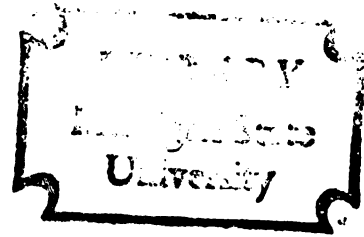


THE IMPACT OF SELECTED INDIVIDUAL DIFFERENCE AND
ORGANIZATIONAL VARIABLES ON EXPECTANCY THEORY
COGNITIONS AND PERFORMANCE FOR SALARIED
EMPLOYEES

Dissertation for the Degree of Ph. D.
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LARRY E. MAINSTONE
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ABSTRACT

THE IMPACT OF SELECTED INDIVIDUAL DIFFERENCE AND ORGANIZATIONAL VARIABLES ON EXPECTANCY THEORY COGNITIONS AND PERFORMANCE FOR SALARIED EMPLOYEES

By

Larry E. Mainstone

A major criticism of current formulations of expectancy theory is that they offer little guidance on how the employee's expectancies and valences are developed. If expectancy theory is going to become more than an academic explanation of behavior, then it is necessary to understand the determinants of expectancy theory cognitions, that is, the employee's expectancies and valences. If expectancy theory fails to formulate postulates as to how expectancy theory cognitions are developed and related to environmental variables, it may amount to little more than behavioral science rhetoric.

The present research investigated the antecedents of expectancy theory cognitions. The impact of twelve individual difference and environmental variables upon six expectancy theory cognitions were examined in this study.

The research technique employed in this study was correlational with a multivariate analysis of the data. The statistical technique employed to interpret the data was path analysis, a derivative of multiple regression. The sample in this study consisted of

approximately thirty-one hundred salaried employees of the Ford Motor Company. In order to increase the confidence in the obtained results the total sample was dichotomized and a cross validation was performed on the second half of the sample.

In general, the individual difference variables of this study were not found to be significant determinants of the employee's expectancy theory cognitions. Exceptions to this statement were the findings that: (1) white employees tend to have a higher $E \rightarrow P$ expectancy than non-white employees, (2) non-white employees tend to have a higher $-P \rightarrow -V$ expectancies (belief that low performance will be followed by undesirable outcomes) than white employees, (3) higher level employees find positively valent outcomes more desirable than lower level employees, (4) male employees report negatively valent outcomes as being more undesirable than female employees, and (5) the greater the length of employment, the more undesirable negatively valent outcomes are likely to be to the employee. These results suggest that, with the exception of race, individual differences have little impact on the employee's expectancies, but do affect the employee's assignment of valences.

In general, the environmental variables were found to have a greater impact on the employee's expectancies than did the individual difference variables. In particular, the findings with regard to the environmental variables were: (1) task stimulation was found to be significantly related to the employee's $E \rightarrow P$ expectancy, and to the employee's $+P \rightarrow +V$ expectancies (beliefs that performing better will be followed by desirable outcomes), but was

not found to be significantly related to the employee's $+P \rightarrow V$ expectancies (belief concerning the likelihood of undesirable outcomes resulting from high performance) or to the employee's $-P \rightarrow V$ expectancies, (2) performance reviews oriented toward the employee's development were found to be positively related to the employee's $E \rightarrow P$ expectancy, $+P \rightarrow V$ expectancies, $-P \rightarrow V$ expectancies, but not related to the employee's $+P \rightarrow V$ expectancies, (3) the employee's perceptions of the existence of a democratic climate were found to be positively related to the employee's $+P \rightarrow V$ expectancies, and negatively related to the employee's $+P \rightarrow V$ expectancies, and unrelated to the employee's $E \rightarrow P$ expectancy or to the employee's $-P \rightarrow V$ expectancies, and (4) the employee's evaluation of his/her supervisor was found to be positively related to the employee's $E \rightarrow P$ expectancy, $+P \rightarrow V$ beliefs, negatively related to the employee's $+P \rightarrow V$ beliefs, and unrelated to the employee's $-P \rightarrow V$ expectancies.

The two remaining environmental variables of this study, performance feedback and evaluation of training, were not found to act as antecedents of either the employee's $E \rightarrow P$ or $P \rightarrow O$ expectancies.

The results also revealed that none of the environmental variables of this study were strong causal determinants of the valences the employee assigns to outcomes.

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By

Larry E. Mainstone

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PREFACE

The material in this project was prepared under Grant No. 91-26-75-32 from the Manpower Administration, U. S. Department of Labor, under the authority of Title III, Part B, of the Comprehensive Employment and Training Act of 1973. Researchers undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

This study was prepared with the cooperation of the Ford Motor Company, however, the opinions, conclusions, or errors stated in this thesis remain those of the author and not those of the Ford Motor Company. Further, it is requested that anyone desiring to make use of the enclosed questionnaire seek the prior approval of the Ford Motor Company.

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TABLE OF CONTENTS

	Page
PREFACE	ii
ACKNOWLEDGMENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	ix
LIST OF APPENDICES	x
Chapter	
I. INTRODUCTION AND LITERATURE REVIEW	1
A. Introduction	1
B. Literature Review	5
C. Organizational Variables	7
1. Goal Setting	7
2. Feedback	9
3. Climate	10
4. Task Design	11
5. Performance Review	13
6. Training	15
7. The Behavior of the Supervisor	18
D. Individual Difference Variables	24
1. Race	25
2. Sex	26
3. Age	28
4. Organizational Level	31
5. Tenure	33
6. Internal/External Control	35
7. Education	36
E. Summary of Literature Review	36
F. Hypotheses	39

Chapter	Page
II. METHODOLOGY	43
A. Introduction	43
B. Research Technique	43
C. The Sample	46
D. Exogenous Variables	49
E. Endogenous Variables	56
F. Reliability of Endogenous Scales	67
G. Data Analysis	68
H. Path Analysis	68
I. Computation of Path Coefficients	70
J. Theory Trimming	71
K. Reproducing the R-Matrix	72
L. Testing the Hypotheses	73
M. Chapter Summary	75
III. RESULTS	77
A. Introduction	77
B. Intercorrelation Matrix	77
C. Expectancies	79
D. P O Expectancies	85
E. High Performance Positively Valent Outcomes (+P→+V)	88
F. Low Performance Negatively Valent Outcomes (-P→-V)	91
G. High Performance Negatively Valent Outcomes (+P→-V)	93
H. Valences	95
I. Cross Validation	99
J. Chapter Summary	107
IV. DISCUSSION AND CONCLUSIONS	109
A. E→P Expectancy	109
B. P→O Expectancies	112
C. Valences	114
D. Summary of Major Findings	117
E. Practical Implications of the Findings	118
F. Limitations of the Present Study and Directions For Future Research	119
APPENDICES	122
BIBLIOGRAPHY	154
GENERAL REFERENCES	166

LIST OF TABLES

Table		Page
Chapter II.		
2-1	Sample Distribution by Age	47
2-2	Sample Distribution by Race	47
2-3	Sample Distribution by Sex	47
2-4	Sample Distribution by Salary Grade	48
2-5	Sample Distribution by Level of Supervision	48
2-6	Sample Distribution by Function	49
2-7	Factor Analysis of Exogenous Variables	51
2-8	Standardized Coefficient Alphas: Exogenous Variables	55
2-9	Intercorrelation Matrix of Job Performance Items	58
2-10	Factor Analysis of P→O Expectancies	60
2-11	Intercorrelation Matrix of Expectancy Factors	63
2-12	Factor Analysis of Valences	65
2-13	Intercorrelation Matrix of Valence Factors	67
2-14	Standardized Coefficient Alphas: Endogenous Variables	68
Chapter III.		
3-1	Intercorrelation Matrix of Exogenous and Endogenous Variables	78
3-2	Path Coefficients Between Exogenous Variables and The Employee's E→P Expectancy and Self-Reported Performance	81
3-3	Path Coefficients Between Exogenous Variables and The Employee's +P→+V, -P→-V, and +P→-V Expectancies	87
3-4	Path Coefficients Between Exogenous Variables and The Employee's Valences	97
3-5	Path Coefficients Between Exogenous Variables and The Employee's E→P Expectancy For First and Second Samples	100
3-6	Path Coefficients Between Exogenous Variables and The Employee's +P→+V Expectancies For First and Second Samples	101
3-7	Path Coefficients Between Exogenous Variables and The Employee's -P→-V Expectancies For First and Second Samples	102
3-8	Path Coefficients Between Exogenous Variables and The Employee's +P→-V Expectancies For First and Second Samples	103

Table	Page
Chapter III (cont'd.)	
3-9 Path Coefficients Between Exogenous Variables and The Employee's Assignment of Valences to Positive Outcomes For First and Second Samples	104
3-10 Path Coefficients Between Exogenous Variables and The Employee's Assignment of Valences To Negative Outcomes For First and Second Samples	105
3-11 Cross Validation: Zero Order Correlation Coefficients Between Predicted and Observed Endogenous Variables For Second Sample	106
Chapter IV.	
4-1 Summary Matrix of Major Findings	117

LIST OF FIGURES

Figure		Page
Chapter II.		
2-1	Multistaged, Multivariate Path Model	45
2-2	Job Performance Scale	57
Chapter III.		
3-1	Parsimonious Path Model: Determinants of The Employee's E→P Expectancy and Performance	83
3-2	Parsimonious Path Model: Determinants of The Employee's +P→+V Expectancies and Performance	89
3-3	Parsimonious Path Model: Determinants of The Employee's -P→-V Expectancies and Performance	92
3-4	Parisomonious Path Model: Determinants of The Employee's +P→-V Expectancies and Performance	94

LIST OF APPENDICES

Appendix	Page
A. Salaried Personnel Survey	123
B. A Priori Exogenous Scales	151

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Introduction

It is widely accepted that behavior is a function of the interaction of the person and the environment. However, most researchers have generally ignored the interaction and have erred by tending to focus on one or the other of these variables at the exclusion of the other. That is, most theories of work motivation focus upon either the psychological variables of the individual such as his/her cognitions, needs, motives, and drives, or on the environmental properties of the organization such as goal difficulty, incentives, task design, supervisory behavior and organizational design. Continuing to concentrate on either the environmental variables or the psychological variables, rather than trying to integrate the two of them, will only cause one to perpetuate the already over-simplified theories of motivation (Dachler 1973).

It is sometimes suggested that expectancy theory provides a fruitful framework for conjugating the environmental properties of the organization with the psychological variables of the individual to provide a more complete definition of the motivation construct (Miner and Dachler 1973). Expectancy theory, perhaps the most widely accepted theory of work motivation (Wahba and House 1974, Mitchell 1974, Cummings and Schwab 1974), is essentially a hedonistic, cognitive theory of motivation. Voluntary behavior is not seen as occurring randomly, but rather is the result of a rational decision

making process where the individual rationally chooses from a set of alternative acts that form of behavior which the individual perceives as being utility maximizing.

In essence, expectancy theory depicts the motivational force to engage in a given act as the result of the interaction of two cognitions: (1) expectancies, and (2) valences. The generalized concept of expectancy, the perceived certainty of the relationship between one's acts and one's outcomes, can be asundered into two specific types: expectancy and instrumentalities (Vroom 1964), or $E \rightarrow P$ expectancy and $P \rightarrow O$ expectancies (Porter and Lawler 1968), or $E I$ and $E II$ (Campbell, Dunnette, Lawler and Weick 1970) depending on which particular theoretical development one chooses to use.

Because of its conceptual clarity, the Porter and Lawler formulation will be employed throughout this study. In the Porter and Lawler formulation the $E \rightarrow P$ (effort to performance) expectancy is defined as the individual's belief that he/she can accomplish the task goal if he/she exerts the effort, that is, the extent to which the individual perceives performance (P) to be a function of effort (E). The $P \rightarrow O$ (performance to outcome) expectancy is the individual's belief that the organization, his social group, and the task itself will be rewarding of high performance or will be punitive of low performance, that is, the extent to which the individual perceives rewards and punishment to be contingent on the level of performance.

Valence is generally taken to mean the affective orientation which the individual has for a particular outcome. An outcome is positively valent when the individual prefers attaining it to not attaining it. An outcome has a valence of zero when the individual

is indifferent towards its attainment, and an outcome has a negative valence when the individual prefers not attaining it to attaining it (Vroom 1964).

It is not clear exactly how these cognitions should be combined to explain and predict behavior (Campbell, Dunnette, Lawler and Weick 1970), however, it is generally assumed that they combine multiplicatively to determine motivation. That is, the motivational force to engage in a given act is given by the following motivational force equation:

$$\text{Motivation Force} = E \rightarrow P [\sum [(P \rightarrow O)(V)]]$$

Presumably, the individual chooses that act which has the highest positive motivational force or the weakest negative motivational force.

As indicated earlier, it is not known with certainty how the individual's expectancies and valences interact nor is it particularly important for this study. It is sufficient for the purposes of this study to be cognizant of the fact that expectancy theory conceives of motivation as being some function of the individual's expectancy theory cognitions, that is, the individual's $E \rightarrow P$ expectancy, $P \rightarrow O$ expectancies, and the valence assigned to conscious outcomes.

An implication of the theory is that the organization can be effective in motivating employees to be higher performers to the extent that it can influence the individual's cognitions in a favorable direction. However, one of the difficulties with expectancy theory has been its failure to specify variables subject to the organization's control. It is not obvious which strategic inter-

ventions by the organization will lead to an increase in the employee's cognitions and, consequently, increased motivation.

Perhaps because of the original ahistorical formulation of expectancy theory the determinants of the employee's cognitions have been largely ignored. The primary purpose of this research is to investigate which personal and organizational variables influence an employee's expectancy theory cognitions. In other words, the purpose of this research is to investigate the interaction between the organizational environment, individual differences, and employee cognitions.

Several researchers have indicated a need for this research (Lawler 1971, 1973, Heneman and Schwab 1972, Scott and Cummings 1973, Dachler and Mobley 1973, and Korman 1974). Lawler (1973), for example, says:

"So far the determinants of effort-performance probability and performance-outcome probability have not been systematically explored. It is important to understand how these expectancies develop since they are basic to understanding motivation. Unfortunately, there has been relatively no research on this topic... Expectancy theory, or for that matter any motivation theory, could profit by specifying some of the more obvious factors that influence performance-outcome connections." (p. 53)

Scott and Cummings (1973) make the following statement concerning the need to know more about the impact of the environment on the employee's expectancy theory cognitions:

"...Perhaps a more fundamental criticism is that with few exceptions expectancy theory explanations do not include postulates which relate perceptions of instrumentalities and behavior-outcome relationships to environmental variables. Were it not for the fact that most expectancy theorists go beyond

their formulations to suggest ways in which the organizational structure could be modified, the administrator might legitimately inquire as to how he should proceed in constructing a "motivating environment." (p. 3)

Finally, Korman (1974) says:

"In summary, the general point is that expectancy as a construct seems to be far more complex than was once originally thought, and much work seems necessary in order to uncover its antecedents and experimental determinants before it is brought under the kind of control desirable in an adequate theory of motivational processes. Once this is done, more adequate tests can be made of its relationship to behavior, and we can then deal with other questions relating to the expectancy construct..." (p. 121-122)

This research is suggesting that the key to a successful motivational program is to determine the organizational determinants of an employee's expectancy theory cognitions and then load the organization with those factors which have a positive influence on these cognitions. It is toward this end that this research is designed.

The remainder of this chapter will review the relevant literature. This review will consist of examining selected major personal and organizational variables and interpreting their impact on motivation in light of expectancy theory. The prior literature in this area will provide the basis for the research hypotheses of this study and will be presented at the conclusion of this chapter.

Literature Review

The literature pertaining to expectancy theory can be organized into four categories: (1) the theoretical development of the model

itself (Tolman 1932, Lewin 1935, Edwards 1954, Atkinson and Reitman 1956, Vroom 1964), (2) the empirical research focusing on demonstrating that a positive relationship exists between the motivational force equation and (a) the employee's level of job performance and/or job effort (Georgopolous, Mahoney and Jones 1957, Galbraith and Cummings 1967, Lawler and Porter 1967, Lawler 1968, Hackman and Porter 1968, Graen 1969, Gavin 1970, Mitchell and Albright 1972, Mitchell and Nebecker 1973, Jorgenson, Dunnette and Pritchard 1973, Pritchard and Sanders 1973, Dachler and Mobley 1973, Goodman, Rose, and Furcon 1970, and Lawler and Suttle 1973), (b) the employee's job preference and/or job choice (Vroom 1966, Sheard 1973, Wanous 1972, Mitchell and Knudsen 1973), and (c) the employee's level of job satisfaction (Constantinople 1967, Graen 1969, Reitz 1971, Mitchell and Albright 1972, and Wanous and Lawler 1972), (3) the literature focusing on exposing the conceptual and methodological weaknesses of the theory (Mitchell 1971, Schmidt 1973, Behling and Starke 1973a, 1973b, Mobley and Dachler 1973, Wahba and House 1974, and Mitchell 1974), and (4) the literature which examines the factors responsible for the values assumed by the components of the motivational force equation (e.g., Lawler 1969, 1971, 1973, House 1971). It is only this latter category which is of concern to this study, and thus will require further elaboration.

If one accepts expectancy theory as a tenable explanation of the employee's level of motivation and performance, then all interventions designed to improve the employee's motivation and/or performance are interpretable in terms of their impact on the employee's expectancy theory cognitions. The literature review to follow will sequentially

examine the relationship between selected major organizational and individual difference variables, and the employee's expectancy theory cognitions.

The organizational variables selected for inclusion in this review are (1) goal setting, (2) performance feedback, (3) organizational climate, (4) task design, (5) performance reviews, (6) training, and (7) the behavior of the supervisor. The individual difference variables selected for inclusion in this review are (1) race, (2) sex, (3) age, (4) organizational level, (5) tenure, (6) internal/external control, and (7) years of education.

Beginning with the organizational variables, the discussion to follow will examine the existing evidence concerning the relation of each of the above variables to the employee's expectancy theory cognitions.

Organizational Variables

Goal Setting

It has generally been found that goal setting by the employee can lead to the employee attaining a higher level of performance than he/she previously attained prior to goal setting, at least in the short run (French, Kay and Meyers 1965, Bryan and Locke 1967, Raia 1965, Latham and Kinne 1974, and Locke 1967). The explanation for this higher level of performance is attributable, at least in part and in some vaguely defined way, to an increase in the motivational arousal of the employee. Steers and Porter (1974) have gone further than most researchers in attempting to provide a rationale for this

increase in employee motivation. They have interpreted the effects of goal setting on motivation as the alteration of the employee's expectancy theory cognitions. They say:

"...Second, and perhaps more important from a psychological standpoint, such action really tells us very little about the dynamics behind the effects of goal setting. That is, knowing that goal specificity, for example, is consistently related to task performance does not explain the process by which it affects performance..."

Under [an expectancy theory] conceptualization, it would appear that various task goal attributes affect performance because, and to the extent that, they affect the components comprising the motivational force equation. In other words, varying the amounts of certain of these attributes on the job may serve to alter an employee's expectancies, valences, or both, thereby affecting his motivation to perform." (p. 446)

Clearly, Steers and Porter conceive of the employee's expectancy theory cognitions as intervening between the environmental variable, goal setting, and the resultant job performance. As an example, they suggest that an increase in goal specificity will cause an increase in the employee's E→P belief, and an increase in the employee's E→P belief will, in turn, cause an increase in the employee's motivation to perform, since the relationship between effort and performance has been further clarified.

The discussion by Steers and Porter illustrates two weaknesses generally encountered in this area of the expectancy theory literature: (1) they offer no empirical support for their claim, and (2) with the exception of the above example, they fail to specify which expectancies and valences are likely to be altered by goal setting.

Feedback

It has generally been found that an employee's performance is facilitated by the provision of knowledge of results, or feedback (Vroom 1964, Meyers 1972, Kim 1974). Vroom (1964) has suggested that feedback serves at least three functions which account for its positive impact on performance: (1) the cue function, that is, feedback increases the probability of arousal of correct expectancies concerning the consequences of action for successful task performance, (2) the learning function, that is, feedback increases the strength of correct and decreases the strength of incorrect expectancies concerning the consequences of actions for successful performance, and (3) the motivational function, that is, feedback increases the valence of successful performance.

According to Korman (1971), there has never been a clear theoretical rationale for the third function, that is, why knowledge of results should be an incentive and be motivational. Moreover, studies by Chapanis (1964), Locke and Bryant (1966, 1967) and Locke (1967) have failed to support the motivational function of feedback.

Vroom has clearly interpreted the impact of feedback on performance as altering the employee's expectancy theory cognitions. However, it is not clear to which expectancies Vroom is referring. He comes closest to specifying a set of expectancies for the learning function when he refers to the expectancies that action will lead to outcomes, but since Vroom was never clear in his distinction between actions and outcomes, it is not clear if he is referring to the employee's $E \rightarrow P$ belief or the employee's $P \rightarrow O$ beliefs.

Zajonc and Brickman (1969) report finding that providing individuals with performance feedback substantially altered the individual's performance expectancies. As expected, they found that subjects raised their expectancies after success, lowered them after failure, and did not change them in the absence of feedback.

While expectancies may be altered by feedback, it also appears that the individual's expectancies have an enduring component to them. Zajonc and Brickman write:

"...While feedback vastly reduces the differences between such expectancy groups (a priori high and low expectancy subjects), it does not erase them, the high expectancy group stating slightly higher expectations under both success and failure feedback." (p. 153)

Climate

Organizational climate is often purported to have an impact on the attitudes and behavior of the employees, however, as Litwin and Stringer (1968) indicate, "If the concept of organizational climate is to demonstrate real value in the understanding and explanation of behavior in organizations, it must be integrated with the kinds of theories of organizational behavior that have evolved and are in current use." (p. 40) Dachler (1973) has attempted to integrate the concept of organizational climate with expectancy theory. Dachler says:

"Thus an essential starting point for the definition and assessment of organizational climate is the development of a theoretical network which specifies the properties of the organizational climate concept and which ties these properties

causally to cognitions and behaviors of organizational members. In view of the fact that VIE theory of motivation is a relatively explicitly stated theory of work motivation, it is suggested that it might provide an excellent vehicle which can be used to analyze the environmental conditions (both as perceived by organizational members as well as conditions existing "in reality") which may be interdependent and interacting with motivational and goal setting variables.

...Similarly, Frederiksen's (1966) concept of a consistent climate may well be directly interpretable within the VIE theory framework. Perceptions about the reward orientation and the consistency with which the organization ties rewards to specific behavioral alternatives may have a bearing on the degree to which VIE perceptions relate to certain behaviors (Campbell and Beaty, 1971). Furthermore, it is possible to look at objective indices of the environment, such as size, number of organizational levels, existence of incentive plans, amount of training, frequency of changes in job assignments, and existence of multiple supervision, all of which might have a bearing on the accuracy and realism with which organization members form beliefs about instrumentalities and expectancies, as well as on the realisticness of the goals employees may set for themselves.

In short, the framework of VIE theory would allow the examination of a subset of the objective and subjective environment which has meaning through the hypothesized connection to the VIE theory constructs and which can be tested by systematically researching the arrays of hypotheses emerging from this theoretical network. (pp. 9-10)

Task Design

There is considerable evidence to suggest that the task design has significant consequences in terms of the employee's behavior, motivation, and job satisfaction (Ford 1969, Vroom 1964, Meyers 1964, 1970, Paul, Robertson, and Herzberg 1969, Special Task Force, H.E.W. 1973, Walton 1973). Only recently have researchers begun to seek

explanations of why the task may be such an influential determinant of the employee's motivation. Activation theory (Scott 1966, 1969), operant conditioning (Nord 1969), motivator-hygiene theory (Herzberg, Peterson, and Capwell 1957), and expectancy theory have all attempted to provide rationale for how the task characteristics can impact on the employee's task motivation. Expectancy theory, the focal theory of this study, argues that if job design is going to have an effect on task motivation it must alter the employee's perceived effort-reward contingency cognitions.

Hackman (1969), while not explicitly utilizing an expectancy model, was among the first to examine the interaction among the task characteristics and the individual and to suggest that the task impacted on the cognitions of the individual. Lawler (1969) and Cummings and Schwab (1974), being even more lucid than Hackman, argued that the positive consequences of task design could be attributed to its impact on the employee's expectancy theory cognitions. In subsequent work, Lawler (1973) writes:

"The psychological literature on employee motivation contains considerable evidence that job design can influence satisfaction, motivation, and job performance. It influences them primarily because it affects P→O beliefs concerning intrinsic rewards such as feelings of self-esteem, achievement, and competence. It also affects the valence of certain outcomes and E→P beliefs about good performance." (p. 148)

Despite Lawler's statement that the task design can be a causal determinant of all of the employee's expectancy theory cognitions, he apparently feels that its greatest impact is on the individual's performance-intrinsic reward expectancies and is a less significant

determinant of the employee's performance-extrinsic reward expectancies, effort-performance expectancies, or valences (Lawler 1969). Cummings and Schwab (1974), however, stress the impact of the task design on the employee's effort-performance expectancies.

Utilizing expectancy theory as their conceptual framework, Hackman and Lawler (1971) found that the complexity of the task was significantly correlated with the employee's task motivation. However, since they did not observe the individual's expectancy theory cognitions directly, their study must be taken as only indirectly supportive of the hypothesized relationship between task design and employee cognitions.

A more direct investigation is the study by Lawler and Hall (1970) in which they report a small but significant correlation between the complexity of the task and the intrinsic motivation of the employee. In this study Lawler and Hall operationalized intrinsic motivation as the employee's $P \rightarrow O$ expectancies for intrinsic rewards, thus, it is supportive of Lawler's argument that the task design is effective in increasing motivation because it favorably alters the employee's $P \rightarrow O$ expectancies concerning intrinsic rewards.

Performance Reviews

Performance reviews provide an effective opportunity to influence the task motivation and performance of the employee (Kay, Meyers and French 1965, Oberg 1972, Cummings and Schwab 1974). Using an expectancy theory framework, Cummings and Schwab (1974) indicate at least two explanations of how the performance review procedure impacts on

an employee's task motivation. First, the performance review procedure can aid in the clarification of the path-goal contingencies that exist for the external rewards in the organization. Second, when a performance review assumes developmental posture, the linkage between task performance and the obtainment of intrinsic rewards from performing the task itself is improved because the process generally involves (a) establishing meaningful goals, and (b) building evaluative feedback directly into the performance of the task, both of which have been suggested as affecting the employee's expectancy theory cognitions.

Moreover, the developmental role of appraisal focuses on improving and facilitating an individual's effectiveness relative to his own abilities and desires, and on increasing these abilities. The implication of the above is that a developmental performance review can assist in the removal of obstacles which are keeping effort from being converted to performance and on increasing the skills and abilities of the employee. Both of these factors may impact on the employee's E→P belief. That is, Campbell, Dunnette, Lawler and Weick (1970) feel that "the primary determiner of expectancy I, which is equivalent to the E→P belief, is how the individual perceives his own job skills in the context of what is specified as his task goals and the various difficulties and external constraints standing in the way of accomplishing them." (p. 346)

No studies could be found which directly investigated how the performance review may modify the employee's expectancy theory cognitions.

Training

The purpose of training is generally to affect a positive change in the capabilities of the employee to contribute to the goals of the organization. Generally, the training focuses on increasing the skills and abilities of the employee. However, it is conceivable that training also impacts on the expectancy theory cognitions of the employee. McClelland (1965), for example, has reported some success in being able to change the valence individuals attach to achievement. However, training would seem to have its greatest impact on the employee's E→P expectancy. The individual's E→P expectancy would seem to be primarily determined by the individual's perception of his/her ability relative to the difficulty of the task. Presumably, good training would increase the individual's ability relative to the difficulty of the task, and consequently the individual's E→P expectancy.

There seems to be less justification for suggesting that training impacts on the employee's P→O expectancies for extrinsic rewards, but training may impact on the employee's P→O expectancies for intrinsic rewards. That is, since the individual should be more likely to achieve a task goal after training, he/she should also be more likely to experience a sense of accomplishment or of doing something meaningful. These intrinsic rewards are not available to the employee who is incapable of performing well on the job. Consequently, the contingency between performance and the receipt of intrinsic rewards could conceivably increase after training.

An indirect investigation of the impact of training on the employee's expectancy theory cognitions is provided by Dachler and

Mobley (1973). They found the expectancy model was supported in one plant they investigated while disconfirmed in a second plant. They suggest that these results may be attributable to differences in the personal characteristics of the work force such as tenure and sex, and to environmental variables, one of which is the training program of the first plant. They say:

"...the fact that most employees in Plant 1 had gone through approximately one week of training before being put on the job, whereas Plant 2 employees usually did not receive more than the customary orientation training before starting the job, may have well enhanced the accuracy and realism of Plant 1 employee perceptions and hindered the accuracy and realism of Plant 2 employee perceptions. These interpretations are consistent with the finding that 36 out of 45 performance-outcome contingencies were stronger in Plant 1 and finding that the mean expected utility function was stronger for Plant 1."
(p. 415)

Gurin (1970), in discussing training programs for hard-core unemployables, has further suggested that training can result in the alteration of the individual's expectancies. According to Gurin the major determinants of the individual's expectancies are the individual's feelings of competence, efficacy, powerfulness, and one's ability to affect one's life. It seems reasonable, therefore, to assume that training, to a degree, can increase one's competence and efficacy, and consequently one's expectancies.

Gurin, however, has suggested two difficulties with assuming that a change in one's expectancies will follow from enrollment in a training program. First, he perceives of expectancies as being partially personality dispositions, therefore, relatively stable,

and not easily amendable to change in a time period as brief as most training programs. Referencing culturally disadvantaged individuals, he says:

"...for a group of people with a history of failure and defeat, even when opportunity and situational factors change, self-competence does not automatically increase with an increase in competence, and increased feelings of being able to control one's own fate do not automatically follow the objective reality...While I have stressed that expectancies are affected by the immediate objective situational payoffs and are thus subject to change as these situational opportunities change, expectancies also represent the residues of the history of the individual's past experiences with success and failure, and thus influence the way he will react to the realities he faces and even to changes in those realities. Thus, the problems of these trainees follow from the fact that expectancy is to some extent a generalized disposition that develops, like other personality dispositions, out of the whole life history of relevant success and failure experiences. This disposition will then affect the way an individual evaluates his expectancies in a particular situation. When expectancy is seen in these general dispositional terms, it may present problems of resocialization and relearning as serious as those of other personality dispositions. People with low expectancies of success, like the hard-core unemployed, will not automatically respond when their situation suddenly changes. Once reality-opportunities are expanded, the problem is getting the trainee's expectancies of success (his confidence, sense of efficacy, etc.) to reflect the new opportunities. This means that the issues of motivational theory most critical for these training programs have to do with learning new expectancies and the generalization of this learning from the training situation to the work outside the program."
(p. 207)

Second, expectancies developed in a training program tend to be fragile, unstable, and transitory, that is, the heightened confidence

buildup in a training program may not be successfully transferred to the real world where rewards do not always follow performance. Gurin is pessimistic about the possibility of training programs effecting permanent change. He says:

"In a training program we are not interested in developing new expectancies that have little stability over time or need constant reinforcement to maintain. Rather, we are hopeful of effecting more permanent change. The studies on expectancy in the literature are rather pessimistic on this point, since they indicate changes produced by success and failure in specific experimental tasks may be quite transitory. Studies have indicated that in as short a time period as one day, in the experimental learning situation, there is a considerable reversal among subjects to the expectancies they held before the experiment."
(p. 291)

Goodman, Salipante and Paransky (1973) used expectancy theory as a conceptual model to review the literature on retraining "hard core unemployables" and concluded that training may have relatively little effect on the individual's expectancies.

In summary, on a conceptual level it seems reasonable to assume that training should effect positive change in the employee's expectancies. However, such a conclusion does not seem warranted on the basis of the empirical research. The reasons suggested above by Gurin seem capable of explaining the empirical results.

The Behavior of the Supervisor

With the exception of the work of Farris and Lim (1966) and Lowin and Craig (1968), it has been consistently suggested that the leader's

behavior has a significant impact on the task motivation of the subordinates (Likert 1961, Lewin, Lippitt and White 1939, Morse and Reimer 1956, Blake and Mouton 1964, Dawson, Messé and Phillips 1972).

Recently, path-goal theory has been suggested as a possible explanation of why the leader's behavior impacts on the employee's task motivation. The basic thesis of path-goal theory is that leaders are effective in increasing the subordinate's task motivation to the extent that they favorably impact on the subordinate's expectancy theory cognitions. Dimensions of the leader's behavior which have been suggested as being determinants of the employee's expectancy theory cognitions include the supervisor's (1) competence, (2) directiveness, (3) supportiveness, (4) goal orientation, and (5) participativeness.

Hammer and Dachler (1973), for example, indicate that there should be a positive relationship between the supervisor's technical competence and his subordinate's beliefs about his expert power, and the more expert power the supervisor is perceived to possess, the more he should influence his subordinate's expectancies because he should be seen as a goal facilitator.

A frequently studied dimension of the supervisor's behavior is the extent to which his decisions are influenced by his subordinates, that is, the degree of participative decision making employed by the supervisor. While the relationship between participation and task motivation is equivocal and complex, it has been found that, under certain conditions, participation can lead to an increase in task motivation (Coch and French 1948, Lawler and Hackman 1969).

Lawler (1973), in explaining the positive results of participation on task motivation, says:

"In terms of our motivational model [expectancy theory], our explanation of why participation affects motivation would be that participation changes the $P \rightarrow O$ beliefs of the subordinates."
(p. 184)

Lawler, however, fails to specify which $P \rightarrow O$ beliefs are likely to be altered. It would appear that the $P \rightarrow O$ beliefs relating to intrinsic rewards would be most likely to change when participation is introduced. Lewin, Lippitt and White (1939), for example, reported that a democratically led group continued to produce even when the leader was not present, presumably because the work became intrinsically motivating.

Porter, Lawler, and Hackman (1975) have also suggested that the employee's $E \rightarrow P$ belief is likely to be altered with the introduction of participation. Presumably, participation will lead to a more realistic setting of goals than when the goals are unilaterally set as under an autocratic style of leadership, and consequently the employee's effort performance probability should be higher.

Mitchell (1973) has suggested four ways in which a participative leadership style may impact on the subordinate's expectancy theory cognitions: (1) the organizational contingencies are clarified, that is, what leads to what becomes clearer to the subordinate, (2) the subordinate is given the opportunity to select goals that have a high valence for him, (3) the subordinate has increased control over his behavior, thus, the subordinate's $E \rightarrow P$ belief should be increased since some of the obstacles precluding the conversion

of effort to performance are removed, and (4) there is pressure from coworkers toward high performance on group accepted goals, thus, additional negatively valent outcomes become salient. That is, low performance will now lead to such outcomes as criticism from one's coworkers, whereas under a non-participative leadership style the $P \rightarrow O$ belief may have been zero.

Two dimensions of the supervisor's behavior which are frequently and consistently suggested as being related to the subordinate's performance level are initiating structure and consideration. The relationship between these two dimensions and task motivation is complex and it's highly unlikely that a simple and direct relationship exists (Korman 1966). Most likely, consideration and initiating structure interact in their effect upon subordinate motivation (Yukl 1971) and the relationship is likely to be moderated by a number of factors such as task design (House 1971), and personal values (House and Mitchell 1974).

It appears as though consideration, by itself, does not directly affect an employee's expectancy theory cognitions. Evans (1970), for example, suggests that consideration affects the abundance of potential outcomes, but does not affect the contingency that a particular path will lead to these outcomes. Similarly, Lawler (1973) says:

"Based on our motivational model (expectancy theory), we can find little reason to expect that consideration alone should affect motivation. Just being nice to people does not change their $P \rightarrow O$ beliefs about working hard and performing effectively." (p. 179)

If consideration is to affect subordinate motivation, and consequently the subordinate's expectancies, it appears that it must be used as a reward which is contingent upon the subordinate performing the desired act (Yukl 1971). Lawler (1973) says:

"Considerate behavior is a potential reward and might serve as a motivator if its reception were made contingent on effective performance. The person who expects to be praised and supported, regardless of his performance, will be no more motivated than the person who will not be praised or supported regardless of his behavior. On the other hand, the person who wants to receive praise and support and receives them only when he performs well will have different $P \rightarrow O$ beliefs and should be more motivated than the person who always or never receives praise and support."
(p. 180)

The leader behavioral dimension, initiating structure, on the other hand, appears to have some impact on the subordinate's $P \rightarrow O$ expectancies in certain situations. Evans (1970), for example, says:

"The supervisor who is high on initiation indicates to the subordinate the kinds of paths that he wants followed and links his reward behavior to a successful following of the path. The supervisor who is low on this dimension does not indicate which paths should be followed and distributes his rewards without preference to the successful following of a path." (p. 97)

House (1971) and House and Mitchell (1974) have suggested that the relationship between initiating structure and the employee's expectancies is moderated by the task structure. That is, initiation has been found to have a positive correlation with the expectancies of subordinates who are engaged in ambiguous tasks and has a negative correlation with the expectancies of subordinates performing a task with high structure.

Dessler (1973) has found that the subordinate's personality operates as an additional moderator of the relationship between directive behavior by the leader and the employee's expectancies. He found that degree of subordinate authoritarianism interacted with task structure to determine subordinate's expectancies.

Finally, it has been suggested that the leader who sets challenging goals, encourages the subordinate to strive for a high standard of performance, and has a contagious enthusiasm as to the importance of achieving these goals will lead to higher subordinate task motivation (Likert 1961, Bowers and Seashore 1964, Halpin and Winer 1957). House, Valency and Van der Krabben, in an unpublished study, have reported finding a positive relationship between the amount of achievement orientation of the leader and the subordinate's expectancy that effort would result in effective performance for subordinates performing ambiguous tasks. For subordinates performing tasks with high task structure no significant relationship was found between the achievement orientation of the leader and the subordinate's E→P belief.

There is little discussion in the literature as to how the supervisor's behavior may impact on how the employee attaches valences to work-related outcomes. However, one way in which the supervisor could cause the valences the employee attaches to outcomes to change is by possessing referent powers or being someone with whom the subordinate wishes to identify (Kelman 1961). The identification with the supervisor may result in the subordinate's preference structure becoming aligned with that of the supervisor. Still, the valences seem to be less dependent on the organizational variables than do the employee expectancies.

In summary, using a path-goal theory framework, it appears that the leader's behavior is related to the subordinate's expectancy theory cognitions. Presumably, the leader is able to accomplish this influence over the subordinate's expectancy theory cognitions by (1) recognizing and/or arousing subordinate's needs for outcomes over which the leader has some control, (2) increasing personal payoffs to subordinates for work goal attainment, (3) making the path to those payoffs easier to travel by coaching and directing, (4) helping subordinates clarify expectancies, (5) reducing frustrating barriers and (6) increasing the opportunity for personal satisfaction contingent on effective performance (House and Mitchell 1974). However, the relationship appears to be moderated by both environmental variables such as the design of the task and personal variables such as a desire for a consultative role and hierarchical level.

Individual Difference Variables

Individual difference variables which have been suggested as affecting the expectancy theory model include self-esteem (Gavin 1973), economic status (Gurin and Gurin 1970), organizational level (Korman 1974), sex (Lawler 1973), race (Katz 1964, 1968), tenure (Mobley and Dachler 1973), and internal/external control (Lawler 1971, 1973, Szilagyi and Sims 1975). This review will examine each of these variables and, in addition, will attempt to assess the impact of the employee's age and level of education on the expectancy theory cognitions of the employee.

Race

Minority members of our society are frequently perceived as lacking task motivation and as being inadequate performers. Often these perceptions represent nothing more than bigotry and discrimination and lack objective justification (Hamner, Kim, Bigoness, and Baird 1974). Still there are some reputable studies to suggest that minority members, in general, tend to be lower performers than nonminority members of society (e.g., Coleman 1966) because of the socio-economic status society has imposed on minority members.

Several researchers have suggested using an expectancy model to examine why minority members might be less motivated than nonminority members of society. That is, they suggest that there are discernable differences in the expectancy theory cognitions of minority and non-minority members of society.

A number of researchers (Katz 1964, 1968, Clark 1967, Gurin 1970, Gurin and Gurin 1970, Gurin, Gurin, Lao, and Beattie 1969, Arvey and Mussio 1974) have suggested that minority members have lower expectancies that performance will lead to rewards than do nonminority members of society. Korman (1974) argues these low expectancies may be the result of such factors as (1) the lack of successful models for children in ghetto areas to emulate in building up an expectancy system for themselves, (2) the increasingly technical and complex nature of employing organizations with its concomitant of increasing job difficulty, a situation for which the ghetto dweller particularly feels inadequate, and (3) the fact that most minority-group members live in urban areas of the country where

the problems have become so overwhelming that low expectancies for value achievement are becoming very much of the norm for all residents, regardless of group status (minority or other). Finally, the racial injustices and discrimination experienced by minority group members, in all likelihood, strongly contributes to their lower expectancies. Discrimination, in essence, means that rewards are distributed on some basis other than performance, and when this is the situation it would seem unlikely that a high expectancy would prevail.

There is some evidence to suggest that members of a minority group differ from nonminority employees in how they attach valences to work related outcomes. Arvey and Mussio (1974), for example, report that culturally disadvantaged employees attached higher valences to outcomes satisfying lower order needs than did a more culturally advantaged group. Similar results are reported by Slocum and Strawsen (1971). However, these results may follow from the minority members having lower expectancies. That is, minority group members may believe that outcomes satisfying higher order needs are unattainable to them, thus, they attach a lower valence to them. This is the popular "sour grapes" phenomenon.

Sex

There are several reasons for believing that women in an organization will have lower expectancies than men in the same organization. First, women are frequently discriminated against in the distribution of organizational rewards (EEOC v. AT&T, EEOC v. Rutgers University),

and as discussed in the previous section, when rewards are distributed on some basis other than performance, then it seems reasonable to conclude that one's expectancies will be negatively affected. Lawler (1973), for example, has suggested that sex discrimination in selection has resulted in women having lower $E \rightarrow P$ expectancies for certain occupations and thus may account for women not choosing to enter these occupations.

Second, women are generally confined to the lower level jobs in an organization and in these jobs there may be little opportunity to differentiate performance or rewards. When neither performance nor rewards are alterable, there is little reason to expect a strong relationship between performance and rewards to exist. Moreover, Korman (1974) has conjectured that a negative relationship exists between one's expectancies and one's level in the organization, thus, to the extent that women tend to occupy lower level positions in the organization than men, then *ceteris paribus*, of the two sexes women should have the lower expectancies.

Third, the traditional role for a woman in our society is to behave incompetently, and to assume an inferior position relative to a man. Hence, many women can be expected to have low self-confidence and self-esteem, and to perceive themselves as being incompetent. Both self-esteem and feelings of incompetence have been suggested as major determinants of one's expectancies (Lawler 1971, 1973, and Gurin 1970).

It has been suggested that women value rewards differently than men. Lawler (1973), for example, cites research which indicates that women may value money less than men and social interaction more

than men. Centers and Bugental (1966), however, report that, in general, men and women were not found to differ in the extent to which they valued intrinsic and extrinsic rewards.

No studies could be found which directly investigated the impact of sex on the employee's expectancy theory cognitions. The only empirical evidence found to suggest that sex may affect an individual's expectancy theory cognitions comes from the Dachler and Mobley (1973) study. They report finding stronger performance-outcome expectancies in the plant employing a higher percentage of women than in the plant employing a higher percentage of men. These results must be interpreted with caution since the two plants differed on other variables which could account for these findings. In fact, Dachler and Mobley themselves tend to discount sex as the causal variable for these results.

Age

It has frequently been suggested that the physiological and psychological changes that accompany aging produce discernable differences in the attitudes and behavior of the employee (Hall and Mansfield 1975). Herzberg, Mausner, Peterson, and Capwell (1957), for example, have suggested that a curvilinear relationship exists between age and job satisfaction such that middle aged employees are the most dissatisfied while the employees at either extreme of the age distribution are relatively satisfied. However, there is some evidence to suggest that a positive linear relationship exists between age and job satisfaction (Gibson and Klein 1970, Hulin and

Smith 1965, Bernberg 1954). A negative relationship between age and turnover, and between age and absenteeism has generally been reported in the literature (Porter and Steers 1973). In short, it appears as though age does influence the attitudes and behavior of the employee.

Less frequently studied is the relationship between age and employee motivation. Hall and Mansfield (1975) report a positive relationship between intrinsic motivation and age, a positive relationship between age and self-reported effort, but no relationship between age and self reported performance. However, there is cause to believe that a curvilinear relationship between age and motivation may exist. Miner (1969), for example, writes:

"Research has revealed a number of additional changes to occur with age. The work motivation of the average person in the United States, for instance, rises during the teens and reaches a high point in the early twenties. After that there is a decline, at first precipitous and then more gradual, that continues throughout the years of employment. Thus, people tend to be most devoted to their work and presumably most interested in accomplishment shortly after entering the labor force. The average person, however, becomes less and less industrious as he continues in his occupation." (p. 20)

The inference one can make from Miner's comments is that aging has negative impact on the employee's expectancy theory cognitions.

As an employee ages his needs are likely to change (Hall and Mansfield 1975), and as his needs change the valences he attaches to rewards will change. That is, older employees are not likely to desire the same outcomes to the same extent as a younger employee. Thus, one explanation for the decline in motivation suggested by

Miner or the increase suggested by Hall and Mansfield is that the valences for work-related outcomes are changing. Miner would imply that with advancing age the employee no longer finds the rewards which are contingent on performance as desirable as he once did. For example, Argyris (1957), cited in Hall and Mansfield, has argued that with aging the employee places greater importance on lower order needs, and it has frequently been suggested that lower order needs are primarily satisfied by system rewards rather than individual rewards. System rewards are presumably non-motivational beyond the minimum level of accepted performance. In short, assuming constant expectancies with aging, the paradigm based on Miner's observation would be: aging produces a change in needs such that lower order needs become more salient and satisfiable with system rewards which are non-motivational. The change in needs caused by aging should also produce discernable differences in the valences the employee attaches to work-related outcomes.

The relationship between aging and the employee's expectancies is not clear. Whereas one can interpret Miner as suggesting that the employee's valences change with aging, one can also interpret his comments to mean that the employee's expectancies may decline with advancing age.

Goodman et al in explaining the relationship between age and turnover for hard-core unemployables have suggested that expectancies should increase as the employee gets older. They write:

"In terms of our model (expectancy theory), younger HCU workers probably experience greater feelings of distrust toward the focal organization (Clark 1968). Accordingly, they would perceive

lower expectancies about the likelihood of receiving rewards and would be more likely to leave. Older workers probably have higher expectancies and greater desire for the rewards (i.e., regular salary) that are contingent on attendance." (p. 425)

Thus, Goodman et al, like Hall and Mansfield, are suggesting a positive relationship between age and the employee's expectancy theory cognitions.

Theoretically the impact of age on the employee's E→P expectancy may be moderated by such variables as technology. That is, if there is rapid technological change occurring within the industry, then the older employee is likely to experience feelings of being obsolete and incompetent, and, as suggested previously, feelings of competency may be the major determinant of E→P expectancies. However, if the technology is relatively stable, as in a craft industry, then there may be a positive relationship between age and E→P expectancies. In this situation the major determinant of competency may be experience, and consequently, the older employee's E→P expectancy may be significantly higher than the younger, less experienced employee. It is, of course, assumed that age and job tenure, not just organizational tenure, are correlated with each other.

Organizational Level

The level of the employee's position in the organizational hierarchy appears to have a significant effect on the attitudes and behavior of that employee (Porter and Lawler 1965, Centers and Bugental 1966). No empirical studies directly investigating the

impact of organizational level on the employee's expectancy theory cognitions could be found, however, Korman (1974) has suggested that organizational level and the employee's expectancies are inversely related. He writes:

"It is suggested that low expectancies and lack of value-oriented behavior have become increasingly the case because their (organizations) large size, complexity, and pyramidal structure seems to encourage lower expectancies for success, the lower one goes in the organization."
(p. 108)

Korman seems to be suggesting that as organizations increase in size and complexity it becomes increasingly difficult for the employee to perceive a relationship between his inputs and his outcomes, and that this is most likely to be true at lower rather than higher levels of the organization. There is some support for Korman's proposition in the literature involving group incentive systems. That is, studies have indicated that as the size of the group increases it appears that the motivational impact of the incentive system decreases (Marriott 1949, Campbell 1952). Lawler (1973) has suggested group incentive plans have less of an impact on employee motivation than individual incentive systems because the performance-money expectancy is lower.

Porter and Lawler (1965), after summarizing the literature involving the influence of organizational level on employee attitudes and behavior, suggest that there does not appear to be a significant difference in how employees at various levels of the organization value rewards. Weaver (1975) has recently reached a similar conclusion. His research indicates that the preference structure between

white and blue collar workers is not as significant as once believed. The difference is especially small between white collar workers and better educated blue collar workers employed in jobs requiring greater skill and having a high prestige. Thus, there does not appear to be any evidence to suggest that organizational level impacts on the valences the employee is likely to attach to work related outcomes.

Tenure

It has been found that tenure with the organization is correlated with such employee attitudes as job satisfaction even when its natural covariate age is held constant (Gibson and Klein 1970). However, there is little evidence to suggest that tenure is related to the employee's expectancy theory cognitions. The only evidence found to support such a relationship comes from the Dachler and Mobley study which found that one of the differences between the two plants they studied was that in the plant in which the expectancy model was confirmed the mean tenure of the employees was greater than in the plant where the expectancy model was disconfirmed. Since this only represents one of several differences between the two plants, by itself it does little to support a relationship between tenure and the employee's expectancy theory cognitions.

Where tenure is positively related to competency in job performance it seems reasonable to suggest a positive relationship between tenure and the employee's E→P belief as was suggested during the discussion of age.

Since tenure and age tend to be positively correlated, it is likely that the valences an individual attaches to outcomes will be different for employees with different amounts of tenure.

These two relationships were suggested because of the correlation tenure has with its natural covariates experience, organizational level, and age. It is not clear how tenure with its natural covariates held constant impacts on the magnitude of the employee's expectancy theory cognitions. It may be that tenure has a greater impact on the variance of the expectancy theory cognitions than on the magnitude of the cognitions. That is, with increasing tenure the performance-reward contingencies of the organization may become more focused and thus the variance across employees may become attenuated. In other words, with increasing tenure, the employee's expectancies will closely approximate the objective situation. Vroom (1964) writes:

"If a person has had a considerable amount of experience in the situation attempting different courses of action and if he has been provided with prompt feedback following these actions, it might be appropriate to assume that his expectancies approximate actual probabilities. For example, a worker who has worked for the same supervisor for a period of years may accurately assess the probability that his supervisor will approve or disapprove of different behaviors on his part. But it would clearly be incorrect to attribute the same degree of "realism" to a person who had little or no experience in that situation." (p. 26)

Internal/External Control

Rotter (1966) has suggested that individuals differ in the degree to which they believe that rewards are internally or externally controlled. An individual who is high on internal control believes that he/she can, through his/her own behavior, influence or control the kinds and amount of outcomes he/she obtains. An individual who is high on external control believes that fate, luck, chance, and other factors beyond his/her control are responsible for the rewards he/she receives.

Lawler (1973) has suggested that an individual's $P \rightarrow O$ expectancies are, in part, determined by the individual's internal/external control orientation. That is, Lawler suggests that individuals high on internal control have higher $P \rightarrow O$ expectancies than individuals high on external control.

Confirmation of Lawler's conjecture comes from a study by Szilagyi and Sims (1975). According to their findings, an individual's $E \rightarrow P$ expectancy and $P \rightarrow O$ expectancies are both related to the individual's locus of control orientation. Internals reported higher expectancies than did externals.

While an individual's internal/external orientation may influence the individual's $P \rightarrow O$ expectancies, Lawler tends to feel that the actual situation has an even greater impact on these beliefs. Again, it appears as if individuals have an enduring component to their expectancies, that is, a stable personality trait, and a transient component which is dependent on the individual's actual situation.

Education

It is generally assumed that education has a significant impact on the attitudes and ability of individuals (Newcomb 1963). There is some evidence to suggest that education may potentially alter all of the individual's expectancy theory cognitions.

First, to the extent that education increases one's ability, it seems reasonable to conclude that an individual's $E \rightarrow P$ expectancy would be increased for a given level of job difficulty.

Second, Lawler (1973) has suggested that individuals with a college education tend to be high on internal control, and thus, one would anticipate those with a college education to have higher $P \rightarrow O$ expectancies. Finally, there is reason to believe that level of education may affect an individual's need structure, and consequently the valences the individual attaches to outcomes. Weaver (1975), for example, found that the preferences for outcomes for blue collar workers to be moderated by level of education.

Summary of Literature Review

After analyzing the preceding literature review, at least three conclusions are possible: (1) many researchers do conceive of individual differences and environmental factors as having an impact on the magnitude of the employee's expectancy theory cognitions, and that expectancy theory does provide a useful framework within which the environment-individual interaction can be assessed, (2) most researchers fail to specify which of the three components comprising the motivational force equation are affected by the individual and

environmental variables, and (3) most of the literature in this area is conjectural, testimonial, and lacking empirical evidence.

It appears from the literature review as though different factors are responsible for the magnitude of each of the components of the motivational force equation.

The literature review, for example, suggests that the individual's $E \rightarrow P$ expectancy is strongly influenced by the individual's perceptions of his/her competency, ability, and efficacy relative to the task. Thus, individual difference variables and environmental variables which enhance an individual's feelings of competency, self-esteem, and efficacy or affect the difficulty of the task, should have an influence on the individual's $E \rightarrow P$ expectancy.

The valence an individual attaches to an outcome can be considered to reflect the strength of the underlying need (Lawler 1969). Needs, it would appear, are more a function of individual difference variables than environmental variables. Thus one would expect the individual difference variables to have a greater impact on valences than the environmental variables.

On the other hand, an individual's $P \rightarrow O$ expectancies would seem to be primarily a function of environmental variables. Lawler (1973), for example, has suggested that an individual's $P \rightarrow O$ expectancies are more susceptible to influence by the organization than either the individual's $E \rightarrow P$ expectancy or valences. Lawler says:

"Overall, despite the research on internal versus external control, people's perceptions of a particular situation are most strongly influenced by the actual situation. One of the reasons $P \rightarrow O$ beliefs are so important is that they can be greatly influenced by the policies and practices

of organizations. Since $P \rightarrow O$ beliefs are based on the actual work situations and organizations control some important parts of the work situation, organizations can influence $P \rightarrow O$ expectancies by changing the situation. A leader's behavior, the design of the jobs, and the pay and promotion system all influence important $P \rightarrow O$ beliefs and are under the control of the organization.." (p. 57)

Hypotheses

The hypotheses to follow were formulated from the preceding literature review pertaining to the impact of selected individual differences and environmental variables on the employee's expectancy theory cognitions. The major overall hypothesis of this study is that the individual difference and environmental variables reviewed in this chapter act as causal determinants of the individual's expectancy theory cognitions. In this multivariate hypothesis the individual difference variables and the environmental variables serve as the independent variables while the expectancy theory cognitions serve as the dependent variables.

For the impact of the individual difference on the employee's E→P expectancy the following relations are hypothesized:

- Hypothesis 1a. The older the employee, the higher the employee's E→P expectancy.
- Hypothesis 1b. Male employees will have a higher E→P expectancy than female employees.
- Hypothesis 1c. White employees will have a higher E→P expectancy than non-white employees.
- Hypothesis 1d. The greater the employee's tenure, the higher the E→P expectancy of the employee.
- Hypothesis 1e. The higher the level of educational attainment, the higher the employee's E→P expectancy.
- Hypothesis 1f. The higher the employee's position in the organizational hierarchy, the higher the employee's E→P expectancy.

The impact of the environmental variables on the individual's E→P expectancy is hypothesized to be as follows:

- Hypothesis 2a. The more favorable the employee's evaluation of the supervisor, the higher the employee's E→P expectancy.
- Hypothesis 2b. The greater the task stimulation, the higher the employee's E→P expectancy.
- Hypothesis 2c. The more the employee perceives his performance review as aiding his development, the higher the employee's E→P expectancy.
- Hypothesis 2d. The more the employee perceives the climate of the organization to be democratic, the higher the employee's E→P expectancy.
- Hypothesis 2e. The more the employee perceives that he is receiving adequate feedback on his performance, the higher the employee's E→P expectancy.
- Hypothesis 2f. The more highly the employee evaluates the training he received, the higher the employee's E→P expectancy.

For the impact of individual difference variables on the individual's P→O expectancies, the following relationships are hypothesized:

- Hypothesis 3a. Male employees will have higher P→O expectancies than female employees.
- Hypothesis 3b. White employees will have higher P→O expectancies than non-white employees.
- Hypothesis 3c. The greater the employee's tenure, the higher the employee's P→O expectancies.
- Hypothesis 3d. The higher the individual's position in the organization's hierarchy, the higher the employee's P→O expectancies.
- Hypothesis 3e. The higher the educational level of the employee, the higher the employee's P→O expectancies.
- Hypothesis 3f. The older the employee, the higher the employee's P→O expectancies.

The impact of the environmental variables on the employee's P→O expectancies are hypothesized to be as follows:

- Hypothesis 4a. The more favorable the employee's evaluation of the supervisor, the higher the employee's P→O expectancies.
- Hypothesis 4b. The higher the employee's perceptions of the task stimulation, the higher the employee's P→O expectancies.
- Hypothesis 4c. The more the employee perceives his performance review as aiding his development, the higher the employee's P→O expectancies.
- Hypothesis 4d. The more the employee perceives that he is receiving adequate feedback on his performance, the higher the employee's P→O expectancies.
- Hypothesis 4e. The more favorably the employee evaluates the training he received, the higher the employee's P→O expectancies.
- Hypothesis 4f. The more the employee perceives the climate of the organization to be democratic, the higher the employee's P→O expectancies.
- Hypothesis 4g. The more clearly the employee perceives his role, the higher the employee's P→O expectancies.

The impact of the individual difference and environmental variables on the valences the employee attaches to work related outcomes is hypothesized to be as follows:

- Hypothesis 5. Personal variables will have a greater impact than situational variables on the valences the individual attaches to work related outcomes.

The individual difference variables themselves are hypothesized to be related to the employee's valences as follows:

- Hypothesis 6a. White employees will attach higher valences to intrinsic rewards than non-white employees, but non-white employees will attach higher valences to extrinsic rewards.
- Hypothesis 6b. Female employees will attach higher valences to intrinsic rewards than male employees.
- Hypothesis 6c. The older the employee the lower the valence he attaches to intrinsic rewards.
- Hypothesis 6d. The higher the employee's position in the organization's hierarchy, the higher the valences he attaches to intrinsic outcomes.
- Hypothesis 6e. The higher the employee's level of education, the higher the valences the employee attaches to intrinsic outcomes.

CHAPTER II

METHODOLOGY

Introduction

The purpose of this chapter is to discuss the methodology employed in this study to test the hypotheses formulated in the preceding chapter. Included in this chapter will be a discussion of (1) the research technique employed, (2) the sample, (3) the exogenous and endogenous variables, and (4) the statistical methods employed to interpret the data.

Research Technique

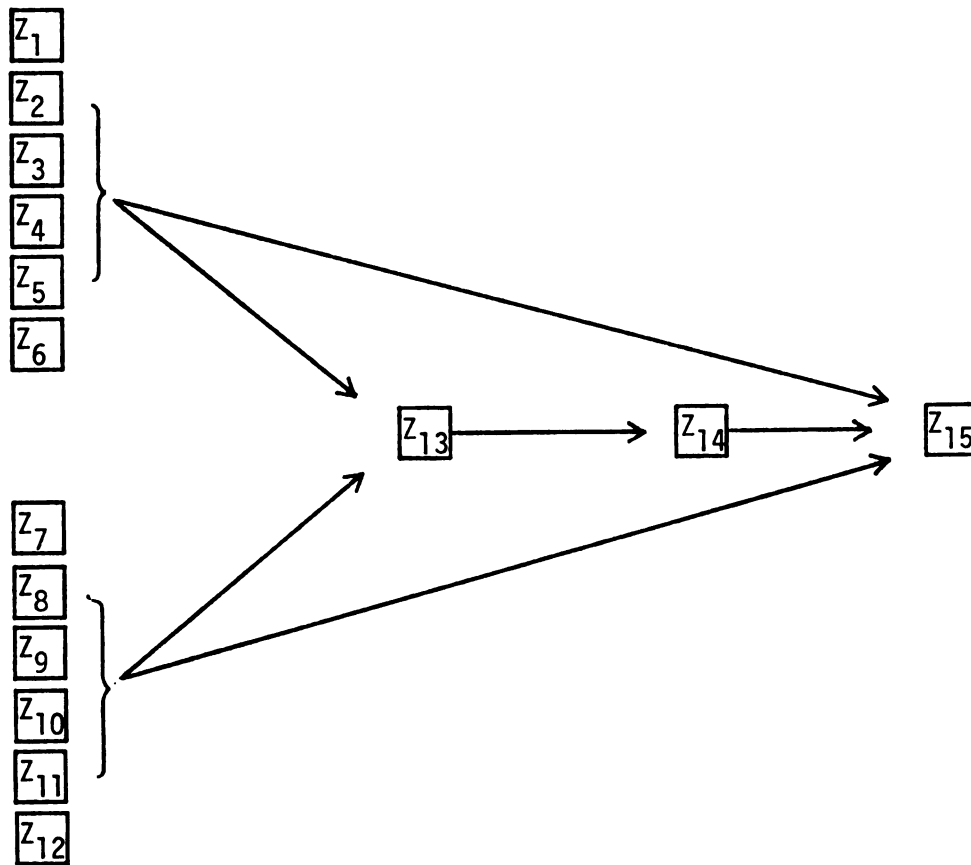
The research technique employed in this study is correlational or what Scott (1974) refers to as "systematic assessment" with a multivariate analysis of the data. This research technique was used because (1) the data used in this study was obtained from a prior study which employed a correlational design, and (2) it would not be feasible to experimentally manipulate the complex (i.e., many faceted and many sources of variation) variables of this study.

A goal of much scientific research is not simply to predict, but to identify variables which, when they change themselves, influence other variables, that is, to determine causal relations among variables. While causal statements, even from experimental designs, are always tenuous, statements of causality from nonexperimental designs are even more hazardous (Blalock 1961).

In attempting to make causal inferences this study encounters two difficulties: (1) natural covariates, a problem inherent in all correlational designs, with the dependent variables which tend to confound the interpretation of the results, and (2) attempting to make causal inferences from nonlongitudinal data.

Path analysis, a statistical technique based on multiple regression methodology, provides a method which allows the researcher to partially overcome the two difficulties above and make causal inferences from correlational data provided the inferences are based on a theoretical model. It is important to note that path analysis is not a method for discovering causes, but a method applied to a causal model formulated by the researcher on the basis of knowledge and theoretical considerations. In other words, path analysis is a multivariate statistical technique which allows the researcher to examine the tenability of a theoretical model formulated by the researcher and not a method for formulating the model itself (Kerlinger and Pedhazur 1973).

This study will utilize path analysis to examine the extent to which the exogenous variables of Figure 2-1 are causal determinants of the employee's expectancy theory cognitions as was suggested by the literature reviewed in the preceding chapter.



Exogenous Variables

Z_1 = Employee Age
 Z_2 = Employee Sex
 Z_3 = Employee Race
 Z_4 = Employee Tenure
 Z_5 = Employee Educational Level
 Z_6 = Organizational Level
 Z_7 = Task Design
 Z_8 = Performance Review

Z_9 = Climate
 Z_{10} = Performance Feedback
 Z_{11} = Training
 Z_{12} = Leader's Behavior

Endogenous Variables

Z_{13} = Expectancy Theory Cognitions
 Z_{14} = Motivational Force
 Z_{15} = Employee Performance

Figure 2-1
Multistaged, Multivariate Path Model

In any research study it is clearly possible that any significant relations obtained, regardless of the magnitude of the relationships, could be the result of chance factors alone. Greater confidence in the obtained results are possible if the study is replicated. This study will attempt to increase the confidence in the obtained results by performing a cross validation. The total sample will be divided into two subsamples and use the results obtained from the analysis of the first subsample to predict the results of the second subsample. The correlation between the predicted results and the actual results for the second subsample will give an index of the validity of the results obtained from the analysis of the first subsample.

The Sample

The data for this research was provided by the Ford Motor Company and represents a selected portion of a more extensive survey conducted by Ford. The population for this study consists of those salaried level employees of Ford Motor Company located in North America, and at the time of the survey, the population size was 63,710 employees. In an attempt to keep one segment of the population from being either over represented or under represented, a proportional stratified random sample of 3,160 employees was chosen from the population. The sample composition is illustrated in Tables 1-6 below:

Table 2-1
Sample Distribution by Age

Age	No. in Sample	% of Sample	% of Ford
Under 24	144	4%	6%
25-29	452	14%	15%
30-39	969	30%	28%
40-49	878	27%	28%
50-54	448	14%	13%
Over 55	343	11%	10%

Table 2-2
Sample Distribution by Race

Race	No. in Sample	% of Sample	% of Ford
Black	192	6%	4%
White	2920	92%	95%
Other	79	2%	1%

Table 2-3
Sample Distribution by Sex

Sex	No. in Sample	% of Sample	% of Ford
Female	248	13%	14%
Male	2728	87%	86%

Table 2-4
Sample Distribution by Salary Grade

Salary Grade	No. in Sample	% of Sample	% of Ford
1-4	558	18%	22%
5-6	1038	32%	31%
7-8	1066	33%	31%
9-10	404	13%	11%
11-12	136	4%	5%

Table 2-5
Sample Distribution by Level of Supervision

Level of Supervision	No. in Sample	% of Sample	% of Ford
Unit	185	6%	
Section	171	3%	
Department	114	3%	
Foreman	443	14%	
Gen. Foreman	97	3%	
Superintendent	37	1%	
			30%

Table 2-6
Sample Distribution by Function

Function	No. in Sample	% of Sample	% of Ford
Administrative	81	2%	2%
Purchasing	101	3%	4%
Engineering	544	17%	20%
Industrial Rel.	165	5%	5%
Finance	374	12%	11%
Methods	109	3%	4%
Manufacturing	1295	41%	40%
Sales	406	13%	11%
Other	167	5%	3%

The Salaried Personnel Survey (See Appendix A) was administered under the guidance of the Personnel Research Department of the Ford Motor Company to each member of the sample. The completed questionnaires were returned to the Personnel Research Department, where the data was processed and transferred to magnetic tape.

By inspection of the Survey, relevant items were selected and requested for use in this research. The items were selected on the basis of their content validity for the research being contemplated. In total, one hundred and ninety-six items were requested for use in this research. The requested items were transferred to a second magnetic tape in such a way as to make it compatible with Michigan State University's computer system.

Exogenous Variables

"An exogenous variable is a variable whose variability is assumed to be determined by causes outside the causal model.

Consequently, the determination of an exogenous variable is not under consideration in the model. Stated differently, no attempt is made to explain the variability of an exogenous variable or its relations with other exogenous variables" (Kerlinger and Pedhazur, 1973, p. 308). The exogenous variables in this study are one through twelve of the multistaged, multivariate path model of Figure 2-1.

The scales for the exogenous variables Z_7 to Z_{12} of Figure 2-1 were first formed on a conceptual basis from an inspection of the Salaried Personnel Survey and a review of the literature (See Appendix B). These items were next subjected to a factor analysis with a varimax rotation, a minimum eigen value equal to one, and with the number of factors remaining unspecified.

The criteria used to determine if the item should be retained within the factor were: (1) the magnitude of the factor loading, items with factor loadings of .35 or less were deleted, (2) the magnitude of the factor loadings on a second factor, items which loaded relatively high on a second factor were also deleted, and (3) the psychological meaning of the item relative to the factor items with which the item had the highest factor loading. These criteria were evoked in an attempt to maximize the independence and the psychological meaning of the factors. The scales formulated by the factor analysis and meeting these criteria are the ones used in the statistical analysis of this study.

The results of the factor analysis on the items forming the exogenous scales are reported in Table 2-7 below:

Table 2-7
Factor Analysis of Exogenous Variables

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 1</u>						
Our supervisor is generally respected by his people	.78*	.03	.08	.10	.13	-.02
My supervisor often puts things off; he just lets things ride	.68*	.12	.19	.02	.08	.16
My supervisor usually makes clear-cut decisions on problems so we know "what the score is"	.67*	.09	.24	.18	.13	.13
Sometimes it seems my supervisor knows very little about his job	.67*	.06	.33	.02	-.02	.16
My supervisor does a good job of building teamwork in his group	.62*	.08	.24	.18	.16	.12
My supervisor seldom seems to know what is going on in his work group	.62*	.10	.11	.09	.10	.24
My supervisor helps me solve problems that occur on my job	.62*	.05	.23	.17	.03	.10
My supervisor keeps his promises to his employees when he is able	.57*	-.05	-.20	.07	.02	.08
My supervisor tries to help me learn from my mistakes	.57*	.07	.22	.15	.18	.01
My supervisor is often unfair in his dealings with me	.57*	.00	.02	.05	.11	.32

Table 2-7 (cont'd.)

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 1 (cont'd.)</u>						
My supervisor is usually friendly toward his people	.56*	.08	-.01	.11	.13	.03
My supervisor frequently fails to pass along information I need to do a good job	.54*	.14	.30	.08	.19	.35
Usually nothing happens when we make suggestions to our supervisor	.52*	.07	.13	.10	.26	.17
My supervisor tries to get my ideas about things	.50*	.09	.10	.20	.15	.15
In my opinion, the supervisors here are adequately trained to handle their jobs	.47*	.09	.33	.15	.09	.14
I seldom get the help I need to improve my performance	.42*	.13	.25	.06	.28	.20
<u>Factor 2</u>						
Performance feedback should be given more frequently	.09	.87*	.06	.00	.07	.12
I would like additional performance feedback at other times than just the Annual Performance Review	.11	.81*	.07	.06	.03	.04
I need more opportunities to get feedback about how well I am doing my job	.26	.51*	.17	.03	.11	.17

Table 2-7 (cont'd.)

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 3</u>						
In my opinion, new people starting new jobs in my area receive adequate training (informal and formal) for those jobs	.24	.10	.59*	.07	.06	.05
The training I received was excellent preparation for the actual work I do	.27	.02	.53*	.21	.17	.02
I am satisfied with the informal and formal instruction I received for my present job	.30	.06	.52*	.13	.11	.09
In my opinion, new people are given a clear understanding of what is expected of them	.24	.12	.49*	.24	.18	.25
<u>Factor 4</u>						
Performance reviews have helped to prepare me for additional responsibilities	.17	-.02	.17	.78*	.24	.08
Performance reviews given by my supervisor have helped me to improve my performance	.37	.03	.13	.73*	.11	.09
My supervisor uses performance review interviews to talk about departmental objectives and how I can contribute	.21	.07	.06	.49*	-.03	.07

Table 2-7 (cont'd.)

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 5</u>						
I'm doing something really worthwhile on my job	.12	.06	.07	.07	.70*	.05
I like the kind of work I do on my job	.17	.01	.06	.03	.69*	-.02
My job is frequently dull and monotonous	.07	.05	.11	.08	.63*	.15
I have little opportunity to use my skills and abilities here	.25	.05	.15	.08	.60*	.21
I often think my job counts for very little in this Company	.25	.07	.13	.10	.46*	.33
<u>Factor 6</u>						
I often doubt what management tells us is true	.18	.09	.05	.05	.11	.60*
Little effort is made to get the opinions and thoughts of the people who work here	.37	.17	.30	.14	.07	.51*
An employee here is usually wise to hide bad news from management, since his future may be at stake	.27	.05	.07	.12	.17	.45*
I feel I seldom have any say in what goes on around here	.24	.13	.10	.20	.28	.43*

In general, the factors developed and the items within each factor were congruent with the a priori scales. The major exception to this statement involved the supervisory dimensions which collapsed into a single factor.

The standardized coefficient alphas for each of the six factors used in this study are reported in Table 2-8 below:

Table 2-8
Standardized Coefficient Alphas: Exogenous Variables

Factor	Standardized Coefficient Alphas
1 Evaluation of Supervisor's Behavior	.91
2 Adequacy of Performance Feedback	.78
3 Evaluation of Training	.71
4 Performance Review Oriented Toward Employee Development	.74
5 Task Stimulation	.82
6 Democratic Climate	.74

Again, the scales formulated by the factor analysis, rather than the a priori scales, are the ones used in the statistical analysis of the data.

The exogenous variable race was collapsed from its original six nominal categories into a dichotomized variable with the categories white and non-white and subsequently treated as a dummy variable in the statistical analysis of the data as was the exogenous variable sex.

The exogenous variable level of education was transformed from a nominal scale to the continuous variable years of education. The

transformation was as follows: the category eight grade education was set equal to eight years of education, a high school education was transformed to twelve years of education, the categories some college or technical school were transformed to fourteen years of education, a bachelor's degree was transformed to sixteen years of education, and a master's degree or higher was transformed to eighteen years of education.

The exogenous variables age, tenure, and salary level were ordinal scales each having six unequal response alternatives and were not altered. Labovitz (1967) has suggested that the use of ordinal scales rather than interval scales does not seriously alter the results.

A direct measure of organizational level was not available, however, since salary level and level in the organization are assumed to be highly correlated it was decided to use salary level as a surrogate measure of organization level.

Endogenous Variables

"An endogenous variable is one whose variation is explained by exogenous or endogenous variables in the system." (Kerlinger and Pedhazur 1973) As illustrated in Figure 2-1, two categories of endogenous variables were measured in this study: (1) job performance, and (2) expectancy theory cognitions.

The first endogenous variable of this study is how the individual perceives the evaluation of his performance level by (1) himself, (2) his supervisor, and (3) his co-workers. Job

performance was measured by taking the mean of the five items reported in Figure 2-2 below:

Item Content	Response Alternative				
	High	Above Average	Average	Below Average	Low
How would you rate the amount of work you do?	_____	_____	_____	_____	_____
How would you rate the quality of work you do?	_____	_____	_____	_____	_____
Overall, how would your supervisor rate your work?	_____	_____	_____	_____	_____
Overall, how would your co-workers rate your work?	_____	_____	_____	_____	_____
	Higher Than Most	Higher Than Some	Equal	Lower Than Some	Lower Than Most
In comparison with people doing jobs similar to mine, I feel my last performance Rating was:	_____	_____	_____	_____	_____

Figure 2-2

Job Performance Scale

The intercorrelations among the five job performance items are reported in Table 2-9 below:

Table 2-9
Intercorrelation Matrix of Job Performance Items

Item Content	1	2	3	4	5
Perception of:					
1 Amount of work done	.00				
2 Quality of work done	.38	.00			
3 Supervisor's rating	.57	.65	.00		
4 Co-worker's rating	.56	.38	.69	.00	
5 Comparison of performance with co-workers	.27	.36	.30	.21	1.00

The second and most significant category of endogenous variables in this study is the employee's expectancy theory cognitions, that is, the employee's effort-performance, performance-outcome, and valence cognitions. These variables will assume endogenous variable status as (1) clusters of related items, and (2) as components of the following formula: $E \rightarrow P[\Sigma[(P \rightarrow O)(V)]]$. The items used to assess the magnitude of each of these variables for significant work related outcomes can be found in the Salary Personnel Survey of Appendix A. Specifically, the individual's E→P expectancy was measured with item 217, the individual's P→O expectancies were measured with items 117 through 140, and finally, the individual's valences were measured with items 141 through 166 of the survey.

The items used to assess the individual's P→O expectancies were subjected to a factor analysis with a varimax rotation, a minimum eigen value equal to one, and with an unspecified number of factors

allowed to be created. The results of the factor analysis are reported in Table 2-10 below:

Table 2-10
Factor Analysis of P+O Expectancies

Factor/Items	Factors				
	1	2	3	4	5
<u>Factor 1</u>					
As I Perform better on my job:					
I will have greater opportunity for advancement	.81*	.04	.04	-.08	-.01
I will have more opportunity to do different things in my job	.73*	.00	.17	-.01	.06
I will have more opportunity to supervise the work of others	.73*	.03	.14	-.01	.05
I will have more opportunity to try out my own ideas	.72*	-.03	.14	-.09	.16
I will get more recognition and praise for the work I do	.71*	.02	.17	-.11	.03
I will get more money	.69*	.06	.04	-.10	-.01
I will be given more responsibility	.63*	.01	.16	.08	.08
I will have a greater opportunity to develop my skills and abilities	.61*	.04	.41	.02	.06
I will have more job security	.56*	-.01	.14	-.09	.16
I will get better working conditions	.51*	.10	.13	-.03	.00

Table 2-10 (cont'd.)

Factor/Items	Factors				
	1	2	3	4	5
<u>Factor 1 (cont'd.)</u>					
As I Perform better on my job:					
I will get more support from my supervisor	.50*	.02	.26	-.04	.09
I will be treated more fairly under Company policies and practices	.50*	.05	.10	-.01	.12
<u>Factor 2</u>					
As I Perform more poorly on my job:					
I will be suspended	.01	.90*	-.01	-.01	.02
I will be fired	-.01	.82*	.00	-.01	.08
I will be demoted	.08	.67*	.06	.02	.23
I will be transferred to a worse job	.02	.47*	.01	.16	.13
<u>Factor 3</u>					
As I Perform better on my job:					
I will have a greater feeling of doing something worthwhile	.33	.02	.77*	-.06	.05

Table 2-10 (cont'd.)

Factor/Items	Factors				
	1	2	3	4	5
<u>Factor 3 (cont'd.)</u>					
As I Perform better on my job:					
I will get more enjoyment from doing my work	.35	.01	.57*	-.14	.07
I will have a better understanding of how my work fits into things being done in my work area	.36	.06	.43*	.08	.14
<u>Factor 4</u>					
As I Perform better on my job:					
I will have fewer opportunities to talk to my friends at work	-.07	.04	.04	.55*	.00
I will be criticized by other employees	-.11	.03	-.08	.55*	-.02
I will have less time for leisure and family activities	.03	.04	-.06	.55*	-.02
<u>Factor 5</u>					
As I Perform more poorly on my job:					
I will be criticized by my supervisor	.09	.24	.08	-.05	.59*
I will be criticized by my co-workers	.10	.16	.04	.00	.56*

The intercorrelations among the five expectancy factors are reported in Table 2-11 below:

Table 2-11
Intercorrelation Matrix of Expectancy Factors

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	1.00				
2	.09	1.00			
3	.54	.06	1.00		
4	- .12	.08	- .14	1.00	
5	.22	.32	.17	- .01	1.00

The high correlation between factor one and factor three, along with the psychological similarity of the factors, suggests that these two factors can be treated as a single factor. Similarly, factors two and five have similar psychological meaning and a relatively high correlation coefficient, thus, these two factors will also be treated as a single factor in the analysis of the data. Thus, three clusters of performance-to-outcome beliefs are discernable: (1) factors one and three which form a set of beliefs that high performance will lead to positively valent outcomes (+P→+V), (2) factor four which forms a set of beliefs that high performance will lead to negatively valent outcomes (+P→-V), and (3) factors two and five which form a set of beliefs that low performance will lead to negatively valent outcomes (-P→-V).

The items used to assess the employee's valences were first rescored from positive four to negative four and then subjected to a factor analysis with varimax rotation, a minimum eigen value equal to one, and with an unspecified number of factors allowed to be created. Items were retained within a factor provided they met the previously defined criteria. The results of the factor analysis are reported in Table 2-12 below:

Table 2-12
Factor Analysis of Valences

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 1</u>						
Getting a feeling of achievement from doing the job	.73*	-.12	.21	.12	.00	-.03
Making use of my abilities	.69*	-.13	.25	.11	.02	-.06
Enjoying the work itself	.60*	-.07	.22	.15	-.06	.01
Having variety on the job	.58*	-.05	.21	.19	-.05	-.01
<u>Factor 2</u>						
Being fired	-.14	.79*	-.17	-.03	.04	.20
Being demoted	-.13	.78*	-.12	-.10	.05	.19
Being suspended	-.11	.77*	-.19	-.05	.23	.06
Being transferred to a worse job	-.09	.64*	-.24	-.06	.23	.05
<u>Factor 3</u>						
Having good working conditions on the job	.12	-.12	.66*	.12	-.15	.03
Being in a company that administers policies fairly	.21	-.16	.63*	.16	.00	-.09
Receiving recognition for the work I do	.21	-.15	.61*	.33	-.05	-.10

Table 2-12 (cont'd.)

Factor/Items	Factors					
	1	2	3	4	5	6
<u>Factor 3 (cont'd.)</u>						
Good advancement possibilities	.28	-.19	.55*	.29	.03	-.22
Being well paid	.37	-.20	.47*	.14	-.01	-.19
<u>Factor 4</u>						
Having a high degree of responsibility	.47	-.06	.04	.56*	.04	.03
Having an important job	.33	-.08	.15	.61*	-.06	.08
Telling others what to do in their jobs	.02	-.02	.09	.52*	.07	.05
Trying out my own ideas	.25	-.10	.37	.51*	.04	-.07
Having status in my community	.03	-.01	.12	.45*	-.09	.05
<u>Factor 5</u>						
Being criticized by other employees	-.05	.19	-.13	.00	.71*	.21
Being criticized by my supervisor	-.01	.18	-.03	-.03	.59*	.16
<u>Factor 6</u>						
Having less time for leisure and family activities	-.10	.20	-.11	.06	.05	.56*
Being tired from hard work	.03	.05	-.01	.13	.07	.43*
Having fewer opportunities to talk to my friends	-.01	.05	-.05	-.04	.13	.37*

The intercorrelations among the six valence factors are reported in Table 2-13 below:

Table 2-13
Intercorrelation Matrix of Valence Factors

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1	1.00					
2	- .31	1.00				
3	.51	- .49	1.00			
4	.43	- .20	.46	1.00		
5	- .10	.39	- .22	- .08	1.00	
6	- .07	.24	- .15	.07	.21	1.00

The high correlation coefficient between factors one, three, and four suggests that these three factors can be treated as a single factor; valences for positive outcomes. Similarly, the items in factors two, five, and six were combined and treated as a single factor; valence for negative outcomes.

Reliability of Endogenous Scales

The standardized coefficient alpha for each of the six endogenous variables of this study are reported in Table 2-14 below:

Table 2-14

Standardized Coefficient Alpha: Endogenous Variables

Endogenous Variables	Standardized Coefficient Alpha
+P→+V	.91
-P→-V	.76
+P→-V	.55
Positive Valent Outcomes	.87
Negative Valent Outcomes	.75
Performance Evaluation	.73

Data Analysis

The statistical technique to be used in the analysis of the data of this study will be path analysis. Path analysis, as used here, necessitates the use of two additional statistical techniques: (1) zero order correlations, and (2) multiple regression. Because of the extensive use of path analysis in this study, its application to this study will be briefly discussed.

Path Analysis

Path analysis is a technique to analyze the direct and indirect effects of variables in a correlated recursive system in which at least one variable is hypothesized to be linearly dependent upon the other variables in the system. Path analysis combines a priori knowledge concerning causal relations among variables with the

observed correlations among these variables and thereby allows the researcher to test the validity of the a priori causal relations. Sewall Wright (1921), the individual credited with the development of path analysis, states the purpose of path analysis to be the following:

"...a method of measuring the direct influence along each separate path in... a system and thus of finding the degree to which variation of a given effect is determined by each particular cause." (p. 557)

In a subsequent paper Wright (1960b) further states the purpose as being:

"...Path analysis is an extension of the usual verbal interpretation of statistics, not the statistics themselves. It is usually easy to give a plausible interpretation of any significant statistic taken by itself. The purpose of path analysis is to determine whether a proposed set of interpretations is consistent throughout." (p. 444)

The usefulness of path analysis is its ability to test theory based models, and not in generating theory. As indicated earlier in this chapter, path analysis is a technique designed to evaluate the tenability of a set of relations among variables which have been formulated by the researcher on the basis of past theory and research, and not a method for constructing the relations among the variables. The model formulated by the researcher must be theory dependent and not data dependent (Kerlinger and Pedhazur 1973). Wright (1934) recognized this point early and issued the following warning:

"...the method of path analysis is not intended to accomplish the impossible task of deducing causal relations from the values of the correlation coefficients. It is intended to combine the quantitative information given by the correlations with such qualitative information as may be at hand on causal relations to give a quantitative interpretation." (p. 193)

The model to be subjected to path analysis is the multistaged, multivariate path model of Figure 2-1. Briefly, the procedure to be employed is: (1) determine the intercorrelation matrix for the variables of this model, (2) determine the path coefficients for each path illustrated in the model, (3) perform the necessary theory trimming, (4) reproduce the intercorrelation matrix from the more parsimonious model developed in three, and (5) repeat two through four for alternative expectancy theory cognitions. Procedures two, three, and four require further elaboration.

Computation of Path Coefficients

Path coefficients are defined by Wright (1934) as:

"The fraction of the standard deviation of the dependent variable (with the appropriate sign) for which the designated factor is directly responsible, in the sense of the fraction which would be found if this factor varies to the same extent as in the observed data while all others (including the residual factors) are constant." (p. 162)

In other words, a path coefficient indicates the direct effect of a variable taken as a cause of a variable taken as effect. The path coefficient indicates the amount of expected change in the endogenous variable as a result of a unit change in the exogenous

variable (Kerlinger and Pedhazur 1973). When it is assumed that the residuals are not correlated among themselves nor with the exogenous, nor with the endogenous variables in the system, the path coefficients are identical to the standardized regression coefficients obtained from the ordinary least squares solution. While other methods are available for calculating path coefficients (e.g., see Nygreen 1971), this study utilizes standardized regression coefficients as path coefficients.

Theory Trimming

In path analysis, the zero-order correlation coefficient between variable i and variable j is considered to have a direct effect of variable i on variable j , and an indirect effect of variable i on variable j . The direct effect of variable i on variable j is the path coefficient p_{ji} and the indirect effect of variable i on variable j is represented by $r_{ij} - p_{ji}$. In other words, the indirect effect represents the portion of the correlation caused by (1) the exogenous variable being correlated with other exogenous variables, and/or (2) natural covariates with the exogenous and endogenous variables under consideration.

The proportion of the correlation coefficient attributed to the direct effect, and the underlying theory of the researcher, serve as guides as to which paths in the path model should be deleted. Heise (1969) refers to the process of deleting paths as theory trimming and argues for the deletion of paths for which the path coefficient is not (1) statistically significant, and/or (2) large

enough to be meaningful. However, when a large sample is being used, the usefulness of the statistical criterion is seriously questioned (Kerlinger and Pedhazur 1973). Some researchers (e.g., Land 1969) argue that path coefficients less than .05 be treated as not being meaningful and therefore the path model should be trimmed by deleting such paths. To increase the likelihood that a meaningful relationship exists, a .1 criterion will be employed throughout this study. That is, paths with a path coefficient less than .1 will be deleted from the model.

The deletion of a path is in effect setting the path coefficient to zero with the implication being that the correlation between the two variables being attributed entirely to the indirect effect. The deletion of paths that fail to meet the minimum .1 criterion results in a more parsimonious causal model that must be tested to determine if it is congruent with the data. This is accomplished by assessing the goodness of the fit between the reproduced correlation matrix based on the more parsimonious model developed by theory trimming and the original intercorrelation matrix.

Reproducing the R-Matrix

The testing of this more parsimonious model requires attempting to reproduce the original intercorrelation matrix from the path coefficients in the more parsimonious model. If it is possible to reproduce the original intercorrelation matrix from the more parsimonious model the conclusion is that the data are consistent with

the more parsimonious causal model, but not that the model is proven true since alternative models may be equally effective in reproducing the intercorrelation matrix. If the more parsimonious model proves ineffective in reproducing the intercorrelation matrix then the parsimonious model can be rejected as a feasible alternative.

The procedure for reproducing the intercorrelation matrix involves (1) writing the structural equations for the model shown in Figure 2-1 (see Appendix C), and (2) substituting the known path coefficients and known correlation coefficients into the set of structural equations and solving for the correlation coefficient; the reproduced correlation coefficient.

The assessment of the goodness of fit between the original intercorrelation matrix and the reproduced intercorrelation matrix is a subjective judgment employing two general criteria: (1) the magnitude of the discrepancies, discrepancies of less than .05 are to be considered satisfactory, and (2) the frequency of the discrepancies.

Testing the Hypotheses

The relationship between path analysis and the testing of the hypotheses presented in the preceding chapter needs further clarification. In Chapter I it was argued that all productive behavior is a rational decision making process contingent on the employee's expectancy theory cognitions. Hence, variation in productivity must be the result of variation in the employee's expectancy theory cognitions. In terms of the discussion on path analysis presented

here this means that the correlation between an exogenous variable, for example, quality of supervision, and the second stage endogenous variable, performance, is primarily due to the indirect effect of quality of supervision on the intervening first stage endogenous variable, the employee's expectancy theory cognitions.

If all the hypotheses presented in Chapter I are true, then the path coefficients for all of the paths directly linking the exogenous variables and the second stage endogenous variables should all be approximately zero, and thus, leading to the deletion of these paths. The deletion of these paths would indicate that the relationship between the exogenous variables and the second stage endogenous variables is primarily due to indirect effects. In other words, the exogenous variables have no direct effect on the second stage endogenous variables, but rather affect these variables indirectly through their effect on the first stage endogenous variables.

To determine if the data are consistent with this more parsimonious model, the intercorrelation matrix will be reproduced as described above. If the reproduced R-matrix is not highly discrepant from the original R-matrix, then it can be concluded that the data are consistent with the more parsimonious model. This indicates that the direct paths between the exogenous variables and the second stage endogenous variables are unnecessary. If this occurs, then it would tend to support the hypotheses that the exogenous variables are causal determinants of the employee's expectancy theory cognitions.

This, of course, does not mean that other models may not also be consistent with the data, but only that the data are at

least consistent with the theoretical model being tested in this research.

If the path coefficients don't suggest the elimination of the paths between the exogenous variables and the second stage endogenous variable, or if after the deletion of the paths there are large discrepancies between the original R-matrix and the reproduced R-matrix, then the conclusion is that the hypotheses should be disconfirmed.

In sum, the procedure involved in the analysis of the data will be (1) compiling the intercorrelation matrix for the variables in the path model of Figure 2-1, (2) computing the path coefficients for the path model of Figure 2-1 using ordinary multiple regression techniques, (3) trimming the path model by deleting all paths with path coefficients of less than .10, (4) reproducing the intercorrelation matrix, and (5) assessing the adequacy of the more parsimonious model by assessing the goodness of fit between the original intercorrelation matrix and the reproduced intercorrelation matrix according to the criteria presented in this chapter.

Chapter Summary

In this chapter the methodology to be employed in this study was discussed. The design utilized in this study was correlational with a multivariate analysis of the data. The exogenous variables (selected individual difference and organizational variables), the endogenous variables (job performance, and expectancy theory

cognitions) were also presented and discussed along with the sample composition. Finally, path analysis, the statistical technique employed to analyze the data, was discussed. In an attempt to increase the confidence in the findings it was decided to cross validate the results by dividing the total sample into two subsamples and use the results obtained from the first subsample to predict the results of the second subsample.

CHAPTER III

RESULTS

Introduction

As stated in the previous chapter, multiple regression and its derivative, path analysis, was used to analyze and interpret the data of this study, and to assess the tenability of the hypotheses stated in Chapter I. In this chapter the results of the multiple regression, the path analysis, and the cross validation are to be presented. This chapter will begin by examining the findings relevant to expectancies followed by those relevant to valences. In concluding this chapter a brief summary of the findings will be presented.

Intercorrelation Matrix

In a sense, path analysis can be considered to be an analysis of a zero-order correlation in which the correlation is separated into two components: (1) the direct effect of the exogenous variable on the endogenous variable, and (2) the indirect effect of the exogenous variable on the endogenous variable through its correlations with other exogenous variables. It seems appropriate to present the intercorrelation matrix of variables which are to form the basis for the path diagrams to follow:

Table 3-1
Intercorrelation Matrix of Exogenous and Endogenous Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Exogenous Variables																				
Individual Difference Variables																				
1 Age	1.00																			
2 Sex	.01	1.00																		
3 Race	.17	-.06	1.00																	
4 Tenure	.72	.01	.25	1.00																
5 Years of Education	-.26	.19	-.06	-.32	1.00															
6 Organizational Level	.16	.53	.08	.22	.40	1.00														
Environmental Variables																				
7 Task Stimulation	.18	.02	.02	.14	-.11	.16	1.00													
8 Performance Review	.07	.00	.00	.04	-.16	.00	.40	1.00												
9 Democratic Climate	.10	.06	.01	.06	.03	.23	.55	.43	1.00											
10 Performance Feedback	.20	-.10	.00	.17	-.04	.06	.24	.20	.20	1.00										
11 Evaluation of Training	.16	-.11	.02	.12	.11	-.01	.44	.41	.43	.26	1.00									
12 Evaluation of Supervisor	.02	-.07	.00	.01	.01	.06	.48	.53	.63	.30	.51	1.00								
Endogenous Variables																				
13 E→P Expectancy	-.03	.03	.08	-.02	-.03	.04	.27	.25	.24	.03	.18	.29	1.00							
14 P→+V Expectancies	.00	.10	-.01	-.04	.00	.17	.53	.54	.58	.17	.42	.59	.34	1.00						
15 -P→-V Expectancies	.02	-.02	-.09	.02	-.12	-.06	.08	.15	.03	.00	.07	.09	.07	.18	1.00					
16 +P→-V Expectancies	-.07	.07	.02	-.06	.06	.00	-.15	-.09	-.28	.17	-.18	-.24	.00	-.11	.07	1.00				
17 Valences for Desirable Outcomes	-.03	.04	.01	.07	.17	.14	.11	.10	.15	.04	.09	.14	.14	.21	.10	.06	1.00			
18 Valences for Undesirable Outcomes	.09	.08	-.04	.11	-.09	-.01	-.03	.01	-.09	.01	-.05	-.10	-.06	-.09	-.02	.08	-.32	1.00		
19 E→P[E[(P→0)(V)]]	-.02	.09	-.05	-.04	.06	.17	.38	.39	.42	.07	.29	.43	.71	.66	.00	.05	.47	-.02	1.00	
20 Self-Reported Performance	.04	.05	.10	.06	.14	.19	.22	.16	.18	.14	.17	.21	.12	.16	-.06	.04	.24	-.08	.23	1.00

An inspection of Table 3-1 indicates that (1) the individual difference variables have no relationship to the employee's expectancy theory cognitions (median $r = .01$), (2) the environmental variables have a moderately strong relationship to the employee's $+P \rightarrow +V$ expectancies (median $r = .47$) and a positive but less strong relationship to the employee's $E \rightarrow P$ expectancy (median $r = .21$), and to the employee's $+P \rightarrow -V$ expectancies (median $r = .18$), but no relationship to the employee's $-P \rightarrow -V$ expectancies (median $r = .07$), and (3) the environmental variables have relatively high intercorrelations (median $r = .40$).

To gain a greater understanding of the relations among the variables than can be provided by zero order correlations alone, this study will employ path analysis to further interpret the data.

Expectancies

Primary dependent variables of this study are the employee's effort-performance and performance-outcome expectancies. The employee's effort-performance expectancy was defined in this study as the extent to which the employee believed that his/her level of performance was determined by how much effort he/she put forth toward the task. The more the employee believes that he/she can accomplish the task goal, should he/she put forth the effort, then the higher the employee's effort-performance probability.

The employee's performance-outcome expectancies were defined as the extent to which the employee believes various outcomes from the task, the social group, and the organization to be a function

of his/her level of performance. Unlike the individual's effort-performance probability, which is conceived of as always being positive, negative and positive performance-outcome probabilities were measured in this study. A positive performance-outcome expectancy means that the employee perceives that positive outcomes will follow from high performance, or that negative outcomes will follow from low performance. A negative performance-outcome expectancy, on the other hand, means that the employee perceives a negative outcome to follow from high performance, or a positive outcome to follow from low performance. The former type of negative performance-outcome expectancies and both types of positive performance-outcome expectancies were utilized as dependent variables in this study.

It was predicted, on the basis of the literature review, that each of the exogenous variables of this study was a causal determinant of the employee's $E \rightarrow P$ and $P \rightarrow O$ expectancies. The succeeding analysis examines the relative importance of each of the exogenous variables in accounting for the variance in the employee's expectancies.

The path coefficients (standardized regression coefficients) between each of the exogenous variables and (1) the employee's $E \rightarrow P$ expectancy, and (2) the employee's self-reported performance are presented in Table 3-2 below:

Table 3-2

Path Coefficients Between Exogenous Variables and The
Employee's E→P Expectancy and Self-Reported Performance

Exogenous Variables	Path Coefficients	
	E→P Expectancy	Performance
<u>Individual Difference Variables</u>		
Age	-.07	-.06
Sex ¹	.03	-.16 ⁺⁺
Race ²	.10 ⁺	.08 ⁺
Tenure	-.02	.08 ⁺
Years of Education	-.03	.14 ⁺⁺
Organizational Level	.01	.18 ⁺⁺
<u>Environmental Variables</u>		
Task Stimulation	.15 ⁺⁺	.11 ⁺⁺
Performance Review	.10 ⁺⁺	.06
Democratic Climate	.04	-.07
Performance Feedback	-.07 ⁺	.06
Evaluation of Training	.01	.05
Evaluation of Supervisor	.15 ⁺⁺	.04
E→P[$\Sigma[(P \rightarrow 0)(V)]$]		.13 ⁺⁺

¹ A negative path coefficient for sex indicates that males report a higher level of performance than females.

² A positive path coefficient for race indicates that white employees report a higher E→P expectancy than non-white employees.

+p<.01

++p<.001

Table 3-2 suggests that the individual difference variables have a greater effect on perceived performance than do the environmental variables. Environmental variables, on the other hand, seem to have a greater impact on the employee's E→P expectancy than do the individual difference variables.

Specifically, Table 3-2 suggests that the employee's sex, years of education and organizational level, and the design of the task are significantly related to performance. That is, the path coefficients between these exogenous variables and the performance are greater than the minimum criterion of .10 established in this study. The path between the remaining exogenous variables and performance can be deleted from the path diagram.

The exogenous variables found to be significantly related to the employee's E→P expectancy were race, task stimulation, performance review, and the supervisor's behavior.

Five variables, age, tenure, democratic climate, performance feedback, and training, were found to be unrelated to either the employee's E→P expectancy or to self-reported performance.

Neglecting those paths with path coefficients less than .10 results in the parsimonious model presented in Figure 3-1 below:

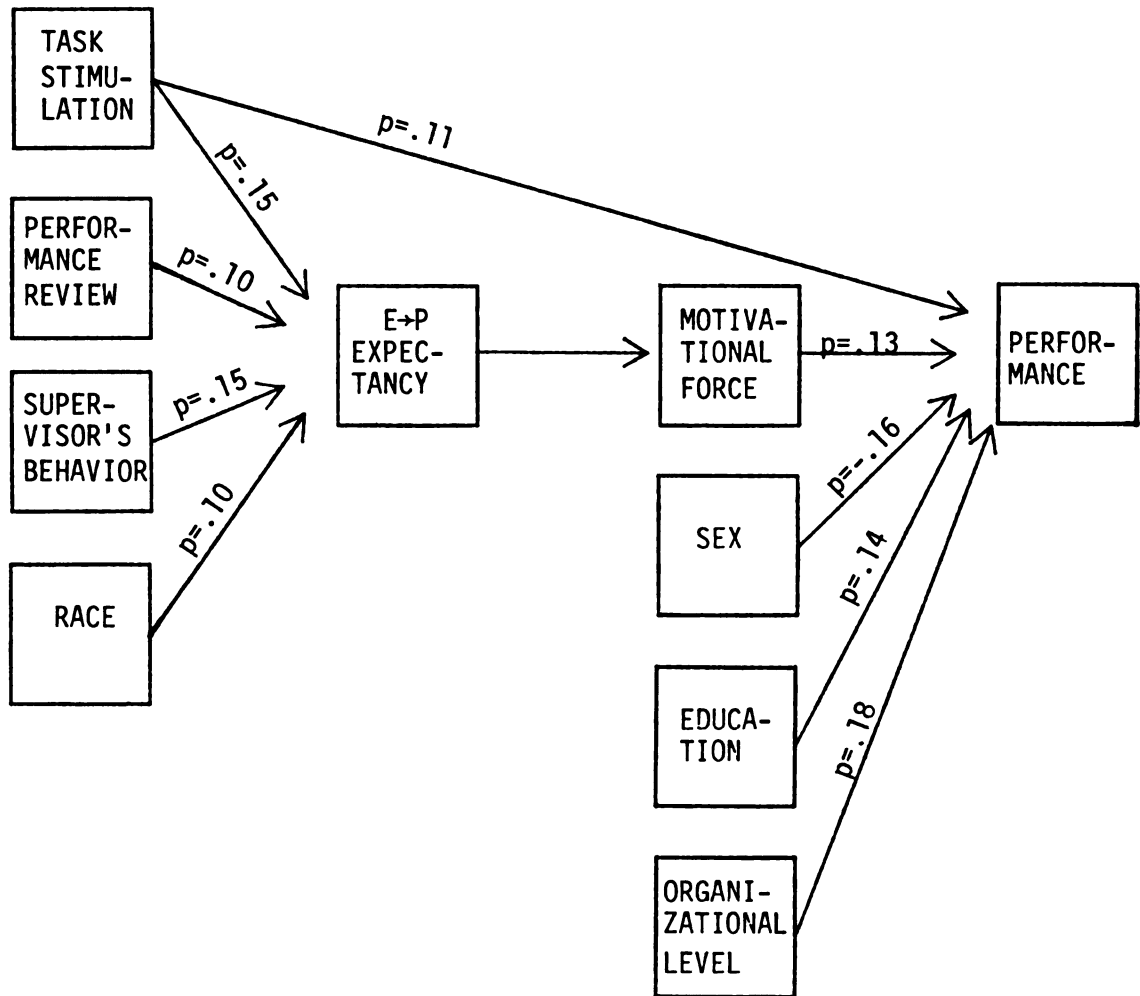


Figure 3-1

Parsimonious Path Model: Determinants of
The Employee's E→P Expectancy and Performance

Stated simply, the results suggest that: (1) whites are more likely to have a higher E→P expectancy than non-whites, (2) the more stimulating the task, the more likely the employee is to have a high E→P expectancy, (3) the more the employee perceives the performance review as being oriented toward aiding his/her development, the higher the employee's E→P expectancy, and (4) the more highly the employee evaluates his/her supervisor, the higher the employee's E→P expectancy.

Three individual difference variables were found to be significantly related to perceived performance. More specifically, the results indicate that: (1) males report higher levels of performance than do females, (2) the higher the employee's educational level, the higher the self-reported performance, and (3) the higher the employee's organizational level, the higher the self-reported performance.

It might be noted that the finding that sex, education, organizational level, and task stimulation have a direct impact on performance fails to explain why performance should be a function of these variables. Frequently, performance is suggested as the product of motivation and ability (Vroom 1964) and it may be that these variables are related to ability and not motivation. Ability, however, was not observed in this study, and thus, the impact of these variables on ability could not be assessed.

Finally, the path coefficients from the latent variables (i.e., all exogenous variables not included in the path diagram) to each endogenous variable in the path diagram can be estimated

by taking $\sqrt{1-R^2}$. The multiple R between the exogenous variables and (1) the employee's E→P expectancy is .37 and (2) the employee's performance is .38. Using the above formula, the combined path coefficients from the latent variables are equal to .93 for the employee's E→P expectancy, and .92 for the employee's performance. Examination of the latent influences indicates that 86% of the variance in the employee's E→P expectancy and 85% of the variance in the employee's performance remains unexplained by the exogenous variables explicitly included in the model.

It is also important to note that the endogenous variable motivational force, presumably a major determinant of performance, is less strongly related to performance than any of the exogenous variables remaining in the parsimonious model.

P→O Expectancies

A second purpose of this study was to investigate the determinants of the employee's P→O expectancies. However, unlike the employee's E→P expectancy, which represents a simple belief of the relationship between two variables, the individual's P→O expectancies are pluristic, that is, there is a performance-to-outcome contingency for every conceivable outcome. This makes it difficult to attempt to investigate the determinants of the employee's P→O expectancies beyond the objective reality for the particular performance outcome contingency under consideration. However, it is being suggested that there is an enduring component to these beliefs and that this component of the beliefs is

related to the exogenous variables of this study. The results of factor analysis reported in Chapter II suggested that three clusters of $P \rightarrow O$ beliefs are discernable. The first cluster is the employee's positive expectancies that high performance will be followed by desirable outcomes ($+P \rightarrow +V$). The second cluster is the employee's negative expectancies that high performance will be followed by undesirable outcomes ($+P \rightarrow -V$), and the third cluster of expectancies, positive expectancies, is the employee's belief that poor performance will be followed by punitive outcomes ($-P \rightarrow -V$). These three clusters of expectancies will serve as the dependent variable in the interpretation of the data using path analysis, to follow.

It was predicted that employees who were male, white, educated, older, having long tenure, and a position high in the hierarchy would have higher positive $P \rightarrow O$ expectancies than employees without these characteristics. Further, it was predicted the environmental variables task complexity, evaluation of supervisor, performance review, performance feedback, democratic climate, and evaluation of training would all be positively related to the employee's positive expectancies.

Since the path coefficients obtained by regressing performance on each of the exogenous variables and the motivation force equation remained unchanged from the previous analysis, the impact of the exogenous variables on the three clusters of $P \rightarrow O$ expectancies can be seen more clearly by first presenting the path coefficients in tabular form, followed by the residual path diagram.

Table 3-3 presents the path coefficients that are obtained when each of three clusters of P→O expectancies are regressed on the exogenous variables.

Table 3-3

Path Coefficients Between Exogenous Variables and The Employee's +P→+V, -P→-V, and +P→-V Expectancies

Exogenous Variables	Path Coefficients		
	+P→+V	-P→-V	+P→-V
<u>Individual Difference Variables</u>			
Age	-.03	.00	.01
Sex	.07++	.00	.04
Race	.00	-.10++	.00
Tenure	-.09++	.02	-.02
Education	-.03	-.08+	.04
Organizational Level	.08+	-.01	.03
<u>Environmental Variables</u>			
Task Stimulation	.19++	.04	.04
Performance Review	.24++	.13++	.09+
Democratic Climate	.21++	-.06	-.25++
Performance Feedback	-.05+	.03	-.06
Evaluation of Training	.08++	.00	-.04
Evaluation of Supervisor	.20++	.06	-.11+

⁺p<.01

⁺⁺p<.001

High Performance → Positively Valent Outcomes (+P→+V)

Examination of Table 3-3, combined with the information of Table 3-2, suggests that if all path coefficients which are less than .10 are deleted, the resulting parsimonious path diagram, when positive P→O expectancies for desirable outcomes serve as the focal endogenous variable, would be that shown in Figure 3-2.

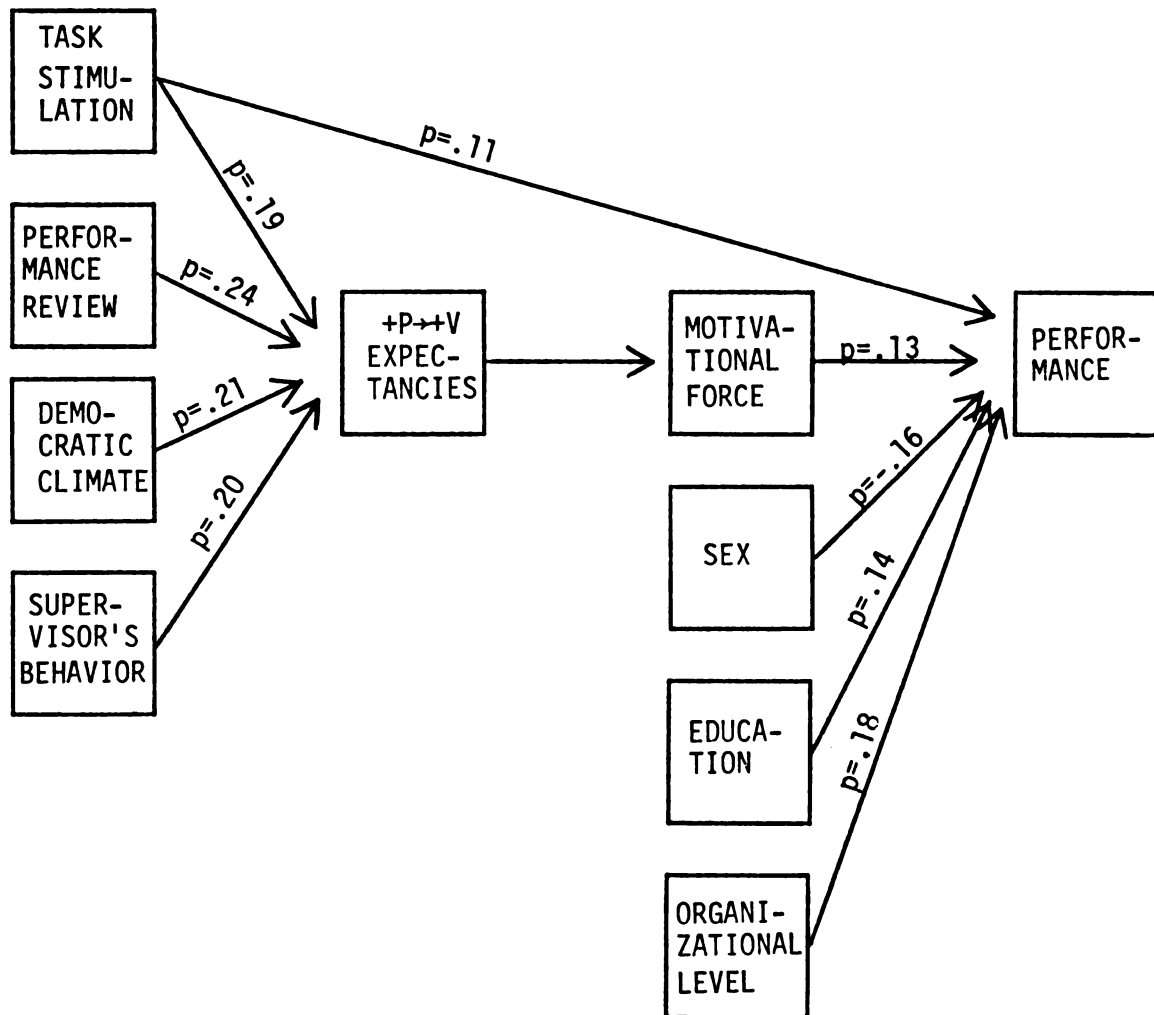


Figure 3-2

Parsimonious Path Model: Determinants of
The Employee's +P→+V Expectancies and Performance

The most obvious result of the above path analysis suggests that the environmental variables have a greater impact on the employee's $+P \rightarrow +V$ expectancies than do the individual difference variables.

Since none of the individual difference variables have a strong direct impact on the employee's $+P \rightarrow +V$ expectancies, one can conclude that hypotheses 3a through 3f are not supported. That is, the employee's $+P \rightarrow +V$ expectancies do not appear to be directly dependent upon the sex of the employee, the age of the employee, the race of the employee, the amount of education the employee has received, the employee's level in the organization, or the length of employment.

The data analysis does reveal, as predicted, that the environmental variables task stimulation, performance review, democratic climate, and the supervisor's behavior act as significant determinants of the employee's positive $P \rightarrow O$ expectancies toward desirable outcomes. These results confirm hypotheses 2a, 2b, 2c, and 2d, while disconfirming hypotheses 2e and 2f. In other words, training and performance feedback were not found to be significant direct determinants of the employee's positive $P \rightarrow O$ expectancies for desirable outcomes ($+P \rightarrow +V$), as was predicted.

Examination of the latent influences indicated that the exogenous variables task stimulation, performance review, democratic climate and the supervisor's behavior are explaining 53% of the variance in the employee's $+P \rightarrow +V$ expectancies, leaving 47% of the variance in the employee's $+P \rightarrow +V$ expectancies to be explained by latent variables.

Low Performance → Negative Outcome Expectancies (-P→-V)

A second cluster of positive $P \rightarrow 0$ expectancies is that concerning the employee's beliefs that negative outcomes are a function of low performance. The path coefficients relating the exogenous variables to this cluster of expectancies are shown in column two of Table 3-3. Deleting those path coefficients below the minimum .10 criterion, the residual path model is that of Figure 3-3 below:

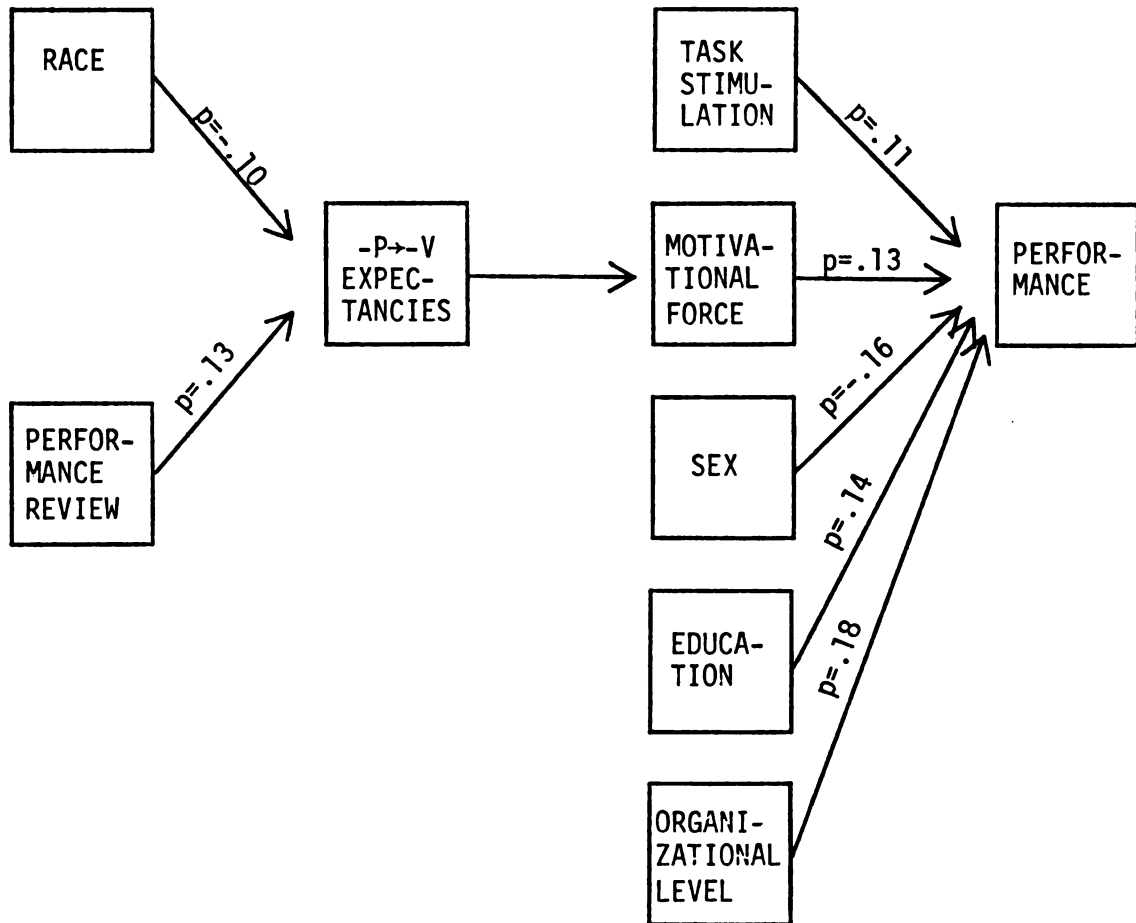


Figure 3-3

Parsimonious Path Model: Determinants of
The Employee's -P→-V Expectancies and Performance

As Figure 3-3 indicates, the only individual difference variable found to have an impact on the employee's expectancies that low performance would result in negative outcomes was race. It was predicted that white employees would have higher positive $P \rightarrow O$ expectancies than non-white employees, however, the results indicate the opposite to be true. That is, the findings indicate that non-white employees are more likely to believe that negative outcomes will follow from low performance than are white employees.

In addition, the only environmental variable found to have an effect on the employee's belief that negative outcomes are contingent on low performance was the perceived role of the performance review. The results suggest that the more the employee perceives the performance review to be oriented toward his/her development, then the higher his/her expectancies that low performance will lead to negative outcomes. The combined path coefficient from the latent variables is equal to .97. Examination of the latent influences indicated that 95% of the variance in the employee's $-P \rightarrow -V$ expectancies remains unexplained by the exogenous variables utilized in this study.

High Performance $\rightarrow$ Negative Outcome Expectancies ($+P \rightarrow -V$)

Negative expectancies, the employee's belief that negatively valent outcomes are likely to follow from high performance, constitute the third cluster of $P \rightarrow O$ expectancies which was investigated in this study. Figure 3-4 shows the residual path diagram once the non-significant paths have been deleted.

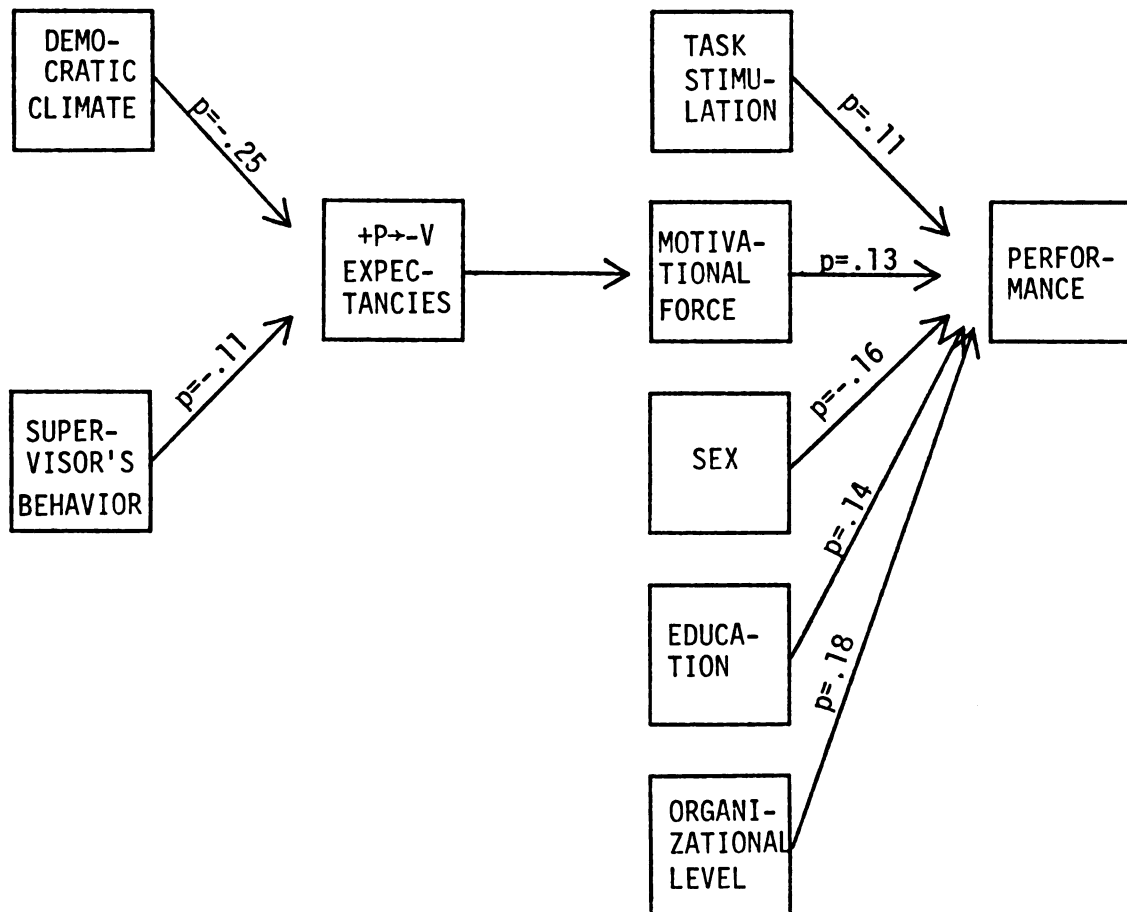


Figure 3-4

Parsimonious Path Model: Determinants of
The Employee's +P→-V Expectancies and Performance

The results reveal, counter to the hypotheses, that none of the individual difference variables are significant antecedents of the employee's negative $P \rightarrow 0$ expectancies ($+P \rightarrow -V$).

Negative $P \rightarrow 0$ expectancies, however, were found to be significantly influenced by the two environmental variables democratic climate and the supervisor's behavior. That is, the results indicate that the more the employee perceives the climate to be democratic and the more highly the employee evaluates his/her supervisor, the less strong are the employee's negative $P \rightarrow 0$ expectancies ($+P \rightarrow -V$).

Examination of the latent influences indicated that these two exogenous variables are explaining 11% of the variance in the employee's $+P \rightarrow -V$ expectancies, leaving 89% to be explained by latent variables.

Valences

Valence was defined as the extent to which the employee found an outcome to be desirable or undesirable and was measured on a Likert scale with nine response alternatives ranging from positive four (very desirable) to negative four (very undesirable).

It was suggested that valences were a function of the individual's needs. Further, it was suggested that one's needs, and consequently the valences one attaches to outcomes, are primarily a function of the individual difference variables of this study rather than the situational variables. Thus it was predicted that the individual difference variables of this study would have

a significantly greater impact on the employee's valences than the environmental variables of this study.

As a result of the factor analysis reported in Chapter II, two categories of outcomes will be used as the focal endogenous variables in this study: (1) positively valent outcomes, and (2) negatively valent outcomes.

Table 3-4 presents the path coefficients that are obtained when each of the two categories of valences are regressed on the exogenous variables.

Table 3-4

Path Coefficients Between Exogenous
Variables and The Employee's Valences

Exogenous Variables	Path Coefficients	
	Positive Valent Outcomes	Negative Valent Outcomes
<u>Individual Difference Variables</u>		
Age	.03	.02
Sex	-.03	.12++
Race	.03	-.06+
Tenure	-.07	.10+
Education	.14++	-.04
Organizational Level	.09+	-.06
<u>Environmental Variables</u>		
Task Stimulation	.04	.01
Performance Review	.06	.03
Democratic Climate	.06	-.07
Performance Feedback	.09+	.04
Evaluation of Training	.04	-.02
Evaluation of Supervisor	.04	.06

+p<.01

++p<.001

Findings presented in Table 3-4 reveal that for positively valent outcomes, only the variable years of education was found to be significantly related to the valence the employee attaches to positive outcomes. These results suggest that the greater the employee's educational attainment, the more desirable the positive valent outcomes.

The only exogenous variables found to be significant determinants of negatively valent outcomes are the employee's sex and tenure. The results suggest that male employees find negative outcomes to be more undesirable than female employees and the greater the length of employment, the more undesirable negative outcomes are likely to be to the employee.

Assuming being male is perceived as a greater input, these findings suggest that the greater the input the more undesirable a negative reinforcer is likely to be evaluated by the employee.

Since all three of the significant path coefficients presented in Table 3-4 are for the individual difference variables, it provides marginal support for the hypothesis that individual difference variables have a greater impact on the valences the employee attaches to outcomes than do environmental variables.

For each of the preceding parsimonious models it was possible to reproduce the original intercorrelation matrix, and thus suggest that the parsimonious models are consistent with the data.

Cross Validation

To assess the reliability of the results presented in this chapter, a cross validation was performed. This was accomplished by (1) repeating the previous analysis on a held-out sample, and (2) using the regression coefficients obtained in the previous analysis to predict the endogenous variables of the held-out sample, and then determining the correlation coefficient between the predicted and observed endogenous variables in the held-out sample.

The results obtained by repeating the statistical analysis on the held-out sample are repeated in Tables 3-5 through 3-10. To facilitate comparison, the results obtained from the first sample are also included in these tables.

Table 3-5

Path Coefficients Between Exogenous Variables and The
Employee's E→P Expectancy For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample†
<u>Individual Difference Variables</u>		
Age	-.07	-.03
Sex	.02	-.02
Race	.10	.03
Tenure	-.02	.00
Education	-.03	.01
Organizational Level	.01	-.03
<u>Environmental Variables</u>		
Task Stimulation	.15	.10
Performance Review	.10	.10
Democratic Climate	.04	.12
Performance Review	-.07	-.02
Evaluation of Training	.01	-.01
Evaluation of Supervisor	.15	.07

† N = 1531

Table 3-6

Path Coefficients Between Exogenous Variables and The
Employee's +P→+V Expectancies For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample+
<u>Individual Difference Variables</u>		
Age	.03	.02
Sex	.07	.02
Race	.01	.01
Tenure	.09	.11
Education	.03	.00
Organizational Level	.08	.09
<u>Environmental Variables</u>		
Task Stimulation	.19	.25
Performance Review	.24	.29
Democratic Climate	.21	.25
Performance Feedback	.05	.04
Evaluation of Training	.08	.05
Evaluation of Supervisor	.20	.10

+ N = 1531

Tables 3-7

Path Coefficients Between Exogenous Variables and The
Employee's -P→-V Expectancies For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample ⁺
<u>Individual Difference Variables</u>		
Age	.00	.12
Sex	.00	-.05
Race	-.10	-.10
Tenure	-.02	-.08
Education	-.08	-.04
Organizational Level	-.01	.00
<u>Environmental Variables</u>		
Task Stimulation	.04	.05
Performance Review	.13	.13
Democratic Climate	-.06	-.02
Performance Feedback	.03	-.03
Evaluation of Training	.00	.02
Evaluation of Supervisor	-.06	-.05

⁺ N = 1531

Table 3-8

Path Coefficients Between Exogenous Variables and The
Employee's +P+-V Expectancies For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample†
<u>Individual Difference Variables</u>		
Age	.01	-.01
Sex	-.04	-.03
Race	.00	-.04
Tenure	-.02	.01
Education	.04	.01
Organizational Level	.03	.09
<u>Environmental Variables</u>		
Task Stimulation	.04	-.05
Performance Review	.03	.16
Democratic Climate	-.25	-.23
Performance Feedback	-.06	-.04
Evaluation of Training	-.04	-.13
Evaluation of Supervisor	-.11	-.08

† N = 1531

Table 3-9

Path Coefficients Between Exogenous Variables
and The Employee's Assignment of Valences To
Positive Outcomes For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample ⁺
<u>Individual Difference Variables</u>		
Age	.03	.04
Sex	-.03	.00
Race	.03	-.01
Tenure	-.07	-.05
Education	.14	.13
Organizational Level	.09	.08
<u>Environmental Variables</u>		
Task Stimulation	.04	.08
Performance Review	.06	.03
Democratic Climate	.06	.09
Performance Feedback	.09	.11
Evaluation of Training	.05	.02
Evaluation of Supervisor	.04	.05

⁺ N = 1531

Table 3-10

Path Coefficients Between Exogenous Variables
and The Employee's Assignment of Valences To
Negative Outcomes For First and Second Samples

Exogenous Variables	Path Coefficients	
	First Sample	Second Sample†
<u>Individual Difference Variables</u>		
Age	.02	.04
Sex	.12	.05
Race	-.06	-.03
Tenure	.10	.04
Education	-.04	.03
Organizational Level	-.06	-.04
<u>Environmental Variables</u>		
Task Stimulation	.01	-.01
Performance Review	.03	-.01
Democratic Climate	-.07	-.02
Performance Feedback	.04	-.01
Evaluation of Training	-.02	-.05
Evaluation of Supervisor	-.06	-.04

† N = 1531

In summary, Tables 3-5 through 3-10 indicate that, in general, the results obtained in the second sample are similar to those obtained in the first sample. The major exceptions to this statement are for: (1) the exogenous variables race, climate, and evaluation of the supervisor in Table 3-5, (2) the exogenous variable evaluation of the supervisor in Table 3-6, (3) the exogenous variables organizational level and performance review in Table 3-7, (4) the exogenous variable age in Table 3-8, and (5) the exogenous variable sex in Table 3-10.

The results of the second procedure, that is, determining the correlation coefficients between the predicted and the observed endogenous variables, are presented in Table 3-11 below:

Table 3-11

Cross Validation: Zero Order Correlation Coefficients Between Predicted and Observed Endogenous Variables For Second Sample

Endogenous Variables	Zero Order Correlation Coefficient Between Predicted and Observed Endogenous Variables
E→P Expectancy	.27+
+P→+V Expectancies	.71+
+P→-V Expectancies	.16+
-P→-V Expectancies	.33+
Positively Valent Outcomes	.28+
Negatively Valent Outcomes	.08+
Performance Evaluation	.29+

+ p<.001

All of the above correlation coefficients are statistically significant, however, in each instance, with the exception of the $+P \rightarrow +V$ expectancies, the magnitude of the correlation coefficients is lower than desired.

Chapter Summary

In this chapter the results of the data analysis were presented. In general, the individual difference variables of this study were not found to be significant determinants of the employee's expectancy theory cognitions. Exceptions to this statement were the findings that: (1) white employees tend to have a higher $E \rightarrow P$ expectancy than non-white employees, (2) non-white employees tend to have higher $-P \rightarrow -V$ expectancies than white employees, (3) higher level employees find positively valent outcomes more desirable than lower level employees, (4) male employees report negatively valent outcomes as being more undesirable than female employees, and (5) the greater the length of employment, the more undesirable negatively valent outcomes are likely to be to the employee. These results suggest that, with the exception of race, individual differences have little impact on the employee's expectancies, but do affect the employee's assignment of valences.

In general, the environmental variables were found to have a greater impact on the employee's expectancy theory cognitions than did the individual difference variables. In particular, the findings with regard to the environmental variables were: (1) task stimulation was found to be significantly related to the

employee's $E \rightarrow P$ expectancy, and to the employee's $+P \rightarrow +V$ expectancies, but was not found to be significantly related to the employee's $+P \rightarrow -V$ expectancies or to $-P \rightarrow -V$ expectancies, (2) performance reviews oriented toward the employee's development were found to be positively related to the employee's $E \rightarrow P$ expectancy, $+P \rightarrow +V$ expectancies, $-P \rightarrow -V$ expectancies, but not related to the employee's $+P \rightarrow -V$ expectancies, (3) the employee's perceptions of the existence of a democratic climate were found to be positively related to the employee's $+P \rightarrow +V$ expectancies, and negatively related to the employee's $+P \rightarrow -V$ expectancies, and unrelated to the employee's $E \rightarrow P$ expectancy or to the employee's $-P \rightarrow -V$ expectancies, and (4) the employee's evaluation of his/her supervisor was found to be positively related to the employee's $E \rightarrow P$ expectancy, $+P \rightarrow +V$ beliefs, negatively related to the employee's $+P \rightarrow -V$ beliefs, and unrelated to the employee's $-P \rightarrow -V$ expectancies.

The two remaining environmental variables of this study, performance feedback and evaluation of training, were not found to act as antecedents of either the employee's $E \rightarrow P$ or $P \rightarrow O$ expectancies.

The results reveal, as predicted, that none of the environmental variables of this study were strong causal determinants of the valences the employee assigns to outcomes.

Finally, the results of the cross validation were presented in this chapter, and they suggest that, in general, the results found in the first subsample are replicated in the second subsample, thus lending confidence to the findings discussed above.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

As stated in Chapter I, the purpose of this study was to investigate the antecedents of employee expectancy theory cognitions. The impact of twelve individual difference and environmental variables upon six expectancy theory cognitions was examined in this study. The sample consisted of approximately thirty one hundred employees of the Ford Motor Company. The research technique employed in this study was correlational with a multivariate analysis of the data. Path analysis was used to interpret the data.

This chapter reviews the major results of this study. Findings with respect to each of the endogenous variables are discussed in relation to the hypotheses and existing research. Further, the theoretical and practical implications of the findings, the limitations of the present study, and suggested directions for future research are discussed.

E→P Expectancy

It was suggested that an individual's E→P expectancy has both a transitory and an enduring component. The transitory component would seem to be affected most strongly by environmental variables such as the level of the task difficulty. The enduring component, on the other hand, was suggested as being a personality disposition, and relatively constant across situations.

It was hypothesized that this enduring component of the individual's E→P expectancy is strongly determined by the individual's feelings of competence, efficacy, self-esteem, and one's ability to affect one's own life. Even when the situation changes, or when the situation is constant for two individuals, the E→P expectancy was thought to vary with one's self evaluation. Further, it was hypothesized that one's self evaluation was based on a history of success or failure. An individual whose efforts have been frustrated time and time again, or whose acts have been critically appraised, or whose worth as an individual is depreciated relative to others in society, will find it difficult to escape feelings of low self competence. It is thought that these feelings are, because of society's role assignments, closely related to the individual difference variables such as race, sex, and education.

As a result, this study sought to determine the impact of the individual difference and environmental variables on the employee's E→P expectancies.

As hypothesized, the race of the employee was found to be a significant determinant of the E→P expectancy such that white employees were found to have a higher E→P expectancy than non-white employees. These results are consistent with the writings of Katz (1964, 1968), Clark (1967), Gurin (1970), Gurin and Gurin (1970), Arvey and Mussio (1974), and Korman (1974).

Contrary to stated predictions, the sex, age, education, tenure, and level in the organization of the employee were not found to be significantly related to the employee's E→P expectancy. One explanation for these results is that the employees failed to

distinguish between what may be generally true in the organization and what may be true for them alone. That is, they may believe, in general, in this organization, that effort and performance are causally related and answered in terms of this general belief rather than in terms of their specific situation.

A second explanation for the failure of the data to confirm the hypotheses is that the sample, being all salaried employees, restricted the range of employee responses. That is, the self competence of this sample of employees may have been above average.

Thirdly, the variables may simply not be related to E→P perceptions.

In general, the results show that the environmental variables had a greater impact on the employee's E→P expectancy than did the personal variables. The results reveal, as predicted, that the task, the performance review, and the supervisor all have a significant impact on the employee's E→P expectancy. With respect to the task, these results are consistent with writings of Cummings and Schwab (1974). The findings with respect to the performance review are also supportive of Cummings and Schwab, and the finding that the supervisor's behavior significantly affects the employee's E→P expectancy is supportive of the research by House (1971), Mitchell and House (1974), Mitchell (1973), Evans (1970), Dessler (1973), and the contentions of Lawler (1973).

Environmental variables not found to be significantly related to the employee's E→P expectancy were the subordinate's perceptions of the training he received, the employee's perceptions of the adequacy of the feedback he receives on his

performance, and the extent to which the employee perceives the climate to be democratic.

The finding that training was not found to be related to the E→P expectancy may be supportive of Gurin's position that training, in comparison to one's life history, is too brief to compensate for low expectancies.

It may be that the employee's E→P perception is related to the nature of the feedback he receives rather than simply the amount of feedback, which was measured in this study. That is, it wouldn't seem reasonable to expect that an individual who is receiving critical feedback on his performance, regardless of the amount of effort he puts forth, to have a high E→P perception. The same results would probably be true if all the feedback the employee received was praising his performance despite the amount of effort the individual puts forth. Thus, the impact of feedback on performance probably depends on the nature of the feedback and not simply on the volume of the feedback. Further, the impact of feedback on the employee's E→P perception may be moderated by the employee's evaluation of the individual providing the feedback.

P→O Expectancies

In general, it was predicted that individual differences and environmental variables were responsible for the magnitude of the employee's P→O expectancies. Factor analysis of the data indicated that three clusters of P→O expectancies were discernable: (1) the belief that positive outcomes are contingent on high performance, (2) the belief that negative outcomes are contingent on

low performance, and (3) the belief that negative outcomes are contingent on high performance. The first two clusters are positive $P \rightarrow O$ expectancies since both should foster high performance, and the third cluster should be negatively related to performance and thus is a cluster of negative $P \rightarrow O$ expectancies.

It was predicted, and substantiated by the data, that environmental variables would have a greater impact on the employee's $P \rightarrow O$ expectancies than individual difference variables.

The only individual difference variable found to have a significant impact on any of the clusters of $P \rightarrow O$ expectancies was race. White employees tended to feel that positively valent outcomes are more likely to follow from high performance than non-white employees. Non-white employees, on the other hand, had stronger beliefs that negatively valent outcomes would follow from low performance. This suggests that the performance behavior of non-white employees is based on negative reinforcement, but that the performance behavior of white employees is based on positive reinforcement. That is, the results indicate that non-white employees are more likely to perceive performance as a way of avoiding negative outcomes than white employees. Stated differently, high performance is seen as escape behavior for non-white employees.

Environmental variables, (1) task stimulation, (2) performance review, (3) democratic climate, and (4) evaluation of the supervisor, were found to be significantly related to at least one of the three clusters of $P \rightarrow O$ expectancies. The only two environmental variables, of the six included in this study, not found to

be significantly related to the employee's $P \rightarrow O$ expectancies were the employee's evaluation of the performance feedback and training they have received.

These results are supportive of Lawler's (1973) argument that $P \rightarrow O$ expectancies are the expectancy theory cognitions most likely to be influenced by the policies and practices of the organization. He feels by controlling such variables as the design of jobs, the pay and promotion system, and the leader's behavior the organization should be able to influence important $P \rightarrow O$ beliefs held by the employee.

These results may also suggest that the enduring component of the individual's $P \rightarrow O$ beliefs, which is thought to be systematically related to individual difference variables, is either non-existent or relatively insignificant compared to the transient component, which is thought to be shaped primarily by the objective reality of the situation.

It should be noted, however, these results do not preclude other individual difference variables, such as locus of control, from being important determinants of the enduring component of the employee's $P \rightarrow O$ expectancies.

Valences

It was suggested in Chapter I that an individual's needs are a significant determinant of the valences an individual attaches to outcomes. Further, it was suggested that an individual's needs are to a large extent a function of individual differences rather

than environmental variables. Based on this reasoning, it was hypothesized that biographical variables would have a greater impact on an individual's valences than would the environmental variables of this study.

The results offered marginal support for this hypothesis. The only exogenous variables found to be significantly related to an individual's valence scores were the individual's education, sex, and tenure, all biographical variables.

If this hypothesis is correct, then it suggests that valences themselves may be largely independent of organizational influence. However, an organization may influence employee motivation by attempting to match outcomes to biographical variables, perhaps by using a cafeteria reward system.

It might be noted that one possible cause of employee valences, but one which was not investigated in this study, is the employee's expectancies themselves (Lawler 1971). That is, the valence an employee attaches to an outcome may be related to the likelihood of its obtainment. It is expected that the easier the obtainment of the outcome the lower the valence attached to the outcome.

If this is correct, then the organization gains some control over employee valences by influencing the difficulty of the receipt of the rewards.

While expectancy beliefs may influence valences, it is also possible that how extrinsic outcomes are obtained may influence the valence of intrinsic outcomes. Deci (1973), for example, has suggested that contingent extrinsic rewards reduce an

individual's intrinsic motivation. One explanation for Deci's position is that contingent extrinsic rewards may decrease the attractiveness of intrinsic outcomes.

Based on the evidence of this study and the conjectures made above, it seems reasonable to conclude that organizations would be advised not to focus on attempting to influence employee valences, but rather to focus on allowing enough flexibility in the reward system to optimally meet individual differences.

It is interesting to note that if an individual's expectancies are shaped primarily by environmental variables, as suggested by this study, and thus relatively uniform for all employees, then variations in performance may be related to variations in desire for the reward, valences, which the individual is more likely to bring to the organization as a result of his need structure. Stated differently, if the expectancies in the motivation force equation have less variance across employees because all employees experience a similar environment, then variation in performance may be primarily the result of variation in the valences the individual attaches to the outcomes. This may explain Pritchard and Sanders' (1973) findings that valences alone could explain as much variance in performance as the total motivational force equation.

However, this does not preclude increasing the overall level of motivation within an organization by manipulating environmental variables in such a way as to increase every employee's expectancies.

Summary of Major Findings

The above results can be conveniently summarized with the matrix shown in Table 4-1 below. Path coefficients are entered into the matrix only if a meaningful path coefficient was found to exist.

Table 4-1
Summary Matrix of Major Findings

Exogenous Variables	Path Coefficients					
	E→P	+P→+V	-P→-V	+P→-V	+V	-V
<u>Individual Differences</u>						
Age						
Sex						.12
Race	.10		-.10			
Tenure						.10
Education					.14	
Organizational Level						
<u>Environmental Variables</u>						
Task Stimulation	.15	.19				
Performance Review	.10	.24	.13			
Democratic Climate		.21		-.25		
Performance Feedback						
Evaluation of Training						
Evaluation of Supervisor	.15			-.11		

As Table 4-1 indicates, the exogenous variables found not to be significantly related to any of the employee's expectancy theory cognitions were: (1) age, (2) performance feedback, and (3) training.

Variables found to influence valences but not expectancies were: (1) sex, (2) education, and (3) tenure. It is interesting to note that two of these three variables, sex and education, were, along with organizational level, found to be significantly related to

performance. Further, the matrix shows that none of the environmental variables affect the valences employees assign to outcomes.

The exogenous variables found to affect both the E→P expectancy and the P→O expectancies, and thus one would expect to have the greatest impact on motivation, are the supervisor's behavior, the performance review, the task design, and the individual difference variable race. Democratic climate, on the other hand, was found to affect the P→O expectancies, but not the employee's E→P expectancy.

Practical Implications of the Findings

A valid question to ask of current formulations of expectancy theory is "What are you going to do with it?" If expectancy theory is to become more than an academic exercise in the explanation of behavior, then it is necessary to understand the determinants of the expectancy theory cognitions as well as their relation to behavior. As stated in Chapter I, Scott and Cummings (1973) have criticized current formulations of expectancy theory for not including postulates on how expectancy theory cognitions are formulated and related to environmental variables. Without these postulates expectancy theory may amount to nothing more than behavioral science rhetoric.

The findings of this study suggest several managerial implications. First, the findings suggest that the organization should make a special effort to compensate for the low expectancies held by non-white members. How this should be done is less clear.

However, the research of Gurin (1970) suggests that this is not likely to be accomplished with a short training program.

Second, the results suggest that rewards should be individualized to the extent that this possible. The findings suggest that the valence the employee attaches to rewards varies with education, tenure, and sex. It would seem reasonable to conclude that the motivational impact of rewards would be greater if they were aligned with the individual's preference structure.

Third, on the basis of the number of expectancy theory cognitions affected, these results suggest that the single most important determinant of employee motivation is having a performance review that is designed toward developing the employee.

Limitations of the Present Study and Direction for Future Research

This study provides some clarification as to the causal determinants of an employee's expectancy theory cognitions. However, this study, like every other, is not without its limitations. This section will disclose the known limitations of this study and suggest some direction for future research.

The first limitation of this study involves the difficulty of trying to infer causality from a nonexperimental design. Demonstrating that the residual path model is consistent with the data does not eliminate the possibility that other relationships among the variables are not equally feasible, and some of these feasible alternatives may not hypothesize a direct causal relation between the exogenous variables and the expectancy theory cognitions.

A second difficulty deals with the measurement of the variables. Two crucial variables in this study, the employees' performance rating and the valences they attached to certain outcomes, had a restricted range which may have attenuated their correlations with the exogenous variables. Further, performance, being a self-report measure, tended to be inflated. Moreover, the environmental variables were perceptual measures and may not accurately reflect the objective situation, and may create artificially high correlations with the other perceptual measures, namely the expectancy theory cognitions. In addition, the high intercorrelations among the environmental variables suggests that there may be a satisfaction halo present in the data. Finally, the reliability of the expectancy theory cognitions must be questioned (DeLeo and Pritchard 1974). This is especially true for the employee's effort-performance belief, which was assessed with a single item.

A third difficulty of this study concerns the assumptions inherent in path analysis. The statistical analysis performed in this study assumes a linear relationship among the variables. To the extent that this assumption is violated, the findings presented in this study may become invalid.

A fourth difficulty of this study is that the sample came from a single organization and did not include non-salaried personnel. Consequently, one must be cautious in generalizing the findings to other organizations and to non-salaried personnel.

Yet another difficulty of this study was the inability to cluster expectancy theory cognitions into meaningful categories such as $P \rightarrow O$ expectancies for extrinsic and intrinsic outcomes.

A related difficulty was the inability to make specific statements as to which dimensions of the supervisor's behavior had the greatest impact on the employee's expectancies. Future research should ascertain the impact of the supervisor's competence, supportiveness, etc. on the expectancy theory cognitions of subordinates.

Finally, the findings indicate that, with the exception of the employee's $+P \rightarrow +V$ expectancies, the latent variables are explaining over half the variance in the expectancy theory cognitions. This research suggests that there are additional determinants of the employee's expectancy theory cognitions beyond those investigated in this study.

The findings and limitations of this study suggest the direction along which future research should proceed. First, future research should attempt to obtain a more objective assessment of employee performance and of the environmental variables. Second, an experimental design should be employed. Third, a search for the significant latent variables, such as structural variables, may be fruitful. Fourth, this research should be replicated in different industrial settings, involving non-salaried employees, and finally, an effort should be made to develop meaningful categories of the expectancy theory cognitions.

APPENDICES

APPENDIX A

SALARIED PERSONNEL SURVEY



**SALARIED
PERSONNEL
SURVEY**

1973

**EDUCATION & PERSONNEL RESEARCH DEPARTMENT
PERSONNEL & ORGANIZATION STAFF**

Introduction

This is a survey of the attitudes and opinions of Ford Motor Company salaried employees in domestic operations. Through the questionnaire we hope to learn more about your feelings concerning various Company policies and practices as well as work-related issues of general interest.

You are one of several thousand employees *randomly selected* from all Divisions and Staffs being asked to participate in this survey by expressing your views on a number of important aspects of your work.

This survey is not a test — there are no right or wrong answers. The responses of individual employees are to be handled anonymously. The data will be combined by computer for various employee groups so that employee responses will be completely anonymous.

You will be asked to give certain information about yourself, such as sex, length of service, education, etc. The purpose of obtaining this type of information is to allow the comparison of responses of various employee groups. For example: short service employees compared with longer service employees. Again, analysis will be made in a manner which does not allow identification of individuals.

At the end of the questionnaire is a space where you can write in additional comments should you care to do so.

The results of this study will give us a thorough picture of the attitudes of employees throughout the Company only if your answers to the questions reflect the way you really feel.

Your participation in the survey is completely voluntary. If you do not wish to take part, please return your blank questionnaire.

WHAT YOU SAY IN THIS SURVEY IS COMPLETELY CONFIDENTIAL. DO NOT SIGN YOUR NAME — WE DO NOT WANT TO KNOW WHO YOU ARE.

Biographical Groupings Instructions

Please read the following list of questions carefully and check the items which most closely apply to you. If you are completing the survey in a group, please enter the location code given you by the survey administrator. If you are completing this survey and returning it by mail, please leave the location code blank.

BIOGRAPHICAL GROUPINGS:**Function**

Cols.

- 1 ☐ Enter the Function Code printed on your IBM card.

Location (For group administration only. Leave blank if returned by mail.)

- 2 4 ☐ ☐ ☐ ☐ Enter the Location Code as given you by the Survey Administrator.

Approximate Age

- | | | |
|---|----------------------------------|----------------------------------|
| 5 | ☐ 24-less | ☐ 40-49 |
| | ☐ 25-29 | ☐ 50-54 |
| | ☐ 30-39 | ☐ 55-over |

Marital Status

- | | | |
|---|---|--|
| 6 | ☐ Single | ☐ Separated |
| | ☐ Married - without children | ☐ Divorced |
| | ☐ Married with children | ☐ Widower/Widow |

Approximate Company Service

- | | | |
|---|---|---|
| 7 | ☐ less than one year | ☐ 6-10 years |
| | ☐ 1-2 years | ☐ 11-20 years |
| | ☐ 3-5 years | ☐ 21 years or more |

Highest Level of Formal Education

- | | | |
|---|--|--|
| 8 | ☐ 8th Grade or less | ☐ Bachelor's Degree |
| | ☐ High School Graduate or equivalent | |
| | ☐ Technical School or
Business School Graduate | ☐ Master's Degree or higher |
| | ☐ Some College | |

Approximate Salary Grade

Cols.

9

☐ 1-2☐ 7-8☐ 3-4☐ 9-10☐ 5-6☐ 11-12**Type of Office or Facility in which you Work**

10

☐ Central Staff (WHQ, Subsidiary)☐ Depot☐ Division General Office☐ Regional or District Sales Office☐ Plant☐ Don't Know☐ Engineering Center**Personal Information**

11

☐ Male☐ Female

12

☐ American Indian☐ Spanish-surnamed American☐ Black (Negro)☐ White (Caucasian)☐ Oriental☐ Other _____

13 20 Blank

How to Complete the Survey

Please read each statement and decide how you feel about it. There are different rating scales used throughout the survey; be sure to read each alternative carefully and select the one which best describes your opinion. All you have to do is choose the response that most accurately reflects how you feel and place an "X" in the box next to it. Some of the statements may not be worded exactly the way you want them; however, interpret them the best way you can. Be sure to mark each statement unless instructed otherwise.

DEFINITIONS

The following definitions apply throughout the Survey:

Company & Ford – refers to the Ford Motor Company and its subsidiaries as a whole.

Job – refers to the most recent work experience that you are closely familiar with.

Supervisor – refers to your immediate supervisor, that is, the person to whom you report on a day-to-day basis in your job.

Management – refers to all persons *above* your supervisor in the organization – all the way up to the top.

Col.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
21	1. Complaints relative to health or safety conditions are usually corrected within a short period of time.	☐ 1.	☐ 2.	☐ 3.	☐ 4.	☐ 5.
22	2. Pleasing your supervisor is more important here than doing a good job.	☐	☐	☐	☐	☐
23	3. I do not understand the method of judging my performance on the job.	☐	☐	☐	☐	☐
24	4. There is too much waste of materials and supplies here.	☐	☐	☐	☐	☐
25	5. My supervisor keeps his promises to his employees when he is able.	☐	☐	☐	☐	☐
26	6. The general attitude around here is too impersonal.	☐	☐	☐	☐	☐
27	7. In my opinion, the various work groups here fail to cooperate.	☐	☐	☐	☐	☐
28	8. I want to continue to work here for as long as I can.	☐	☐	☐	☐	☐
29	9. I would recommend this Company as a good place to work.	☐	☐	☐	☐	☐
30	10. I feel I am really part of what goes on around here.	☐	☐	☐	☐	☐
31	11. I feel that the Company is doing all it can to curb pollution.	☐	☐	☐	☐	☐
32	12. My work is what I thought it would be.	☐	☐	☐	☐	☐
33	13. My supervisor tries to get my ideas about things.	☐	☐	☐	☐	☐
34	14. Other demands made of me make it difficult to do a good job.	☐	☐	☐	☐	☐
35	15. The equipment I work with is usually in good condition.	☐	☐	☐	☐	☐

			Tend to	Tend to	
		Agree	Agree	? Disagree	Disagree
36	16. My supervisor usually gives us credit for work well done.	☐	☐	☐	☐
		1	2	3	4 5
37	17. My supervisor is usually friendly toward his people.	☐	☐	☐	☐
38	18. The equipment we have to work with is efficient and up to date.	☐	☐	☐	☐
39	19. There are many cliques or groups here that create an unfriendly atmosphere.	☐	☐	☐	☐
40	20. A few of the people in my work group think they run the place.	☐	☐	☐	☐
41	21. I think my performance on the job is judged fairly.	☐	☐	☐	☐
42	22. Management is too severe in dealing with poor performers.	☐	☐	☐	☐
43	23. In my opinion, too much time is wasted around here.	☐	☐	☐	☐
44	24. I often think my job counts for very little in this Company.	☐	☐	☐	☐
45	25. Most of the time it is safe to say what you think around here.	☐	☐	☐	☐
46	26. The training I received was excellent preparation for the actual work I do.	☐	☐	☐	☐
47	27. This Company shows very little interest in developing people for better jobs.	☐	☐	☐	☐
48	28. My supervisor often puts things off; he just lets things ride.	☐	☐	☐	☐
49	29. There is too much buck-passing around here.	☐	☐	☐	☐
50	30. Management here is generally respected by the employees.	☐	☐	☐	☐
51	31. The decisions management makes are usually fair.	☐	☐	☐	☐
52	32. The way they run things around here makes it difficult for me to do a good job.	☐	☐	☐	☐
53	33. I have little opportunity to use my skills and abilities here.	☐	☐	☐	☐
54	34. My supervisor tries to help me learn from my mistakes.	☐	☐	☐	☐
55	35. I like the kind of work I do on my job.	☐	☐	☐	☐
56	36. I'm doing something really worthwhile on my job.	☐	☐	☐	☐
57	37. My supervisor frequently fails to pass along the information I need to do a good job.	☐	☐	☐	☐
58	38. My supervisor does a good job of building teamwork in his group.	☐	☐	☐	☐
59	39. My supervisor sees that his people work hard.	☐	☐	☐	☐

Cols.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
60	40. My supervisor cooperates well with other managers in getting the work done.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
61	41. There are too many bottlenecks which keep me from doing my work.	☐	☐	☐	☐	☐
62	42. There is adequate opportunity to find out about job openings in the Company.	☐	☐	☐	☐	☐
63	43. I am often left without all the information I need to do my job.	☐	☐	☐	☐	☐
64	44. Management knows the problems faced by employees.	☐	☐	☐	☐	☐
65	45. This Company does an excellent job of keeping us informed about matters affecting us.	☐	☐	☐	☐	☐
66	46. I often doubt what management tells us is true.	☐	☐	☐	☐	☐
67	47. When I do a good job, I can count on getting recognition for it.	☐	☐	☐	☐	☐
68	48. In my opinion, the supervisors here are adequately trained to handle their jobs.	☐	☐	☐	☐	☐
69	49. My job is frequently dull and monotonous.	☐	☐	☐	☐	☐
70	50. We usually hear about important matters first through the grapevine.	☐	☐	☐	☐	☐
71	51. People up the line generally listen to what we have to say.	☐	☐	☐	☐	☐
72	52. I am often bothered by too much pressure on my job.	☐	☐	☐	☐	☐
73	53. There is too much to learn here when you start on a new job.	☐	☐	☐	☐	☐
74	54. In my opinion, new people starting new jobs in my area receive adequate training (informal and formal) for those jobs.	☐	☐	☐	☐	☐

Leave 75-80 Blank

CARD 2

Leave Cols. 1-20 Blank

Cols.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
21	55. The policies and practices here make sense to me.	☐	☐	☐	☐	☐
22	56. Other supervisors besides my own try to tell me what to do.	☐	☐	☐	☐	☐
23	57. I am satisfied with the informal and formal instruction I received for my present job.	☐	☐	☐	☐	☐
24	58. Sometimes it seems my supervisor knows very little about his job.	☐	☐	☐	☐	☐
25	59. I think this Company is highly regarded in the community.	☐	☐	☐	☐	☐
26	60. My supervisor seldom seems to know what is going on in his work group.	☐	☐	☐	☐	☐
27	61. My supervisor usually makes clear-cut decisions on problems so we know "what the score is."	☐	☐	☐	☐	☐

Col.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
28	62. Management is interested in the health and safety of employees.	☐	☐	☐	☐	☐
		1	2	3	4	5
29	63. The way pay is determined in the Company offers little incentive to do a better job.	☐	☐	☐	☐	☐
30	64. The people with whom I work, cooperate to get the job done.	☐	☐	☐	☐	☐
31	65. My pay is enough to give me a reasonable amount of security.	☐	☐	☐	☐	☐
32	66. The work in our department is well organized.	☐	☐	☐	☐	☐
33	67. Management here is interested in the welfare of its people.	☐	☐	☐	☐	☐
34	68. Management gives the supervisors here enough authority to get the work done efficiently.	☐	☐	☐	☐	☐
35	69. Our supervisor is generally respected by his people.	☐	☐	☐	☐	☐
36	70. Usually nothing happens when we make suggestions to our supervisor.	☐	☐	☐	☐	☐
37	71. Work is usually distributed fairly among the employees in my department.	☐	☐	☐	☐	☐
38	72. We get adequate information about Company policies and practices.	☐	☐	☐	☐	☐
39	73. Salaried employees here can discuss job related problems with supervisors without fear of getting in trouble.	☐	☐	☐	☐	☐
40	74. This Company is too slow in making improvements.	☐	☐	☐	☐	☐
41	75. My supervisor is often unfair in his dealings with me.	☐	☐	☐	☐	☐
42	76. Management changes its mind so often it interferes with getting the work done.	☐	☐	☐	☐	☐
43	77. My supervisor helps me solve problems that occur on my job.	☐	☐	☐	☐	☐
44	78. I have a clear understanding of how my job fits into the things being done in my work area.	☐	☐	☐	☐	☐
45	79. I have a clear understanding of how my job fits into the things being done in other departments.	☐	☐	☐	☐	☐
46	80. Management is too easy on poor performers. Performance problems seem to linger.	☐	☐	☐	☐	☐
47	81. Whenever possible I try to buy Company products.	☐	☐	☐	☐	☐
48	82. Most people around here talk positively about the Company.	☐	☐	☐	☐	☐
49	83. Filling in this survey is a good way to let management know what I think.	☐	☐	☐	☐	☐

		Agree	Tend to Agree	? Tend to Disagree	Disagree	
50	84. I think management will act on most of the problems brought to its attention through this survey.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
51	85. I rarely ever miss a day of work.	☐	☐	☐	☐	☐
52	86. Communication is done on a hit-or-miss basis in this Company.	☐	☐	☐	☐	☐
53	87. Sufficient efforts are made to get the opinions and thinking of people who work here.	☐	☐	☐	☐	☐
54	88. I am given a real opportunity to improve my skills in this Company.	☐	☐	☐	☐	☐
55	89. People of higher management levels are aware of the problems and needs at my level of the Company.	☐	☐	☐	☐	☐
56	90. Morale in our department is generally high.	☐	☐	☐	☐	☐
57	91. I would rather work in this Company than most others I know about.	☐	☐	☐	☐	☐
58	92. I have seriously looked for another job outside of the Company during the last 12 months.	☐	☐	☐	☐	☐
59	93. I seldom get the help I need to improve my performance on the job.	☐	☐	☐	☐	☐
60	94. The people in my work group usually make new people feel at home.	☐	☐	☐	☐	☐
61	95. I need more opportunities to get feedback about how well I am doing my job.	☐	☐	☐	☐	☐
62	96. An employee here is usually wise to hide bad news from management, since his future may be at stake.	☐	☐	☐	☐	☐
63	97. In my opinion, new people are given a clear understanding of what is expected of them.	☐	☐	☐	☐	☐
64	98. My supervisor uses performance review interviews to talk about departmental objectives and how I can contribute.	☐	☐	☐	☐	☐
65	99. I would like additional performance feedback at other times than just the Annual Performance Review.	☐	☐	☐	☐	☐
66	100. Compared with other Companies, our pay scale here is O.K.	☐	☐	☐	☐	☐
67	101. Compared with other people here, I am paid fairly.	☐	☐	☐	☐	☐
68	102. I like the specific things that make up my job.	☐	☐	☐	☐	☐
69	103. I have a clear idea of the results expected of my on my job.	☐	☐	☐	☐	☐
70	104. Little effort is made to get the opinions and thoughts of the people who work here.	☐	☐	☐	☐	☐

		Agree	Tend to Agree	?	Tend to Disagree	Disagree
Cols.						
71	105. In comparison with others, I am very much <i>underpaid</i> for the work I do here.	☐	☐	☐	☐	☐
		1	2	3	4	5
72	106. I have enough information to do my job well.	☐	☐	☐	☐	☐
73	107. The quality of work done here is excellent.	☐	☐	☐	☐	☐
74	108. Performance feedback should be given more frequently.	☐	☐	☐	☐	☐

Leave 75-80 Blank

CARD 3

Leave Cols. 1-20 Blank

Cols.						
21	109. The people in my work group get along well together.	☐	☐	☐	☐	☐
22	110. I believe my supervisor gets all the information <i>he</i> needs to do his job.	☐	☐	☐	☐	☐
23	111. Performance reviews given by my supervisor have helped me to improve my performance.	☐	☐	☐	☐	☐
24	112. Performance reviews have helped to prepare me for additional responsibilities.	☐	☐	☐	☐	☐
25	113. I can be sure of my job here as long as I do good work.	☐	☐	☐	☐	☐
26	114. There are good opportunities here for those who do a good job.	☐	☐	☐	☐	☐
27	115. I feel I seldom have any say in what goes on around here.	☐	☐	☐	☐	☐
28	116. I am satisfied with the effort that is exerted to maintain safe and healthy working conditions in my area.	☐	☐	☐	☐	☐

As I perform better on my job:

		Agree	Tend to Agree	?	Tend to Disagree	Disagree
Cols.						
29	117. I will have more job security.	☐	☐	☐	☐	☐
		1	2	3	4	5
30	118. I will have more opportunity to try out my own ideas.	☐	☐	☐	☐	☐
31	119. I will be treated more fairly under Company policies and practices.	☐	☐	☐	☐	☐
32	120. I will have more opportunity to do different things in my job.	☐	☐	☐	☐	☐
33	121. I will have greater opportunity for advancement.	☐	☐	☐	☐	☐
34	122. I will get more enjoyment from doing my work.	☐	☐	☐	☐	☐
35	123. I will have more opportunity to supervise the work of others.	☐	☐	☐	☐	☐
36	124. I will get more recognition and praise for the work I do.	☐	☐	☐	☐	☐
37	125. I will be given more responsibility.	☐	☐	☐	☐	☐

As I perform better on my job:

Col.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
38	126. I will get more money.	☐	☐	☐	☐	☐
39	127. I will get better working conditions.	☐	☐	☐	☐	☐
40	128. I will get more support from my supervisor.	☐	☐	☐	☐	☐
41	129. I will have a better understanding of how my work fits into things being done in my work area.	☐	☐	☐	☐	☐
42	130. I will have a greater opportunity to develop my skills and abilities.	☐	☐	☐	☐	☐
43	131. I will have a greater feeling of doing something worthwhile.	☐	☐	☐	☐	☐
44	132. I will have fewer opportunities to talk to my friends at work.	☐	☐	☐	☐	☐
45	133. I will be criticized by other employees.	☐	☐	☐	☐	☐
46	134. I will have less time for leisure and family activities.	☐	☐	☐	☐	☐

As I perform more poorly on my job:

Col.		Agree	Tend to Agree	?	Tend to Disagree	Disagree
47	135. I will be criticized by my co-workers.	☐	☐	☐	☐	☐
48	136. I will be criticized by my supervisor.	☐	☐	☐	☐	☐
49	137. I will be fired.	☐	☐	☐	☐	☐
50	138. I will be suspended.	☐	☐	☐	☐	☐
51	139. I will be demoted.	☐	☐	☐	☐	☐
52	140. I will be transferred to a worse job.	☐	☐	☐	☐	☐

Go to next page.

WHAT DO YOU WANT IN A JOB?

Below are 27 phrases describing different job features — things that a job may or may not provide for a person in it. Please read the phrases carefully to get them all in mind. Then, indicate how desirable *each* item is to you by writing the appropriate number next to the item in the left-hand margin.

Please use the following numbering system to indicate how desirable you consider each item to be:

1. Extremely Desirable
2. Very Desirable
3. Desirable
4. Moderately Desirable
5. Neutral
6. Moderately Undesirable
7. Undesirable
8. Very Undesirable
9. Extremely Undesirable

53 141. _____ Job security. 54 142. _____ Making use of my abilities. 55 143. _____ Getting a feeling of achievement from doing the job. 56 144. _____ Having variety on the job. 57 145. _____ Enjoying the work itself. 58 146. _____ Having a high degree of responsibility. 59 147. _____ Being well paid. 60 148. _____ Having a boss who backs me up. 61 149. _____ Having an important job. 62 150. _____ Being tired from hard work. 63 151. _____ Having less time for leisure and family activities. 64 152. _____ Being fired. 65 153. _____ Being demoted. 66 154. _____ Having status in my community.	67 155. _____ Trying out my own ideas. 68 156. _____ Being in a Company that administers policies fairly. 69 157. _____ Good advancement possibilities. 70 158. _____ Telling others what to do in their jobs. 71 159. _____ Receiving recognition for the work I do. 72 160. _____ Having good working conditions on the job. 73 161. _____ Having a meaningful job. 74 162. _____ Having fewer opportunities to talk to my friends at work.
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 CARD 4
 Leave Cols. 1-20 Blank

21 163. _____ Being criticized by other employees. 22 164. _____ Being criticized by my supervisor. 23 165. _____ Being suspended. 24 166. _____ Being transferred to a worse job.
--

167. In your job, do you feel discriminated against because of

Yes No		
25	☐ ☐	Ethnic group membership
	1 2	
26	☐ ☐	Not buying Company products
27	☐ ☐	Appearance and dress
28	☐ ☐	Sex
29	☐ ☐	Age
30	☐ ☐	Race
31	☐ ☐	Religion

Yes No		
32	☐ ☐	Nationality
	1 2	
33	☐ ☐	Education
34	☐ ☐	Marital Status
35	☐ ☐	Physical Handicap
36	☐ ☐	Political Philosophy
37	☐ ☐	Personality

If "YES", see below.

If "NO", skip next item.

168. If you answered "YES" to any of the above, do you feel discriminated against in any of the following:

Yes No		
38	☐ ☐	Overtime Assignments
	1 2	
39	☐ ☐	Job Assignments
40	☐ ☐	Merit Increases
41	☐ ☐	Normally accepted social courtesies
42	☐ ☐	Salary
43	☐ ☐	Performance Review

Yes No		
44	☐ ☐	Promotional Opportunities
	1 2	
45	☐ ☐	Benefits
46	☐ ☐	Day to day treatment by others
47	☐ ☐	Training and development opportunities
48	☐ ☐	Access to job information
49	☐ ☐	Vacation scheduling

Col's

50 169. Did you take all of the vacation due you last year?

☐ Yes	☐ No	☐ Don't Know
1	2	3

51 169A. If you answered "NO", were you paid for the vacation you did not take?

☐ Yes	☐ No	☐ Don't Know
1	2	3

52 170. Did you feel that your preferences were given enough consideration in scheduling your vacation?

☐ Yes	☐ No	☐ Don't Know
1	2	3

53 171. Did your supervisor prevent you from taking your vacation as originally scheduled?

☐ Yes	☐ No	☐ Don't Know
1	2	3

54 171A. If you answered "YES", was this change made at the last minute?

☐ Yes	☐ No
1	2

55 171B. Were you able to take your vacation at other times which were just as satisfactory?

☐ Yes	☐ No
1	2

Please rate each of the following factors; first in terms of your opinion as to how important management considers these factors in making promotional decisions for employees, and second in terms of how important they should consider these factors. (Answer each item)

How important <u>does</u> management consider:						How important <u>should</u> management consider:					
Col.		Very Im- portant	Moder- ately Im- portant	Not Im- portant At All	Don't Know		Very Im- portant	Moder- ately Im- portant	Not Im- portant At All	Don't Know	Col.
56	172.	☐	☐	☐	☐	Being able to do a satisfactory job on many different assignments.	☐	☐	☐	☐	71
57	173.	☐	☐	☐	☐	Helping out other employees in your work group.	☐	☐	☐	☐	72
58	174.	☐	☐	☐	☐	Doing work of high quality.	☐	☐	☐	☐	73
59	175.	☐	☐	☐	☐	Having a good absenteeism, tardiness record.	☐	☐	☐	☐	74
60	176.	☐	☐	☐	☐	Having the "right attitude".	☐	☐	☐	☐	21
61	177.	☐	☐	☐	☐	Suggesting new and better ways of doing things.	☐	☐	☐	☐	22
62	178.	☐	☐	☐	☐	Doing a large amount of work.	☐	☐	☐	☐	23
63	179.	☐	☐	☐	☐	Length of service with the Company.	☐	☐	☐	☐	24
64	180.	☐	☐	☐	☐	Knowing the right people.	☐	☐	☐	☐	25
65	181.	☐	☐	☐	☐	Appearing busy all the time, although the work does not demand it.	☐	☐	☐	☐	26
66	182.	☐	☐	☐	☐	Length of time since last promotion.	☐	☐	☐	☐	27
67	183.	☐	☐	☐	☐	Position in salary range.	☐	☐	☐	☐	28
68	184.	☐	☐	☐	☐	Annual Performance Review.	☐	☐	☐	☐	29
69	185.	☐	☐	☐	☐	Using initiative.	☐	☐	☐	☐	30
70	186.	☐	☐	☐	☐	Possessing a College degree.	☐	☐	☐	☐	31

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CARD 5 - Leave 75 80 Blank
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32	187.	How often have you had to relocate?	☐	☐	☐	☐	☐	☐
			1 One	2 Two	3 3 or 4 Times	4 5 or 6 Times	5 7 or More	6 Never
33	188.	How often do you think about quitting your job?	☐	☐	☐	☐	☐	
			1	2	3	4	5	
34	189.	How often do you feel like not going to work even when you are well?	☐	☐	☐	☐	☐	
			Always	Often	Sometimes	Seldom	Never	

		None	1-3	4-6	7-10	11-15	16-20	21 or More
35	190. How many hours of <i>casual</i> (unpaid) overtime do you normally put in during an average week?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
36	191. How many hours of <i>paid</i> overtime do you normally put in during an average week?	☐	☐	☐	☐	☐	☐	☐
37	192. How many hours of paid overtime <i>would you like</i> to put in during an average week?	☐	☐	☐	☐	☐	☐	☐
38	193. What is your opinion of the progress the Company has made in providing opportunities for women?							
	☐ Too little has been done for women.							
	☐ Enough has been done.							
	☐ Too much has been done.							
39	194. What is your opinion of the progress the Company has made in providing opportunities for minorities?							
	☐ Too little has been done for minorities.							
	☐ Enough has been done.							
	☐ Too much has been done.							
		Always	Often	Sometimes	Seldom	Never	Not Applicable	
40	195. If you have a good reason, are you excused from scheduled overtime?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	
41	196. Do you feel that you have reasonable advance notice of overtime?	☐	☐	☐	☐	☐	☐	
42	197. How frequently does overtime cause problems in your family life?	☐	☐	☐	☐	☐	☐	
43	198. How frequently does overtime cause problems in your social life?	☐	☐	☐	☐	☐	☐	
		Definitely Yes	Probably Yes	?	Probably No	Definitely No	Don't Know	
44	199. Would you accept a similar job with another Company in this area at the same pay if it were offered to you?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	
45	200. Would you continue to work even if you had enough money to live comfortably without working?	☐	☐	☐	☐	☐	☐	
46	201. Do you expect to take another job after retiring from your regular job?	☐	☐	☐	☐	☐	☐	

		High	Above Average	Average	Below Average	Low
47	202. How would you rate the <u>amount</u> of work you do?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
48	203. How would you rate the <u>quality</u> of the work you do?	☐	☐	☐	☐	☐
49	204. Overall, how would your supervisor rate your work?	☐	☐	☐	☐	☐
50	205. Overall, how would your co-workers rate your work?	☐	☐	☐	☐	☐
51	206. I feel my work load is:					
	☐ 1 Often too heavy	☐ 4 Sometimes not demanding enough				
	☐ 2 Sometimes too heavy	☐ 5 Often not demanding enough				
	☐ 3 About right					
52	207. Periodically, all salaried employees get an increase in pay. Would you be in favor of limiting these <i>general</i> increases and making more money available for more frequent <i>merit</i> increases?					
	☐ 1 Yes	☐ 2 No	☐ 3 Undecided			
53	208. In what quarter of your Salary Grade are you?					
	☐ 1 1st	☐ 2 2nd	☐ 3 3rd	☐ 4 4th	☐ 5 Don't Know	
54	209. How long has it been since your last merit or promotional (individual) increase?					
	☐ 1 Less than 6 months	☐ 5 2 to 3 years				
	☐ 2 6 months to 1 year	☐ 6 3 years or more				
	☐ 3 1 year to 1½ years	☐ 7 Have never had an increase				
	☐ 4 1½ years to 2 years					
55	210. I most often find out about general pay increases such as the Annual Improvement Factor from:					
	☐ 1 My supervisor.	☐ 5 Employee Information Statements.				
	☐ 2 My supervisor's secretary.	☐ 6 Newspapers or television				
	☐ 3 The Personnel Office	☐ 7 Don't Know				
	☐ 4 My co-workers.	☐ 8 Other _____				

Cals.

- 56 211. When you are left without all the information you need to do your job, what do you think is the one most likely reason?

- ☐ ₁ Bad relationships between people who must cooperate to get work done.
- ☐ ₂ Chain of command gets in the way and slows down communication between people who must exchange information.
- ☐ ₃ Incompetence, poor planning.
- ☐ ₄ Vacations or other absences of key people.
- ☐ ₅ I am never left without all the information I need.

- 57 212. If you went to your supervisor to inform him of an important mistake which you and your co-workers made, what would your supervisor most likely do?

- ☐ ₁ Give you his support in resolving the problem.
- ☐ ₂ Get angry and threaten someone.
- ☐ ₃ Try to hide the mistake from his supervisor.
- ☐ ₄ Don't know.

- 58 213. If your supervisor went to his supervisor to tell him about an important mistake which you and your co-workers made, what would his supervisor most likely do?

- ☐ ₁ Give your supervisor his support in resolving the problem.
- ☐ ₂ Insist that someone be disciplined.
- ☐ ₃ Try to hide the mistake from his supervisor.
- ☐ ₄ Don't know.

- 59 214. How long do you think it will be before you are given a chance to take a job at a higher level where you now work?

- | | |
|---|---|
| ☐ ₁ Already been offered. | ☐ ₄ Within three or four years. |
| ☐ ₂ Within one year. | ☐ ₅ Four or more years. |
| ☐ ₃ Within two years. | ☐ ₆ Never. |

- 60 215. Would you like to take on a job at a higher level?

- | | |
|---|--|
| ☐ ₁ Yes, immediately. | ☐ ₃ No, not right now. |
| ☐ ₂ Yes, fairly soon. | ☐ ₄ No, never. |

Cals.

61 216. How long has it been since your last promotion?

☐ Less than 6 months
1☐ 2 to 3 years
5☐ 6 months to 1 year
2☐ 3 years or more
6☐ 1 year to 1½ years
3☐ Have never had a promotion
7☐ 1½ years to 2 years
4

62 217. If I really put a great deal of effort into my current job, I will perform better. In other words, my performance effectiveness is directly related to how hard I work on my present job.

☐ Definitely Disagree
1☐ Probably Disagree
2☐ Not Sure
3☐ Probably Agree
4☐ Definitely Agree
5

63 218. To you expect to take another job after retiring from your regular job?

☐ Yes
1☐ No
2☐ Don't Know
3

64 219. Would you continue to work even if you had enough money to live comfortably without working?

☐ Yes
1☐ No
2☐ Don't Know
3

65 220. When would you put in your overtime hours if you had a choice?

☐ On weekdays, *before* my regular shift
1☐ It does not matter to me
4☐ On weekdays, *after* my regular shift
2☐ Don't Know
5☐ On weekends
366 221. What is your normal work schedule *excluding overtime*? (Check one only)☐ Day shift, five-day operation
1☐ Afternoon shift, five-day operation
3☐ Midnight shift, five-day operation
2☐ Seven-day, five-day operation
4

67 222. How easy would it be for you to find a job with another employer in this area with about the same income and benefits you now have?

☐ Very Easy
1☐ Fairly Difficult
4☐ Fairly Easy
2☐ Very Difficult
5☐ Neither Easy or Difficult
3

68 223. Preferred age of retirement:

☐ Under 65
1☐ 66 or later, would like to keep working
3☐ 65
2☐ Don't know
4

69 224. How much overnight travel do you do with the Company?

☐ Too Much
1☐ Just Right
2☐ Too Little
3

Col.

70 226. On the average, how often do you make overnight trips per month?

☐ 1 or 2 Days
1☐ 3 or 4 Days
2☐ 5 or 6 Days
3☐ 7 to 9 Days
4☐ 10 or More Days
5☐ Not applicable
6

71 226. When did you receive your last Performance Review?

☐ Within the past 12 months
1☐ Between 1 and 2 years ago
2☐ More than 2 years ago
3☐ I have never had a Performance Review
4

72 227. Was your latest Performance Rating:

☐ Much higher than expected
1☐ Higher than expected
2☐ About right
3☐ Lower than expected
4☐ Much Lower than expected
5

73 228. In comparison with people doing jobs similar to mine, I feel my last Performance Rating was:

☐ Higher than most
1☐ Higher than some
2☐ Equal
3☐ Lower than some
4☐ Lower than most
5

Go to next page.

Please rate each of the following factors; first in terms of your opinions as to how important your supervisor considers these factors in Performance Reviews for employees, and second in terms of how important he should consider these factors: (Answer each item.)

How important <u>does</u> your supervisor consider:						How important <u>should</u> your supervisor consider:					
		Very Im- portant	Moder- ately Im- portant	Not Im- portant At All	Don't Know		Very Im- portant	Moder- ately Im- portant	Not Im- portant At All	Don't Know	
CoIs.											CoIs.
74	229.	☐	☐	☐	☐	Being able to do a satisfactory job on many different assignments.	☐	☐	☐	☐	35
		1	2	3	4		1	2	3	4	
Leave 75 80 Blank CARD 6 - Leave CoIs. 1 20 Blank											
21	230.	☐	☐	☐	☐	Helping out other employees in your work group.	☐	☐	☐	☐	36
22	231.	☐	☐	☐	☐	Doing work of high quality.	☐	☐	☐	☐	37
23	232.	☐	☐	☐	☐	Having a good absenteeism, tardiness record.	☐	☐	☐	☐	38
24	233.	☐	☐	☐	☐	Having the "right attitude".	☐	☐	☐	☐	39
25	234.	☐	☐	☐	☐	Suggesting new and better ways of doing things.	☐	☐	☐	☐	40
26	235.	☐	☐	☐	☐	Doing a large amount of work.	☐	☐	☐	☐	41
27	236.	☐	☐	☐	☐	Length of service with the Company.	☐	☐	☐	☐	42
28	237.	☐	☐	☐	☐	Knowing the right people.	☐	☐	☐	☐	43
29	238.	☐	☐	☐	☐	Appearing busy all the time, although the work does not demand it.	☐	☐	☐	☐	44
30	239.	☐	☐	☐	☐	Length of time since last promotion.	☐	☐	☐	☐	45
31	240.	☐	☐	☐	☐	Position in salary range.	☐	☐	☐	☐	46
32	241.	☐	☐	☐	☐	Annual Performance Review.	☐	☐	☐	☐	47
33	242.	☐	☐	☐	☐	Using initiative.	☐	☐	☐	☐	48
34	243.	☐	☐	☐	☐	Possessing a College degree.	☐	☐	☐	☐	49

Go to Top Right of Page

How important is it to you to be able to:

How satisfied are you with your ability to:

		Ex- tremely Im- portant	Moder- ately Im- portant	Slightly Im- portant	Not Im- portant		Very Satis- fied	Satis- fied	So-So	Dis- satis- fied	Very Dissatis- fied	
Cols. 50	244.	☐	☐	☐	☐	Handle medical emergencies.	☐	☐	☐	☐	☐	Cols. 57
		1	2	3	4		1	2	3	4	5	
51	245.	☐	☐	☐	☐	Leave an adequate insurance estate for your family.	☐	☐	☐	☐	☐	58
52	246.	☐	☐	☐	☐	Support yourself and/or your family in case of permanent disability.	☐	☐	☐	☐	☐	59
53	247.	☐	☐	☐	☐	Provide for a financially comfortable retirement.	☐	☐	☐	☐	☐	60
54	248.	☐	☐	☐	☐	Invest money for the future through the Savings and Stock Investment Plan.	☐	☐	☐	☐	☐	61
55	249.	☐	☐	☐	☐	Get more education through the Continuing Education Program.	☐	☐	☐	☐	☐	62
Go to Top Right of Page												
56	250.	☐	☐	☐	☐	Get enough vacation time.	☐	☐	☐	☐	☐	63
	251.					In summary:						
						How satisfied are you with the total benefits program?	☐	☐	☐	☐	☐	64

How do you feel about the amount of information you get on the following Company benefits?

Cols.					
65	252. a) Medical Insurance Plan	☐	☐	☐	☐
66	253. b) General Retirement Plan	☐	☐	☐	☐
67	254. c) Savings and Stock Investment Plan	☐	☐	☐	☐
68	255. d) Life and Disability Insurance Plan	☐	☐	☐	☐
69	256. e) Vacations	☐	☐	☐	☐
70	257. f) Holidays	☐	☐	☐	☐

Cols.

71 258. Do you know who your Personnel Benefits Representative is? ☐ Yes ☐ No
1 2

72 259. Do you feel that your questions about benefits are answered adequately by your Representatives?

☐ Yes ☐ No ☐ I have never dealt with my Representative.
1 2 3

73 260. Do you read the Salary Benefits Statement sent to you each year?

☐ Yes ☐ No ☐ Don't receive it. ☐ Don't recall it.
1 2 3 4

74 261. I find it difficult to understand the benefit program in the Company.

Leave Cols. 75-80 Blank

CARD 7 -

Leave Cols. 1-20 Blank

☐ Agree ☐ Tend to Agree ☐ ? ☐ Tend to Disagree ☐ Disagree
1 2 3 4 5

21 262. From what I hear, our benefits are comparable to or better than those of other companies.

☐ Agree ☐ Tend to Agree ☐ ? ☐ Tend to Disagree ☐ Disagree
1 2 3 4 5

Very
Satis-
fied Satis-
fied So-So Dis-
satis-
fied Very
Dis-
satis-
fied

How do you feel about:

22 263. a. The rest rooms	☐	☐	☐	☐	☐
23 264. b. Security and salaried parking lot protection	☐	☐	☐	☐	☐
24 265. c. The office furniture	☐	☐	☐	☐	☐
25 266. d. Availability of equipment and machines to do the job.	☐	☐	☐	☐	☐
26 267. e. Office supplies	☐	☐	☐	☐	☐
27 268. f. Intra-Company mail service	☐	☐	☐	☐	☐
28 269. g. Telephone system	☐	☐	☐	☐	☐
29 270. h. Cheerfulness of plant/office decor and color schemes	☐	☐	☐	☐	☐
30 271. i. Clean-up of plant/offices	☐	☐	☐	☐	☐
31 272. j. Records storage facilities — desks, cabinets and files	☐	☐	☐	☐	☐
32 273. k. Noise level	☐	☐	☐	☐	☐
33 274. l. Repair on machines and equipment	☐	☐	☐	☐	☐
34 275. m. Organization of the work space	☐	☐	☐	☐	☐
35 276. n. Adequacy of medical services available at your location	☐	☐	☐	☐	☐
36 277. o. The amount of distraction caused by other employees in your work area	☐	☐	☐	☐	☐

Coia.		Very Satisfied	Satisfied	So-So	Dissatisfied	Very Dissatisfied
37	278. How satisfied are you with your opportunity to get a better job in the Company?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
38	279. How satisfied are you with the amount of say you have in setting your own performance objectives?	☐	☐	☐	☐	☐
39	280. How do you feel about your salary?	☐	☐	☐	☐	☐
40	281. How do you feel about your physical working conditions?	☐	☐	☐	☐	☐
41	282. How satisfied are you with your supervisor's willingness to discuss your long-range job goals with you?	☐	☐	☐	☐	☐
42	283. How do you feel about the work you're doing?	☐	☐	☐	☐	☐
43	284. How satisfied are you with your supervisor's readiness to give you special job assignments that improve your skills or increase your experience?	☐	☐	☐	☐	☐
44	285. How satisfied are you with the extent to which your supervisor maintains safe and healthy working conditions?	☐	☐	☐	☐	☐
45	286. How do you feel about the people you work with?	☐	☐	☐	☐	☐
46	287. How do you feel about the way your last Performance Review was conducted?	☐	☐	☐	☐	☐
47	288. How do you feel about your opportunities for promotion?	☐	☐	☐	☐	☐
48	289. How do you feel about your job security?	☐	☐	☐	☐	☐
49	290. How do you feel about your immediate supervisor?	☐	☐	☐	☐	☐
50	291. How satisfied are you with your supervisor's readiness to review your plans with you before you start on major assignments?	☐	☐	☐	☐	☐
51	292. How satisfied are you with the information you receive on what's going on in the Company?	☐	☐	☐	☐	☐
52	293. How satisfied are you with your supervisor's frankness in telling you what he thinks of your job performance?	☐	☐	☐	☐	☐
53	294. Are you satisfied with the rate of pay you receive for overtime?	☐	☐	☐	☐	☐
54	295. How do you feel about Company benefits?	☐	☐	☐	☐	☐
55	296. How satisfied are you with the extent to which you and your supervisor agree on your job responsibilities?	☐	☐	☐	☐	☐
56	297. How satisfied are you with the amount of relocating you have had to do with the Company?	☐	☐	☐	☐	☐

Col.		Very Satisfied	Satisfied	So-So	Dissatisfied	Very Dissatisfied
57	298. How satisfied are you with the extent to which you do "whole" or complete work operation rather than doing a small part of a job which is finished by some other employe or employes?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
58	299. How do you feel about the extent to which you get the information you need to do the job?	☐	☐	☐	☐	☐
59	300. How satisfied are you with the amount of variety there is in your job?	☐	☐	☐	☐	☐
60	301. Considering everything, how would you rate your overall satisfaction with Ford at the present time?	☐	☐	☐	☐	☐
61	302. How satisfied are you with your supervisor's willingness to give you advice about your job performance when you need it?	☐	☐	☐	☐	☐
62	303. How satisfied are you with your supervisor's thoroughness in discussing any errors in your job performance with you?	☐	☐	☐	☐	☐
63	304. How satisfied are you with the amount of control you have over the things you have to do in your job?	☐	☐	☐	☐	☐

SUPPLEMENT FOR SUPERVISORS

To be completed only if you are a supervisor of hourly or salaried personnel.

Cols.

64 Title:

☐

Unit Supervisor or Leader

☐

General Foreman

☐

Section Supervisor

☐

Superintendent

☐

Department Manager

☐

Other _____

☐

Foreman

Check the box which you feel best represents the skills you have in each of the following functions that are usually performed by managers and supervisors:

Cols.		Adequately Skilled	Could Use Improvement	Definitely Needs Improvement	Does Not Apply
65	1. Coordinating subordinates' activities.	☐	☐	☐	☐
66	2. Setting work objectives.	☐	☐	☐	☐
67	3. Analyzing work load for more effective operations.	☐	☐	☐	☐
68	4. Utilizing cost control methods and procedures.	☐	☐	☐	☐
69	5. Planning and scheduling work.	☐	☐	☐	☐
70	6. Appraising performance.	☐	☐	☐	☐
71	7. Handling performance discussions.	☐	☐	☐	☐
72	8. Developing positive attitudes among subordinates towards their jobs.	☐	☐	☐	☐
73	9. Helping those I supervise to grow and develop their abilities in their present assignments.	☐	☐	☐	☐
74	10. Helping those I supervise to grow and develop their abilities for possible increased responsibilities.	☐	☐	☐	☐
Leave 75-80 Blank					
CARD 8 - Leave Cols. 1-20 Blank					
21	11. Translating work objectives into action plans.	☐	☐	☐	☐
22	12. Resolving job related problems.	☐	☐	☐	☐
23	13. Resolving personnel problems.	☐	☐	☐	☐
24	14. Communicating with upper management.	☐	☐	☐	☐
25	15. Obtaining employee commitment and cooperation in meeting work objectives.	☐	☐	☐	☐
26	16. Improving my relations with employees.	☐	☐	☐	☐

How great a problem are the following for you:

		No Problem At All	Minor Problem	Major Problem	Does Not Apply
27	17. Shift changes interfering with my education and recreation programs.	☐ 1	☐ 2	☐ 3	☐ 4
28	18. Difficulty in discharging a problem employee.	☐	☐	☐	☐
29	19. Management directing an employee without consulting you.	☐	☐	☐	☐
30	20. Having to stay at work as long as your supervisor.	☐	☐	☐	☐
31	21. Hearing plans and decisions from your subordinates, not your boss.	☐	☐	☐	☐
32	22. Fear of physical harm from subordinates.	☐	☐	☐	☐
33	23. Support from management in handling grievances or disciplinary action.	☐	☐	☐	☐
34	24. Lack of communication between foremen and Labor Relations.	☐	☐	☐	☐
35	25. Narcotics being used by employees.	☐	☐	☐	☐
36	26. The increasing complexity of your job.	☐	☐	☐	☐
37	27. Overtime interfering with family life.	☐	☐	☐	☐
38	28. Alcohol being used by employees.	☐	☐	☐	☐

END

COMMENT SHEET

What things do you like *most* about your job? (List in order of their importance from first to least.)

What things do you like *least* about your job? (List in order of their importance from first to least.)

If there are any special matters you would like to bring to the attention of management, please write your comments on this page and the next. Please do not sign your name. Your comments will be typed and reported anonymously.

Thank you for your participation.

APPENDIX B

A PRIORI EXOGENOUS SCALES

APPENDIX B

A Priori Exogenous Scales

Scale 1 - Supervisor's Competence

- Q. 48 In my opinion, the supervisors here are adequately trained to handle their jobs
- Q. 58 Sometimes it seems my supervisor knows very little about his job
- Q. 60 My supervisor seldom seems to know what is going on in his work group
- Q. 93 I seldom get the help I need to improve my performance on the job

Scale 2 - Supportiveness of Supervisor

- Q. 17 My supervisor is usually friendly toward his people
- Q. 73 Salaried employees here can discuss job related problems with supervisors without fear of getting into trouble
- Q. 96 An employee here is usually wise to hide bad news from management since his future may be at stake

Scale 3 - Credibility of Supervisor

- Q. 5 My supervisor keeps his promises to his employees when he is able
- Q. 30 Management here is generally respected by the employees
- Q. 46 I often doubt what management tells us is true
- Q. 69 Our supervisor is generally respected by his people
- Q. 75 My supervisor is often unfair in his dealings with me

Scale 4 - Supervisor Makes Decisive Decisions

- Q. 28 My supervisor often puts things off; he just lets things ride
- Q. 61 My supervisor usually makes clear-cut decisions on problems so we know "what the score is"

Scale 5 - Supervisor Facilitates Teamwork

- Q. 38 My supervisor does a good job of building teamwork in his group
- Q. 64 The people with whom I work, cooperate to get the job done
- Q.109 The people in my work group get along well together

Scale 6 - Task Stimulation

- Q. 24 I often think my job counts for very little in this company
- Q. 33 I have little opportunity to use my skills and abilities here
- Q. 36 I'm doing something really worthwhile on my job
- Q. 49 My job is frequently dull and monotonous

Scale 7 - Performance Review Oriented Toward Employee Development

- Q. 98 My supervisor uses performance review interviews to talk about departmental objectives and how I can contribute
- Q.111 Performance reviews given by my supervisor have helped me to improve my performance
- Q.112 Performance reviews have helped to prepare me for additional responsibilities

Scale 8 - Democratic Climate

- Q. 13 My supervisor tries to get my ideas about things
- Q. 51 People up the line generally listen to what we have to say
- Q. 87 Sufficient efforts are made to get the opinions and thinking of the people who work here
- Q.104 Little effort is made to get the opinions and thoughts of the people who work here
- Q.115 I feel I seldom have any say in what goes on around here

Scale 9 - Performance Feedback

- Q. 34 My supervisor tries to help me learn from my mistakes
- Q. 95 I need more opportunities to get feedback about how well I am doing on my job
- Q. 99 I would like additional performance feedback at other times than just the Annual Performance Review

Scale 10 - Adequacy of Employee Training

- Q. 26 The training I received was excellent preparation for the actual work I do
- Q. 53 There is too much to learn here when you start on a new job
- Q. 54 In my opinion, new people starting new jobs in my area receive adequate training (informal and formal) for those jobs
- Q. 57 I am satisfied with the informal and formal instruction I received for my present job

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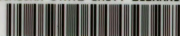
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