their jobs as could be determined from on-the-job worker behavior in real life situations. In this quest, the author sought to test the accuracy of the higher order need

gratification models of job satisfaction and the viewpoint that lower level employees are primarily motivated by financial rewards.

The analysis of the characteristics of the jobs that employees sought and those that they left indicate that rank and file workers seek jobs with higher pay rates and which also provide autonomy, responsibility and the opportunity to use their special skills and abilities at work. Given a pay increase, significantly more workers sought jobs that allowed them more autonomy, responsibility, and the opportunity to utilize special abilities at complex jobs than they sought jobs which allowed lower levels of autonomy and responsibility in similar jobs. When there was no pay increase, the number of employees who sought the jobs with more autonomy and responsibility was not significantly different from the number of those who sought jobs with less autonomy and responsibility.

This study indicates that the most important factor which motivated employees to change jobs is the opportunity for higher earnings. This study rejects the viewpoint that pay is not of paramount importance to the motivation and job satisfaction of the rank and file worker. It appears that the lower level worker seeks autonomy and higher earnings in one package at work. It is doubtful, however, that the rank and file employees would have changed jobs if there was no opportunity for higher earnings.

APPENDICES

APPENDIX A. INITIAL LETTER

MICHIGAN STATE UNIVERSITY

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
DEPARTMENT OF MANAGEMENT

EAST LANSING • MICHIGAN • 48824

Dear

As you know, much literature in the field of organization and personnel stresses the desirability of "job enlargement," "job enrichment," and having workers participate in setting goals and making decisions. There has been little empirical evidence gathered to determine whether most workers want these things, and if so, how important they are to them. If we knew, that would be clearly helpful in personnel management.

I am working on a doctoral dissertation research study under the guidance of Professor Rollin H. Simonds, to try to get some information in answer to these questions. I plan to investigate the kinds of jobs which rank and file workers seek as vacancies occur within their organizations. The objective of this kind of investigation is to attempt to find out whether or not there is a pattern to the kinds of jobs which this class of personnel seeks. It would be advantageous to find out what differentiates the new (favored) jobs from the old (disfavored) jobs.

I should like very much to get your suggestions about the project and to explore the possibility of _____ cooperating in some degree. I am sending you herewith a summary of the research objectives and the proposed methodology for carrying out the research program. The instruments that are to be used in the study are also enclosed for your review.

I shall telephone you in a few days to see if I can arrange a time to talk to you about it at your convenience. If you have any questions, please do not hesitate to call me at Area Code 517, 351-7851 or 353-7222.

I shall be looking forward to hearing from you.

Yours sincerely,

John N. Orife
Doctoral Candidate

APPENDIX B. JOB ENRICHMENT INDEX

PART A

- | | |
|---|---|
| I. DETERMINATION OF
WORK PACE
(Is the worker
responsible for
setting his work
pace?) | <div>_____ 1. The worker has complete control
over the pace of his work.</div> <div>_____ 2. The pace of work is set in part
by the worker and in part by
the supervisor(s).</div> <div>_____ 3. The pace of work is set entirely
by the supervisor(s) or machine
(line of assembly).</div> |
| II. DETERMINATION OF
WORK METHODS
(Is the worker
responsible for
determining his
work methods?) | <div>_____ 1. The worker himself develops and
decides on the methods and proce-
dures he uses for doing his job.</div> <div>_____ 2. The worker and his supervisor(s)
jointly develop and decide on
the methods and procedures the
worker uses for doing his job.</div> <div>_____ 3. The methods and procedures that
the worker uses are developed
and decided upon solely by the
worker's supervisor(s) or indus-
trial (work methods) engineers.</div> |
| III. RESPONSIBILITY FOR
QUALITY CONTROL
(Is the worker
responsible for
setting the
standards for the
quality of his
output?) | <div>_____ 1. The worker is solely responsible
for setting the standards for
the quality of his work.</div> <div>_____ 2. The quality of output depends
partly on machine standards or
standards set by supervisor(s)
and partly on the worker.</div> <div>_____ 3. The quality of work is deter-
mined entirely by machine stand-
ards or standards set by super-
visor(s).</div> |

- IV. RESPONSIBILITY FOR MACHINE SETUP AND REPAIR
(Is machine setup and/or repair part of the duties of the worker?)
- ____ 1. Machine setup and/or repair is part of the duties of the worker.
- ____ 2. The worker and his supervisor(s) share the duties of machine setup and/or repair.
- ____ 3. The worker's supervisor(s) and others (e.g. setup man and/or repair department) do all setup and repair work.
- V. NUMBER OF TASKS INVOLVED IN THE JOB
(How large is the number of tasks [i.e. different operations] that define this job?)
- ____ 1. The job is made up of many (at least 10) tasks i.e. different operations.
- ____ 2. The job consists of a fairly large number (5-10) of tasks.
- ____ 3. The job consists of a small number (one or two but less than five) of tasks.
- VI. THE VARIETY OF TASKS INVOLVED IN THE JOB
(How varied are the tasks which make up this job? How different are they from one another?)
- ____ 1. Every task in this job is somewhat different from any other task that is included in the job.
- ____ 2. About half of the tasks in this job are different from other tasks included in the job.
- ____ 3. The tasks included in this job are all of the same type.
- VII. REPETITIVENESS OF TASKS
(Are the tasks performed repeatedly for lengthened periods of time?)
- ____ 1. Hardly any of the tasks in this job are repeated (special projects).
- ____ 2. A few of the tasks are performed repeatedly for lengthened periods of time.
- ____ 3. Most of the task activities are performed repeatedly for lengthened periods of time.
- ____ 4. All of the task activities are performed repeatedly for lengthened periods of time.

VIII. LENGTH OF THE
JOB CYCLE
(How long is it
from the start
of one operation
until the worker
starts another
exactly similar
operation?)

- _____ 1. It takes up to a week or more to complete a job cycle in which a unit of output is produced.
- _____ 2. It takes at least one day but less than one week to complete a cycle in which a unit of output is produced.
- _____ 3. It takes a few hours (less than 8 hours) to complete the job cycle in which a unit of output is produced.
- _____ 4. It takes about an hour to complete the job cycle in which a unit of output is produced.
- _____ 5. It takes less than an hour but more than 15 minutes to complete the job cycle in which a unit of output is produced.

IX. AMOUNT OF PLANNING
(Has the worker the
opportunity to plan
beforehand the
activities which
he performs on his
job?)

- _____ 1. The worker does all the planning that is necessary for performing on this job.
- _____ 2. The worker and his supervisor jointly carry out the planning needed for performance on the job.
- _____ 3. The supervisor alone does the planning for what the worker is expected to do on the job.

PART B

- X. EDUCATION
(How much schooling is needed in order to be hired for this job?)
- _____ 1. The minimum educational requirement for being hired on this job is at least four years of college.
 - _____ 2. The educational requirement for this job is at least two years of college.
 - _____ 3. The educational requirement is high school plus additional skilled training.
 - _____ 4. A high school graduate is usually hired for this job.
 - _____ 5. Anyone who can read and write is usually hired for this job.
- XI. SKILL PROFICIENCY
(How long does it take to master the job once hired?)
- _____ 1. It takes the average employee at least one year to master all the details of the job.
 - _____ 2. It takes the average employee 9-12 months to master all the phases of the job.
 - _____ 3. It takes the average employee 6-9 months to master all the phases of the job.
 - _____ 4. It takes the average employee 3-6 months to master all the phases of the job.
 - _____ 5. It takes the average employee less than 3 months to master all the phases of the job.
- XII. ADVANCEMENT OPPORTUNITY
(Is this a good job to have if you want to rise to the top in this company?)
- _____ 1. This job often serves as a training ground for being promoted to a more responsible job in this company.
 - _____ 2. This job helps to develop skills which are useful when being considered for promotion to more responsible jobs in this company.

XII. ADVANCEMENT
OPPORTUNITY
(cont.)

- _____ 3. The skills developed on this job are not helpful in preparing the worker for more responsible jobs in this company.
- _____ 4. This job does not lead to a more responsible job.

XIII. PAY
(Please state the entry point pay for this job [We do not want to know what the man holding the job today makes.] and the peak pay for this job. Please state in hourly, weekly, or monthly salary.)

Entry point pay _____

Maximum or Peak Pay _____

XIV. REQUIRED PHYSICAL
EFFORT
(How much muscle does this job require?)

- _____ 1. This job requires a very high level of physical exertion (frequently exerting forces equivalent to lifting over 50 pounds and/or sometimes exerting forces over that required to lift 80 pounds).
- _____ 2. This job requires an average level of physical exertion (frequently exerting forces equivalent to lifting about 25 and/or sometimes exerting forces over that required to lift over 50 pounds).
- _____ 3. This job requires a low level of physical exertion (frequently exerting force equivalent to lifting up to approximately 10 pounds and sometimes exerting force equivalent to lifting about 20 pounds.)

APPENDIX C. STATISTICAL CONSULTATION REPORT

John Orife, Management: February 24

Mr. Orife is studying people's reasons for changing jobs. He asks the foremen of the job-changer's old and new jobs to fill out identical questionnaires describing the two jobs. Each question (15 questions) is multiple choice with 3 to 5 possible choices. The choices are all ordered in some sense, and each question concerns a particular aspect of the job. Dr. Fox provided much assistance in the following solution:

Treat each question individually. Look at, say, question 1. We have paired, ordinal data so a sign test looks useful, but ties will be a problem. What we wish to test is:

H_0^* : Factor is unimportant in job change decisions
vs. H_1^* it is important.

A mathematical statement is now required.

Let A = answer for old job

B = answer for new job

$$P_1 = P(A > B)$$

$$P_2 = P(A = B) \quad q_i = 1 - p_i, \quad i = 1, 2, 3$$

$$P_3 = P(A < B)$$

Then H_0^* :

$$H_0^{**}: p_1 = p_3 \quad \text{or} \quad p_1, p_3 \ll p_2$$

where $\ll$ must be determined by the experimenter.

Another, more workable hypothesis, is

$$H_0: |p_1 - p_3| > \delta \quad [\text{Or if } \delta = .07]$$

δ , presumably small, to be chosen by the experimenter. This is roughly equivalent to H_0^{**} .

$$\text{Let } Z_i = (i_1, i_2)' \quad i_1 = \begin{cases} 1 & \text{if } A > B \\ 0 & \text{else} \end{cases} \quad i_2 = \begin{cases} 1 & \text{if } A < B \\ 0 & \text{else} \end{cases}$$

$$T^{(1)} = \sum_{i=1}^N i_1, \quad T^{(2)} = \sum_{i=1}^n i_2 \quad n = \# \text{ job changers}$$

$$T = (T^{(1)}, T^{(2)})' = \sum Z_i$$

$$Ez_i = (p_1, p_3)', \quad \Sigma_{z_i} = \begin{pmatrix} p_1 q_1 & -p_1 p_3 \\ -p_1 p_3 & p_3 q_3 \end{pmatrix}$$

$$ET = n(p_1, p_3)', \quad \Sigma_T = n \Sigma_{z_i}$$

$$\text{Let } X = (T^{(1)} - T^{(2)}) \quad \text{for } \delta = 0$$

$X \sim N(\epsilon, 2Np_1(1 - 2p_1))$, $|\epsilon| \leq \delta$, under H_0 . Take $\epsilon = 0$, best for reasons of symmetry.

$$\text{Take } p_1 = \frac{T^{(1)} + T^{(2)}}{2N}, \text{ which is BLUE.}$$

$$\text{Test statistic: } \frac{|x| - \delta N}{\sqrt{2Np_1(1-2p_1)}}$$

Absolute value provides a conservative test.

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