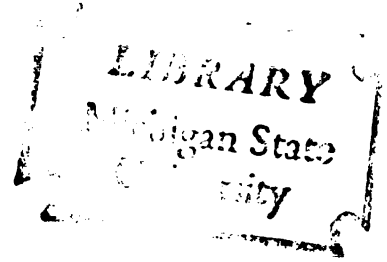


THE CONTINGENCY THEORY
OF ORGANIZATIONS:
AN EXAMINATION OF THE
RELATIONSHIPS OF CLIMATE AND
PERSONALITY WITH PERFORMANCE
AND SATISFACTION IN A
STABLE ENVIRONMENT

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
RONALD G. STOREY
1974



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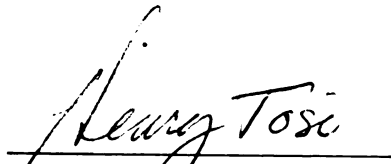
The Contingency Theory of Organizations: An
Examination of the Relationships of
Climate and Personality With Performance
and Satisfaction in a Stable Environment

presented by

Ronald G. Storey

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Management


Major professor

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ABSTRACT

THE CONTINGENCY THEORY OF ORGANIZATIONS:
AN EXAMINATION OF THE RELATIONSHIPS OF
CLIMATE AND PERSONALITY WITH PERFORMANCE
AND SATISFACTION IN A STABLE ENVIRONMENT

by

Ronald G. Storey

The objectives of this research were to (1) provide additional empirical evidence of the relationship between climate and firm performance for firms operating in a relatively stable environment, and (2) to explore an extension of contingency theory which includes the personality dimension of organizational members along with environment and climate in explaining organizational performance and individual performance and satisfaction.

A high and a low performing firm in the automobile parts and accessories industry were chosen for study. This industry was considered to be operating in a relatively stable environment in view of the stability of earnings for firms in the industry relative to those in other industries.

Data was collected by a mailed questionnaire from 130 managers in production, research and marketing roles. The

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of individual

The findings
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The findings
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Ronald G. Storey

analyzed by analyses of variance using three ran-
factorial designs with two levels of firm performance,
levels of role, and two levels of climate, personality,
individual performance.

The findings indicate that the climate dimensions studied
between the high and low performing firms with the former
to be more free of stress, having less Organizational
ty and more Relationship Orientation.

The findings suggest that there are certain personality
ristics which lend themselves to higher levels of indi-
performance in some situations. This indicates new pro-
trait approaches if situational characteristics are
ed simultaneously.

The appropriateness of a firm's reward system was found
gnificantly related to firm performance. The firm whose
rewarded high performers more than low performers had
firm performance than that which rewarded low performers
n high performers.

Research personnel were found to be less satisfied than
production and marketing and this could have undesir-
sequences for the firms' future ability to adapt to
environmental situations. Satisfaction was found to
er in stressfree climates and among managers with cer-
sonality characteristics.

The study indicates that the extension of contingency
to include personality could be a potentially useful one

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Ronald G. Storey

and that further research is needed to provide more evidence of the nature of the relationship between climate and environmental stability for firm performance.

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THE CONTINGENCY THEORY OF ORGANIZATIONS:
AN EXAMINATION OF THE RELATIONSHIPS OF CLIMATE
AND PERSONALITY WITH PERFORMANCE AND SATISFACTION
IN A STABLE ENVIRONMENT

By
Ronald G. Storey^{o.d.c.}

A THESIS

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

DOCTOR OF PHILOSOPHY

Department of Management

1974

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By

Ronald G. Storey

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ACKNOWLEDGEMENTS

The author wishes to express his gratitude to the firms and managers participating in this study, without whose interest and cooperation this research could not have been undertaken. It is hoped that they will find the results of this inquiry not only interesting but useful.

My committee members, especially Chairman Henry L. Tosi, provided continued assistance and guidance in this research project, for which special thanks are extended.

Finally, the very meaningful contributions of enthusiasm and understanding as well as the attendant sacrifices made by my wife, Wayne, and our children, Kim, Margo and Craig, during the years of work culminating in this dissertation are greatly appreciated.

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CHAPTER I

INTRODUCTION

Purpose of the Research

During the last few decades, managers have been the targets of a variety of approaches to organizational design and patterns of administrative behavior. Two camps have been more or less clearly identified as the classical and human relations oriented schools. The former is characterized by its emphasis on the need for well established lines of authority, clearly defined goals and jobs, and authority equal to responsibility. The latter focuses on the need for participation in the decision-making process in order to elicit more commitment, creativity, and generally higher levels of motivation.

There is growing evidence that, while no one way to organize and administer is always best, there seem to be strategies which work better in particular situations. This approach, which attempts to reconcile the classical and human relation approaches has become known as contingency or situational theory (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; and Woodward, 1958). In short, it draws upon preliminary findings that suggest that the classical or mechanistic approach seems to work well in relatively stable situations while the less structured or organic strategy

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appears to work better in the relatively uncertain or dynamic environments.

While there is as yet a paucity of published research which tests the contingency approach, and while some methodological questions have been raised on some of the research that has been reported, the contingency concept appears promising and warrants further examination and refinement. One of the purposes of this research is to further examine the relationship between the patterns of organizational structure and administration and firm performance in a stable organizational environment.

An interesting question arises from the implications of the contingency theory of organization. If there are particular patterns of organization structure and managerial style that are more congruent than others in terms of effecting higher levels of organizational performance in differing environmental conditions, are there characteristics of individual performance and/or satisfaction in some situations than in others? Are some people better suited for work in mechanistic work situations than in organic, and vice versa? While the question rattles the skeleton of trait theories of leadership and selection and placement, is it not conceivable in the light of current developments in organizational theory that relationships between personal attributes, performance and satisfaction might have been doomed to inconclusiveness by virtue of the confounding effects of situational job characteristics?

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A second purpose of this research is to examine the relationships of several personality characteristics which might be related to higher levels of performance and/or satisfaction in certain types of job settings. If there is such a thing, as some research suggests (Tannenbaum and Allport, 1956; Vroom, 1960; Morse and Lorsch, 1970), as an optimal "fit" between the organization's climate, its external environment, and the profile of individuals' attitudes toward organizational phenomena, a better understanding of individual performance and satisfaction under various situational circumstances is required. It is felt that a significant contribution can be made by examining several of the variables which are frequently considered to be of importance in this complex relationship. Morse and Lorsch (1970) note this problem. They suggest that what is needed at this point is research designed to determine what personal characteristics are most related to performance in various combinations of organization and task situations. While their research examined the single personality dimension of "sense of competence", they are quite explicit in their view that "the strengths of (an) individual's other needs - - such as those for power, independence, structure, achievement, and affiliation" (p. 67) are likely to be moderating variables in determining how a particular person achieves a sense of competence.

In summary, then, the purpose of this research was two-fold. First, a partial replication of the work of

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Lawrence and Lorsch was undertaken in order that further evidence would be gathered about the relationship between the patterns of organizational structure and administration and firm performance in a stable organizational environment. This would assist in evaluating the reliability of the findings of some prior research based upon the contingency concept.

Secondly, the research was undertaken to explore the relationships between various mixes of personality and organizational climate in a stable environment to examine how they might be related to individual satisfaction and individual performance as well as firm performance.

The Mix Model: A General Overview

The basic concept underlying the second purpose of this research can best be described in terms of the following "Mix Model." This concept can be described as an historical outgrowth or extension of contingency theory. It attempts to examine differences in organizational performance (as does contingency theory) and extends the two dimensional contingency theory which dealt with environment (the technical need set) and the structure and administrative dimensions (the organization climate set) to include a third dimension, the personality characteristics of the organization members (the individual characteristics set).

The Mix Model treats as dependent variables organizational performance, individual performance and individual

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The mix model concept suggest that for every organization these three factors (climate, environment, and member characteristics) are present and interact to affect organization performance, individual performance, and satisfaction. The congruency of their interrelationships is termed the "organizational fit." The basic proposition is that organizations that can be described as high performers will have so developed and arranged these three factors that they may be shown to exhibit a high degree of "fit". Organizations that can be described as being poor performers may be shown to exhibit a low degree of "fit".

A conceptual scheme of these proposed relationships is illustrated in Figure 1. This figure portrays environment, climate and personality as independent variables, their particular pattern of combination or mix as a process or moderating variable and organizational performance, individual performance and individual satisfaction as outputs or dependent variables in the mix process.

While more detailed discussion of the major elements in the Mix Model is presented later in this and the following chapter, a brief definition of these variables and a synopsis of the general nature of their interaction as suggested by the model is provided in this overview.

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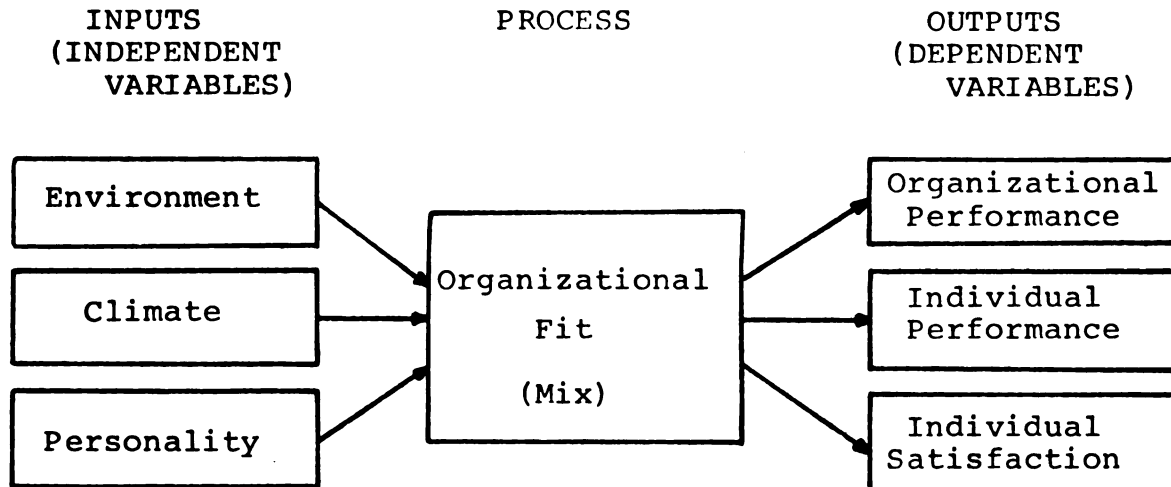


Figure 1. Conceptual Schema of the Mix Model Process.

By environment is meant that composition of situational characteristics external to the organization which could impinge upon its goal seeking activities. The critical dimension of environment in current contingency theory is its stability-volatility characteristic, with particular respect to technology and markets.

The Mix Model treats climate as that composition of situational characteristics internal to the organization which might be related to the attainment of organizational and member goals. The dimensions of climate, as perceived individually by organizational members, examined in this study are task and relationship orientations of immediate superiors, role conflict, role ambiguity, organizational conformity and organizational clarity.

The concept of personality as used in the Mix Model can be defined as those attitudes and values which, conceptually, can (1) differentiate individuals, (2) influence their behavior, and (3) can be described in terms of the values

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of particular sets of social and psychological phenomena. Examples of some of the dimensions of personality are authoritarianism, interpersonal orientation, tolerance for role conflict, tolerance for role ambiguity, need for independence and need for achievement.

Justification for conceptualizing personality and situational variables (climate and environment) as interacting variables is rooted in a long history of recognition by psychologists of the importance of both personality and environmental variables in the explanation of behavior.

"The postulate that behavior is a function of the interaction of organism and environment is widely accepted and both its theoretical and practical implications have been explored (Boston, 1961; Brunswick, 1956; Cronbach, 1957; Murray, 1938)... but there have been few attempts to develop multivariate definitions of environment, and fewer still to study behavior as a function of the simultaneous variation of situational factors." (Forehand and Gilmer, 1964, p. 361).

Vroom (1960) also states:

"In both social and industrial psychology there has been a general reluctance to deal with personality and environmental variables simultaneously. As a result, while much is known about the separate effects of the two types of variables, little is known about the nature of their interaction. The need for research directed at this type of problem and for a theoretical framework capable of dealing with both personality and environmental variables is, however, widely recognized." (p. 2).

Katz (1955) also pointed to the need for this type of research.

"If social psychology has any unique subject matter, it may well lie in this neglected area of the interaction effects of personality and social settings." (p. 352).

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The theoretical foundations laid by Allport (1940, 1954, 1955, 1956) and Tannenbaum and Allport (1956) in terms of event-structure theory, Hall (1971) in terms of a theoretical model of career subidentity development, and Litwin and Stringer (1968) in terms of motivation as moderated by the interaction between needs for achievement, power and affiliation and organizational climate, all have considerable relevance to such research. In addition, the empirical findings of Tannenbaum and Allport (1956), Vroom (1960), Litwin and Stringer (1968), Morse and Lorsch (1970) and Lyons (1971) indicate the fruitfulness of research in this direction. However, a note of caution in drawing inferences from the research on the need for participation in explaining organizational phenomena or developing prescription for structural design is introduced by Tosi (1970).

Tosi's study, which found, contrary to Vroom, that the personality dimensions of authoritarianism and need for independence did not moderate the relationship between climate and performance and satisfaction, could be interpreted as an argument for the Mix Model approach. Personality might be important in some instances (Vroom, 1960) but not in others (Tosi, 1970).

Duncan (1972) has also urged future research to focus on the interface between individual properties and organizational properties. In his view, most contingency theories now tend to be one sided in that they focus on the environment

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or task situation and ignore the important contingency variable of differences among individuals. He claims it is only by beginning to include personality characteristics that the contingency approach can be developed more fully.

One of the basic notions expressed by the Mix Model is that organizational performance is related to an interaction between environment and climate. The nature of this interaction as suggested by such prior research as Lawrence and Lorsch (1967) and Burns and Stalker (1961) holds that the climate of high performing firms in relatively stable environments would be more bureaucratic or mechanistic than low performing firms. Similarly, firms performing well in volatile environments will be less bureaucratic and more organic in their climate than low performing organizations.

A second notion suggested by the Mix Model is that individual performance and satisfaction are also related to the mix of environment, climate and personality. The particular relationships to be formulated and tested in this study are presented later in this chapter following a more extensive review of the literature. However, it should be stated clearly at this point that this study represents only a partial validation test of the Mix Model concept since subjects in this study were drawn only from relatively stable environments. Consequently, while the Mix Model considers both stable and volatile environments, and corollary hypotheses to those formulated in this study are implied,

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only those relating to stable environmental settings were tested in this research.

The following sections of this chapter present more detailed discussion and review of the literature for each of the major elements of the Mix Model.

Environment

The organization's external environment was defined by Lawrence and Lorsch as the "technical and economic conditions outside the firm." (1967 b, p. 15). The critical feature of the environment is its stability--or looking at it from the other direction, its volatility. The selection of environment as an exogenous variable in the model rests upon the concept that the pattern of organization structure and administrative strategy in part is influenced by the difficulty organizations face in coping with environmental conditions which impinge upon their goal seeking activities.

To the extent that the environment is unchanging, pre-programmed decision-making processes permit the organization to cope with little difficulty (Cyert and March, 1963). In these circumstances a relatively high degree of differentiation (division of labor) is permitted, with tasks becoming more simplified and routinized. Integration of the specialized sub-units can readily be effected via the formal organization's hierarchical network of authority relationships. In such stable conditions the bureaucratic model of organization can be expected to be applicable (Perrow, 1967, p. 204).

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On the other hand, if the environment is characterized by rapid change, unpredictable in its timing and direction of changing conditions, the problem of coping is a much more difficult one. If the attempt to more successfully cope with this uncertainty, the decision-making locus and process is likely to be markedly different than in the former case. Highly structured decision-making machinery would not permit decisions to be made quickly to meet the rapidly changing conditions. Furthermore, the unanticipated nature of the changes would render preprogrammed decisions useless, if not dangerous, since they would not likely be conceived with the resultant conditions adequately taken into consideration. Consequently, the locus of decision making would be located closer to the source of impact from a change in the environment. In addition, since decisions would be required to be made quickly, there would be a need for relatively greater integration in the organization so that the implications of the changes and possible action alternatives could be inputs to the decision making process.

In short, the organization structure and administrative practices that could be expected to cope effectively with highly uncertain conditions in the external environment are likely to be quite different from what would be effective in highly certain situations.

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measuring environmental certainty, two offer particular promise as being relevant to business organizations. The environment in which a firm is operating can be thought of as being comprised of (1) the markets in which it operates and (2) the state of technology which is used in its production activities.

Figure 2 illustrates this two dimensional paradigm of environmental conditions. In the diagram, the technology and market dimensions have been dichotomized into stable and dynamic levels of what might better be considered to be continua of each dimension. Cell A represents that environment which is characterized by relatively stable technology and market dimensions, while Cell D represents that environment which can be described as being dynamic in the rates of change in both technology and markets. Similarly, Cells B and C portray environments with a high degree of volatility of technology and relatively stable markets and stable technology and volatile markets respectively.

		<u>TECHNOLOGY DIMENSION</u>	
		Stable	Dynamic
<u>MARKET DIMENSION</u>	Stable	A	B
	Dynamic	C	D

Figure 2. Environmental Paradigm.

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High performing firms in Cell A can be expected to be operated quite differently from high performing firms in Cells B, C, or D, according to the mix model. Research findings such as those by Lawrence and Lorsch (1967 b) would tend to support this conclusion. For instance, the container firms studied by Lawrence and Lorsch would be examples of organizations in the relatively stable environment (Cell A) and the plastics firms can be considered to be operating in Cell D of Figure 3. It will be recalled they detected significant differences in the high performing firms in these two environmental settings. Furthermore, they indicated that low performing organizations seemed to display a poorer "fit" between the environmental demands and their patterns of internal differentiation and integration.

Burns and Stalker (1961) in their survey of 20 industrial organizations in the United Kingdom noted the differences in internal organizational characteristics which were associated with differences in the stability of the environment with which the organizations were coping. Although they did not reduce to measurement differences in either the rates of technological or market changes or internal organizational characteristics, they did recognize two distinct patterns of organizational practice in the two environments.

"One system, to which we gave the name 'mechanistic,' appeared to be appropriate to an enterprise operating under relatively stable conditions. The other, 'organic,' appeared to be required for conditions of change." (Burns and Stalker, 1961; p.5).

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The certainty of the environment is apparently intimately connected with the pattern of internal organizational administration in explaining differences in organizational performance.

Joan Woodward (1958) employing an ambitious research strategy, found technological variables in the production process an important factor, with high performing organizations having different patterns of organization structure and administrative strategies in different technologies. Similarities in managerial approaches between high performing organizations using small batch and continuous production technologies were seen to be related to the severity of consequences arising out of unprogrammed changes in the production throughput. Consequently, while the predictability of future events in the process technologies is very high, the contingent costs that would result from breakdowns call into play a less structured managerial system not unlike that found in the more unpredictable but less cost-critical technology of the small batch production systems. Large batch or mass production industries were found to employ more traditional patterns of organization and administration.

However, research by Hickson, Pugh and Phesey (1969) indicates that the "technological imperative", i.e. that technology is of primary importance to structure, is not supported. In a study of 52 diverse work organizations employing 250 or more in the Birmingham area in England,

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operation technology (the techniques used in the workflow activities of a organization) was related only to those variables immediately impinged on by the workflow. Understandably, the smaller the size of the organization, the closer the administrative and hierarchical structure is to the technology and consequently influenced by it. But in larger organizations, the higher levels in the hierarchy are insulated from the impingements of the technology and consequently technology is not a significantly related variable to that organizational characteristic.

While technology itself might be less important in influencing structure than was earlier thought, the certainty associated with the technology nevertheless seems to be supported by both theoretical (Perrow, 1967) and empirical (Burns and Stalker, 1961; Woodward, 1958) evidence as a variable of considerable importance and one which should be given consideration.

The second dimension of environment (markets) has been given less specific attention in the literature as an independent variable related to organization structure and administrative practices. Burns and Stalker treated environment as a composition of technological and market forces as did Lawrence and Lorsch, both of which must be considered bases from which this study was developed. Economists and historians, however, have treated market conditions as an exogenous variable with which business organizations must

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cope. Development economists have focused attention on the importance of markets as institutions which take a prominent place in the socio-economic infra-structure which is viewed as a prerequisite to economic growth and the simultaneous successful performance of business organizations.

Hence, business historians (Cochran, 1957; Chandler, 1962; Gras, 1939; Nevins, 1963) have noted changes which took place over relatively long time spans in environmental conditions and treated these as independent variables to which successful firms were more proficient at adapting than less successful organizations.

The role of change in markets has been quite important in these historical treatments. For example, to Gras and Larson (1939), the metamorphosis from one stage of organizational development to another was primarily a function of the external environment exhibiting its influence through market forces. They saw the locus of business actually shifting from the petty capitalist or peddler to the diversified sedentary merchant to industrial capitalist and then to the financial capitalist.

History also records the Ford example of the importance of coping with changing market forces for the success of the firm. Nevins and Hill (1963, Vol. 3) relate how Ford was unable to recognize changes in consumer tastes and demands while Sloan at General Motors displayed this perceptiveness with almost fatal consequences for the Ford organization.

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Chandler's institutional approach to the history of business organization also cited the importance of markets as well as the technological dimension of the environment. The rates of change of these dimensions were seen by him to be of vital importance to the successful performance of the organization.

"As long as an enterprise belonged in an industry whose markets, sources of raw materials, and production processes remained relatively unchanged, few entrepreneurial decisions had to be reached. In that situation, such a weakness was not critical, but where technology, markets, and sources of supply were changing rapidly, the defects of structure become more obvious" (Chandler, p. 41).

To conclude this review of the implications that environmental conditions have for the success of business organizations, one common thread throughout organizational environment literature should be recapitulated. Fairly certain environments appear to permit, even demand, greater degrees of organizational structure than do more dynamic environmental conditions.

Climate

The second major variable in the Mix Model is Climate (Organizational Internal Environment). Taguiri and Litwin (1968) define climate as

"a relatively enduring quality of the internal environment of an organization that (a) is experienced by its members, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics of the organization" (p. 27).

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In the remainder of this report, the term "environment" will refer to the external environment and the term "climate" will be used to refer to the internal environment of an organization.

The concept of climate as used here permits the inclusion of a great variety of dimensions. The problem of operationalizing the concept, however, requires the selection of a few and rejection of many of the possible dimensions that could be accommodated by the definition. In the final analysis, however, the concept of climate rests on the conceptions of the organization's internal environment that are held by individuals in the organization.

The dimensions of climate that were employed in this study were (1) perceived structure, (2) managerial style of immediate superior, (3) role conflict and (4) role ambiguity.

Perceived Structure

Perceived structure is the pattern of organizational relationships as perceived by its members. Meyer defines structure as the degree of constraint on behavior by rules, formal procedures, or policies. (Meyer, 1968) However, this dimension was found to break out into two separate dimensions. One, organization conformity, "appeared to tap the constraining and undesirable aspects of structure", while the other, organizational clarity, "measured the desirable component of structure; that is, the well-organized state that appears to be necessary to accomplish significant goals" (p. 161). The

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proposition with respect to perceived structure can be stated then as:

Proposition 1: The degree of organization conformity in high performing organizations operating in stable environments will be less than in low performing organizations in that environment.

Proposition 2: The degree of organization clarity in high performing organizations operating in stable environments will be greater than in low performing organizations in that environment.

Managerial Style

Managerial style is the behavioral pattern of managers in the execution of their managerial roles as perceived by their immediate subordinates. Two dimensions of these patterns are considered. They are task and interpersonal or relationship orientations. These dimensions have been discussed by such writers as Blake and Mouton (1964), under concern for production and concern for people; McGregor (1960) under Theory X and Theory Y; Fleishman and Harris (1962), under structure and consideration; Rossel (1970) under instrumental and expressive, and White and Lippett (in Cartwright and Zander, 1948) under autocratic and democratic management.

Previous research has demonstrated that these dimensions of managerial style are not opposite ends of a single continuum, but are two independent continua (Fleishman, Harris and Burt, 1955, and Blake and Mouton, 1964).

Fitting this two dimensional concept of leadership style into the mix model can be explained in terms of the following proposition:

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Proposition 3: The managerial style in high performing organizations in stable environments will reveal relatively greater concern for (a) task (structure) and for (b) people (consideration) than low performing organizations in that environment.

Role Conflict and Ambiguity

The final dimension of organization climate to be considered in the Mix Model is that which focuses on the characteristics of the constituent roles in the organization. This dimension can best be approached by employing the concept that an organization is a system of interrelated roles. From this stance, Katz and Kahn (1966) see role behavior in organizations as a "process of learning the expectations of others, accepting them, and fulfilling them" (p. 172).

Role conflict occurs when the role incumbent perceives himself to be the recipient of incompatible role expectations. The intensity of role conflict is a function of (a) the rigor with which role senders exert pressure on the actor (incumbent) to change his behavior, (b) the role diversity experienced by the actor, i.e. the number of other actors with whom the focal person inter-acts in the course of executing his role (Snoek, 1966; Cummings and El Salmi, 1970), and (c) the personality characteristics, such as tolerance for role conflict, of the actor (Getzels and Guba, 1954, Kahn et al, 1964).

In addition to role conflict being a characteristic which can be used to measure organizational climate, another measure of the quality of role characteristics is the extent

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Role ambiguity is that quality of a role which results from the behavioral pattern of the role lacking clarification or consensus among the occupants of similar roles as to what their roles actually consist. That is, the expected pattern of behavior for that role is not clearly communicated to the incumbent or related actors.

Conditions vary among and within organizations which significantly contribute to differential amounts of role conflict and role ambiguity characterizing the overall organizational and subunit climates. Kahn, et al., (1964) have suggested three general conditions which contribute to these conditions. They are (1) organizational complexity, (2) rapid organizational change, and (3) managerial philosophies and practices relating to the diffusion of information.

Organizational Complexity.-- Additional support for the contention of Kahn, et al. (1964) that organizational complexity is related to role conflict and ambiguity is provided by the empirical findings of Snoek (1966) and the theoretical treatment of Merton (1957). Snoek investigated the relationship between role conflict and diversity of role sets and found them to be positively related. Role conflict was more common in jobs requiring the individual to maintain a highly diversified set of role relationships. Merton (1957) also suggested that role diversity would lead to increased role conflict and ambiguity, pointing out that "those in the role-

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set and especially those occupying disparate social statuses may have differing expectations (moral and actuarial) of the behavior of the status-occupant". (Merton, 1957, p. 380).

Closely associated with the organizational complexity/conflict relationship is the concept that focuses on the location of a position and its relationship with role characteristics. Kahn,et al., (1964) found that the position of the role in the organization was related to the degree of objective conflict to which the occupant of the role was subjected.

"In general, positions contained deep within the organizational structure were relatively conflict-free; positions located near the skin or boundary of the organization were likely to be conflict ridden; living near an intra-organizational boundary revealed many of the same effects but to a lesser degree" (Katz and Kahn, 1966, 192).

To the extent that roles located "deep within the organization" have less role diversity than those which are located "near the skin or boundary" one would expect the former to exhibit less role conflict and ambiguity than the latter.

Organizational Change.-- Lyons (1971) in his review of some of the literature noted the suggestion of Kahn,et al., (1964) that role conflict and ambiguity tends to be increased by organizational change in terms of: (1) growth which may require reorganization; (2) technological changes which may require changes in social structures, or at least in the way work is performed (Rice, 1958, 1963; Emery and Trist, 1965;

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Trist and Banforth, 1951) and (3) frequent personnel changes which produce ambiguities for the person transferred and also for his associates.

Roles which demand innovative problem solving are also characterized by objective conflict and subjective tension (Katz and Kahn, 1966, p. 192). In those situations actors perceive the time requirements and effort expended on the routine activities of administrative paperwork to be in conflict with their "main purpose in performing the non-routine activities."

If organizational complexity and rapid organizational change as defined here are more characteristic of firms operating in dynamic environments than in stable environments, one could propose that organizations operating in environments which are identifiable by their relatively dynamic characteristics will have inherent in their roles greater degrees of role conflict and ambiguity than those organizations operating in an environment which is characterized by its high degree of stability.

Furthermore, those subunits in the organization which are most closely associated with the dynamic aspects of the environment will display more role conflict and ambiguity than those subunits which are less associated with the environment or more associated with a stable environment.

On the basis of the above review of the literature on the relationship of role conflict and ambiguity with the location of roles in an organization and with organizational

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change, a proposition can be formulated dealing with these variables for firms in a stable environment.

In the context of the above literature review, for a manufacturing firm in a relatively stable environment, the production function would be located "deeper" in the organizational structure than would the research function; and this in turn would be further removed from the "skin" than the roles identifiable with the marketing function. This notion lends itself to expression in propositional form as follows:

Proposition 4: In manufacturing firms operating in a relatively stable environment, the degrees of role conflict and role ambiguity perceived by occupants of roles in marketing will be greater than the levels perceived by those in research, and they in turn will perceive greater levels than incumbents of roles in production.

Managerial Philosophies and Practices. -- Managerial philosophies and practices constitute another family of variables which are related to the degree of role conflict and role ambiguity to be found in an organization (Kahn, et al., 1964).

The rationale of the classical approach to organization design has been to control out the variability in the individual-specific predispositions brought to the tasks and replace them with highly prescribed behavior patterns. The result of such a rigid climate would be to reduce role conflict and ambiguity.

Paloli (1967), in an experimental study, differentiated

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organizations into "regulated" and "natural" types. Regulated organizations were those which had a high degree of specializations among members, high concern for rules and regulations, high amount of work pressure, a high number of formal work levels, high clarity of goals, control based upon authority and power rather than influence, and a low amount of individual freedom for members. This profile approximates the rigid climate which contingency theory suggests would be appropriate under conditions of environmental stability, as is the case of the firms in this study. The opposite characteristics describe the profile of his "natural" organizations.

Paloli found that the low role diversity, as well as the low rate of organizational change, and the task oriented managerial approach in the regulated organizations tended to reduce at least certain types of role conflict and role ambiguity. This is consistent with the contingency view of high performing organizations operating in relatively stable environments.

This can be expressed propositionally as:

Proposition 5: In relatively stable environments, the levels of role conflict and role ambiguity will be lower in high performing organizations than in low performing organizations.

The Relationship Between Climate and Organizational and Member Goals

There is considerable evidence that the climate, or internal environment, differs among organizations. Furthermore, what appears to be emerging from contingency theory

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literature is that these climates may be differing not because they are necessarily held to be of unequal valence as ends in themselves, but because their instrumentalities in attaining commonly accepted goals or outcomes are perceived to be moderated by environmental conditions.

Organizational maintenance and growth requires task accomplishment. Also, stress levels must be at least as low as members' acceptable levels in order to maintain their membership. Treating these as necessary conditions for the attainment of organizational and member goals, attention will now be directed at the relationships between these and the climate dimensions employed in this study.

According to Fleishman, et al. (1955) and Blake and Mouton (1964), organizational performance will be enhanced under a leadership style with both high Task and Relationship Orientations. While individual stress will likely be reduced by the support provided by a relationship oriented superior (assuming adequate competence of the superior) (House, 1971), the effect of Task Orientation on the subordinate's perceived stress is less obvious. If he sees the superior's Task Orientation as being instrumental in attaining personal need satisfaction, it will be seen as an assistance in avoiding stress. On the other hand, if Task Orientation is not seen as being instrumental in obtaining satisfaction of his needs, it will likely be viewed as stressful (House, 1971). The net effect on stress of high Task Orientation by a superior, then,

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cannot be specified without knowing its instrumentality as perceived by the subordinate.

Organizational Clarity would be helpful in uniting efforts in seeking accomplishment of commonly held tasks or objectives and in reducing uncertainty and thereby stress on the part of the individual.

Organizational Conformity, is defined operationally as a source of frustration and stress to organizational members.

From such findings as those of Kahn, et al., (1964) and Paloli (1967), role conflict and ambiguity appear to be dysfunctional to organizational performance and serve to increase stress for organizational members.

The hypothesized relationships between these climate dimensions and two independent variables, organizational task accomplishment and members' perceived stress, are summarized in Table 1.

TABLE 1
A PRIORI RELATIONSHIPS BETWEEN CLIMATE DIMENSIONS AND ORGANIZATIONAL TASK ACCOMPLISHMENT AND PERCEIVED STRESS

Climate Dimension	Organizational Task Accomplishment	Members' Perceived Stress
Managerial Style of Superior		
- Task Orientation	+	Unspecifiable
- Relationship Orientation	+	-
Perceived Structure		
- Organizational Clarity	+	-
- Organizational Conformity	-	+
Role Characteristics		
- Role Conflict	-	+
- Role Ambiguity	-	+

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Two points should be emphasized from the above discussion. First, there is no evidence to suggest that differences in organizational environment moderate the underlying relationships between these climate dimensions and organizational performance and individual stress. Second, the means by which firms in stable and volatile environments attain the desired levels of these climate dimensions will vary. Firms in the first instance will rely much more on formal rules and regulations, job descriptions, position power, etc., i.e., rigid or mechanistic approaches. Organizations in dynamic settings will more likely rely on individuals clarifying the structure and role relationships, etc., through more personal interaction, i.e., flexible or organic approaches.

The difficulties in attaining desired states for each of these climate dimensions are likely to be greater for firms operating in dynamic, uncertain environments than for those in stable settings. This suggests that firms in stable environments would attain more desirable levels of these dimensions than those in dynamic environments. However, that is not a question which can be examined in this study.

By combining scores on the dimensions of climate, the internal environment can be depicted in terms of a continuum of stress running from a climate that is relatively stress-free to one which is relatively stressful.

Using the contingency approach, it would be anticipated that organizations will employ that approach to organizational

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design and administrative practice which will be instrumental in their specific environments in avoiding stress and attaining organizational maintenance and growth. Figure 3 illustrates the contingency notion that the approach to design and administration that will be instrumental in attaining the desired end (low stress and high performance) is the rigid or mechanistic approach in stable environments and the flexible or organic one in dynamic settings. Stress is generated when the approach and environment are not congruent.

<u>APPROACH TO DESIGN AND ADMINISTRATION</u>	Rigid (Mechanistic)	Stress: <u>Low</u> Performance: <u>High</u>	Stress: High Performance: Low
	Flexible (Organic)	Stress: High Performance: Low	Stress: <u>Low</u> Performance: <u>High</u>
		Stable	Dynamic
		<u>ENVIRONMENT</u>	

Fig. 3. Relationship between Approach to Design and Administration and Environment with Stress and Organization Performance

It is notable from Figure 3 that stressfree climates are shown to be associated with an appropriate fit between the rigidity or flexibility of the design and administrative practice on the one hand and the stability characteristic of the environment on the other. That is, a stressfree climate can result from a rigid design and administrative arrangement in

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conjunction with a stable environment, or a more flexible arrangement where the environment is dynamic.

From Table 1 and the above discussions there emerges the notion that high performance firms should more closely approximate the desired levels of the climate dimensions (those that are associated with low stress) than the low performing firms. This can be expressed propositionally as:

Proposition 6: For organizations operating in stable environments, the climates in high performing firms will be more stressfree than in low performing firms.

Summary of Organizational Climate Dimensions

Organizational climate is defined as that relatively enduring quality of the internal environment of an organization. While many dimensions of climate can be suggested, the Mix Model as developed here, considered perceptions of (1) task orientation, (2) relationship orientation, (3) organizational clarity, (4) organizational conformity, (5) role conflict, and (6) role ambiguity. This multidimensional concept of climate was also transformed to a single dimension which treats climate as a continuum ranging from low stress to high stress as perceived by individual members.

PERSONALITY

The third major variable in the Mix Model is Personality (or Individual Characteristics). The concept of personality as used in the Mix Model was defined above as that pattern of individual attitudes and needs which, conceptually, can

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(1) differentiate individuals, (2) influence their behavior, and (3) be described in terms of the values of particular sets of social and psychological phenomena.

For the purposes of the Mix Model as it is conceptualized at this stage, dimensions of personality include (i) authoritarianism, (ii) interpersonal orientation, (iii) tolerance for role conflict, (iv) tolerance for role ambiguity, (v) need for independence, and (vi) need for achievement.

Authoritarianism

This refers to the tendency of the individual "to glorify, to be subservient to and remain uncritical toward authoritative figures of the ingroup and to take an attitude of punishing outgroup figures in the name of some moral authority." (Adorno, et al., 1950, p. 228).

Interpersonal Orientation

This dimension of personality focuses upon the criteria which individuals feel are important in their relationships with others. Basically, the concept being employed here is that interpersonal relationships can be viewed as an activity which is either (a) an end in itself, or (b) a means to an end. Individuals who look upon social interaction as an end in itself can be described as relationship oriented. Those who look upon such interaction as a means to an end can be considered to be goal or task oriented.

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Tolerance for Role Conflict

This dimension is defined as the degree to which an individual's attitude toward the presence of role conflict in his job is one of tolerance. One's tolerance of role conflict is taken to be indicative of his ability to cope with such conflict in his job situation.

Tolerance for Role Ambiguity

This dimension of personality is defined as that tendency of an individual to be tolerant in his attitude toward the presence of role ambiguity in his job situation.

Need for Independence

This personality characteristic can be defined as that tendency of an individual to prefer self-directed activity rather than having his activity initiated and directed by others. This need is made manifest in a pattern of behavior and feelings which demonstrate the subject's desire to maintain his own autonomy.

Need for Achievement

The need for achievement is the degree to which an individual is motivated to attain high levels of performance. Manifestations of achievement motivation include (a) high aspiration level in so far as it does not reach beyond one's capacities, (b) preference for high probabilities when the outcome of an action is highly determined by chance, (c) strong striving for upward mobility, (d) great persistence when

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confronted by a task of intermediate difficulty, (e) strong tendency to resume a task when interrupted, (f) dynamic time perception, (g) future oriented time perspective, (h) choice of task partner primarily influenced by competence of the other, (i) a seeking of recognition by performing well, and (j) a desire to perform well. (Hermans, 1970, pp. 354-5).

There is considerable evidence in the literature to support the notion expressed in the Mix Model that some personality characteristics lend themselves to differing levels of satisfaction and performance in various organizational climates. Passing mention was made above in the general overview of the Mix Model to some of this literature. More detailed examination of the literature is warranted in this section.

Tannenbaum and Allport found evidence to support the hypothesis that "a greater proportion of those relatively 'suited' to the program in which they were placed will be more favorable (or less unfavorable) to their program than will be the case for those who are 'unsuited' to their program." (1956, p. 277).

"General support was found for the hypothesis. The attitude of favor or disfavor, developed by workers in a large business organization to two experimental programs with contrasting patterns of allocating authority appears to be a function, as was predicted, of the interaction between the personality structure of the individual and the structure of the work-program in which he is operating. Those individuals, who by their trend-structure...are 'suited' to the program they are in, tend to feel a greater satisfaction with it...then do those whose trend structures are 'unsuited' to their program (1956, p. 280).

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Unfortunately no measure of performance effectiveness was used in Tannenbaum and Allport's research and consequently the relationship between the mix of personality and climate factor and performance was not revealed.

Hall (1971) developed a theoretical model which conceptualizes the relationship between one's career work role (defined as a position or status in social space and a concomitant set of expectations of the incumbent) and his ideal identity (the individual's perception of his ideal self). He suggests that career satisfaction is a function of the degree of congruence between career role and career subidentity (that subset of ideal identity which relates to vocational activities). The concept of congruency between role and identity is used to discuss outcomes in terms of satisfaction and mental health (concerns which were also discussed by Argyris, 1964) but again there is no attempt to examine performance as an outcome variable.

Litwin and Stringer (1968) present some suggestive evidence of relationships between several dimensions of climate and aroused motivation in terms of needs for power, affiliation and achievement. For example, they suggest the work of Lewin, Lippitt, and White (1939), Litwin (1966) and Ciarlo (1961) provide some evidence to support the hypothesis that situational structure tends to reduce the level of aroused achievement motivation. In addition, they argue that 'formality and social distance will tend to increase as the hierarchy of work rules becomes more explicit. This tendency (although necessary to

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maintain the integrity of the structure) reduces the salience of close, affiliative relationships" (p. 48).

Finally, with respect to the need for power and its relationships with the structure dimension of climate, Litwin and Stringer draw on the work of Verhoff (1955) and Uleman (1966) to suggest that "in situations where there is a hierarchy of status and authority, and where there are cues that suggest competition for recognition and status. . . , n-Power will be aroused and power-related behavior will be generated" (p. 48).

Morse and Lorsch (1970) extend the approach used by Lawrence and Lorsch (1967b) who examined the effects of external environment on organizational design and administrative strategies. They found high performing organizations were staffed with managers exhibiting higher sense of competence motivation. This was a major step in wedding the external environment, external organizational climate and personality characteristics into a meaningful mix which tended to explain differences in overall organization effectiveness. However, sense of competence could be alternatively explained as dependent upon organizational effectiveness rather than their suggested hypothesis that it is vice-versa. Unfortunately, the nature of static correlational studies always is such as to render them unable to detect casual relationships. Nevertheless, the findings of Lawrence and Lorsch and Morse and Lorsch provide further encouragement for studies examining environmental, climate, and personality variables simultaneously.

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In addition to the findings of Morse and Lorsch, Lawrence and Lorsch (1967b) were led to speculate that managers in the high performing firms in the dynamic and stable environments

had somewhat different personality needs. Those in the plastics organization seemed to prefer more independence and had greater tolerance for ambiguity, while those in the container company were perhaps better satisfied with greater dependence upon authority and were more bothered by ambiguity....while we have no way to confirm this speculation, it does raise again the importance of the point made earlier, that the organization must fit not only the demands of the environment, but also the needs of its members. (1967b, p. 155).

The contingency theory and prior research reviewed above suggests that there are individual characteristics that would lend themselves to superior performance and that these characteristics would be systematically related to different levels of performance as the environmental situational variables changed.

In particular, where the environment is stable, the Mix Model suggests individual performance and satisfaction will be greater as the subjects' personalities are more (a) authoritarian (Sanford, 1950), (b) task oriented in their interpersonal relations (Fiedler, 1967; Lawrence and Lorsch, 1967), (c) intolerant of role conflict and (d) role ambiguity (Lawrence and Lorsch, 1967; Lyons, 1971), and (e) dependent (Lawrence and Lorsch, 1967; Trow, 1957). This pattern of individual characteristics defines what will be called Type X individuals. Finally, (f) individual performance and satisfaction are

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expected not to be inversely related to need for achievement in these mechanistic organizations (Hermans, 1970).

On the other hand, where the environment is dynamic the Mix Model suggests individual performance and satisfaction will be greater as the subjects' personalities are less authoritarian, more relationship oriented, tolerant of role conflict and role ambiguity, independent and characterized by high need for achievement. This pattern of personality characteristics defines what will be called Type Y individuals.

Since this study is restricted to firms in a stable environment only the relationships between individual performance and personality characteristics of individuals working in, what are expected to be, relatively mechanistic organizations can be examined. These proposed relationships can be stated propositionally as

Proposition 7: High performing individuals working in a stable environment will

- a. be more authoritarian
- b. be more task oriented
- c. be less tolerant of role conflict
- d. be less tolerant of role ambiguity
- e. have greater needs for independence
- f. have an equal or greater needs for achievement than low performing individuals in the same environment.

Summary of Personality Dimensions

Personality was defined as that pattern of individual attitudes and needs which, conceptually, can differentiate individuals, influence their behavior, and can be described in terms of the values of particular sets of social and psychological phenomena.

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A review of the relationships of these variables to environmental conditions as conceptualized by the Mix Model and supported by prior research and theory was presented. The a priori characteristics of individuals particularly well suited to work in stable environments were formulated.

Organizational Performance

For the purpose of this study organizational performance was defined as the average annual rate of return of total earnings before interest depreciation and taxes (EBIDT) on total assets for the ten years ending 1960-1969. Since the study required a high performing and a low performing firm in the same industry, firms could be designated as high or low performing as their rates of return were above or below the industry average for the same time period.

Individual Performance

Individual performance is the degree to which an individual attains a given standard of goal achievement. Unhappily, the wide variety of tasks that are involved in managerial jobs makes it extremely difficult to develop a uniform standard of performance that is applicable to all jobs. The difficulties of appraising managerial performance is in itself a major field of study.

In this study, where the subjects ranged in function, position level and company, individual performance was operationally defined as high if the subject was an above average

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performer and low if his performance was average or below average in the judgement of the company officer responsible for personnel appraisal.

Satisfaction

Satisfaction in the Mix Model is defined as the gratification of a need or the provision of pleasure or contentment with respect to the quality of the work situation.

Drawing on the work of Smith,et al. (1969), Maslow (1954), and Porter and Lawler (1968), the Mix Model variable, satisfaction, is viewed as a multivariate phenomenon composed of eleven dimensions. These are satisfaction with (1) job, (2) firm, (3) career progress, (4) pay, (5) superior, (6) co-workers, and satisfaction of the need for (7) security, (8) affiliation, (9) autonomy, (10) esteem, and (11) self-actualization.

The Relationships Between Environment, Climate, Personality, Performance, and Satisfaction

Having discussed the nature of each of the variables of the Mix Model and reviewed some of the more relevant literature dealing with the behavior of some of the pairs of these variables, attention will now be turned to explicating the nature of probable interaction effects of (1) environment, climate and individual performance, and (2) environment, climate and satisfaction.

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The Relationships Between Environment,
Climate, Personality, and Performance

The contingency theory of organization which developed out of the work of Woodward (1958), Burns and Stalker (1961), Lawrence and Lorsch (1967) and others has suggested that organizational performance is contingent upon the fit between the organizational climate and environment. Specifically, organizations operating in relatively stable environments which are rigidly designed and administered tend to be higher performing organizations than those which are more flexible. And conversely, organizations operating in relatively dynamic environments which are more flexibly designed and administered tend to be higher performers than those which are more rigid.

Furthermore, while performance is frequently viewed as a multiplicative function of ability and motivation (Vroom, 1964, p. 198), the whole concept of classical organization theory is based upon the notion that performance can be controlled by short circuiting the motivation variable. Consequently high structure, precise job description and task requirements in conjunction with task independence and close task oriented supervision are employed to assure at least minimally acceptable levels of performance regardless of individual differences in motivation affected by personality characteristics and their resultant differential patterns of need and perception.

In short, the differences in individual performance in mechanistic firms are minimized by the structural characteristics of the task situation. Organization performance, and

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by reduction, individual performance in stable environmental settings is more a function than of the fit between climate and environment than it is between personality and climate.

Stated in propositional form this implies:

Proposition 8: For individuals working in stressfree climates in stable environments, high performers will approximate Type X's more than will low performers.

Proposition 9: For individuals working in stressful climates in stable environments, high performers will approximate Type X's more than will low performers.

Proposition 10: For organizations operating in stable environments, the performance of individuals in stress-free climates will be greater than the performance of individuals in stressful climates.

The Relationships Between Environment, Climate, Personality and Satisfaction

The literature focusing on job satisfaction has usually attempted to explain differences in job satisfaction or morale to be a function of the nature of the job situations in which individuals operate. The work role variables most frequently considered are (1) supervision, (2) the work group, (3) job content, (4) wages, (5) promotional opportunities, and (6) the physical conditions of the work situation.

The Mix Model breaks with this traditional approach in that it also considers the moderating influence of individual differences in attitudes and needs in the relationship between these climate variables and satisfaction.

The underlying rationale for hypothesizing the particular interaction effects that will be developed from the Mix Model is grounded in the psychological principle that satisfaction is a function of the intensity of a need and the degree

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to which the drive for that need is able to be reduced by the means available from the surrounding environment. Shaffer formalized this by hypothesizing that:

"Overall job satisfaction will vary directly with the extent to which those needs of an individual which can be satisfied are actually satisfied, the stronger the need, the more closely will job satisfaction depend upon its fulfillment (1953, p. 3).

It will be recalled that stressfree climates in stable environments were anticipated to have high structure and task orientation as well as low role conflict and ambiguity, and also that Type X individuals have high needs for structure and task orientation, and low tolerance for role conflict and ambiguity. Furthermore, it will be recalled that organic organizations in stable environments, and their resulting stressful climates, and Type Y personalities will have characteristics at the opposite ends of the climate and personality continua.

Based upon the earlier review of the literature and the ensuing discussion of the Mix Model concept, the following propositions can be stated in the context of a stable environment:

Proposition 11: Personality Type X's will be more satisfied (or less dissatisfied) in stressfree climates than Type Y individuals.

Proposition 12: Personality Type Y's will be more satisfied (or less dissatisfied) in stressful climates than Type X individuals.

Proposition 13: Personality Type X's will be more satisfied (or less dissatisfied) in stressfree than in stressful climates.

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Research Objectives and Hypotheses

The objectives of this research were to (1) provide additional empirical evidence on the relationship between climate and firm performance for firms operating in relatively stable environments, and (2) to test the validity of the Mix Model as it extends the contingency approach to organizations to include the personality dimension of its members along with environment and climate in explaining organizational performance and individual performance and satisfaction.

The following general notions, based upon the proposition developed above, were tested in this study.

1. Managers' perceived climate will be related to firm performance, individual performance and own work role. (See propositions 1 through 6 and 10 above).
2. Managers' personality characteristics will be related to firm performance, individual performance, own work role, and perceived climate. (See propositions 7, 8, 9, above).
3. Managers' satisfaction will be related to firm performance, individual performance, own work role, perceived climate, and personality. (See propositions 11 through 13 above).

Chapter Summary

The objective of this chapter was to review the development of the contingency approach to organization theory and describe the Mix Model concept upon which this research project

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has been based. The rationale for the selection of variables, the dimensions of those variables and the anticipated interactions of the input variables in relation to the levels of firm and individual performance and satisfaction was also developed.

In addition to indicating the rationale upon which this research has been undertaken, it is hoped that the theoretical development of the Mix Model as formulated in this chapter will be a contribution to the body of theory of organizational behavior tying together the major concepts of environment, climate, personality, performance and satisfaction.

The following chapter will describe the methodology employed in the study, with particular reference to the selection of a research design, organizations for study, questionnaire design and scoring procedure, and analytical techniques.

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CHAPTER II

METHODOLOGY

Introduction

The purpose of this chapter is to describe the methodology employed in the study. There are five rather distinguishable stages. They are (1) the selection of an industry and firms representative of the population of interest, (2) the selection and design of measurement instruments, (3) the evaluation of these instruments and final scale construction based upon data obtained in the study, (4) the selection of a research design, and (5) the choice of statistical techniques for data analyses.

Since the evaluation of instruments involves discussion of data collected in this study, discussion of stages (2) and (3) is deferred to the following chapter. A description of the remaining three stages is presented in this chapter.

Selection of Industry, Firm and Subjects

Since the study was to focus on firms in a stable environment, some method had to be devised to determine what industries were stable and what were dynamic. Furthermore, it was important to keep the two firms selected as closely matched in terms of technology, markets, size, etc., as possible, while at the same time differing on the basis of overall organizational performance.

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Measuring Industrial Environment
and Company Performance

The selection of an industry and companies, then, presented two preliminary problems: (1) the identification of stable industrial environments and (2) the assessment of overall organizational performance of firms in the population of interest.

As a point of departure, a list of Michigan firms employing 1000 or more employees was compiled from the Directory of Michigan Manufacturers. The restriction to firms of that size was designed to eliminate organizations which would not likely have sizeable managerial staffs in each of the three functional areas of interest. Restriction to firms in Michigan was made in recognition of the constraints on the area within which travel by the researcher would be feasible, since it was anticipated that discussion with company officials would be required to explain the nature of the study in the course of soliciting their cooperation in the project as well as obtaining their evaluation of the nature of the environment in which their firms were operating.

For the purpose of measuring environmental stability and organizational performance, data were drawn from the CompuStat Data Tapes available from the Computer Tape Library at Michigan State University. These tapes include names and financial data for some 900 companies for the twenty years 1959-1969.

The next step involved selecting for further study all

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those firms on the Compustat Tape that were in the same industries as those firms included in the earlier listing of Michigan companies. Having selected such firms, analyses were made with respect to both stability or volatility of the industry as a whole and the performance of those Michigan firms vis-a-vis other firms in the industry (as defined by the classification of firms employed in the Compustat Tape).

In this fashion, industries could be ranked in terms of stability and firms could be ranked in terms of their performance. From these analyses, firms and industries which met the requirements of the study were identified and contacts made to elicit participation.

Measuring Industry Stability-Volatility

The measure employed to describe the stability-volatility dimensions of the environment of an industry was the average of the coefficients of variation of EBIDT of the firms in the industry over the years 1960-1969 inclusive. The rationale for using volatility of EBIDT as an index of the stability of the environment is quite straightforward. Since a stable environment has been defined as one where the certainty of information and predictability of market and technological change is high, and the rates of change in these areas are low, the difficulty in coping with such an environment would be relatively easy. Such ease in coping with the environment could be expected to be revealed in relatively small deviations

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On the other hand, if the market dimension is relatively dynamic, perhaps as a result of rapid changes in consumer tastes, of changing prices of substitute or complementary goods, etc., or if the technology used in the industry changes rapidly and unpredictably, the problem of coping with the environment would be considerably more difficult. The degree of difficulty would be reflected in greater deviations from the mean EBIDT for companies in that environment.

It is to be noted, however, that the variance of EBIDT is also effected by the ability of the management of the organization to cope effectively with the environment. Consequently, a low variance might also be indicating a relatively high level of ability of the management to cope with the environment and not just of uncertainty in the environment. The converse might also be true. However, assuming managerial ability to be normally distributed between organizations and industries, as long as the numbers of firms and industries are relatively large, the measure of volatility would not be greatly affected by the differences in managerial ability to cope with uncertainty.

Industrial Environment for Selected Industries

The ranking of selected industries in decreasing order of volatility, as well as the number of firms in each industry, and the industry weighted AROI are shown in Table 2.

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TABLE 2

SELECTED INDUSTRIES IN DECREASING ORDER OF VOLATILITY OF EARNINGS, AVERAGE RETURN ON INVESTMENT, AND NUMBER OF FIRMS IN INDUSTRY SAMPLE, 1960-1969

Rank	Industry Number	Industry Name	Volatility ^a of Earnings	ARO I ^b	N ^c
1	3670	Electronics	.599	15.68	19
2	3721	Aerospace	.557	17.72	16
3	3570	Office & Business Equip.	.503	31.79	12
4	2899	Chemical & Chem. Preparations	.463	16.86	13
5	2844	Cosmetics	.452	29.25	11
6	2050	Food - Bread & Cakes	.392	12.99	5
7	2830	Drugs	.379	27.28	25
8	2010	Food - Meat Packers	.366	10.70	7
9	3714	AUTO PARTS & ACCESSORIES	.322	19.11	18
10	2020	Food - Dairy Products	.306	17.51	6
11	3220	Metal & Glass Containers	.291	16.06	6
12	2650	Paper Containers	.287	15.34	8
13	3000	Tire & Rubber	.274	15.24	12
14	2800	Chemicals	.258	20.83	33
15	2052	Food - Biscuit Bakers	.219	19.03	5
16	2070	Confectionary	.181	28.79	5

Source: The data presented in Table 2 were computed from raw data on the Compustat Data Tape, 1970 edition, Computer Services Library, Michigan State University.

^aVolatility is measured by the weighted average coefficient of earnings before interest, depreciation, and taxes for each firm in an industry, weightings being the firm's share of industry sales over the 10 year period.

^bAverage Return on Investment is measured by the weighted average of $(EBIDT/Total\ Assets) \times 100$ for each firm in an industry weighting being the firm's share of industry sales over the 10 year period.

^cN represents the number of firms in the industry sample.

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To determine the significance of indicated differences in volatility of environments, industries were first ranked from highest to lowest volatility of EBIDT as in Table 2. Recognizing the possible non-normality of distributions of coefficients of variation and other assumptions with respect to variances that are required of parametric tests, the differences between each pair of industries were tested by using the one-tailed Kolmogorov-Smirnov Two-Sample Test, a non-parametric test requiring only ordinal data. Eleven class intervals along the continuum of earnings volatility were used. Table 3 summarizes the results of this test. As is evident, differences between many pairs of industries were highly significant.

It is notable that the auto-parts and accessories industry was shown to be significantly less dynamic than the office and business equipment, aerospace, and electronics industries. Furthermore, it was not significantly more dynamic than metal containers, an industry considered by Lawrence and Lorsch (1967) to be relatively stable.

The auto-parts and accessories industry was selected for its relatively stable environment. Further analyses were made then to select two firms from within this industry, one high performing firm and one relatively low performing firm.

Measuring Company Performance

The measure used to evaluate a company's rate of return was the average rate of return on investment (AROI) over the ten years, 1960-1969 inclusive. In order to minimize variance

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TABLE 3

SIGNIFICANCE OF DIFFERENCES IN EBIDT VOLATILITY BETWEEN SELECTED INDUSTRIES USING A ONE-TAILED KOLMOGOROV SMIRNOV TWO-SAMPLE TEST^a

N ^b	Industry	Rank	Volatility													
			Low							High						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
5	Food - Biscuits	1	*	.82	.43	.58	.73	.25	.93	.19	.55	.11	.19	<.02	.06	<.01
33	Chemicals	2	*	.51	.68	.79	.76	.97	.20	.65	.04	.28	.02	.04	<.01	
8	Paper Containers	3		*	.89	.71	.89	.97	.75	.79	.21	.34	.03	.11	<.01	
6	Metal Containers	4		*	.74	.64	.96	.28	.74	.03	.17	<.01	.02	<.00		
6	Dairy Products	5		*	.83	.97	.63	.88	.31	.59	.22	.30	.22	.30	.22	
18	AUTO PARTS	6		*	.98	.71	.74	.13	.24	.01	.04	<.00				
7	Food-Meat Packers	7		*	.46	.67	.39	.64	.38	.39	.32					
25	Drugs	8		*	.79	.57	.74	.15	.40	.02						
5	Food-Bread & Cakes	9		*	.17	.43	.09	.15	.06							
11	Cosmetics	10		*	.91	.71	.62	.03								
13	Chemicals & Chemical Preparations	11		*	.46	.55	.06									
12	Office & Business	12		*	.61	.02										
16	Aerospace	13		*	.11											
19	Electronics	14		*												

^aTable 3 is comprised of a matrix of the levels of significance at which the volatility of EBIDT of an industry is greater (lower) than another industry which is ranked lower (higher). For example, Auto Parts (#6) has a lower volatility than Aerospace (#13), $p < .04$. Similarly, Electronics (#14) has a greater volatility than Metal Containers (#4), $p < .001$.

^bN represents the number of firms in the industry sample.

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due to differences in depreciation write-off policies and capital structure between firms and over time, the ratio of earnings before interest depreciation and taxes (EBIDT) to total assets was used to compute AROI. Each company's AROI was weighted by that company's importance to the industry (as measured by its percentage of industry sales for the ten years) in order to arrive at an industry AROI. A firm was defined as being a high performer if its AROI was greater than the industry AROI and a low performer if its AROI was less than the industry AROI of 19.11%. The high performing firm's AROI was 24.36% compared to the low performing firm's average return on investment of 8.15%.

Selection of Subjects

The executive responsible for the personnel function in each of the firms developed a sample of managers across hierarchical levels, the roles of production, research and marketing, and individual performance ratings.

These subjects were mailed a copy of the research questionnaire (Appendix I) and a covering letter from the director of personnel and a stamped self-addressed return envelope. Subjects were assured that their identity could not be detected by their responses. While individual subjects could not be identified, the questionnaires were coded to distinguish responses returned by high and low performers.

Since the identity of respondents could not be determined,

no attempt was made to follow up on those who did not respond to the first mailing.

The numbers of questionnaires distributed and returned by company, functional role and performance level and rates of return are illustrated in Table 4. The overall rate of useable returns was 57.8%, with a range across categories from 50% to 80%. In view of the fact that no follow up mailing was made, the level and pattern of response was considered satisfactory.

TABLE 4
NUMBERS OF QUESTIONNAIRES DISTRIBUTED AND RETURNED
BY FIRM, FUNCTION AND PERFORMANCE LEVEL

FIRM ^a	FUNCTION	PERFORMANCE LEVEL	DISTRIBUTED	TOTAL RETURNED	USEABLE RETURNS	RATE OF USEABLE RETURNS
L	Production	High	20	11	11	55.0%
L	Production	Low	20	12	12	60.0
L	Research	High	15	10	10	66.6
L	Research	Low	15	8	8	53.3
L	Marketing	High	17	11	11	64.7
L	Marketing	Low	18	10	10	55.5
	Total Firm L		105	62	62	59.0%
H	Production	High	20	10	10	50.0%
H	Production	Low	20	10	10	50.0
H	Research	High	20	11	11	55.0
H	Research	Low	20	12	11	55.0
H	Marketing	High	20	11	11	55.0
H	Marketing	Low	20	16	16	80.0
	Total Firm H		120	69	68	56.6%
	GRAND TOTAL		225	131	130	57.8%

^aFirm L was a relatively low performing organization.
Firm H was a relatively high performing organization.

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Selection of Research Designs

In order to examine the relationships between personality, climate, satisfaction and individual performance as well as role and company performance, three factorial designs were employed. Each of these designs is described below.

Design 1: Firm x Role x Individual Performance

The design employed to test the main and interaction effects of firm, role and individual performance on (a) climate, (b) satisfaction, and (c) personality was a 3 x 2 x 2 factorial design. In this design three levels of role, two levels of firm performance, and two levels of individual performance were treated as factors and climate, satisfaction and personality scores were treated successively as dependent variables. A schematic presentation of this design appears in Figure 4.

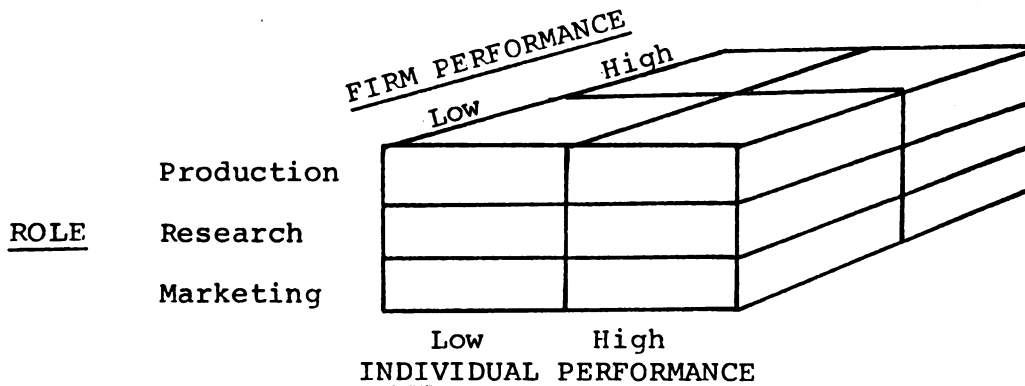


Figure 4. Schema of Research Design 1: 3 x 2 x 2 Factorial Design with Dependent Variables (a) Climate, (b) Satisfaction, and (c) Personality.

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Design 2: Role x Climate x Individual Performance

The design used to test the main and interaction effects of role, climate and individual performance on (a) satisfaction and (b) personality was a 3 x 2 x 2 factorial design. In this design, three levels of role, two levels of climate, and two levels of individual performance comprised the factors and satisfaction and personality were each treated as dependent variables. A diagram of this design appears in Figure 5.

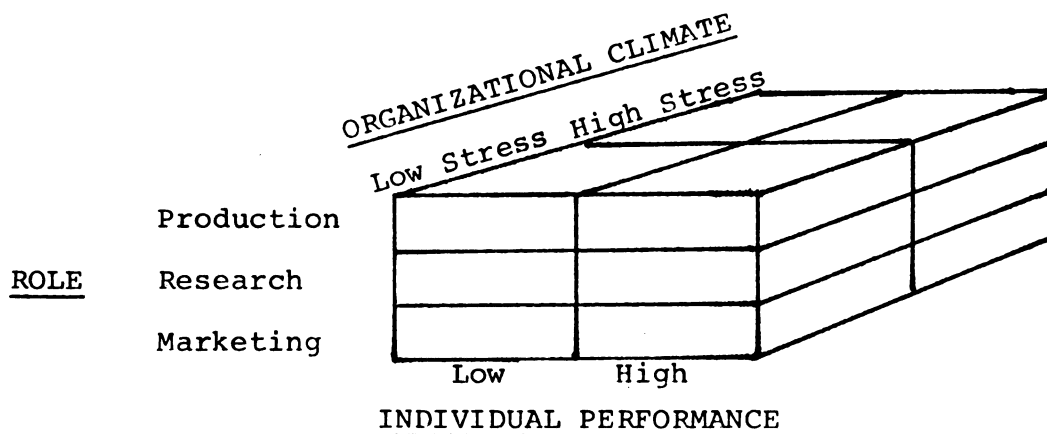


Figure 5. Schema of Research Design 2: 3 x 2 x 2 Factorial Design with Dependent Variables (a) Satisfaction and (b) Personality.

Design 3: Role x Climate x Personality

The design used to test the main and interaction effects of role, climate and personality on (a) individual performance and (b) satisfaction was a 3 x 2 x 2 factorial design also. In this design, three levels of role, two levels of climate and

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two levels of personality were treated as factors and satisfaction and individual performance were treated as the dependent variables. A diagram of this design appears in Figure 6.

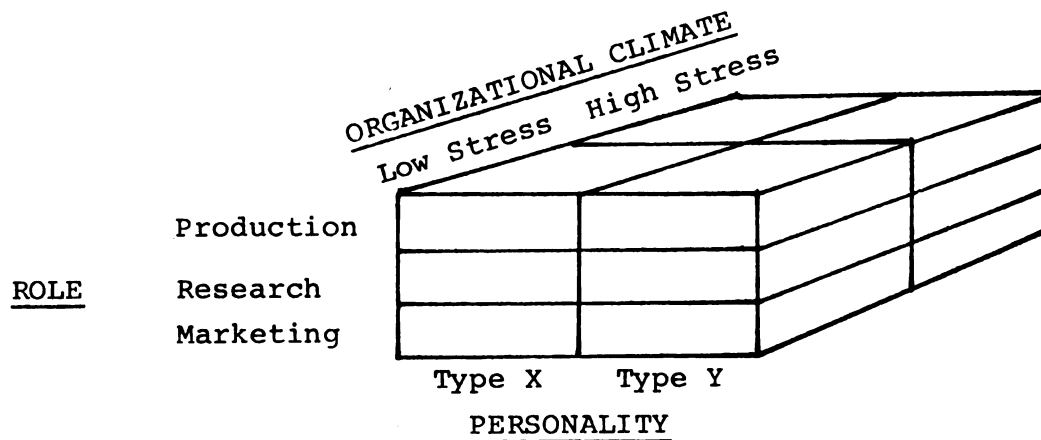


Figure 6. Schema of Research Design 3: 3 x 2 x 2 Factorial Design with Dependent Variables (a) Individual Performance and (b) Satisfaction.

Statistical Techniques for Data Analysis

The approach used to analyze the data can be described as a four stage process. These stages involved (1) determination of inter-item correlations for scales measuring each of the climate personality and satisfaction variables, (2) determination of internal scale reliabilities, (3) analyses of variance for the three research designs, and (4) where analyses of variance indicated significant effects, analyses of differences among means to determine the nature of the effects, using the Tukey test, were conducted.

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Since scale construction is the topic of the next chapter, discussion of the first two stages will be deferred to that section. A brief description of the techniques of analysis of variance and the analysis of differences among means is provided in this section.

Analysis of Variance

Analysis of variance is a statistical technique which permits differences between means to be partitioned in such a way that sources of the variance can be identified. For a completely randomized design, the total sum of squares can be partitioned into two components - sum of squares within-groups and sum of squares between-groups. The within-groups sum of squares arises due to the individual differences among subjects who receive the same treatment level in the research study. These individual differences in scores reflect chance variation. Differences among scores of subjects who receive different treatments reflect not only these chance differences arising from individual ideosyncracies but, in addition, reflect systematic effects of the particular treatments if they are present (Kirk, 1969, pp. 50-59).

When the design is a factorial design, having more than one treatment variable, in addition to testing the hypotheses of equal means for column and row means, interaction means must also be tested for equality (Blalock, 1960, pp. 257-8).

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An F ratio provides a test of the hypothesis that all treatment means are equal. This test is the ratio of the between-groups mean square and the within-groups mean square (Kirk, 1967, p. 59).

When significant F statistics were found and the hypothesis of no relationship could be rejected, the Tukey test for making pairwise comparisons among means was used to find the source and level of significance of these effects. A level of .10 was established as the lower limits of acceptable significance.

The computer program used for the analysis of variance was a multivariate analysis of variance and covariance program (Dixon, 1969).

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CHAPTER III

SCALE CONSTRUCTION AND RELIABILITY

Introduction

In this chapter the scales that were employed in the data analyses are described and their internal reliabilities reported. In some cases a scale's reliability could be improved by deleting items which were found not to correlate highly with other items in the a priori scale. Raw scores were transformed to Z-scores for all analyses.

The measure of internal reliability of a scale that was used was the coefficient

$$r_{kk} = \frac{k(\bar{r}_{ij})}{1 + (k-1)\bar{r}_{ij}}$$

where k = the number of items in the scale

\bar{r}_{ij} = the average correlation between all pairs of items in the scale (Nunnally, 1967, p. 193).

Nunnally suggest that the coefficient of internal reliability is perhaps the most meaningful measure of reliability. This coefficient of reliability sets an upper limit to the reliability of the instrument. If it proves to be very

low, either the test is too short, the number of items (k) should be increased, or else the items have little in common (\bar{r}_{ij} is low). It has been suggested that for basic research (such as this) moderate reliabilities in the order of .60 or .50 will suffice while applied research might require a minimum of .90 and preferably .95 (Nunnally, 1967, p. 226).

The scales that were developed from this data for each of the dimensions of the major variables of (1) climate, (2) personality, and (3) satisfaction are reported below.

Climate

The dimensions of climate included measures of perceived structure, managerial style and role conflict and ambiguity.

Perceived Structure

The two sub-dimensions of perceived structure examined were: (1) organizational conformity and (2) organizational clarity. The items used to measure these were drawn from Litwin and Meyer (1968). Unfortunately, they did not report the reliabilities of these instruments. Their reliabilities were found in this study to be .594 and .776 respectively.

Organizational Conformity.--The four item scale used to measure organizational conformity had an internal reliability of .594. The items to which subjects responded by indicating the degree to which they agreed or disagreed on a four point scale were:

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New and original ideas are not prevented from receiving consideration by excessive rules, administrative details and red tape.

If you don't conform to standard practices around here, you will be looked upon critically by your superior.

Unnecessary procedures are kept to a minimum in this unit.

There are a lot of rules, policies, procedures, and standard practices one has to know to get along in this unit.

Organizational Clarity.--The five items used to measure organization clarity had an internal reliability of .776. The items, to which respondents indicated the degree to which they agreed or disagreed on a four point scale were:

The assignments in this section are clearly defined.

The policies and organizational structure of this unit have been clearly explained.

Things seem to be pretty disorganized around here.

Our productivity sometimes suffers from lack of organization and structure.

I feel I am a member of a clearly and precisely structured team.

Managerial Style

The two sub-dimensions of managerial style were defined in Chapter I as Task Orientation and Relationship Orientation. The items used to measure these dimensions were drawn from Litwin and Meyer (1968). However, the reliability of these scales was not reported.

Task Orientation.--The three item scale used to measure task orientation had an internal reliability of .573. The items to which subjects indicated on a four point scale

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the degree to which they agreed or disagreed were:

My immediate superior tries to suppress or cut off conflict when it arises, when he cannot do that he tries to force his own solution to settle the issue.

My immediate superior treats his people like a stern father, and his motto appears to be "nice guys finish last."

My immediate superior does not use his hierarchical power in the authoritarian-obedience sense to maintain his control.

Relationship Orientation.--The reliability of the four item scale was .658. The items to which subjects indicated the degree to which they agreed or disagreed on a four point scale were:

My immediate superior does not place a high value on maintaining good relations and does not feel that the attitudes and feelings of people are important in their own right.

My immediate superior tries to avoid disagreements, rejections, and conflict; where conflict does arise he tries to smooth over.

My immediate superior treats his people in a brotherly way, and his motto appears to be "nice guys don't fight."

My immediate superior strives to keep his emotions low-key, and his humor aims at maintaining good interpersonal relations.

Role Conflict

The items used in the role conflict scale were drawn from Rizzo, et al., (1970). They reported reliabilities of .816 and .820 on two administrations of their eight item scale. In the administration of these items in this study the internal

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reliability was maximized at .761 by dropping one of the original items from the scale. The remaining items, to which subjects responded on a seven point scale ranging from True to False, were:

I have to do things that should be done differently.

I receive an assignment without the manpower to complete it.

I have to buck a rule or policy in order to carry out an assignment.

I receive incompatible requests from two or more people.

I do things that are apt to be accepted by one person and not accepted by others.

I receive an assignment without adequate resources and materials to execute it.

I work on unnecessary things.

Role Ambiguity

The items used in the role ambiguity scale were also drawn from Rizzo, et al. They reported reliabilities of .780 and .808 for two administrations of their six item scale. In the administration of these items in this study it was found that the internal reliability of the scale was .834 by dropping one of the items. The remaining items, to which subjects responded on a seven point scale ranging from True to False, used in this study were:

I feel certain about how much authority I have.

Goals and objectives for my job are clear and planned.

I know what my responsibilities are.

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Interrelationship of Climate Dimensions

After having computed the reliability of the various scales for the climate dimensions the next point of interest was to determine how well these scales fitted together as a measure of perceived climate along the stressfree/stressful dimension as defined above. It will be recalled that the theoretical construct of climate discussed earlier envisages a stressfree climate in a stable environment as having low Role Conflict, Role Ambiguity, and Organizational Conformity, and high Relationship Orientation and Organizational Clarity. Stressful climates would be characterized by the obverse of this profile. The relationship between Task Orientation and Perceived Stress was not specified in advance for reasons discussed in Chapter I.

Consequently, the correlation matrix of these dimensions would be expected to appear as illustrated in panel (a) of Table 5. That is the set of Role Conflict, Role Ambiguity and Organizational Conformity ought to be positively correlated. In addition, Relationship Orientation and Organizational Clarity also ought to reveal positive interscale correlations. Furthermore, the two sets would be expected to be negatively correlated, since a stressfree climate, for example, was operationally defined as having low degrees of the first set and

TABLE 5

A PRIORI AND EMPIRICAL INTER-SCALE CORRELATIONS OF THE
CLIMATE SUBSCALES

(a) A priori inter-scale correlations

Scale	1	2	3	4	5	6
1. Role Conflict		+	+	-	-	n.a.
2. Role Ambiguity			+	-	-	n.a.
3. Conformity				-	-	n.a.
4. Relationship Orientation					+	n.a.
5. Clarity						n.a.
6. Task Orientation						

(b) Empirical inter-scale correlations (N=130)

Scale	1	2	3	4	5	6	7
1. Role Conflict		.428 ⁺⁺	.495 ⁺⁺	-.244 ⁺	-.429 ⁺⁺	.283 ⁺	.718 ⁺⁺
2. Role Ambiguity			.310 ⁺⁺	-.163 ⁺	-.540 ⁺⁺	.142	.673 ⁺⁺
3. Conformity				-.287 ⁺⁺	-.301 ⁺⁺	.269 ⁺	.663 ⁺⁺
4. Relationship Orientation					.243 ⁺	-.510 ⁺⁺	.614 ⁺⁺
5. Clarity						.149*	.680 ⁺⁺
6. Task Orientation							.594 ⁺⁺
7. Composite Climate Scale							

* $p \leq .10$ + $p \leq .01$ ++ $p \leq .001$ using two-tailed test

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The development of interscale correlations and the interpretation of an overall measure was complicated by the fact that the subscales had varying numbers of items and differing ranges over which they were scored. To overcome these complications, the scores on each subscale were transformed to a range of 1-5 and the average score of items on each scale was used instead of the total score. This avoided inadvertent weightings due to varying numbers of items and score ranges. Inter-scale correlations for each of the pairs of six climate sub-scales were computed and are portrayed in Table 5, panel b.

Climate Stress

Inspection of panel (b) of Table 5 reveals that the underlying relationships between the first five subscales fit the a priori stressfree/stressful construct.

The relationship between Task Orientation and Perceived Stress was expected to be moderated by the perceived instrumentality of Task Oriented leadership. If Task Oriented leadership was perceived to be instrumental in attaining personal need satisfaction it would be stress reducing. If it was perceived to be not instrumental in this way, it would be stress inducing. Apparently the subjects in this study did not see Task Orientation of their superior to be instrumental in this way but viewed it as a stressful characteristic.

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Reflecting the scores of Role Conflict, Role Ambiguity, Organizational Conformity and Task Orientation removes all the negative signs with the exception of the correlation between Organizational Clarity and Task Orientation which then becomes negative.

Combining the subscales after reflecting the scores of these dimensions results in a scale for which a low score depicts a climate perceived as having high Role Conflict, Role Ambiguity, Organizational Conformity and Task Orientation and low Organization Clarity and Relationship Orientation. This describes a climate perceived by organizational members to have relatively high degrees of stress. High scores on this scale depict a climate perceived as being relatively stressfree. The inter-scale reliability of this composite scale measuring perceived climate stress was found to be .721. The correlations of the subscales with this overall measure of perceived stress range from .594 to .718 as shown in panel (b) of Table 5.

The important implication of the inter-scale relationships for this study was that it rendered testing hypotheses related to the stressfree/stressful concept of perceived climate, as measured by an overall scale, operable.

Table 6 presents a summary of the a priori and empirically based relationships between the climate dimensions used in this study as well as the number of items in and internal reliabilities of the revised subscales.

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TABLE 6

SUMMARY OF A PRIORI AND EMPIRICAL RELATIONSHIPS BETWEEN
SELECTED CLIMATE DIMENSIONS AND NUMBER OF ITEMS
AND RELIABILITIES OF REVISED SUBSCALES

Dimension	A Priori ^a Stress Level		Empirical ^b Stress Level		k ^c	r _{kk} ^d
	Stress-free	Stress-full	Stress-free	Stress-full		
1. Role Conflict	Low	High	Low	High	7	.761
2. Role Ambiguity	Low	High	Low	High	5	.834
3. Org'l Conformity	Low	High	Low	High	5	.594
4. Org'l Clarity	High	Low	High	Low	4	.776
5. Relationship Orientation	High	Low	High	Low	4	.658
6. Task Orientation	n.a.	n.a.	Low	High	3	.573

^aExpected direction of scoring

^cNo. of items in subscale

^bActual direction of scoring

^dReliability of subscale

Summary on Climate Scale

A climate scale was developed with a reliability of .721. This scale was comprised of subscales measuring role conflict, role ambiguity, organizational conformity, organizational clarity, task orientation, and relationship orientation.

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A stressful climate was operationally defined as that individually perceived climate which scored below the median on the climate scale. This climate was typically one in which there were higher levels of role conflict, role ambiguity, organizational conformity and task orientation, and lower levels of organizational clarity and relationship orientation. A low stress climate was operationally defined as that climate which was scored above the median on the climate scale. This climate was typically one in which there was lower levels of role conflict, role ambiguity, organizational conformity and task orientation and higher levels of organizational clarity and relationship orientation.

Personality

The six dimensions of personality that were defined in Chapter I were (1) Interpersonal Orientation, (2) Authoritarianism, (3) Tolerance for Role Conflict, (4) Tolerance for Role Ambiguity, (5) Need for Independence, and (6) Need for Achievement.

Interpersonal Orientation

The instrument used to measure interpersonal orientation was the Least Preferred Co-worker scale developed by Fiedler (1967). While it was recognized that considerable controversy surrounds Fiedler's approach and findings (Graen, 1971), particularly with regard to the meaning of the LPC score (Mitchell, 1971; 1969; Bieri, 1961; Foa, Mitchell

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and Fiedler, 1971; Steiner, 1959; and Mitchell, Biglan, Oncken, and Fiedler, 1970), for want of a better scale this instrument was used.

The LPC instrument has sixteen bipolar semantic-differential items (i.e. pleasant-unpleasant) on which the subject rates his LPC. The sum of these scores is treated as his LPC score. The instrument appears as Part I of the Individual Preferences Questionnaire in Appendix I. The instrument has been widely used and was found here to have a reliability of .893. However, two items, numbers 13 and 14, were found to have relatively low inter-item correlations. After dropping these items from the original scale, the reliability was increased to .935. The revised scale was used in subsequent analyses.

Authoritarianism

The seven item authoritarianism scale was drawn from the Adorno, et al. (1950) F-scale's 28 items. The internal reliability of this shortened version was .791, which compares favorably with the range of .81 to .97 for the longer version. The seven items used in this study and to which subjects indicated on a five point scale the degree to which they agreed or disagreed were:

Obedience and respect for authority are the most important virtues that children should learn.

Every person should have complete faith in some supernatural power whose decisions he obeys without question.

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Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.

What the youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country.

Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.

There is hardly anything lower than a person who does not feel a great love, gratitude and respect for his parents.

Homosexuals are hardly better than criminals and ought to be severely punished.

Tolerance for Role Conflict

The seven items used to measure tolerance for role conflict had an internal reliability of .760. The items, to which respondents indicated the degree to which they would like or dislike various characteristics of role conflict if they were in their job situation on a seven point scale, were:

I have to do things that should be done differently.

I receive an assignment without the manpower to complete it.

I have to buck a rule or policy in order to carry out an assignment.

I receive incompatible requests from two or more people.

I do things that are apt to be accepted by one person and not accepted by others.

I receive an assignment without adequate resources and materials to execute it.

I work on unnecessary things.

Tolerance for Role Ambiguity

The six items used to measure tolerance for role ambiguity had an internal reliability of .726. These items, to which respondents indicated the degree to which they would like or dislike characteristics of role ambiguity if they were in their jobs on a seven point scale were:

I feel certain about how much authority I have.

Goals and objectives for my job are clear and planned.

I know that I have divided my time properly.

I know what my responsibilities are.

I know exactly what is expected of me.

Explanation is clear of what has to be done.

Need for Independence

The three items drawn from Vroom's sixteen item need for independence scale had an internal reliability of only .399. Consequently it was dropped from further analyses.

Need for Achievement

The five items that constituted the need for achievement measure were drawn from Hermans' (1970) Measure of Achievement Motivation. He reported the reliability of the 29 item version to be .80. The reliability of the shortened version used in this study was found to be .615. The items to which subjects were to indicate a phrase which completed the statement that most closely described his feelings or experience were:

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At high school, I thought perseverance was:

When I am working, the demands I make upon myself are:

If I have not attained my goal and have not done a task well, then:

Working is something:

To prepare yourself a long time for an important task:

Interrelationship of Personality Dimensions

After having computed the reliability of the various scales for the personality dimensions, the next step was to determine how well these scales fitted together. Since an overall measure of personality was desired, the question was one of determining the reliability of an overall scale comprised of the subscales developed for each dimension. This was accomplished by computing the inter-scale correlations for each of the pairs of the five personality subscales. The inter-scale correlations of the personality subscales are portrayed in Table 7.

TABLE 7

INTER-SCALE CORRELATIONS OF THE PERSONALITY SCALES

Scale	1	2	3	4	5
1. LPC	-	-.075	.039	-.021	.215*
2. Auth-F		-	.029	-.021	-.160
3. TRC			-	-.001	.073
4. TRA				-	-.073
5. N-Ach					-

* $p < .05$.

It is obvious from Table 7 that the personality dimensions were quite independent of one another, although there appeared to be a tendency for individuals who are relationship oriented to also have a high need for achievement.

The implication this had for further data analyses was that instead of combining personality dimension scores into a single personality score as originally planned, the personality dimensions would be analyzed in a series of analyses of variance to test the hypotheses on personality.

Summary of Personality Scales

Scales were developed with satisfactory levels of reliability to measure Interpersonal Orientation, Authoritarianism, Tolerance for Role Conflict, Tolerance for Role Ambiguity, and Need for Achievement. A Need for Independence scale had unsatisfactory reliability and was consequently dropped from further analyses.

It was found that the remaining five scales were quite independent of each other, making their combination and the computation of a single personality score unjustifiable. While this finding did give rise to the requirement of more complicated data analyses, it did not provide contrary evidence to the notion that personality characteristics are systematically related to individual performance and satisfaction in various functional roles and climates.

Satisfaction

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were developed were satisfaction with (1) job, (2) the firm, (3) career opportunities and progress; (4) pay, (5) superior, (6) co-workers, and satisfaction of needs for (7) security, (8) affiliation, (9) autonomy, (10) esteem, and (11) self-actualization.

Satisfaction with Job

The four item scale used to measure general satisfaction with job was drawn from Hoppock (1935) and had a reliability of .757. The items were:

Please indicate with an "X" the statement which best tells how well you like your job.

Indicate with an "X" HOW MUCH OF THE TIME you feel satisfied with your job.

Indicate with an "X" the statement which best tells HOW YOU FEEL ABOUT CHANGING YOUR JOB.

Indicate one of the following to show how you think you compare with other people.

Satisfaction with the Firm

A two item scale drawn from Hoppock (1935) was used to measure the level of satisfaction with the firm. It was found to have a reliability of .695. The instructions given subjects for these items were the same as those given for the items on satisfaction with the job. The two items were:

All in all, what do you think of this firm as a place to work?

How does this firm compare generally with other places in this area as a place to work?

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Satisfaction with Career Opportunities and Progress

The two items used to measure the individual's satisfaction with career opportunities and progress to date were drawn from Harrison (1960) and had an internal reliability of .729.

How do you feel about the opportunities that are available for a person to rise to a position which fully utilizes his abilities?

How do you feel about the progress you've made in the company up to now?

Satisfaction with Pay

The two items used to measure satisfaction with pay were also drawn from Harrison (1960) and had an internal reliability of .861. The items were:

How do you feel about your earnings compared with what other companies have to offer?

How do you feel about your earnings taking into account the difficulty and responsibility of your job?

Satisfaction with Superior

Two items were developed to tap the individual's satisfaction with his superior and were found to have an internal reliability of .605. The items were:

How do you feel about the kind of interpersonal relations you have with your immediate superior?

How do you feel about the technical competence of your immediate superior?

Satisfaction with Co-workers

Only one item was included to tap the level of satisfaction of respondents with their co-workers. The item was:



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How do you feel about working with your current group of co-workers as compared to other groups you have worked with?

In addition to the above measures of satisfaction, a shortened version of the Porter and Lawler (1968) questionnaire was used to compute scores for satisfaction of needs for security, affiliation, autonomy, esteem, and self-actualization. The instrument listed eleven characteristics or qualities connected with the subjects' positions in the firms. For each characteristic they were asked to give three ratings on a seven point scale. The ratings were:

- a. How much of the characteristic is there now connected with your position?
- b. How much of the characteristic do you feel should be connected with your position?
- c. How important is this position characteristic to you?

In this study, satisfaction was imputed by the score on rating "a". A high score indicated higher levels of satisfaction than lower scores. A preliminary analysis of the data showed that responses to rating "a" provided a better measure of satisfaction than either the (b-a) or (b-a)c technique. This is consistent with findings reported by Evans (1969) and Quinn and Mangione (1973).

Satisfaction of Need for Security

Only one item in the Porter and Lawler instrument focused on the satisfaction of the need for security. Consequently, the coefficient of reliability could not be calculated. The item was:

The feeling of security in my management position:

Satisfaction of Need for Affiliation

Two items were used in this scale. While the reliability of this subscale was very low (.185) the scale was highly related to the other satisfaction scales so these items were retained in the overall determination of satisfaction.

The items were:

The opportunity, in my management position, to give help to other people:

The opportunity to develop close friendships in my management position:

Satisfaction of Need for Autonomy

This scale was comprised of two items and had an internal reliability of .785. The items were:

The authority connected with my management position:

The opportunity for independent thought and action in my management position:

Satisfaction of Need for Esteem

The three items in this scale yielded an internal reliability of .696. The items were:

The feeling of self-esteem a person gets from being in my management position:

The prestige of my management position inside the company (that is, the regard received from others in the company):

The prestige of my management position outside the company (that is, the regard received from others not in the company).

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Satisfaction of Need for Self-Actualization

This scale was also composed of three items drawn from the Porter and Lawler questionnaire. The internal reliability of this scale was .734. The items were:

The opportunity for personal growth and development in my management position:

The feeling of self-fulfillment a person gets from being in my management position (that is, the feeling of being able to use one's own unique capabilities, realizing one's potentialities):

The feeling of worthwhile accomplishment in my management position:

Interrelationships of Satisfaction Dimensions

After having computed the reliabilities of the various a priori scales for the satisfaction dimensions, the next step was to determine how well these scales fitted together as a composite measure of satisfaction. This was accomplished by computing an inter-scale correlation matrix. However, two changes were made. First of all the two items composing the satisfaction with superior scale were run as separate items, since the reliability of the scale was relatively low, (.605). Secondly, since these scales had varying numbers of items and the ranges over which scales were scored also varied (some were 1-5, others 1-6, and still others 1-7), the scores on each scale were transformed to a range of 1-5 and the average score of items on each scale was used rather than the total score. This avoided inadvertent weightings due to varying numbers of items and score ranges. The resulting correlation matrix is

shown in Table 8. The reliability of this composite measure of satisfaction was .815.

Summary of Satisfaction Scales

A single overall satisfaction scale was developed with an inter-scale reliability of .815. This scale was comprised of twelve subscales which tapped the dimensions of satisfaction that were identified with (1) job, (2) firm, (3) career progress, (4) pay, (5) relationship with superior, (6) technical competence of superior, (7) co-workers, (8) needs for security, (9) affiliation, (10) autonomy, (11) esteem, and (12) self-actualization.

Chapter Summary

This chapter has described the inter-item and inter-scale reliabilities and the items used in the scales employed in this study. In addition, the nature of the interrelationships of scales that were designed to measure conceptually related dimensions of climate, personality and satisfaction as shown by the data collected in this study were reported.

In the light of the patterns of relationships that were revealed from the data, some revisions in the major scales for measuring climate and satisfaction were made. The reliability of the final version of these scales were .721 for the perceived climate measure and .815 for the satisfaction measure.

The personality dimensions were found to be quite independent and therefore did not lend themselves to combination

TABLE 8

INTER SCALE CORRELATION MATRIX FOR ITEMS IN COMPOSITE
MEASURE OF SATISFACTION

(N = 130)

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Job	-	.406 ⁺⁺	.431 ⁺⁺	.145 ^{**}	.341 ^{**}	.284 ⁺⁺	.253 ^{**}	.600 ⁺⁺	.467 ⁺⁺	.601 ⁺⁺	.298 ⁺⁺	.268 ⁺	.661 ⁺⁺
2. Firm		-	.435 ⁺⁺	.562 ⁺⁺	.174 ⁺⁺	.220 ⁺	.196 ⁺	.352 ⁺⁺	.279 ⁺	.309 ⁺	.259 ⁺	.081	.559
3. Career			-	.405 ⁺⁺	.274 ⁺⁺	.433 ⁺⁺	.319 ⁺⁺	.387 ⁺⁺	.436 ⁺⁺	.574 ⁺⁺	.333 ⁺⁺	.272 ⁺⁺	.629 ⁺⁺
4. Pay				-	.212 ⁺	.135 [*]	.241 ⁺	.242 ⁺	.210 ⁺	.264 ⁺	.167 ^{**}	.086	.486 ⁺⁺
5. Relationship with Superior					-	.434 ⁺⁺	.247 ⁺	.234 ⁺	.350 ⁺⁺	.362 ⁺⁺	.367 ⁺⁺	.201 ⁺	.593 ⁺⁺
6. Competence of Superior						-	.214 ⁺	.213 ⁺	.302 ⁺⁺	.383 ⁺⁺	.315 ⁺⁺	.368 ⁺⁺	.581 ⁺⁺
7. Co-workers							-	.227 ⁺	.150 [*]	.351 ⁺⁺	.078	.208 ⁺	.475 ⁺⁺
8. Esteem								-	.615 ⁺⁺	.625 ⁺⁺	.408 ⁺⁺	.570 ⁺⁺	.720 ⁺⁺
9. Autonomy									-	.742 ⁺⁺	.435 ⁺⁺	.579 ⁺⁺	.737 ⁺⁺
10. Self-Actualization										-	.416 ⁺⁺	.571 ⁺⁺	.808 ⁺⁺
11. Security											-	.389 ⁺⁺	.613 ⁺⁺
12. Affiliation												-	.617 ⁺⁺
13. Composite Satisfaction Scale													-

* p ≤ .10 **p ≤ .05 + p ≤ .01 ++ p ≤ .001 using one-tailed test

into a single overall personality scale. This caused the subsequent analyses of personality to be treated as several individual personality dimensions rather than as a single dimension.

The following chapter will present the findings of the study as they relate to the three general research questions outlined in Chapter I, employing the measures discussed in Chapter II and III.

CHAPTER IV

FINDINGS

Introduction

In this chapter, the findings which relate to the propositions that underlie the general research questions as developed in Chapter I will be reported. In view of the fact that the data analysis generated considerably more findings than those which bear directly on the propositions mentioned above, not all the findings are considered relevant to these propositions. Only those findings which bear on the research questions are reported.

It will be recalled from Chapter I that the general research questions being investigated were:

1. Are managers' perceptions of climate related to firm performance (Propositions 1, 2, 3, 5, 6) own work role (Proposition 4), and individual performance (Proposition 10)?
2. Are managers' personality characteristics related to firm performance, own work role, individual performance, perceived climate, and the interaction of perceived climate and performance (Propositions 7, 8 and 9)?

3. Are the levels of managers' satisfaction related to firm performance, own work role, individual performance, perceived climate, personality, and the interaction of personality and perceived climate (Propositions 11, 12, and 13)?

The statistical technique used for most data analyses was analysis of variance as discussed in Chapter II. Since each of the three research designs has three factors (say, A, B and C), there are seven hypotheses which can be tested (Kirk, 1969, p. 218). There are three main effects, three first order interactions, and one second order interaction.

The results of the analyses of variance are presented in the generally accepted analysis of variance table format. The F statistic presented in this table merely indicates whether a significant relationship exists between the variables tested by the hypothesis; it does not reveal the nature of the relationship. The overall F ratio is merely a first step in analyzing the data. The Tukey comparison test is then used to make pairwise comparisons of means.

Findings Related to Research Question One

Evidence relevant for examining the first question was provided by the analyses of variance in Design 1, treating Perceived Climate as the dependent variable, and in Design 3 treating Individual Performance as the dependent variable.

Design 1: Firm x Role x Individual Performance on Climate

It will be recalled from Chapter II that Design I was a 2 x 3 x 2 completely randomized factorial design using the fixed effects model. The factors employed were two levels of Firm (a low and a high performing firm), three levels of Role (production, research, and marketing), and two levels of Individual Performance (low and high). Cases were randomly deleted to obtain equal n's in each of the twelve cells. There were ten cases in each cell.

Overview

The effects on Climate by Firm, Role, Individual Performance, and the interactions of these factors were examined.¹ In addition to treating the composite measure, Climate, as a dependent variable, runs were also made using the individual climate subscale scores for Role Conflict, Role Ambiguity, Organizational Clarity, Organizational Conformity, Task Orientation, and Relationship Orientation.

Before examining in detail the analyses of variance for these runs, a summary overview of the significant F statistics for the seven hypotheses for each of these runs is presented in Table 9. It is seen from Table 9 that there were significant interaction effects by Firm x Role and Firm x Role x Individual performance for at least one of the climate dimensions.

¹It should be noted that while this report speaks of the main and interaction "effects" on a "dependent" variable by the "independent" variables or factors, this terminology is merely conventional in analysis of variance writing. The data in this study is all ex post facto and as such the direction of causality cannot be inferred.

SUMMARY OF LEVELS OF SIGNIFICANCE OF F STATISTICS
FOR ANALYSES OF VARIANCE OF CLIMATE IN DESIGN ONE

Source	Composite Climate	Role Conflict ²	Role Ambiguity ²	Org'l Clarity ³	Org'l Conformity ²	Task Orientation ²	Relationship Orientation
Firm (F)					.10		.05
Role (R)						.01	.05
Individual Perf. (I)							
F x R	.10	.01				.05	
F x I							
R x I							
F x R x I					.10		

¹A high score indicates a stressfree climate; a low score indicates a stressful climate.

²Scores on these scales were reflected so that a high score indicates a low degree of the climate variable and a low score indicates a high degree of the variable.

³A high score indicates a high degree of the climate variable, a low score indicates a low degree of the variable.

However, none of the null hypotheses relating to Role Ambiguity and Organizational Clarity were rejected.

Composite Climate

The results of the analysis of variance for overall climate are presented in Table 10. Inspection of Table 10 shows that there is an interaction between Firm and Role on Climate.

TABLE 10
DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR COMPOSITE CLIMATE SCORE

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0554	1	.0554	.2652	
Firm (F)	.1623	1	.1623	.7776	
Role (R)	.4962	2	.2481	1.1886	
Individ. Perf. (I)	.1496	1	.1496	.7168	
F x R	1.2677	2	.6339	3.0364	.10
F x I	.0005	1	.0005	.0024	
R x I	.3008	2	.1504	.7204	
F x R x I	.1306	2	.0653	.3129	
Error	22.5449	108	.2087		

Table 11 reveals that the climate in production in the low performing firm is more stressful than the climate in production in the high performing firm. The difference is significant at the .05 level.

Furthermore, it is seen from Table 11 that there is a significant difference in climate between the production and

marketing roles in the low performing firm. The climate in production is relatively stressful while in marketing it is perceived to be quite stressfree. This difference is significant at the .01 level.

TABLE 11

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF CLIMATE IN DESIGN ONE

Comparison	Category Means	q*	Significance Level
Firm L - Production vs Firm H - Production	-.20196 vs .12931	3.241	.05
Firm L - Production vs Firm L - Marketing	-.20196 vs .19708	3.905	.01

* The q statistic is expressed in percentage points of the studentized range and assumes a two tailed test. See R. E. Kirk, Experimental Design Procedures for the Behavioral Sciences (Belmont, California: Brooks/Cole Publishing Company, 1969), p. 90.

Findings Regarding Composite Climate.--In response to the general research question "Are managers' perceptions of Overall Climate Stress related to firm performance, own work role, and individual performance?", the answer, based on the findings of this study, is a qualified no. While there were no simple relationships found to reach acceptable levels of significance, there was a first order interaction between Firm and Role which was significant. Detailed investigation of this relationship revealed that (a) in production, managers in the low performing firm perceived a more stressful climate than those in the high performing firm, and (b) within the

low performing firm, production managers perceived their climate to be more stressful than those in marketing. This interaction is illustrated in Figure 7.

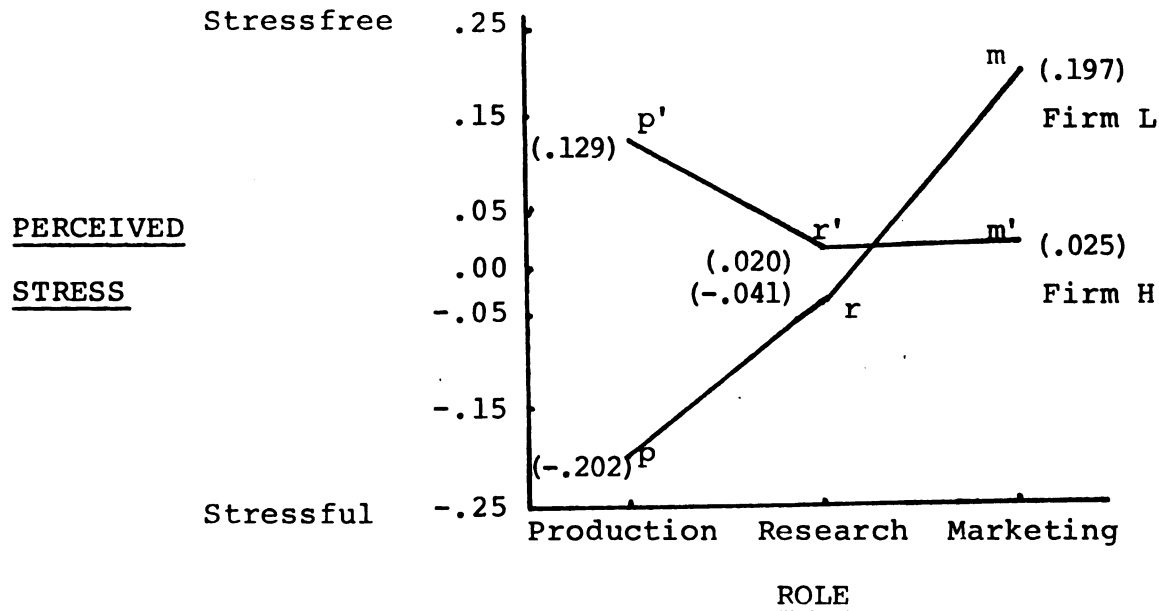


Figure 7. Firm x Role Interaction on Climate¹.

¹The difference in Climate between p and m is significant at .01 and between p and p' at .05.

These findings bear on Proposition 6. It will be recalled that Proposition 6 anticipated the Climate in Firm H to be more stressfree than that in Firm L. While the findings were in the predicted direction, the difference in overall climate scores between firms was not statistically significant.

While these are the findings for the composite Climate Stress measure, different findings could and did occur for the individual dimensions of perceived climate. These are discussed individually below.

Role Conflict

Table 12 portrays the ANOVA for the Role Conflict dimension of climate. There is a Firm x Role interaction with Role Conflict which is significant at the .01 level.

TABLE 12

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR ROLE CONFLICT

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0300	1	.0300	.0759	
Firm (F)	.0144	1	.0144	.0364	
Role (R)	.7477	2	.3739	.9464	
Ind.Perf. (I)	.0716	1	.0716	.1813	
F x R	4.3624	2	2.1812	5.5217	.01
F x I	.0110	1	.0110	.0278	
R x I	.1443	2	.0721	.1826	
F x R x I	.4248	2	.2124	.5377	
Error	42.6622	108	.3950		

Table 13 shows that in the low performing firm, there are significant differences among roles in the level of role conflict. There is considerably more Role Conflict in production than in research in the low performing firm. The difference is significant at .01. The degree of Role Conflict in production is also greater than that in marketing ($p < .001$), in Firm L.

Furthermore the degree of role conflict in the low performing firm's production role is greater than that in the same role in the high performing firm ($p < .02$). There are also differences in role conflict between the research roles of the two firms. In this role, Firm H has more role conflict than Firm L ($p < .10$).

TABLE 13

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF ROLE CONFLICT IN DESIGN ONE

Comparison	Category Means ¹	q	Significance Level
Firm L - Production vs Firm L - Research	-.31072 vs .15421	3.308	.01
Firm L - Production vs Firm L - Marketing	-.31072 vs .23675	3.895	.001
Firm L - Production vs Firm L - Production	-.31072 vs .30106	2.591	.02
Firm L - Research vs Firm H - Research	.15421 vs -.20171	1.802	.10

¹Role conflict scores were reflected so that a high score indicates a low degree of role conflict and a low score indicates a high degree of role conflict.

Findings Regarding Role Conflict.--In response to the general research question "Are managers's perceptions of Role Conflict related to firm performance, own work role, and individual performance?" the answer, based upon the findings of this study, is that there is no simple relationship which is statistically significant. However, there were four significant interactions between Firm and Role on Perceived Role Conflict.

These were described above and are portrayed graphically in Figure 8.

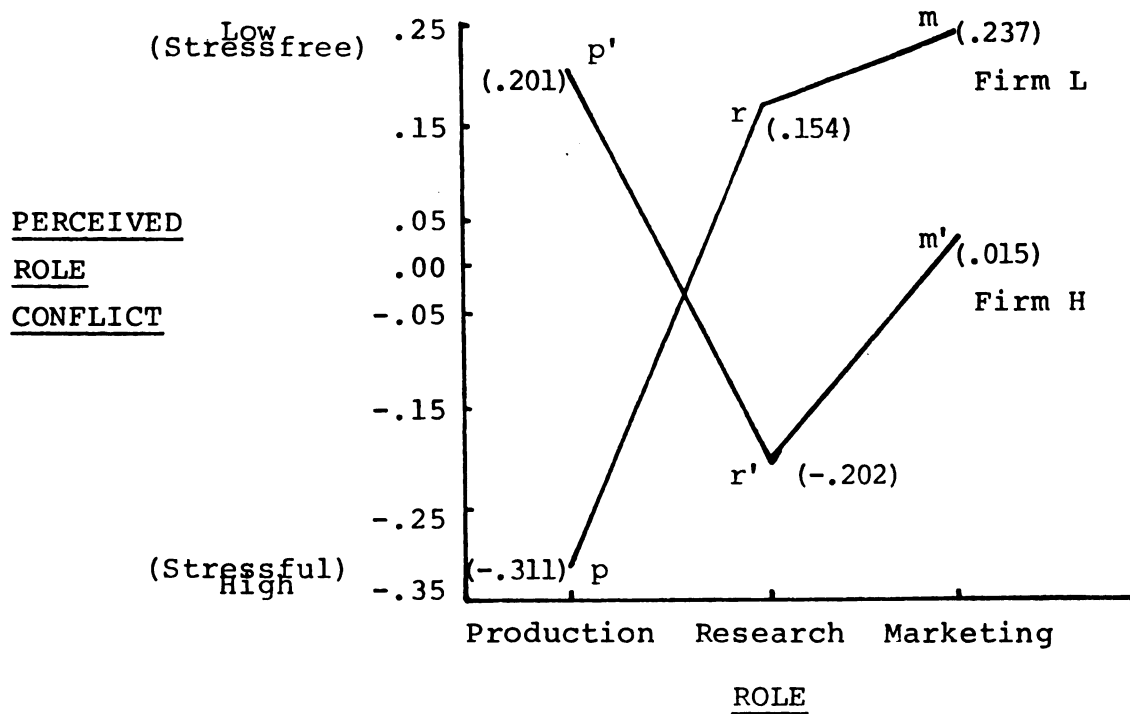


Figure 8. Firm x Role Interaction on Role Conflict¹.

¹The difference between p and r is significant at .01, between p and m at .001, between p and p' at .02, and between r and r' at .10.

Proposition 4 which anticipated that role conflict would be greater in marketing than in research, and greater in research than in production was not supported by the data. In fact it was found that for both the high and low performing firms, role conflict was less in marketing than in research, although the differences were not statistically significant. Regarding the level of role conflict in production, it was found that the mean for both firms was greater in production than for research or marketing but not significantly so. However there was a significant Firm x Role interaction on Role Conflict. Role Conflict in Firm H's production role was less than in that firm's research and marketing roles, although the differences were not statistically significant. On the other hand, in Firm L, Role Conflict was greater in production than in research ($p < .01$) and in marketing ($p < .001$). It is interesting to note that while the differences in Role Conflict between roles are opposite to what was predicted, these significant reversals were found in a firm whose performance was relatively low.

With regard to Proposition 5 which anticipated that Perceived Role Conflict would be lower in the high performing firm than in the low performing firm, the data in this study indicates that the proposition is not supported. The mean was .00486 for Firm H and .02675 for Firm L. Since a high score indicates low perceived role conflict, the direction was opposite to that suggested by Proposition 5 although the difference was not statistically significant.

Role Ambiguity

No significant relationships between Role Ambiguity, and Individual Performance were revealed. Furthermore, it was found that there were no significant differences between the levels of Role Ambiguity in production, research and marketing roles. (See Proposition 4).

Finally, while Proposition 5 states that Role Ambiguity in Firm H will be less than in the low performing firm, the actual mean levels of Perceived Role Ambiguity for these firms are $-.03497$ and $.07249$ respectively. Since a high score indicates low Perceived Role Ambiguity, the direction of the difference in these scores is opposite to that suggested by the proposition, although, this difference does not reach acceptable levels of satisfaction.

Organizational Clarity

There were no significant relationships found in this study between Organizational Clarity and firm performance, own work role, and individual performance. While Proposition 2 anticipates that the level of Organizational Clarity would be greater in the high performing firm than in the low performing one, the opposite was found with means of $-.00501$ and $.05099$ respectively, although the difference was not significant.

Organizational Conformity

The second order interaction of Firm x Role x Individual Performance was also found to be significant. (See Tables 14 and 15.) While both high and low performers in Firm L's

TABLE 14

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR ORGANIZATIONAL CONFORMITY

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.1533	1	.1533	.3680	.10
Firm (F)	1.1993	1	1.1993	2.8795	
Role (R)	.6959	2	.3479	.8354	
Individual Performance (I)	.0033	1	.0033	.0080	
F x R	1.5962	2	.7981	1.9162	
F x I	.2875	1	.2875	.6904	
R x I	.9748	2	.4874	1.1703	
F x R x I	2.0261	2	1.0130	2.4323	.10
Error	44.9805	108	.4165		

TABLE 15

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF ORGANIZATIONAL CONFORMITY IN DESIGN ONE

Comparison	Category Means ¹	q	Significance Level
Firm L vs Firm H	-.06423 vs .13571	2.399	.10
Low Performers in Production: Firm L vs Firm H	-.49988 vs .26654	7.520	.01
High Performers in Research: Firm L vs Firm H	-.37372 vs .19988	5.628	.01

¹Organizational Conformity scores were reflected so that a high score indicates a low degree of the variable and a low score indicates a high degree.

production roles indicated higher levels of Organizational Conformity than their counterparts in Firm H, the difference was significant only in the case of low performers ($p < .01$). For subjects in research, both high and low performers in Firm L indicated more Organizational Conformity than did their opposite numbers in Firm H, but the difference was significant only for high performers ($p < .01$). For subjects in marketing, low performers perceived greater conformity in Firm L but high performers indicated more in Firm H, however neither difference was significant.

In summary, the findings tend to support Proposition 1 in that Organizational Conformity is perceived as greater in Firm L than in Firm H with the exception of high performing managers in marketing. In that case, however, the difference does not reach statistically significant levels.

These findings are illustrated in Figures 9 and 10.

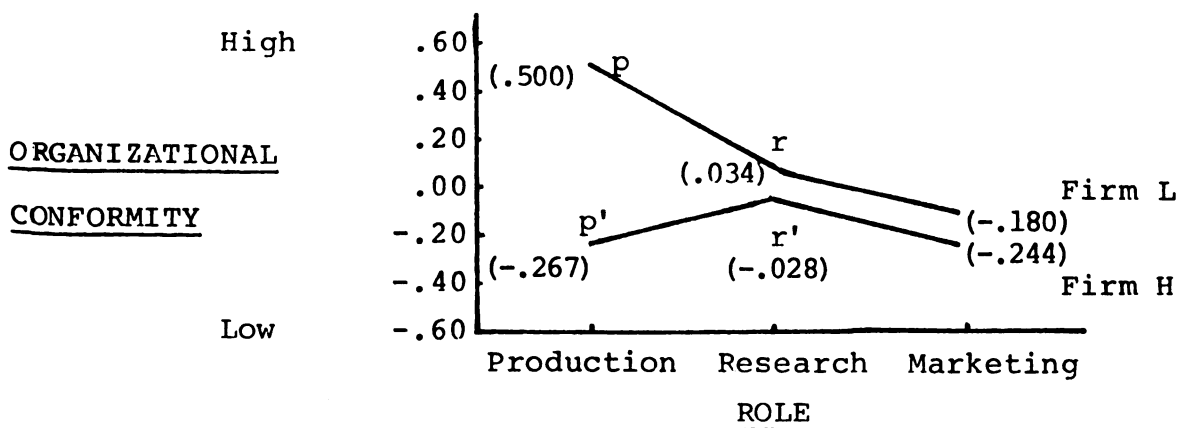


Figure 9. Firm x Role Interaction on Organizational Conformity for Low Performers¹.

¹The difference in Organizational Conformity between p and p' is significant at .01 and between p and m at .05.

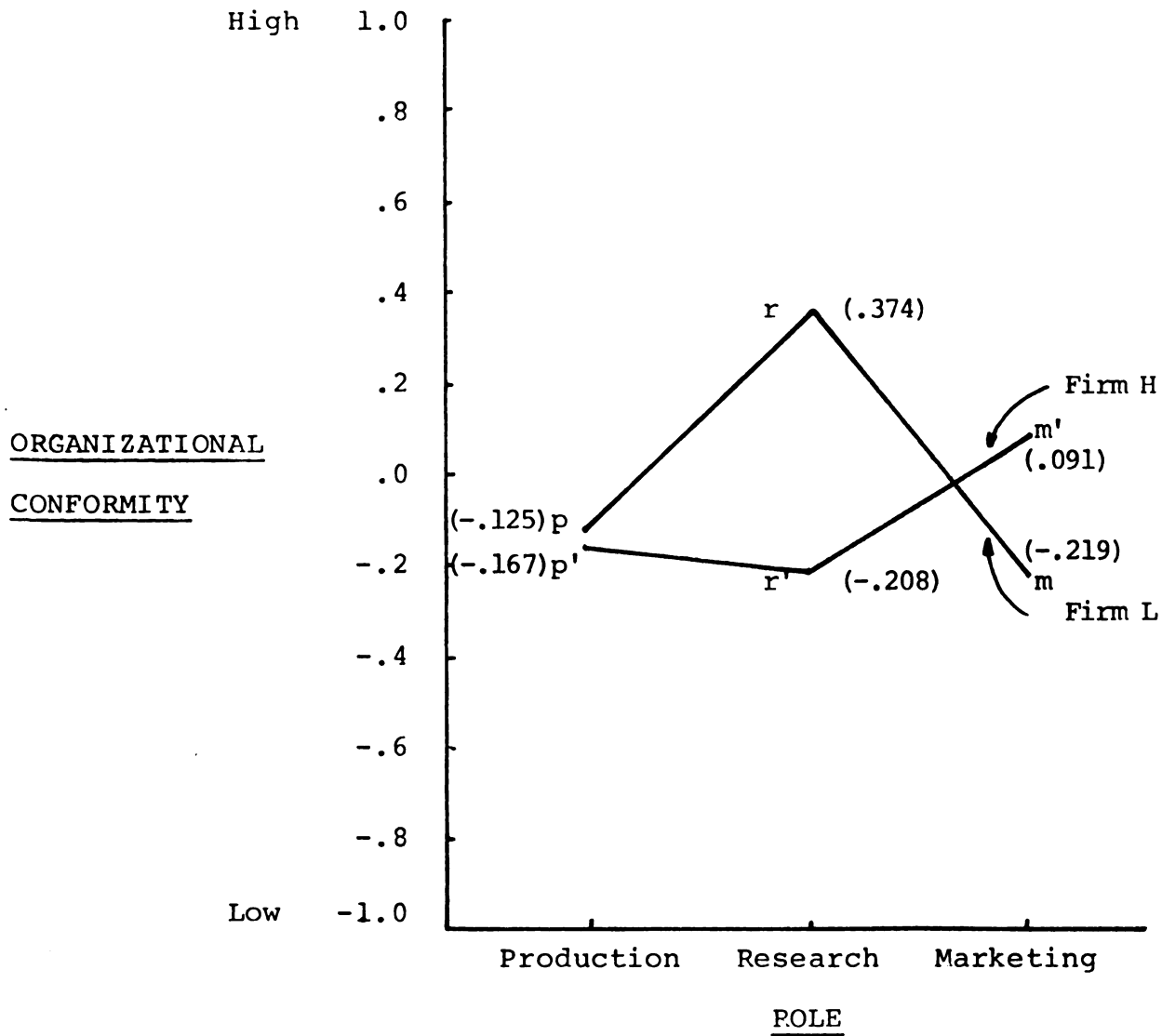


Figure 10. Firm x Role Interaction on Organizational Conformity for Low Performers¹.

¹The difference in Organizational Conformity between p and r is significant at .01, between m and r at .01, and between r and r' at .01.

Findings Regarding Organizational Conformity.-- In response to the general research question "Are managers' perceptions of Organizational Conformity related to firm performance, own work role, and individual performance?", the answer is that there is a significant interaction with firm performance but not with role and individual performance.

Proposition 1 which suggests that Organization Conformity, in firms in stable environments, will be less in high performing firms than in low performing firms was partially supported by the findings in this study. The second order interaction indicates that this difference was largely due to the differences in the predicted direction in the levels of conformity perceived by low performing production managers and high performing research managers. The perceptions of high performing marketing managers were in the opposite direction to that predicted but did not attain statistical significance.

Task Orientation

The analysis of variance table for Task Orientation is presented in Table 16. Examination of that table reveals a Firm x Role interaction. Since the interaction effect involves the variable for which a main effect was found significant, and since the interaction indicates the main effect holds only under certain situations, only the higher order finding will be discussed.



TABLE 16

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR TASK ORIENTATION

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0839	1	.0839	.2010	
Firm (F)	.7675	1	.7675	1.8388	
Role (R)	6.8176	2	3.4088	8.1655	.01
Ind.Perf. (I)	.0802	1	.0802	.1920	
F x R	3.3330	2	1.6665	3.9925	.05
F x I	.0337	1	.0337	.0807	
R x I	1.1054	2	.5527	1.3241	
F x R x I	.1849	2	.0924	.2215	
Error	45.0802	108	.4174		

Table 17 reveals that subjects in production perceived the climate in Firm L to be significantly more task oriented than their counterparts in Firm H ($p < .01$). This interaction is illustrated in Figure 11.

TABLE 17

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF TASK ORIENTATION IN DESIGN ONE

Comparison	Category Means ¹	q	Significance Level
Firm L - Production vs Firm H - Production	-.57009 vs .02380	4.11	.01
Firm L - Production vs Firm L - Research	-.57009 vs .00989	3.88	.01
Firm L - Production vs Firm L - Marketing	-.57009 vs .41827	6.84	.01
Firm L - Research vs Firm L - Marketing	-.00878 vs .41827	2.96	.05

¹Task orientation scores were reflected so that a low score indicates a high degree of the variable and high score indicates a low degree.

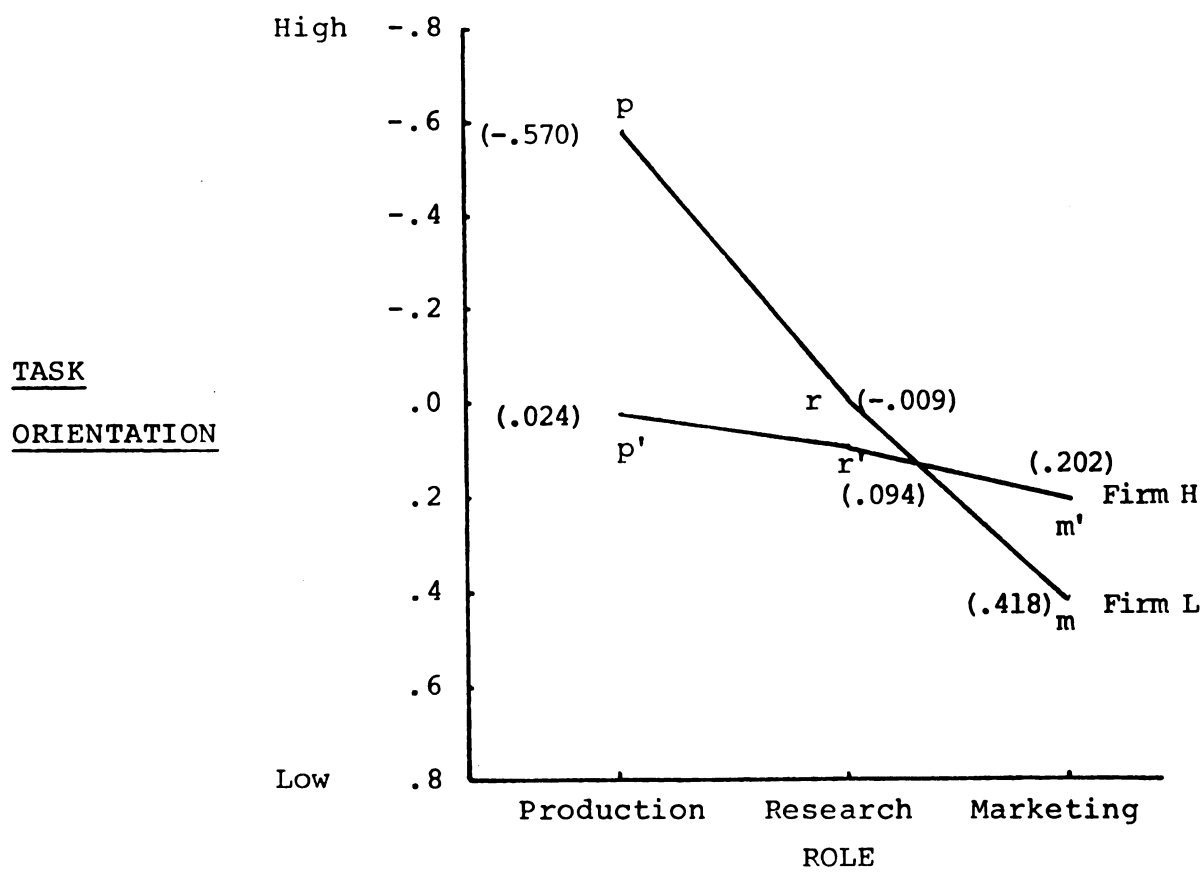


Figure 11. Firm x Role Interaction on Task Orientation¹.

¹The difference in Task Orientation between p and p' is significant at .01, between p and r at .01, between p and m at .01, and between r and m at .05.

There were several differences in climate among roles in the low performing firm. Production personnel saw their climate more task oriented than their colleagues in research ($p < .01$) and marketing ($p < .01$). Researchers claimed their climate also had greater Task Orientation than did marketing personnel ($p < .05$).

Findings Regarding Task Orientation.-- In response to the general research question "Are managers' perceptions of Task Orientation related to firm performance, own work role, and individual performance?", the answer, based upon the findings of this study, is that while there is no significant relationship with individual performance, nor any simple relationship with firm performance, there is a relationship with role and that this relationship varied between firms. That is, while there is a tendency for Task Orientation to increase as one moves from marketing to research to production roles, this increase is more marked in the low performing firm than in the high performing firm.

Turning to Proposition 3(a) which anticipates that Task Orientation will be greater in high performing firms than low performing firms in a stable industry, the Firm x Role interaction indicates the opposite to be true. However, the only significant difference between firms in perceived Task Orientation within roles was that for the production role. There, Firm H's Task Orientation was less than that in Firm L. This suggests that high performing firms in stable environments will have lower levels of Perceived Task Orientation than low performing organizations.

Relationship Orientation

The results of the ANOVA for Relationship Orientation are presented in Table 18. For that table it is seen that there are differences in the Relationship Orientation dimension

of organization climate that are related to Firm and Role, and are significant at the .05 level.

TABLE 18

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR RELATIONSHIP ORIENTATION

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0100	1	.0100	.0210	
Firm (F)	2.1357	1	2.1357	4.4654	.05
Role (R)	3.9918	2	1.9958	4.1331	.05
Ind.Perf. (I)	1.2584	1	1.2584	2.6312	
F x R	1.1411	2	.5706	1.1930	
F x I	.0242	1	.0242	.0506	
R x I	1.0506	2	.5253	1.0983	
F x R x I	.1186	2	.0593	.1240	
Error	51.6541	108	.4783		

Table 19 indicates that Relationship Orientation is lower in the low performing firm than in the high performing firm ($p < .05$).

It was also found that Relationship Orientation was lower in production than in research ($p < .05$) and marketing ($p < .01$).

TABLE 19

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF RELATIONSHIP ORIENTATION OF IMMEDIATE SUPERIOR

Comparison	Category Means	q	Significance Level
Firm L vs Firm H	-.12427 vs .14255	2.99	.05
Production vs Research	-.24285 vs .08745	3.02	.05
Production vs Marketing	-.24285 vs .18238	3.89	.01

Findings Regarding Relationship Orientation.--In response to the general research question of whether or not there are significant relationships between managers' perceptions of the relationship orientation of their immediate superiors and firm performance, own work role, and individual performance, analysis of the data in this study revealed the following:

1. There was a relationship between Relationship Orientation and firm performance. The high performing firm was seen by its managers to have a more relationship oriented climate than the low performing firm. This finding bears directly on Proposition 3(b) which anticipated this relationship. Since the findings were significant at the .05 level and in the direction called for by Proposition 3(b), this proposition is supported by the data in this study.

2. There was a significant relationship between Relationship Orientation and work role. Specifically, Relationship Orientation decreased as one moved from marketing to research to production.

3. There was no significant relationship between the perceived relationship orientation of one's immediate superior and one's individual performance rating.

Design 3: Role x Climate x Personality on Individual Performance

Design 3 was a 3 x 2 x 2 completely randomized factorial design using the fixed effects model. The factors employed were three levels of Role (production, research, and marketing), two levels of Perceived Climate Stress (low and high), and two levels of Personality. Since the five personality dimensions used in the study were found to be independent, this required five runs of this design using (a) high and low Authoritarianism, (b) Task and Relationship Interpersonal Orientation (i.e., low and high LPC), (c) low and high Tolerance for Role Conflict, (d) low and high Tolerance for Role Ambiguity, and (e) low and high Need for Achievement. Cases were randomly deleted to obtain equal n's in each of the twelve cells. The total number of observations in the design for runs (a) through (e) were 84, 72, 108, 72, and 96 respectively.

Design 3 was employed to test Proposition 10 which was: For organizations operating in stable environments, the level of performance of individuals in stressfree climates will be greater than the performance level of those in low stress climates.

The findings for each of the five runs showed that none of the Composite Climate Stress main or interaction effects was significantly related with Individual Performance. Consequently Proposition 10 could not be supported. Since none of these analyses of variance revealed significant F ratio's, the analysis of variance tables are not reported.

Summary of Findings Related to Research Question One

The first research question explored in this study was whether or not perceived climate stress is related to firm performance, individual performance, and managers' own work role. Specifically, propositions 1 through 6 and 10 were tested.

Climate Stress and Firm Performance

Significant differences were found between the high and low performing firms on two dimensions of climate as anticipated by Proposition 1 and 3(b). Specifically, excessive Organization Conformity was lower ($p < .10$) and Relationship Orientation was greater ($p < .05$) in the high performing firm than in the low performing firm. In addition, a lower level of overall Climate Stress was found in Firm H than in Firm L, as suggested by Proposition 6, although this difference was not statistically significant.

Finally, Organizational Clarity and Task Orientation tended to be lower in the high performing firm, contrary to Propositions 2 and 3(a), and Role Conflict tended to be higher in Firm H, contrary to Propositions 5(a) and 5(b). However, none of these contradictory tendencies reached acceptable levels of significance.

Climate Stress and Individual Performance

Proposition 10, which anticipated that individuals in Stressfree climates would have higher levels of performance than those in stressful climates, was supported by the direction

of the difference in climate stress although the difference did not reach significant levels.

Climate Stress and Role

The analyses of the relationships between Climate Stress and Role permitted a test of the differences in Role Conflict and Ambiguity between roles suggested by Kahn, et al., (1964) as stated in Proposition 4. In addition, it provided empirically based answers to the general research question of whether or not there are differences in other dimensions of climate as well as the overall measure of Climate Stress between roles.

Proposition 4, which anticipated that Role Conflict and Ambiguity would be greater as one moved from production to research to marketing roles, was not supported by the data in this study. No significant differences were found between roles in the levels of Role Ambiguity. With regard to Role Conflict, the differences between all three roles in Firm L were in the opposite direction to that predicted and the differences were significant between production and research ($p < .01$) and between production and marketing ($p < .001$). None of the differences in Firm H were significant. Consequently the data in this study would reject this proposition and suggest that any relationship between role and Role Conflict and Ambiguity may be moderated by firm performance.

Turning to Overall Climate Stress, there were no differences between roles across firms although there were

differences between roles within Firm L. In that firm, the level of stress was greater in production than in marketing ($p < .01$) as well as greater than in Firm H's production role ($p < .05$).

Task Orientation was found to vary between roles but only in the low performing firm. In Firm L, Task Orientation was greater in production than in research ($p < .01$) and marketing ($p < .01$).

Relationship Orientation was found to be lower in production than in research ($p < .05$) and marketing ($p < .01$).

Findings Related to Research Question Two

It will be recalled that the second research question centered on whether managers' personality characteristics are related to (i) firm performance, (ii) their own work role, (iii) their performance level (Proposition 7), (iv) their perception of climate and, finally, (v) whether or not the relationship between performance and climate is moderated by personality (Propositions 8 and 9).

The first three sub-parts of this question were able to be explored using Design 1 treating the various dimensions of personality as the dependent variables. The last two sub-parts were investigated using Design 2 with the personality dimensions again being employed as the dependent variables.

Design 1: Firm x Role x Individual Performance on Personality

To review briefly, Design 1 was a 2 x 3 x 2 completely randomized factorial design using the fixed effects model. The factors employed were two levels of Firm (a low and a high performing firm), three levels of Role (production, research, and marketing), and two levels of Individual Performance. Since the Personality dimensions were found not to be related, no overall measure of this factor was available. Consequently, the analysis of this design was complicated by the necessity of running it for each of the five dimensions of Personality, LPC, Auth-F, TRC, TRA, and N-Ach. Cases were randomly deleted to obtain ten observations in each of the twelve cells.

Overview

This portion of the analysis deals with the effects on Personality by Firm, Role, and Individual Performance, and the interactions of these factors. Since the various dimensions of personality were found not to fit together in an overall way, tests of the hypotheses relating to personality were made for each of the dimensions of Interpersonal Orientation (LPC), Authoritarianism (Auth-F), Tolerance for Role Conflict (TRC), Tolerance for Role Ambiguity (TRA), and Need for Achievement (N-Ach).

Before reporting in detail the results of these individual analyses, a summary overview of the significant F statistics for the seven hypotheses for each of the personality

dimensions will be discussed briefly. This overview is summarized in tabular form in Table 20.

TABLE 20

SUMMARY OF LEVELS OF SIGNIFICANCE OF F STATISTICS
FOR ANALYSES OF VARIANCE OF PERSONALITY
DIMENSIONS IN DESIGN ONE

Source	LPC	Auth-F	TRC	TRA	N-Ach
Firm (F)		.01			
Role (R)	.05	.05			
Indiv. Perf.(I)		.05			.10
F x R	.10				.05
F x I			.10		
R x I					
F x R x I					

It is seen from Table 20 that there were significant Firm, Role, Individual Performance main effects and Firm x Role and Firm x Individual Performance interactions for at least some of the dimensions of Personality. None of the null hypotheses were rejected for Tolerance for Role Ambiguity so the ANOVA table for this dimension is not reported.

Relationship Orientation (LPC)

Table 21 shows a Firm x Role interaction effect that was significant at the .10 level. This interaction is clarified in Table 22 and Figure 12. While subjects in Firm L

in marketing are more interpersonally oriented than subjects in research ($p < .05$) the difference is not significant in Firm H. Furthermore, the difference between marketing and production subjects' Relationship Orientation does not remain significant when examined within each firm. However, when differences in LPC is examined between roles in Firm L, it was found that research subjects were significantly more task oriented than production subjects in that firm ($p < .05$).

TABLE 21

DESIGN ONE: ANALYSIS OF VARIANCE TABLE FOR
RELATIONSHIP ORIENTATION (LPC)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.2841	1	.2841	.7250	
Firm (F)	.0492	1	.0492	.1256	
Role (R)	2.8694	2	1.4347	3.6608	.05
Indiv. Perf. (I)	.0098	1	.0098	.0249	
F x R	2.0628	2	1.0314	2.6317	.10
F x I	.0319	1	.0319	.0815	
R x I	.2837	2	.1418	.3619	
F x R x I	.0831	2	.0415	.1060	
Error	42.3263	108	.3919		

TABLE 22

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF RELATIONSHIP ORIENTATION (LPC)

Comparison	Category Means	q	Significance Level
Firm L: Research vs Production	-.36036 vs .04195	2.87	.05
Firm L: Research vs Marketing	-.36036 vs .23319	4.24	.01

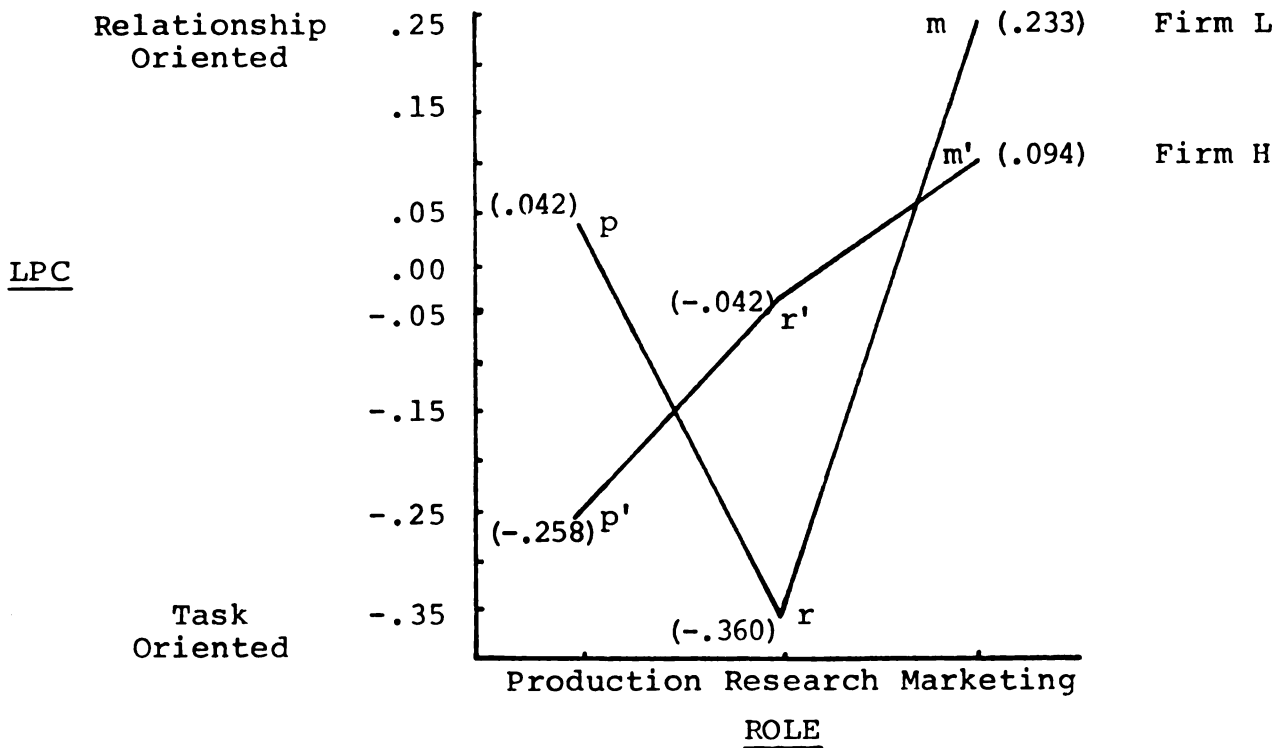


Figure 12. Firm x Role Interaction on LPC¹.

¹The difference between p and r is significant at .05 and the difference between r and m is significant at .01.

Authoritarianism (Auth-F)

The analysis of variance tests of the null hypotheses relating to Authoritarianism are reported in Table 23. The main effects of Firm, Role and Individual Performance were significant at the .01, .05, and .05 levels of significance respectively.

Table 24 reveals the nature of these relationships. It is shown in Table 24 that subjects in the low performing firm are more authoritarian than those in Firm H ($p < .01$). Inspection of Table 24 also reveals that subjects in production are more authoritarian than those in research ($p < .10$) and marketing ($p < .05$). And finally, it is seen that high performing managers are less authoritarian than those rated as low performers ($p < .05$).

TABLE 23

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR AUTHORITARIANISM (AUTH-F)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.1562	1	.1562	.5082	
Firm (F)	3.0655	1	3.0655	9.9764	.01
Role (R)	1.9039	2	.9519	3.0980	.05
Indiv. Perf. (I)	1.4315	1	1.4315	4.6588	.05
F x R	.0903	2	.0451	.1469	
F x I	.0033	1	.0033	.0107	
R x I	1.1818	2	.5909	1.9230	
F x R x I	.4098	2	.2049	.6669	
Error	33.1857	108	.3073		

TABLE 24

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF AUTHORITARIANISM (AUTH-F) IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Firm L vs Firm H	.19591 vs -.12376	4.47	.01
Production vs Research	.21244 vs -.03046	2.77	.10
Production vs Marketing	.21244 vs -.07376	3.25	.05
High Performers vs Low Performers	-.07315 vs .14530	3.25	.05

Tolerance for Role Conflict (TRC)

The analysis of variance table for TRC in Table 25 shows that the Firm x Individual Performance interaction was significant at the .10 level.

TABLE 25

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR TOLERANCE FOR ROLE CONFLICT (TRC)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0568	1	.0568	.1418	
Firm (F)	.7889	1	.7889	1.9708	
Role (R)	.8337	2	.4168	1.0412	
Indiv. Perf. (I)	.4567	1	.4567	1.1408	
F x R	.3874	2	.1937	.4839	
F x I	1.1754	1	1.1754	2.9361	.10
R x I	1.8021	2	.9010	2.2508	
F x R x I	.3273	2	.1636	.4088	
Error	43.2347	108	.4003		

Table 26 reveals that the high performers in Firm L are significantly less tolerant of role conflict than the high performers in Firm H ($p < .01$). In addition, high performers in Firm L are less tolerant of role conflict than low performers in that firm ($p < .01$). Figure 13 illustrates this interaction.

TABLE 26

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF TOLERANCE FOR ROLE CONFLICT (TRC) IN DESIGN ONE

Comparison	Category Means	q	Significance Level
High Performers: Firm L vs Firm H	-.21999 vs .14011	4.41	.01
Firm L: Low Per- formers vs High Performers	.10132 vs -.21999	3.93	.01

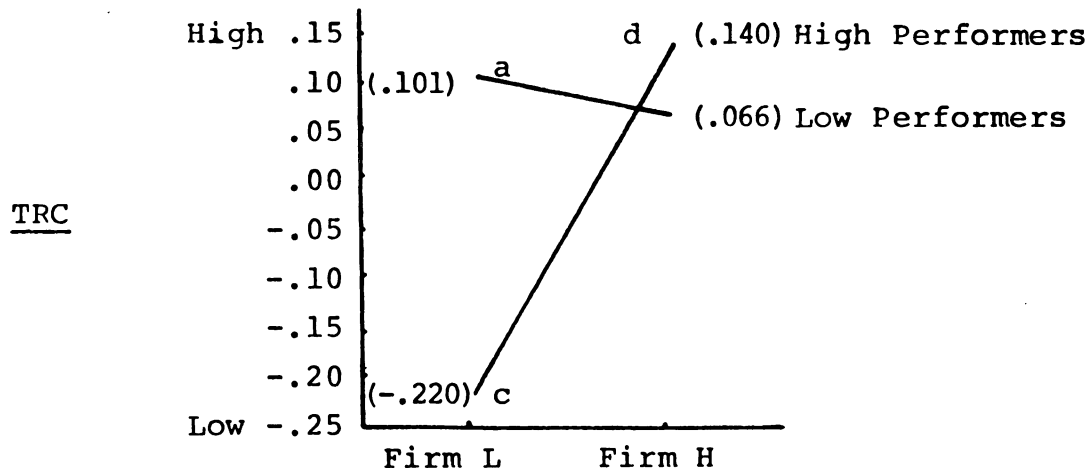


Figure 13. Firm x Individual Performance Interaction on TRC¹.

¹The difference between c and d is significant at .10 and between a and c at .10.

Need for Achievement (N-Ach)

The analysis of variance tests of the null hypotheses relating to N-Ach are reported in Table 27. It is seen from that table that there were significant relationships between N-Ach and Individual Performance and the interaction of Firm x Role.

TABLE 27

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR NEED FOR ACHIEVEMENT (N-ACH)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.1927	1	.1927	.3416	
Firm (F)	.0064	1	.0064	.0214	
Role (R)	.7356	2	.3678	1.2241	
Indiv. Perf. (I)	1.0448	1	1.0448	3.4771	.10
F x R	1.9906	2	.9953	3.3122	.05
F x I	.0056	1	.0056	.0187	
R x I	.7776	2	.3888	1.2939	
F x R x I	.3897	2	.1949	.6485	
Error	32.4525	108	.3005		

Table 28 reveals the nature of these relationships. An examination of that table reveals high performing subjects have significantly higher N-Ach than low performing subjects.

Investigation of the interaction shows three significant contrasts. First, of the subjects in research roles, those in Firm L had higher N-Ach than those in Firm H ($p < .05$). Second, of the subjects in Firm H, those in research had lower N-Ach than those in production ($p < .05$) and marketing ($p < .05$). Figure 14 portrays graphically this interaction.

TABLE 28

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF NEED FOR ACHIEVEMENT (N-ACH)

Comparison	Category Means	q	Significance Level
Low vs High Performers	-.12256 vs .06406	2.81	.10
Research: Firm L vs Firm H	.05163 vs -.32688	3.09	.05
Firm H: Research vs Production	-.32688 vs .12074	3.65	.05
Research vs Marketing	-.32688 vs .09643	3.45	.05

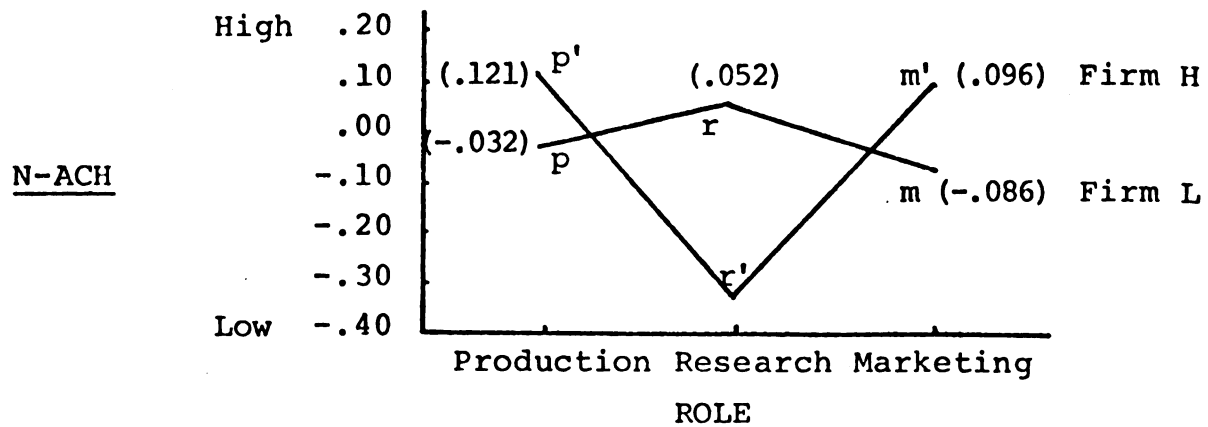


Figure 14. Firm x Role Interaction on N-Ach¹.

¹The difference between r and r' is significant at .05, and between p' and r' at .05, and between r' and m' at .05.

Design 2: Role x Climate x Individual Performance on Personality

The questions of whether or not Personality is related to perceived climate and whether the relationship between performance and climate is moderated by personality were examined by using Design 2.

As indicated in Chapter II, Design 2 was a 3 x 2 x 2 completely randomized factorial design using the fixed effects model. The factors were three levels of Role, two levels of Climate, and two levels of Individual Performance. Cases were randomly deleted to obtain equal n's in each of the twelve cells. There were ten cases in each cell for a total N = 120.

This design was run using the Personality dimensions successively as the dependent variable. The results of each of these runs are reported below.

Overview

This part of the analysis considered the effects on personality by Role, Individual Performance, and Climate and the interactions of these factors. Since the dimensions of personality were found not to fit together in an overall way, tests of each of the effects were made for each of the dimensions of Relationship Orientation (LPC), Authoritarianism (Auth-F), Tolerance for Role Conflict (TRC), Tolerance for Role Ambiguity (TRA), and Need for Achievement (N-Ach).

Before reporting in detail the results of these individual analyses, a summary overview of the significant F statistics for the seven sources of variance for each of the

personality dimensions will be introduced briefly. This overview is summarized in Table 29.

TABLE 29

SUMMARY OF LEVELS OF SIGNIFICANCE OF F STATISTICS FOR ANALYSES OF VARIANCE OF PERSONALITY DIMENSIONS IN DESIGN TWO

Source	LPC	Auth-F	TRC	TRA	N-Ach
Role (R)	.025	.05			
Indiv. Perf. (I)		.10			
Climate (C)				.001	.10
R x I		.10	.05	.05	
R x C					
I x C					
R x I x C					

From Table 29 it can be seen that there were significant effects by Role, Individual Performance, Climate and the interaction of Role x Individual Performance on some of the dimensions of Personality.

Relationship Orientation (LPC)

As shown in Table 30, Relationship Orientation was found to be significantly related to Role. Table 31 reveals that subjects in marketing were more interpersonal oriented (or less task oriented) than those in production ($p < .05$) and research ($p < .05$).

TABLE 30

DESIGN TWO: ANALYSIS OF VARIANCE TABLE
FOR RELATIONSHIP ORIENTATION (LPC)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0854	1	.0854	.2010	.025
Role (R)	3.3908	2	1.6954	3.9887	
Individ. Perf. (I)	.0201	1	.0201	.0473	
Climate (C)	.0398	1	.0398	.0936	
R x I	.5249	2	.2624	.6174	
R x C	.1764	2	.0882	.2075	
I x C	.6441	1	.6441	1.5153	
R x I x C	.6295	2	.3147	.7405	
Error	45.9063	108	.4251		

TABLE 31

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
FOR RELATIONSHIP ORIENTATION IN DESIGN TWO

Comparison	Category Means	q	Significance Level
Marketing vs Production	.20748 vs -.10824	3.06	.05
Marketing vs Research	.20748 vs -.17929	3.75	.05

Authoritarianism (Auth-F)

The analysis of variance of Authoritarianism results in Table 32 reveal that the null hypothesis with respect to the relationships between Auth-F and Role, Individual Performance, and the interaction of Role x Individual Performance could be rejected.

The nature of these relationships appear in Table 33 and Figure 15. Subjects in production tended to be more authoritarian than their counterparts in research ($p < .10$) and marketing ($p < .05$) although differences were significant only for low performers. Table 33 also shows that high performers tended to be less authoritarian than low performers ($p < .10$), but this difference was significant only in production and research.

TABLE 32

DESIGN TWO: ANALYSIS OF VARIANCE TABLE FOR AUTHORITARIANISM (AUTH-F)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0368	1	.0368	.1078	
Role (R)	2.4234	2	1.2117	3.5522	.05
Individ. Perf. (I)	.9862	1	.9862	2.8910	.10
Climate (C)	.0111	1	.0111	.0324	
R x I	1.7433	2	.8716	2.5552	.10
R x C	.5967	2	.2984	.8746	
I x C	.0097	1	.0097	.0284	
R x I x C	.0735	2	.0368	.1078	
Error	36.8411	108	.3411		

TABLE 33

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
FOR AUTHORITARIANISM (AUTH-F)

Comparison	Category Means	q	Significance Level
Production vs Research	.21244 vs -.03763	2.71	.10
Production vs Marketing	.21244 vs -.12230	3.62	.05
Individual Performance: Low vs High	.10816 vs -.07315	2.40	.10
Low Performers: Production vs Marketing	.39521 vs -.20191	4.57	.01
Research vs Marketing	.13118 vs -.20191	3.32	.05
Production: Low vs High Performers	.39521 vs .02968	2.80	.10
Research: Low vs High Performers	.13118 vs -.20643	2.59	.10

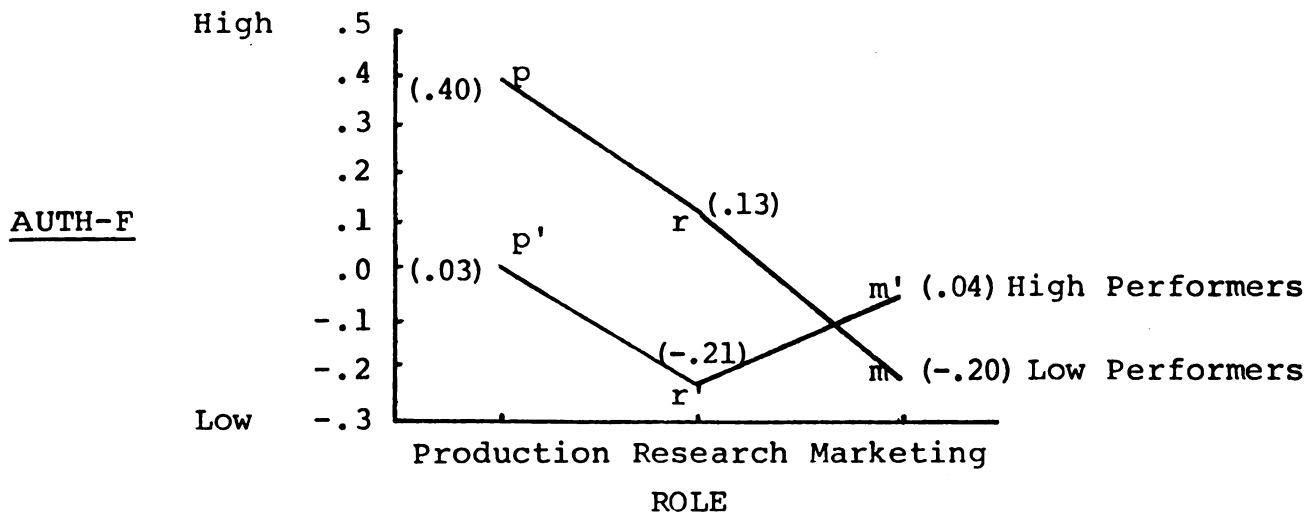


Figure 15. Role x Individual Performance Interaction on Auth-F¹.

¹The difference between p and m is significant at .01, between r and m at .05, between p and p' at .10, and between r and r' at .10.

Tolerance for Role Conflict (TRC)

The analysis of variance results in Table 34 indicate that the Role x Individual Performance interaction was significant at the .05 level. Table 35 and Figure 16 indicate that low performers in research were significantly less tolerant of role conflict than high performers in that role ($p < .01$).

TABLE 34

DESIGN TWO: ANALYSIS OF VARIANCE TABLE
FOR TOLERANCE FOR ROLE CONFLICT (TRC)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0025	1	.0025	.0066	
Role (R)	.1850	2	.0925	.2466	
Individ. Perf. (I)	.2376	1	.2376	.6334	
Climate (C)	1.0078	1	1.0078	2.6860	
R x I	2.6922	2	1.3461	3.5879	.05
R x C	.2014	2	.1007	.2684	
I x C	.2268	1	.2268	.2684	
R x I x C	1.4654	2	.7327	.6046	
Error	40.5202	108	.3752	1.9529	

TABLE 35

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
FOR TOLERANCE FOR ROLE CONFLICT (TRC)

Comparison	Category Means	q	Significance Level
Research: Low vs High Performers	.24004 vs -.27259	3.74	.01

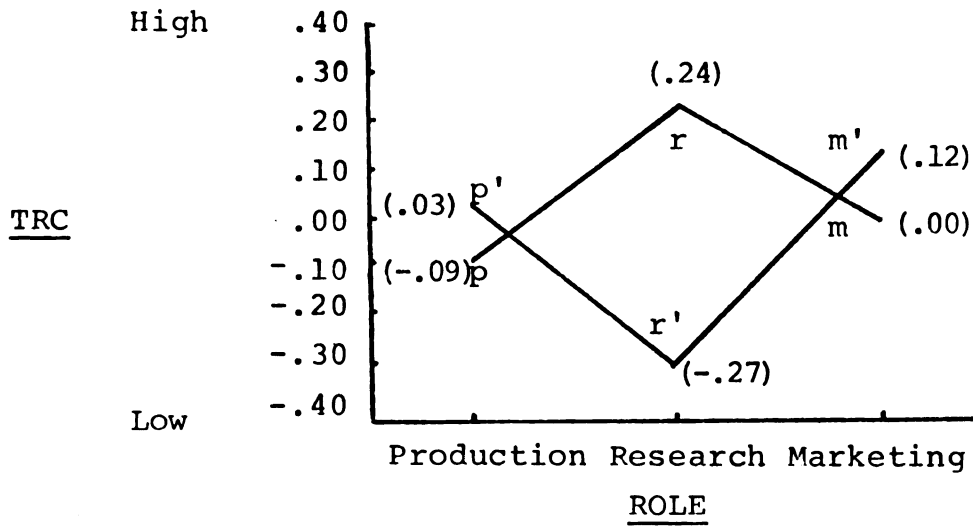


Figure 16. Role x Individual Performance Interaction on TRC¹.
¹The difference between r and r' is significant at .01.

Tolerance for Role Ambiguity (TRA)

The effects on TRA by Climate and the interaction of Role x Individual Performance were found to be significant from the analysis of variance results in Table 36. From Table 37 it is seen that subjects in stressful climates had greater TRA than those in stressfree climates ($p < .001$). It was also found that for subjects in research, high performers were less tolerant of role ambiguity than low performers ($p < .05$). This Role x Performance interaction is illustrated in Figure 17.

Table 36

DESIGN TWO: ANALYSIS OF VARIANCE TABLE
FOR TOLERANCE FOR ROLE AMBIGUITY (TRA)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0510	1	.0510	.1511	
Role (R)	.4117	2	.2059	.6100	
Individ. Perf. (I)	.1750	1	.1750	.5185	
Climate (C)	7.3109	1	7.3109	21.6632	.001
R x I	2.1896	2	1.0548	3.1255	.05
R x C	.7782	2	.3891	1.1530	
I x C	.0789	1	.0789	.2338	
R x I x C	.3327	2	.1663	.4929	
Error	76.4480	108	.3375		

TABLE 37

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
FOR TOLERANCE OF ROLE AMBIGUITY (TRA) IN DESIGN TWO

Comparison	Category Means	q	Significance Level
High Stress vs Low Stress Climate	.26744 vs -.22621	6.58	.001
Research: Low vs High Performers	.14995 vs -.25453	3.11	.05

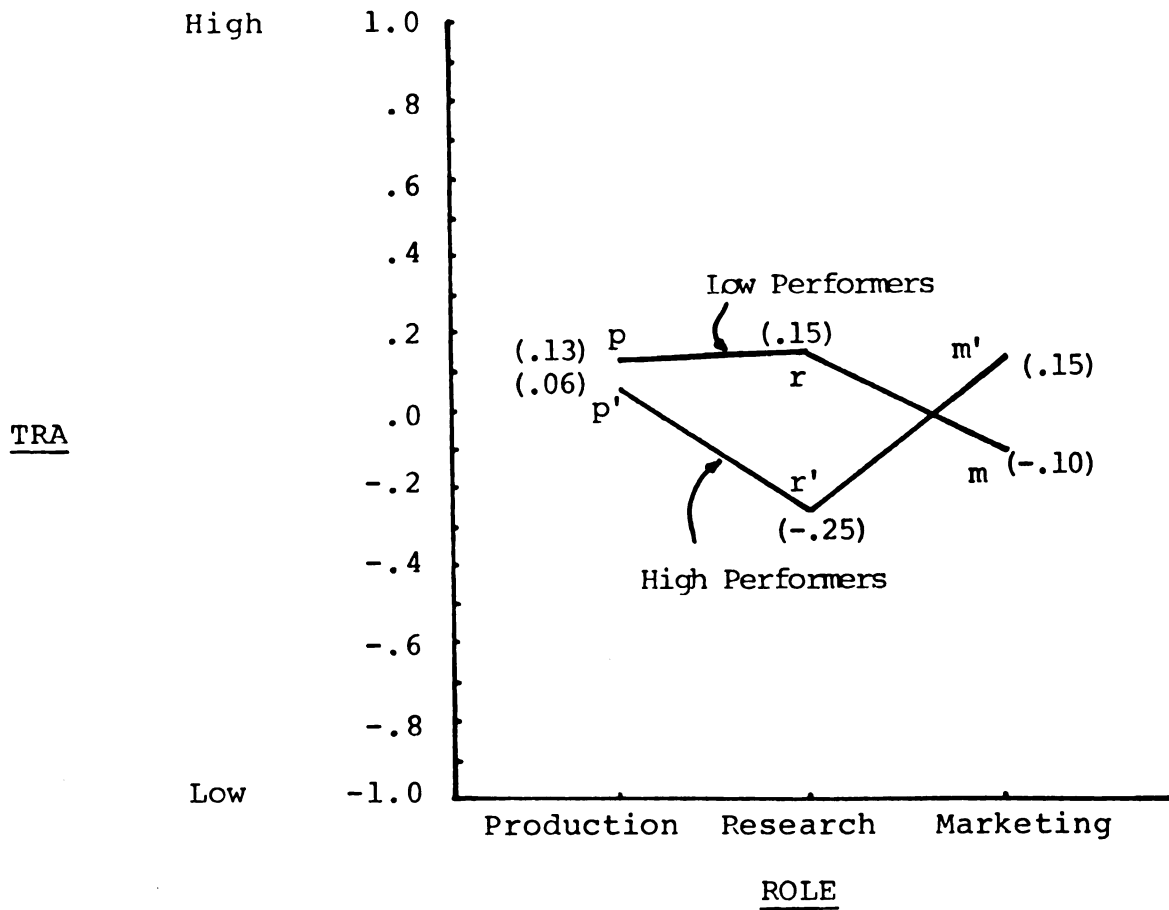


Figure 17. Role x Individual Performance Interaction on TRA¹.

¹The difference between r and r' is significant at .05.

Need for Achievement (N-Ach)

The effect of Climate on an individual's N-Ach was significant at the .10 level. The analysis of variance results of the tests of hypotheses is shown in Table 38. The nature of the relationship between Climate and N-Ach is reported in Table 39. Subjects in high stress climates were found to have lower N-Ach than those in low stress climates ($p < .10$).

TABLE 38

DESIGN TWO: ANALYSIS OF VARIANCE TABLE
FOR NEED FOR ACHIEVEMENT (N-ACH)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0531	1	.0531	.1634	
Role (R)	.6222	2	.3111	.9573	
Indivi. Perf. (I)	.8690	1	.8690	2.6740	
Climate (C)	.9321	1	.9321	2.8684	.10
R x I	.8855	2	.4428	1.3625	
R x C	.1408	2	.0704	.2167	
I x C	.1317	1	.1317	.4054	
R x I x C	.6196	2	.3098	.9533	
Error	35.0961	108	.3250		

TABLE 39

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
FOR NEED FOR ACHIEVEMENT (N-ACH) IN DESIGN TWO

Comparison	Category Means	q	Significance Level
High Stress vs Low Stress Climate	-.10917 vs .06710	2.39	.10

Summary of Findings on Research Question TwoSummary of Findings on Relationship
Between Personality and:

(1) Firm Performance

There was a significant difference between the high and low performing firm in the Authoritarianism of their personnel. Managers in the high performing firm were significantly less authoritarian than those in the low performing firm ($p < .01$).

There were no other significant differences between the high and low performing firm across roles and individual performance for LPC, TRC, TRA, or N-Ach.

(2) Own Work Role

There were significant differences in LPC and Auth-F between roles. Subjects in marketing were more relationship oriented than those in research ($p < .05$) and production ($p < .10$), although these differences were statistically significant only in Firm L (.01 and .05 respectively). Furthermore, in Firm H, production personnel tended to be more task oriented than either those in research or marketing. In Firm L, on the other hand, production personnel were significantly less task oriented than those in research ($p < .05$).

With regard to Auth-F, individuals in production were more authoritarian than those in either research ($p < .10$) or marketing ($p < .05$).

Turning to N-Ach, it was found that the relationship between Role and N-Ach in Firm L differed from that in Firm H.

While in Firm L there were no significant differences in the levels of N-Ach between managers in production, research and marketing, there were differences in Firm H. In the high performing firm, research personnel had less N-Ach than those in production ($p < .05$) or marketing ($p < .05$). Furthermore, research personnel in Firm H had lower N-Ach than their counterparts in Firm L ($p < .10$).

(3) Individual Performance

Proposition 7 anticipated that high performing managers in stable environments would be more authoritarian and task oriented, have lower tolerance for role conflict and ambiguity and have equal or greater need for achievement than low performers.

The directions of the differences found were all as predicted but was significant only for Auth-F ($p < .10$). Furthermore, the relationship between Auth-F as well as TRC and TRA with performance were found to vary between roles.

High performers in production and research were significantly less authoritarian than low performers in those roles ($p < .10$ respectively). However, in marketing roles, high performers tended to be more authoritarian than low performers, although this difference was not statistically significant.

In research, high performers were less tolerant of role conflict than low performers ($p < .01$). However, high performers in both production and marketing tended to be more tolerant of role conflict than their low performing colleagues,

though the differences were not statistically significant.

Turning to TRA, it was found that high performers in research were less tolerant of role ambiguity than low performers in that role ($p < .05$). A similar tendency was noted for managers in production but the difference did not reach acceptable levels of significance. On the other hand, high performers in marketing were more tolerant of role ambiguity than low performers in that role, although the difference was not significant.

(4) Perceived Climate Stress

Perceived climate stress was found to be significantly related to TRA and N-Ach. It was found that individuals who perceived their climate to be relatively stressful had greater tolerance for role ambiguity ($p < .001$) and lower needs for achievement ($p < .10$) than those who saw their climate as being relatively stressfree.

(5) The interaction of Personality and Perceived Climate on Performance

Propositions 8 and 9 state that the performance of Type X personalities will be greater than Type Y personalities in stable environments, regardless of whether the climate is perceived as being stressfree (Proposition 8) or stressful (Proposition 9). Jointly, then, these propositions anticipate that there would be no significant interaction of Personality and Perceived Climate Stress on Performance, and that Type X's would be higher performers than Type Y's.

The findings appear to support these propositions.

There were no significant interactions of any of the personality dimensions with climate on individual performance. Secondly, the differences in performance for three of the four dimensions of personality in stressfree climate (Proposition 8) and all four of the dimensions of personality in stressfree climates (Proposition 9) were in the predicted directions. Although none of these differences were significant individually, a sign test of the eight differences supports the concept expressed jointly by the propositions at the .05 level.

(6) The Interaction of Role and Performance on Personality

The Mix Model concept anticipates that there are optimal mixes of personality characteristics and role functions for individual performance. That is, high and low performers will differ in their personality characteristics, and that these profiles will vary between production, research, and marketing roles. Some supportive evidence for this concept was revealed by the data in this study. Three personality characteristics, Auth-F, TRC, and TRA, were found to interact with role and individual performance.

Low authoritarians performed better than high authoritarians in production ($p < .10$) and research ($p < .10$). However, in marketing, high Auth-F's tended to perform better than low Auth-F's, although the difference did not reach statistical significance.

High TRC's tended to perform better than low TRC's in production and marketing. But in research, low TRC's were rated as higher performers than high TRC's ($p < .01$).

Finally, low TRA's tended to outperform high TRA's in production and research ($p < .05$). However, in marketing, high TRA's tended to perform better than low TRA's.

Findings Related to Research Question Three

The third general research question in this study was:

Are the levels of managers' satisfaction related to (i) firm performance, (ii) own work role, (iii) individual performance, (iv) perceived climate, (v) personality, and (vi) the interaction of personality and perceived climate (Propositions 11, 12, 13).

The first three of these relationships were able to be examined by Research Design One, using satisfaction as the dependent variable and firm performance, own work role, and individual performance as the independent variables.

The fourth relationship was studied with Research Design Two, using satisfaction as the dependent variable and individual performance as the independent variable.

The last two relationships were examined by Research Design Three, with satisfaction again used as the dependent variable but with personality and perceived climate stress as the independent variables.

Design 1: Firm x Role x Individual Performance on Satisfaction

It will be recalled from Chapter II that Design I was a $2 \times 3 \times 2$ completely randomized factorial design using the

fixed effects model. The factors employed were two levels of Firm (a low and a high performing firm), three levels of Role (production, research, and marketing), and two levels of Individual Performance (low and high). Cases were randomly deleted to obtain equal n's in each of the twelve cells. There were ten cases in each cell.

Overview

This section deals with the analysis of the effects on satisfaction by Firm, Role and Individual Performance, and the interactions of these factors. In addition to treating the composite measure, Satisfaction, as a dependent variable, runs were also made using the individual climate subscale scores for Satisfaction with Job, Firm, Career, Pay, Relationship with Superior, Competence of Superior, Co-workers, Esteem, Autonomy, Self-Actualization, Security, and Affiliation.

Before reporting in detail the results of these individual analyses, a summary overview of the significant F statistics for the seven sources of effects for each of these runs is presented in Table 40. It is seen from Table 41 that there were significant effects on satisfaction by Firm, Role, Individual Performance, and the interaction of Firm and Individual Performance. The most frequently found effects were the Role main effect and the Firm x Individual Performance interaction effect.

None of the null hypotheses were rejected for Satisfaction with Job, Relationship with Superior, Co-workers, Esteem, Autonomy and Affiliation. Since the null hypotheses could not be rejected for these variables, their analysis of variance tables are not presented in this report.

Composite Satisfaction

The results of the analysis of variance for the overall measure, Satisfaction, is presented in Table 41. Examination of that table reveals that there is a relationship between Role and Satisfaction. Table 42 reveals the nature of that relationship. It is found that the level of satisfaction of subjects in research is lower than that in production ($p < .10$) and marketing ($p < .05$).

Satisfaction with Firm

Table 43 portrays the ANOVA results for Satisfaction with Firm. It is seen from that table that there is a relationship between Role and Satisfaction with Firm as well as an interaction between Firm and Individual Performance on Satisfaction with Firm, each of which is significant on the .025 level.

From Table 44 it is learned that subjects in research are less satisfied with their firm than those in production and marketing. The difference in levels of Satisfaction with Firm between research and production is significant at the .025 level and between research and marketing is significant at the .01 level.

TABLE 41

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR COMPOSITE SATISFACTION

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0338	1	.0338	.1036	
Firm (F)	.3030	1	.3030	.9279	
Role (R)	1.5957	2	.7978	2.4436	.10
Indiv. Perf. (I)	.0003	1	.0003	.0011	
F x R	.0229	2	.0115	.0351	
F x I	.4494	1	.4494	1.3765	
R x I	.1616	2	.0808	.2474	
F x R x I	.2710	2	.1355	.4149	
Error	35.2625	108	.3265		

TABLE 42

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF COMPOSITE SATISFACTION IN DESIGN ONE

Comparison	Category Means	q	Significance Level
search vs production	-.14171 vs .06280	2.27	.10
search vs marketing	-.14171 vs .12938	3.00	.05

TABLE 43

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR SATISFACTION WITH FIRM

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0048	1	.0048	.0067	
Firm (F)	.8131	1	.8131	1.1480	
Role (R)	6.1844	2	3.0922	4.3658	.025
Indiv. Perf. (I)	1.3855	1	1.3855	1.9562	
F x R	.1429	2	.0715	.1009	
F x I	3.8689	1	3.8689	5.4625	.025
R x I	2.3648	2	1.1824	1.6694	
F x R x I	2.2206	2	1.1103	1.5676	
Error	76.4930	108	.7083		

The interaction between Firm and Individual Performance is seen to be explained by differences in two comparisons. First, in the low performing firm, low performing managers are more satisfied with the firm than are high performers ($p < .05$). Secondly, high performers in Firm L are significantly less satisfied with their firm than are high performers in Firm H ($p < .05$). This Firm x Individual Performance is illustrated in Figure 18.

TABLE 44

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF SATISFACTION WITH FIRM IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Research vs Production	-.31449 vs .17783	3.70	.025
Research vs Marketing	-.31449 vs .15557	4.79	.01
Firm L - Low Performers vs High Performers	.21100 vs .01651	3.74	.05
High Performers - Firm L vs Firm H	-.36302 vs .16073	3.41	.05

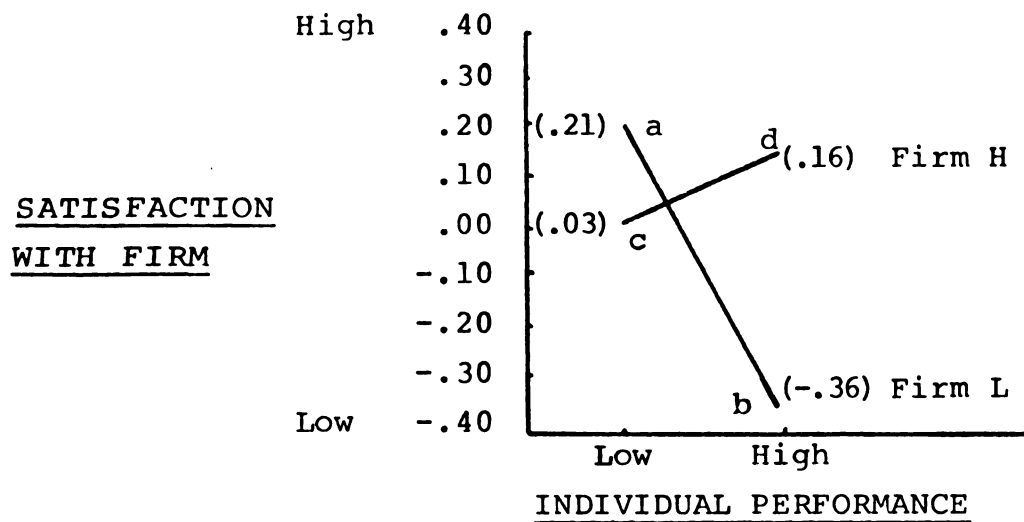


Figure 18. Firm x Individual Performance Interaction on Satisfaction with Firm¹.

¹The difference between a and b is significant at .05 and the difference between d and b is significant at .05.

Satisfaction with Career

As shown in Table 45, there was a relationship between Satisfaction with Career and Role ($p < .10$) and an interaction of Firm x Individual Performance ($p < .005$).

The nature of these relationships is revealed in Table 46. It is seen from this table that subjects in research were less satisfied with their career opportunities and progress than were those subjects in production ($p < .10$).

TABLE 45

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR SATISFACTION WITH CAREER

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0167	1	.0167	.0219	
Firm (F)	.6516	1	.6516	.8514	
Role (R)	3.6974	2	1.8487	2.4157	.10
Indiv. Perf. (I)	2.4946	1	2.4946	3.2597	.10
F x R	1.2182	2	.6091	.7959	
F x I	7.1795	1	7.1795	9.3814	.005
F x I	.8778	2	.4389	.5735	
F x R x I	.6823	2	.2412	.4458	
Error	82.6523	108	.7653		

TABLE 46

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF SATISFACTION WITH CAREER IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Research vs Production	-.23227 vs .19724	3.11	.05
High Performers: Firm L vs Firm H	-.18591 vs .45067	3.99	.01
Firm H - High Per- formers vs Low Performers	.45067 vs -.32690	4.87	.01

Investigation of the Firm x Individual Performance interaction, illustrated in Figure 19, indicated that high performing managers in Firm L were much less satisfied than the high performers in Firm H. (See Table 46). This difference was significant at the .05 level. It was also found that in Firm H, high performers were much more satisfied with their career opportunities and progress than were low performing managers. This difference was significant at the .01 level.

Satisfaction with Pay

The analysis of variance table for Satisfaction with Pay is presented in Table 47. Examination of that table reveals that there was a highly significant relationship between Role and Satisfaction with Pay ($p < .01$).

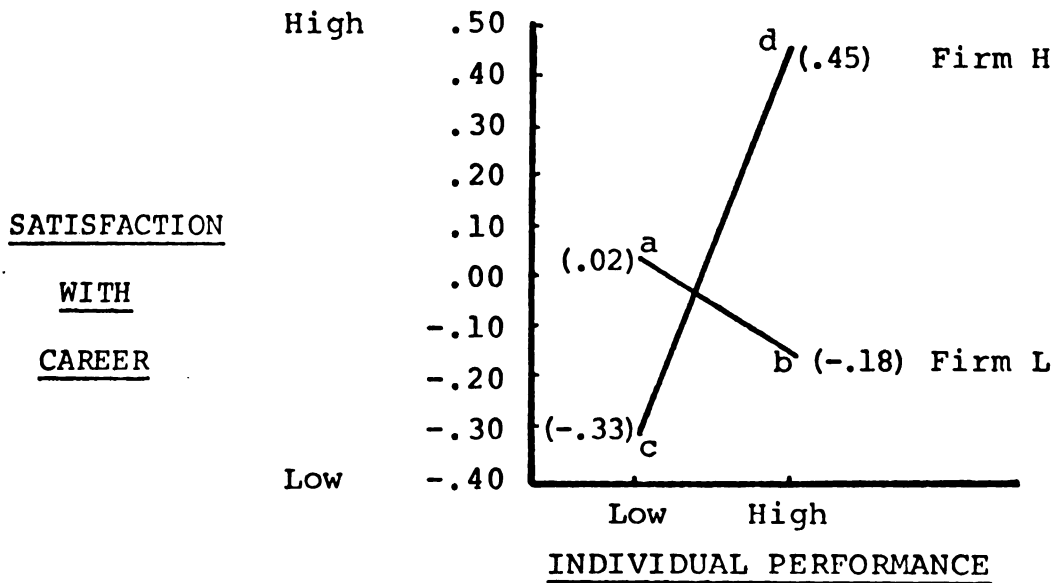


Figure 19. Firm \times Individual Performance Interaction on Satisfaction with Career¹.

¹The difference between d and b is significant at .01, and the difference between c and d is significant at .01.

The nature of this relationship is revealed in Table 48. From that table it is seen that subjects in research were much less satisfied with pay than were their colleagues in production.

Satisfaction with Competence of Superior

The results of the analysis of variance of this dimension of satisfaction are presented in Table 49. It is seen there that there was a significant Firm \times Individual Performance interaction ($p < .05$).

TABLE 47

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR SATISFACTION WITH PAY

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.2521	1	.2521	.3204	
Firm (F)	1.5195	1	1.5195	1.9305	
Role (R)	8.2444	2	4.1222	5.2373	.01
Individ. Perf. (I)	.2322	1	.2322	.2950	
F x R	1.6446	2	.8223	1.0445	
F x I	1.2803	1	1.2803	1.6266	
R x I	.0291	2	.0145	.0185	
F x R x I	1.3804	2	.6902	.8769	
Error	85.0043	108	.7871		

TABLE 48

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF SATISFACTION WITH PAY IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Research vs Production	-.35416 vs .28653	4.57	.01

TABLE 49

DESIGN ONE: ANALYSIS OF VARIANCE TABLE FOR
SATISFACTION WITH COMPETENCE OF IMMEDIATE SUPERIOR

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.6507	1	.6507	.6678	
Firm (F)	.0000	1	.0000	.0000	
Role (R)	.1115	2	.0557	.0569	
Individ. Perf. (I)	.0000	1	.0000	.0000	
F x R	.4300	2	.2150	.2193	
F x I	3.8540	1	3.8540	3.9314	.05
R x I	1.4811	2	.7405	.7554	
F x R x I	2.8826	2	1.4413	1.4702	
Error	105.8741	108	.3803		

The nature of this interaction is revealed in Table 50. From this table it is seen that while there was an overall *F* ratio which was significant, analysis of simple main effects revealed that none of the comparisons reached acceptable levels of significance. There was a tendency, however, for low performers in Firm L to be more satisfied with their immediate superior's competence than high performers in that firm. The converse was the case in Firm H.

TABLE 50

ANALYSIS OF SIMPLE MAIN EFFECTS OF FIRM X INDIVIDUAL
PERFORMANCE INTERACTION ON SATISFACTION WITH
COMPETENCE OF IMMEDIATE SUPERIOR

Comparison	Category Means	q	Signifi- cance Level
Low Performers: Firm L vs Firm H	.25285 vs -.10557	1.966	n.s.
High Performers: Firm L vs Firm H	-.10557 vs .25285	1.966	n.s.
Firm L: Low Per- formers vs High Performers	.25285 vs -.10557	1.966	n.s.
Firm H: Low Per- formers vs High Performers	-.10557 vs .25285	1.966	n.s.

Satisfaction with Self-Actualization

Table 51 presents the results of the analyses of variance on this dimension of satisfaction. These were significant relationships between Satisfaction with Self-Actualization and Firm ($p < .10$) and Role ($p < .05$).

Table 52 reveals the nature of these relationships. It is seen from Table 52 that subjects in Firm L were significantly less satisfied with self-actualization than were subjects in Firm H ($p < .10$).

Examination of the Role effect reveals that subjects in marketing were less satisfied with self-actualization than were those in production ($p < .05$) or marketing ($p < .05$).

TABLE 51

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR SATISFACTION WITH SELF-ACTUALIZATION

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.0277	1	.0277	.0397	
Firm (F)	2.4288	1	2.4288	3.4706	.10
Role (R)	4.8153	2	2.4077	3.4404	.05
Individ. Perf. (I)	.2266	1	.2266	.3238	
F x R	.7084	2	.3542	.5062	
F x I	.2928	1	.2928	.4185	
R x I	.0925	2	.0476	.0680	
F x R x I	.7286	2	.3643	.5206	
Error	75.5869	108	.6998		

TABLE 52

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF SATISFACTION OF SELF-ACTUALIZATION IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Firm L vs Firm H	-.12706 vs .15747	2.63	.10
Research vs Production	-.26414 vs .11406	2.86	.05
Research vs Marketing	-.26414 vs .19570	3.48	.05

Satisfaction with Security

The analyses of variance relating to this dimension of satisfaction are reported in Table 53. There was a relationship between Role and Satisfaction with Security that was significant at the .10 level.

It is seen from Table 54 that there is a distinct difference in the security experienced by subjects in research and marketing. Managers in research feel less secure than those in the marketing function ($p < .05$).

TABLE 53

DESIGN ONE: ANALYSIS OF VARIANCE TABLE
FOR SATISFACTION WITH SECURITY

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance Level
Mean	.1660	1	.1660	.1631	
Firm (F)	.9257	1	.9257	.9091	
Role (R)	5.8998	2	2.9499	2.8972	.10
Individ. Perf. (I)	.0801	1	.0801	.0786	
F x R	.5061	2	.2530	.2485	
F x I	.0288	1	.0288	.0283	
R x I	.5829	2	.2915	.2863	
F x R x I	.3651	2	.1826	.1793	
Error	109.9634	108	1.0182		

TABLE 54

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS
OF SATISFACTION OF SECURITY IN DESIGN ONE

Comparison	Category Means	q	Significance Level
Research vs Marketing	-.22629 vs .31618	3.40	.05

Design 2: Role x Climate x Individual Performance on Satisfaction

The question of whether or not satisfaction is related to perceived climate was examined by using Design 2.

As indicated in Chapter II, Design 2 was a 3 x 2 x 2 completely randomized factorial design using the fixed effects model. The factors were three levels of Role, two levels of Climate, and two levels of Individual Performance. Cases were randomly deleted to obtain equal n's in each of the twelve cells. There were ten cases in each cell for a total N = 120.

This design was run using the Satisfaction dimensions successively as the dependent variable. Since the main effects on satisfaction of Role, Individual Performance and their interaction effect has already been examined using Design 1, in this section the summary table of significant F statistics will be followed by tables which report the Tukey test of mean comparisons that are significant for those sources that involve Climate, i.e., the Climate main effect and the Climate x Role, Climate x Individual Performance, and Climate x Role x

Individual Performance interactions.

Overview

Before examining in detail the analyses of variance for these runs, a summary overview of the significant F statistics for the four sources of variation of interest for each of these runs is presented in Table 55. The most striking conclusion to be derived from that table is that Climate is very closely related to the composite measure of satisfaction as well as every dimension of satisfaction studied except Satisfaction with Pay.

It is also seen from this overview that there was no significant interaction of Individual Performance x Climate nor Role x Climate on overall Satisfaction nor any of the dimensions of satisfaction.

Table 56 reveals the nature of the main effects of Climate on Overall Satisfaction and the various dimensions of satisfaction. Subjects who perceived their climate as being relatively stressfree were found to be more satisfied than those who perceived their climates to be stressful. This relationship was found for Overall Satisfaction ($p < .001$), well as for satisfaction with Job ($p < .001$), Firm ($p < .005$), Career ($p < .005$), Relationship with Superior ($p < .01$), Confidence of Superior ($p < .001$), Esteem ($p < .001$), Autonomy ($p < .001$), Self-Actualization ($p < .001$), Security ($p < .01$), Affiliation ($p < .001$).

TABLE 55

SUMMARY OF LEVELS OF SIGNIFICANCE OF
F STATISTICS FOR ANALYSES OF VARIANCE
OF SATISFACTION IN DESIGN TWO

Source	Satisfaction	Job	Firm	Career	Pay	Relation- ship with Superior	Competence of Superior	Co-workers	Esteem	Autonomy	Self-Actu- alization	Security	Affiliation
Climate (C)	.001	.001	.005	.005		.01	.001	.10	.001	.001	.001	.01	.001
R x C													
R x I													
R x C x I								.05					

TABLE 56

TUKEY TEST FOR COMPARISON OF MEANS FOR SATISFACTION
DIMENSIONS IN HIGH AND LOW STRESS CLIMATES IN DESIGN TWO

Dimension of Satisfaction	Category Means High vs Low Stress	q	Significance Level
Overall Satisfaction	-.25748 vs .26778	7.93	.001
Job	-.29909 vs .29875	6.24	.001
Firm	-.22353 vs .22130	4.18	.005
Career	-.23978 vs .23959	4.23	.005
Relationship with Superior	-.25546 vs .21937	3.76	.01
Competence of Superior	-.26849 vs .33431	4.88	.001
Esteem	-.31358 vs .33534	6.77	.001
Autonomy	-.35132 vs .42695	7.40	.001
Self-Actualization	-.28124 vs .32510	6.13	.001
Security	-.19528 vs .31101	4.03	.01
Affiliation	-.25737 vs .28376	6.43	.001

Analysis of the second order interaction of Role x Individual Performance x Climate on Satisfaction with Co-workers is reported in Table 57 and illustrated in Figures 20, 21, and 22. These show that Satisfaction with Co-workers was greater in Low Stress climates than in High Stress climates for low performers in production ($p < .01$) and marketing ($p < .05$) and tended to be so but did not reach statistical significance for high performers in production. However, Satisfaction with Co-workers was lower in Low Stress climates than in High Stress climates for high performing research personnel ($p < .05$) and

tended to be so, but did not reach statistical significance, for high performing marketing personnel.

TABLE 57

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
SATISFACTION WITH CO-WORKERS IN DESIGN TWO

Comparison	Category Means	q	Signifi- cance Level
Low Performers in Low Stress Climates:			
Production vs Research	.382 vs -.542	4.260	.01
Marketing vs Research	.266 vs -.542	3.725	.05
Low Performers in Low Stress vs High Stress Climates:			
Production	.382 vs -.542	4.250	.01
Research	-.542 vs .035	2.660	.10
Marketing	.266 vs -.426	3.144	.05
High Performers in Low Stress vs High Stress Climates:			
Research	-.310 vs .382	3.190	.05

Design 3: Role x Climate x Personality on Satisfaction

Analysis of the data to determine whether or not personality was related to satisfaction and if there was an interaction between personality and climate on satisfaction required the use of the third research design.

It will be recalled from Chapter II that Design Three was a 3 x 2 x 2 completely randomized factorial design using the fixed effects model. The design employed three levels of Role, two levels of Climate, and two levels of Personality.

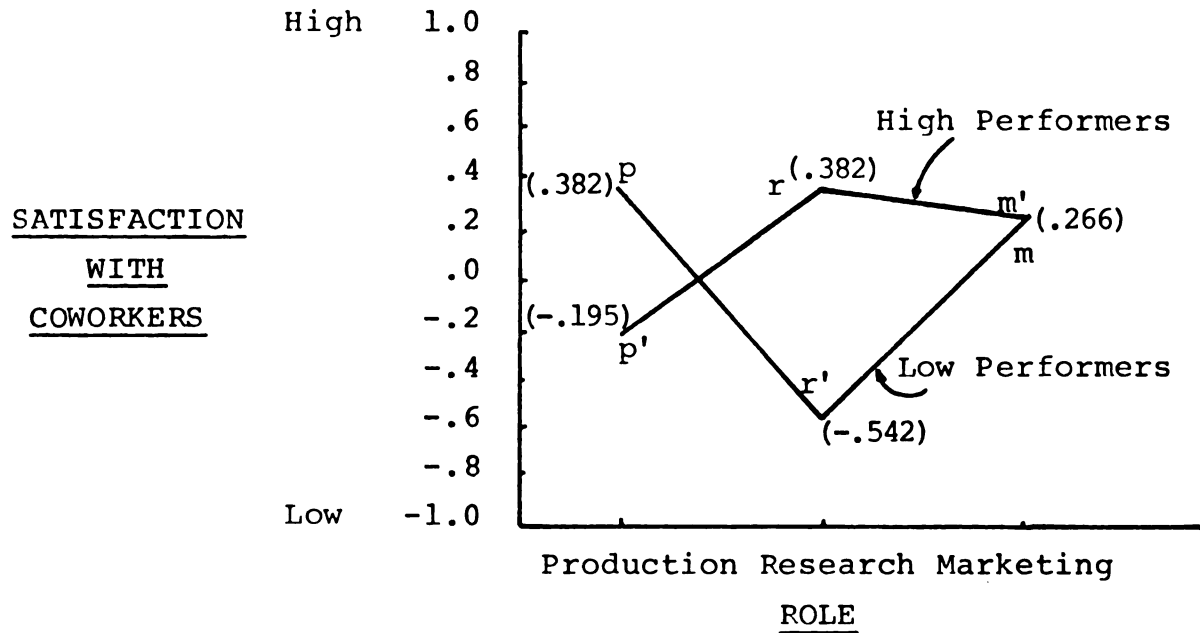


Figure 20. Role x Individual Performance Interaction on Satisfaction with Coworkers in a Stressfree Climate¹.

¹The difference between p and r is significant at .01, between m and r at .05, and between r' and r at .01.

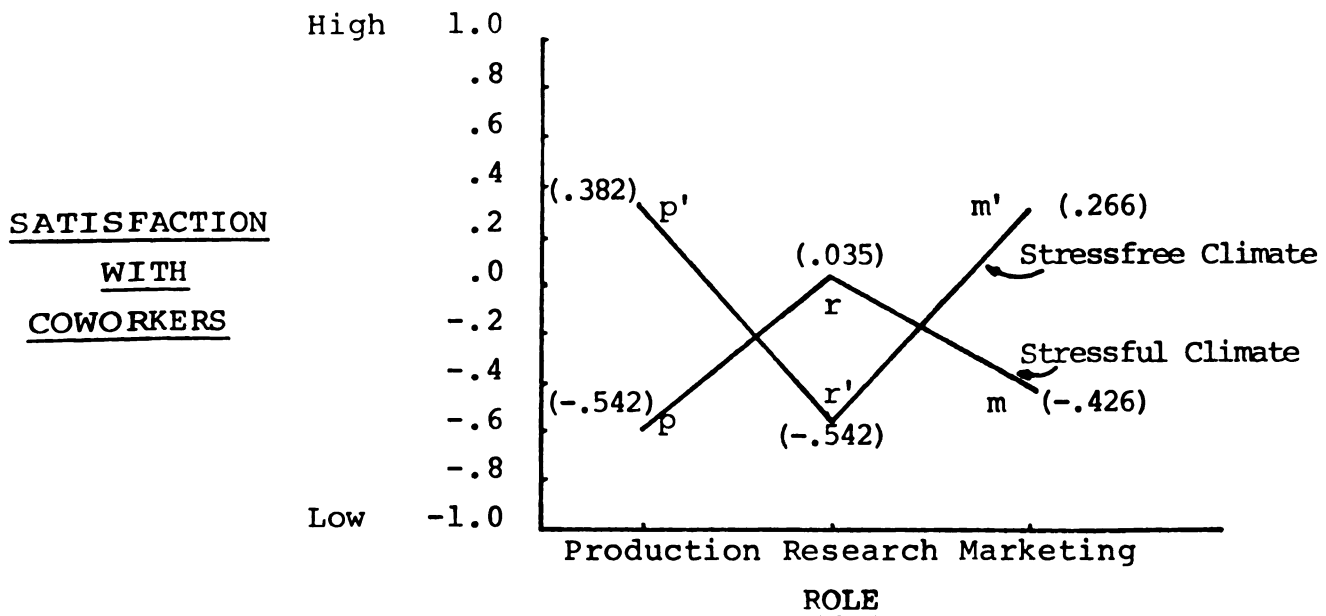


Figure 21. Role x Climate Interaction on Satisfaction with Coworkers among Low Performers¹.

¹The Difference between p' and r' is significant at .01, between m' and r' at .05, between p' and p at .01, between r' and r at .10, and between m' and m at .05.

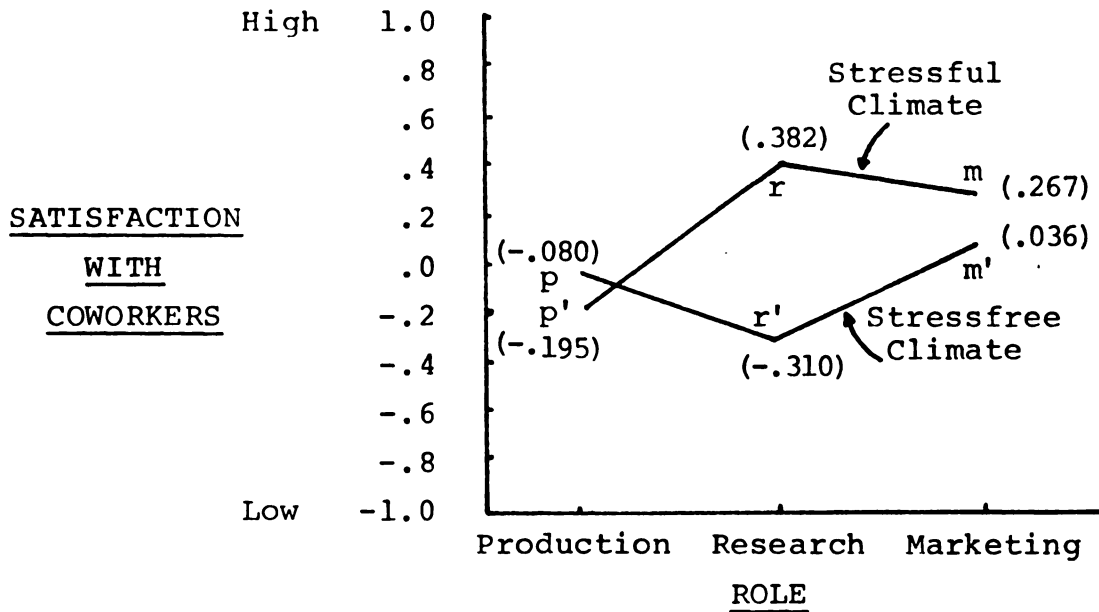


Figure 22. Role x Climate Interaction on Satisfaction with Coworkers among High Performers¹.

¹The difference between r and r' is significant at .05.

Again, since the Personality dimensions were found not to be related, no overall measure of this factor was available. Consequently, the analysis of this design was complicated by the necessity of running it for each of the five dimensions of Personality, LPC, Auth-F, TRC, TRA, and N-Ach.

Cases were randomly deleted to obtain equal n 's in each of the twelve cells. The total number of subjects in the analyses were 84 with LPC, 72 with Auth-F, 108 with TRC, 72 with TRA, and 96 with N-Ach.

The design used, successively, Composite Satisfaction and the various dimensions of satisfaction as the dependent variables. The main hypotheses of interest in this design were those which (1) tested the relationship of Personality and Satisfaction, and (2) examined the "fits" of Personality and Satisfaction with Role and/or Climate. Specifically, the purpose of running this design was to test the main effects of Personality and the interaction effects of Role x Personality, Climate x Personality, and Role x Climate x Personality on satisfaction which could not be tested by Design One or Design Two. Since the effects of Role, Climate, and Role x Climate were tested above, no attempt is made to discuss these duplicate tests again here.

Overview

The format for reporting the results of the tests of interest in Design Three follows that used in reporting the analyses in Design Two. The summary table of significant F statistics will be followed by tables which report Tukey tests of significant mean comparisons. In cases where there are multiple order effects by a factor, only the highest order interaction will be reported.

Table 59 presents a summary of the levels of significance of the F statistics for the analyses of variance for the tests of the hypotheses of interest in Design Three. Examination of this table reveals that there were sixteen significant Personality main effects, four Role x Personality

interactions, six Climate x Personality interactions, and two Role x Climate x Personality interactions with satisfaction. The only dimensions of satisfaction for which at least one of the null hypotheses could not be rejected were Satisfaction with Pay and Satisfaction with Competence of Superior.

The Relationship Between Personality and Satisfaction

It is seen from Table 58 that there was a personality main effect on satisfaction for all dimensions of personality except Authoritarianism. On the basis of this evidence, the hypotheses that there is no relationship between the Interpersonal Orientation (LPC), Tolerance for Role Conflict (TRC), Tolerance for Role Ambiguity (TRA), and Need for Achievement (N-Ach) dimension of personality and certain measures of satisfaction can be rejected.

The nature of these relationships appear in Table 59. In that table it is shown that subjects whose Interpersonal Orientation was task centered were less satisfied with their career, self-actualization and affiliation than were those who were more relationship oriented.

Individuals who had low tolerance for role conflict were found to have lower scores on the composite measure of satisfaction.

Tolerance for Role Ambiguity was found to be inversely related to satisfaction in this study. Subjects with low TRA were more satisfied overall, and particularly with their relations with immediate superior and with self-actualization than

TABLE 58

SUMMARY OF LEVELS OF SIGNIFICANCE OF F STATISTICS
FOR ANALYSES OF VARIANCE FOR SELECTED EFFECTS ON
SATISFACTION IN DESIGN THREE

Source	Overall Satisfaction	Job	Firm	Career	Pay	Relations with Superior	Competence of Superior	Co-workers	Esteem	Autonomy	Self Actualization	Security	Affiliation
LPC													
P				.10							.005	.10	.05
R x P													
C x P						.10							
R x C x P													
Auth-F													
P													
R x P									.10				
C x P													
R x C x P			.10										
TRC													
P	.05							.01		.10	.10	.10	.10
R x P								.10					
C x P										.05	.05	.10	.10
R x C x P								.025					

TABLE 58 (Cont'd)

Source	Overall Satisfaction	Job	Firm	Career	Pay	Relations with Superior	Competence of Superior	Co-workers	Esteem	Autonomy	Self Actualization	Security	Affiliation
TRA													
P	.10					.10				.05	.025		
R x P													
C x P													
R x C x P													
N-Ach													
P	.05	.025							.01	.01	.05	.10	.01
R x P													
C x P													
R x C x P													

P = Personality Dimension

R = Role

C = Climate

were those who had high TRA.

Subjects who had high N-Ach revealed greater overall satisfaction as well as higher satisfaction with job, esteem, autonomy, self-actualization, and affiliation than those with low N-Ach.

The Interaction of Role and Personality on Satisfaction

Table 60 reports the significant differences in means for the Role x Personality interactions shown in Table 58. None of the pairwise comparisons of means for the LPC and Auth-F runs were found to be significant. For this reason, comparisons of means for the LPC x Role interaction on Satisfaction with Esteem are not reported in Table 60.

While a Role x Personality interaction was found to reach significance, analysis of this is not discussed at this point since a second order interaction was also found. Consequently the finding of this interaction is reported in a following section.

Examination of the TRA x Role interaction on Satisfaction with Autonomy, revealed that low TRA individuals were more satisfied with autonomy than were high TRA respondents. Finally, of the low TRA subjects, those in research were less satisfied with autonomy than those in production. This TRA x Role interaction is illustrated in Figure 23.

TABLE 59

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
PERSONALITY MAIN EFFECTS ON SATISFACTION

Personality Dimension	Satisfaction Dimension	Comparison	Category Means	q	Significance Level
LPC	Career Self-Actual. Affiliation	Low vs High LPC	-.194 vs .181	3.44	.10
		Low vs High LPC	-.344 vs .189	8.74	.005
		Low vs High LPC	-.292 vs .088	4.39	.05
TRC	Composite Satisfaction	Low vs High TRC	-.091 vs .109	4.65	.05
TRA	Compos.Satis. Rela. w/Sup. Self-Actual.	Low vs High TRA	.107 vs -.125	3.41	.10
		Low vs High TRA	.167 vs -.255	3.30	.10
		Low vs High TRA	.164 vs -.291	6.52	.025
N-Ach	Compos.Satis. Job Esteem Autonomy Self-Actual. Affiliation	Low vs High N-Ach	-.094 vs .116	4.36	.05
		Low vs High N-Ach	-.156 vs .190	5.46	.025
		Low vs High N-Ach	-.215 vs .186	7.05	.01
		Low vs High N-Ach	-.306 vs .158	7.49	.01
		Low vs High N-Ach	-.201 vs .128	4.83	.05
		Low vs High N-Ach	-.265 vs .161	8.16	.01

TABLE 60

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
ROLE x PERSONALITY INTERACTION EFFECTS ON SATISFACTION

Personality Dimension	Satisfaction Dimension	Comparison	Category Means	q	Significance Level
TRA	Autonomy	Production: Low vs High TRA	.470 vs -.160	2.89	.10
		Low TRA Research vs Prod.	-.452 vs .470	4.09	.05

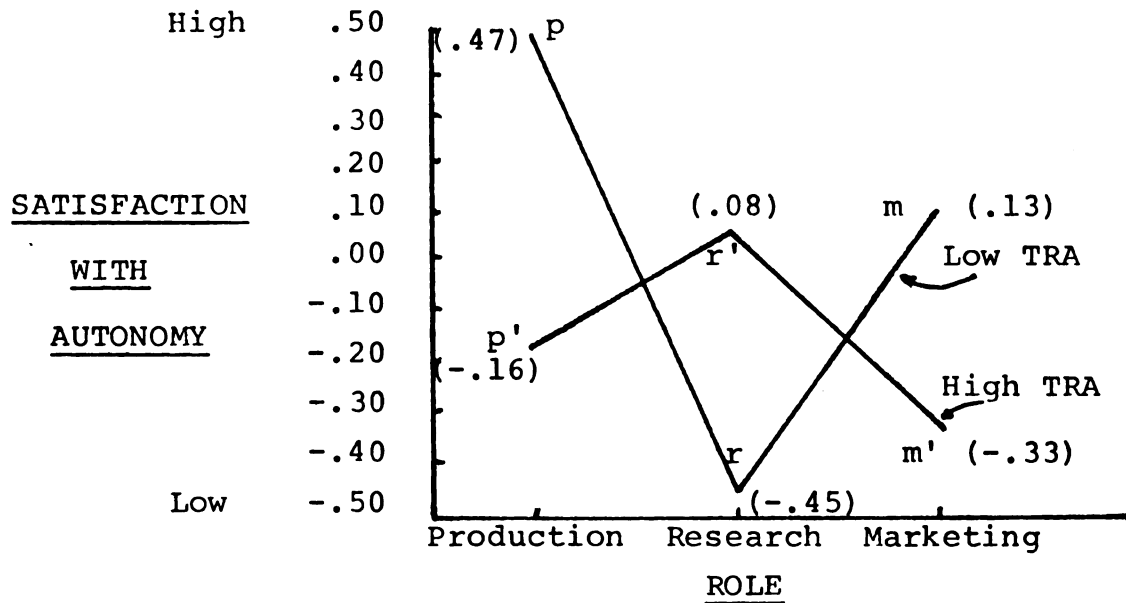


Figure 23. Role x TRA Interaction on Satisfaction with Autonomy¹.

¹The difference between p and p' is significant at .10 and that between p and r is significant at .05.

The Interaction of Climate and Personality on Satisfaction

The significant differences in pairwise comparisons of means for the Climate x Personality interactions on dimensions of satisfaction are reported in Table 61. There was a Climate x Personality interaction on satisfaction for three of the five dimensions of personality. These were LPC, TRC, and N-Ach.

Climate x LPC on Satisfaction with Relations with Superior.--Relationship oriented subjects (High LPC's) in high stress climates were much less satisfied with Relations with Superior than were those in stressfree climates. On the other

TABLE 61

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
CLIMATE x PERSONALITY INTERACTION EFFECTS ON SATISFACTION

Personality Dimension	Satisfaction Dimension	Comparison	Category Means	q	Significance Level
LPC	Relations w/ Superior	High LPC: Stressful vs Stressfree Climate	-.730 vs .430	5.40	.005
		Stressfree Climate: Low vs High LPC	-.150 vs .430	2.70	.10
TRC	Autonomy	Low TRC: Stressful vs Stressfree Climate	-.707 vs .364	6.91	.001
		High TRC: Stressful vs Stressfree Climate	-.073 vs .332	2.61	.10
		Stressful Climate: Low vs High TRC	-.707 vs -.073	4.09	.01
	Self-Actualization	Low TRC: Stressful vs Stressfree Climate	-.562 vs .338	30.24	.001
		Stressful Climate: Low vs High TRC	-.562 vs -.023	18.11	.001
	Security	Low TRC: Stressful vs Stressfree Climate	-.558 vs .294	4.66	.005
		Stressful Climate: Low vs High TRC	-.558 vs -.097	2.51	.10
	Affiliation	Low TRC: Stressful vs Stressfree Climate	-.435 vs .257	4.67	.005
N-Ach	Security	High N-Ach: Stressful vs Stressfree Climate	-.335 vs .595	6.22	.01
		Stressfree Climate: Low vs High N-Ach	-.051 vs .595	4.32	.01

hand, task oriented subjects' satisfaction on this dimension was not significantly different between the two climates. See Figure 24.

Within low stress climates, however, task oriented subjects were significantly less satisfied with superior relations than were relationship oriented subjects. The implication of these findings, then, is that the effect of climate on satisfaction with superior relations is much less significant for task oriented subjects than for relationship oriented individuals whose satisfaction responds favorably with a move from a stressful to a stressfree climate.

Climate x TRC on Satisfaction with Autonomy.-- While both High TRC's and Low TRC's were more satisfied with autonomy in low stress than high stress climates, there was no difference in their levels of satisfaction when they were in low stress climates. However, in stressful climates, those who were less tolerant of role conflict were much less satisfied with autonomy than were High TRC's. See Figure 25, panel (a).

Climate x TRC on Satisfaction with Self-Actualization and Security.-- The findings in Figure 25 indicate that low TRC managers were much more satisfied with both dimensions of satisfaction in low stress than in high stress climates, while TRC's showed no significant difference in their satisfaction on either dimension from one climate to another. Although both high and low TRC subjects tended to be more satisfied in

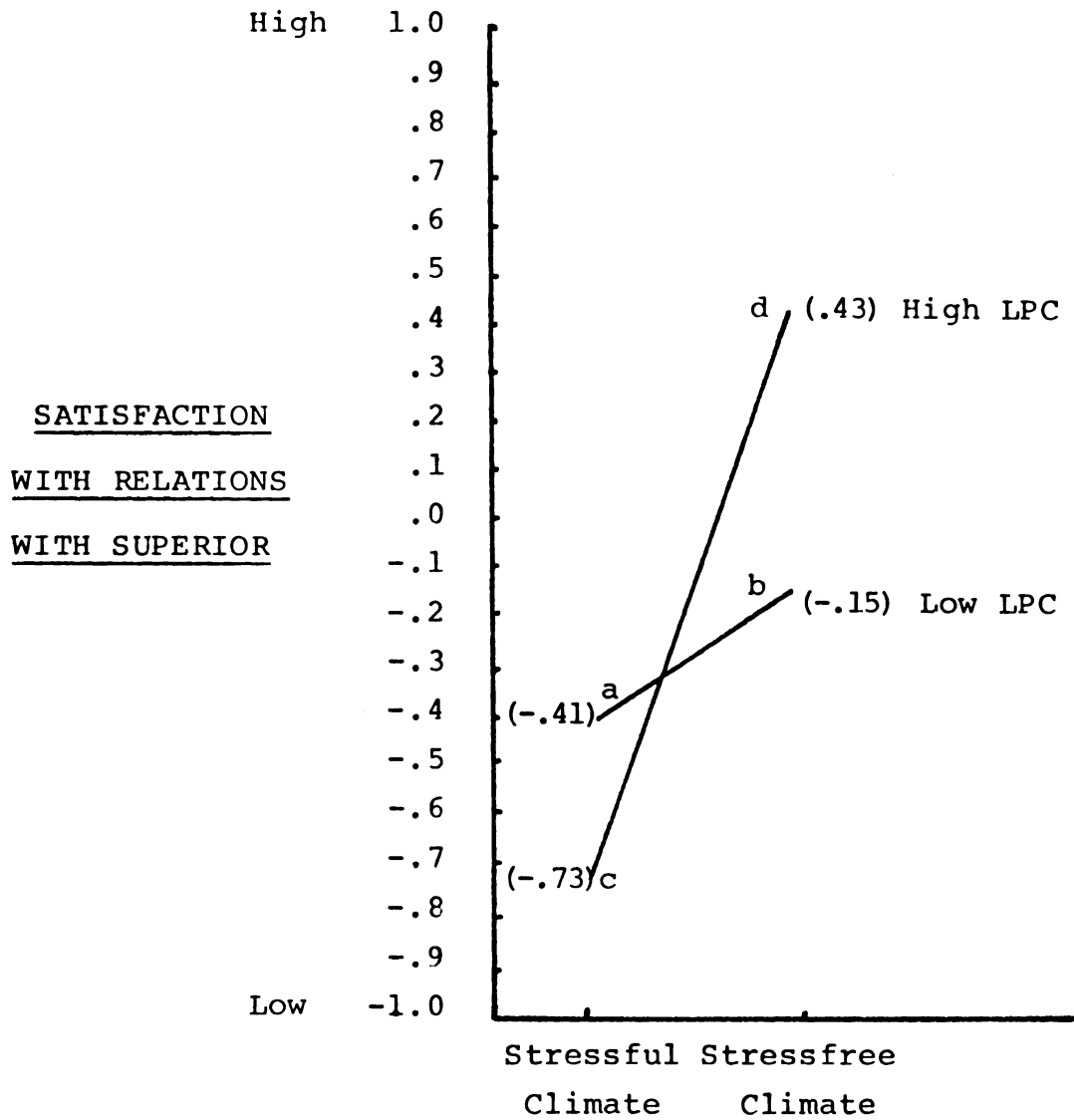


Figure 24. LPC x Perceived Climate Stress Interaction on Satisfaction with Relations with Superior¹.

¹The difference between c and d is significant at .005, and between d and b at .10.

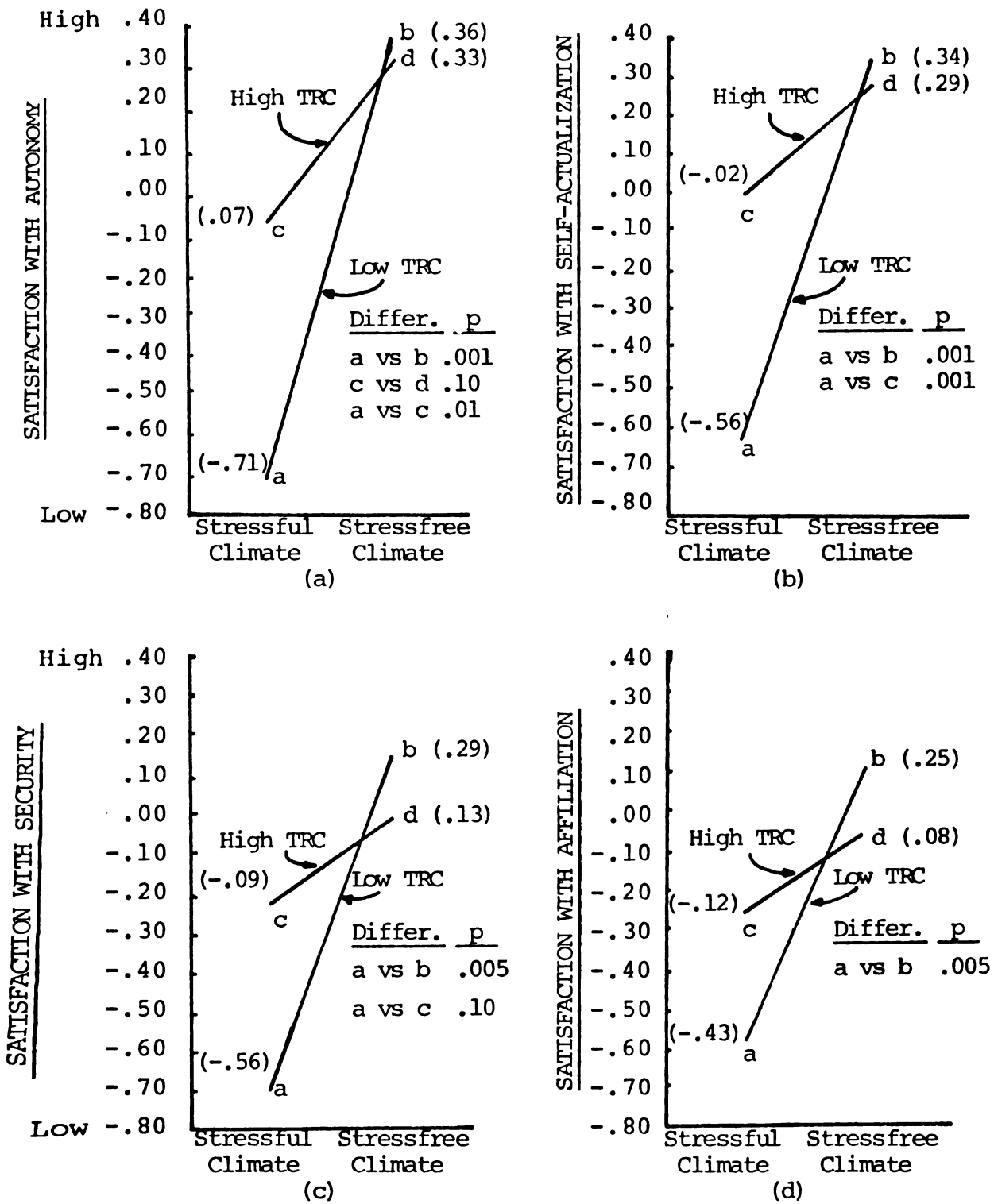


Figure 25. TRC x Perceived Climate Stress Interactions on Selected Satisfaction Dimensions.

stressfree than stressful climates, the differences between their levels of satisfaction were only significant in high stress climates wherein low TRC subjects' satisfaction was the lower.

Climate x TRC on Satisfaction with Affiliation.-- Subjects who were less tolerant of role conflict were significantly more satisfied with affiliation in stressfree climates than they were in high stress situations. For high TRCs' on the other hand, indications were that climate was not related to their level of satisfaction with affiliation. See panel (d) of Figure 25.

Climate x N-Ach on Satisfaction with Security.-- Respondents who had a high N-Ach were more satisfied with security in low stress than high stress climates. The difference in level of satisfaction for low N-Ach subjects between climates was not significant. In stressfree climates, high N-Ach subjects again were more satisfied with security than low N-Ach subjects. There was no significant difference between these groups of subjects in stressful climates. This indicates that satisfaction with security was more sensitive to changes in climate for subjects with high N-Ach than for those with low N-Ach. See Figure 26.

The general conclusion that can be drawn, from these analyses of the Climate x Personality interactions on satisfaction dimensions, is that the sensitivity of some personality

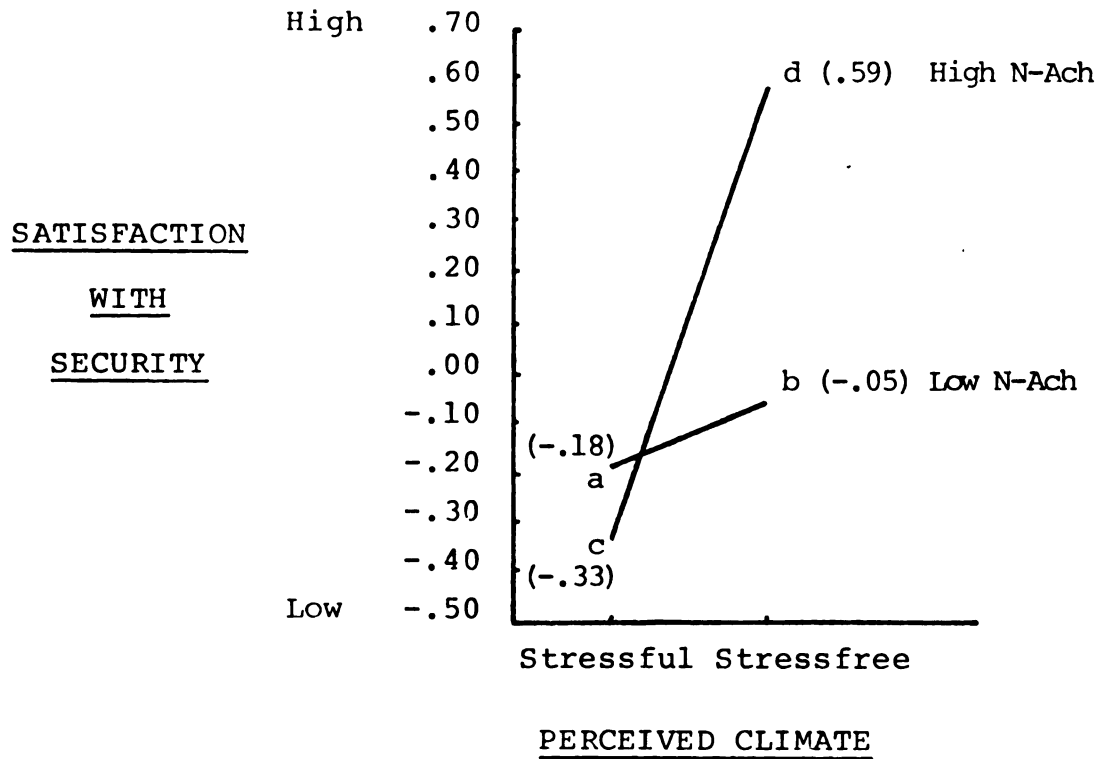


Figure 26. N-Ach x Perceived Climate Stress Interaction on Satisfaction with Security¹.

¹The difference between c and d is significant at .01, and between b and d at .01.

characteristics to climate, as reflected in differentials in the levels of several dimensions of satisfaction, was significant.

Climate and Satisfaction for Type X Personalities.--

Examination of the relationships between Climate and Satisfaction for Type X's provided evidence directly related to Proposition 13. That proposition predicted that in stable environments, Type X's would be more satisfied in stressfree climates than in stressful climates.

Table 62 presents the findings of these a priori comparisons of overall satisfaction. (See page 42 above). It is clear from these findings that the proposition was strongly supported.

TABLE 62

COMPARISONS OF OVERALL SATISFACTION OF TYPE X PERSONALITIES IN STRESSFREE AND STRESSFUL CLIMATES

Personality Dimension & Level for Type X Personality	Satisfaction Level in		t	df	Significance Level	Predicted Direction
	Stressfree Climate	Stressful Climate				
High Auth-F	.325	-.260	5.361	82	.001	yes
Low LPC	.129	-.435	4.669	70	.001	yes
Low TRC	.279	-.460	7.989	106	.001	yes
Low TRA	.335	.121	3.633	70	.001	yes

Summary of Findings of Climate x Personality Interaction

on Satisfaction.--Propositions 11, 12 and 13 were able to be tested by this analysis. Proposition 11 anticipated that in stressful climates the levels of satisfaction of Type X's would be greater than those of Type Y's. Proposition 12 predicted that in stressfree climates, the satisfaction of Type X's would be less than that of Type Y's. Jointly, then, these two propositions called for a specific Climate x Personality interaction on Satisfaction.

While there were no significant interactions found for the Overall Satisfaction measure, there were significant interactions with some of the dimensions of satisfaction and LPC and TRC. The relationship between LPC and Satisfaction with Superior Relations was moderated by Climate, but in the opposite way to that anticipated by Proposition 11, though this was significant only in stressfree climates. In these climates, Low LPC's were less satisfied than High LPC's with their relationship with their superior ($p < .10$) rather than more as predicted.

However, in stressful climates, Low TRC's were less satisfied than High TRC's, as predicted by Proposition 12, with Autonomy ($p < .01$), Self-Actualization ($p < .001$), and Security ($p < .10$). In stressfree climates, the Low TRC's were more satisfied than High TRC's, as predicted by Proposition 11, on each of these dimensions of satisfaction, but the differences were not statistically significant.

Proposition 13 predicted that in stable environments, Type X's would be more satisfied in stressfree climates than in stressful climates. The findings for Overall Satisfaction strongly supported this proposition for all four dimensions of Type X personalities: High Auth-F's ($p < .001$), Low LPC's ($p < .001$), Low TRC's ($p < .001$), and Low TRA's ($p < .001$).

The Interaction of Role, Climate and Personality on Satisfaction

There were two second order interactions of this type which reached acceptable levels of significance. The first

involved the Authoritarianism dimension of personality and was found to be related to Satisfaction with the Firm. The second was revealed in the TRC dimension of personality and was related to Satisfaction with Co-workers.

Authoritarianism x Role x Climate on Satisfaction with Firm.--The results of the analysis of this interaction are reported in Table 63 and illustrated in Figures 27 and 28. The findings indicate that generally both high and low Authoritarians' Satisfaction with Firm are lower when they perceive their climate to be relatively stressful than when it is stress-free. However, this result did not hold for all roles or for both authoritarian types. For example, neither high nor low authoritarians in production indicated any difference in this dimension of satisfaction between high and low stress climates. (In research roles, however, high Auth-F's indicated lower levels of Satisfaction with Firm when they were in high stress climates as opposed to low stress climates ($p < .005$). There was not a significant difference for low Auth-F's under similar circumstances.

In marketing roles, on the other hand, it was the low Auth-F's whose level of Satisfaction with Firm dropped significantly from perceived Stressfree to Stressful Climates ($p < .05$).

Finally, in Stressfree climates, there were no significant differences found in this dimension of satisfaction either between roles or between high and low authoritarians.

TABLE 63

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
 ROLE x AUTHORITARIANISM x CLIMATE INTERACTION
 ON SATISFACTION WITH FIRM

Comparison	Category Means	q	Signifi- cance Level
Production in High Stress Climate: Low Auth-F vs High Auth-F	.490 vs -.343	3.89	.05
Research in High Stress Climate: Low Auth-F vs High Auth-F	-.186 vs -.971	3.66	.05
Low Auth-F: Production vs Research	.490 vs -.186	3.16	.05
Production vs Marketing	.490 vs -.314	3.75	.05
High Auth-F: Research vs Marketing	-.976 vs .078	4.90	.01
Low Auth-F in Research: Low vs High Stress Climate	-.314 vs .578	4.16	.05
High Auth-F in Research: Low vs High Stress Climate	-.971 vs .294	5.90	.005
High Auth-F in High Stress Climate Research vs Marketing	-.971 vs .078	4.90	.01

In Stressful climates, on the other hand, high Auth-F's tended to be less satisfied with firm than low Auth-F's. For production and research this was significant at the .05 level. However, for marketing the relationship was reversed, i.e., low Auth-F's were less satisfied than high Auth-F's, although this difference was not statistically significant.

Tolerance for Role Conflict x Role x Climate on Satisfaction with Co-workers.--The results of the analysis of this second order interaction are reported in Table 64. This table

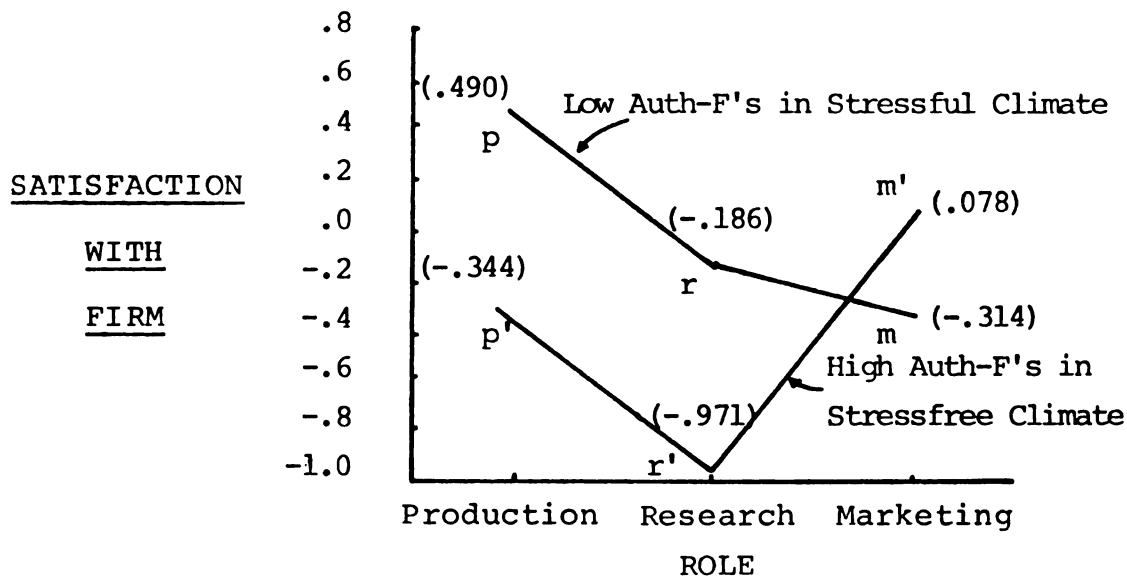
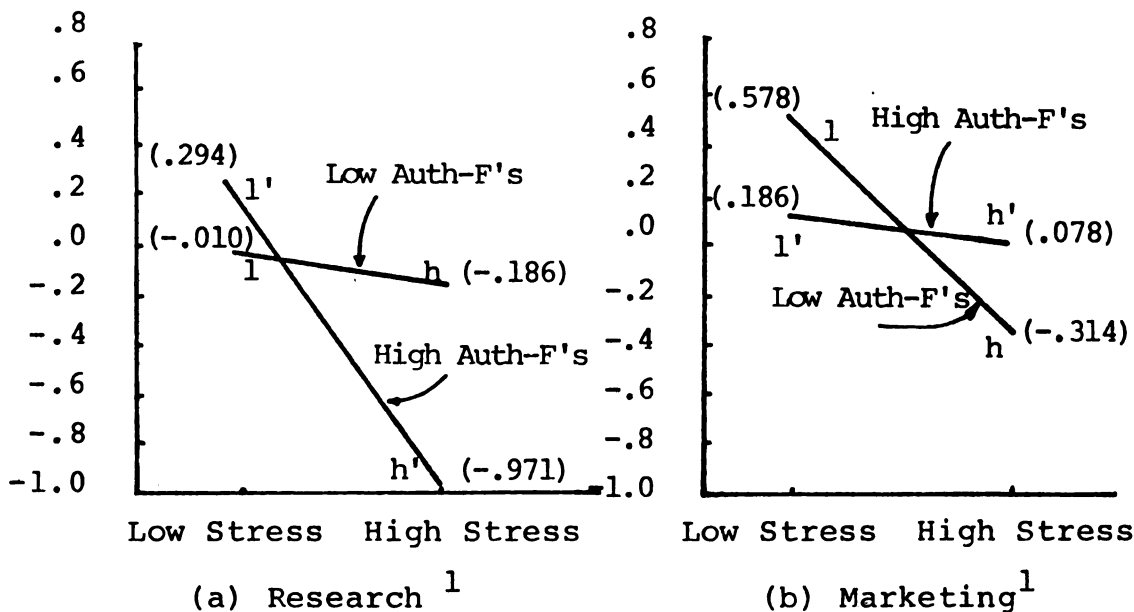


Figure 27. Role x Climate x Authoritarianism Interaction on Satisfaction with Firm¹.

¹The difference between p and p' is significant at .05, between r and r' at .05, between p and r at .05, between p and m at .05, between p' and r' at .10, and between r' and m' at .01.



¹The difference between l' and h' is significant at .01.

¹The difference between l and h is significant at .05.

Figure 28. Climate x Authoritarianism Interaction on Satisfaction with Firm among Research and Marketing Roles.

indicates that High TRC's tend to be more satisfied with their co-workers than Low TRC's. This relationship held for all roles in a Stressful climate, although it was statistically significant only in production ($p < .01$). This finding also held for production and marketing roles in a Stressfree climate, on the other hand, High TRC's tended to be less satisfied with co-workers than Low TRC's, but this difference did not reach significant levels. These findings are illustrated in Figures 29 and 30.

TABLE 64

TUKEY TEST FOR COMPARISON OF CATEGORY MEANS FOR
 ROLE x TOLERANCE FOR ROLE CONFLICT x CLIMATE
 INTERACTION ON SATISFACTION WITH COWORKERS

Comparison	Category Means	q	Significance Level
Production in High Stress Climate: Low TRC's vs High TRC's	-.875 vs .793	5.74	.01
Low TRC's in High Stress Climate: Production vs Marketing	-.875 vs .023	3.09	.05
High TRC's in High Stress Climate: Production vs Reseach	.793 vs -.105	3.09	.05
Research in Low Stress Climate: Low TRC's vs High TRC's	-.105 vs .793	3.09	.05
High TRC's in Low Stress Climate: Research vs Marketing	-.234 vs .793	3.53	.05
Low TRC's in Production: Low vs High Stress Climate	-.875 vs .280	3.98	.05

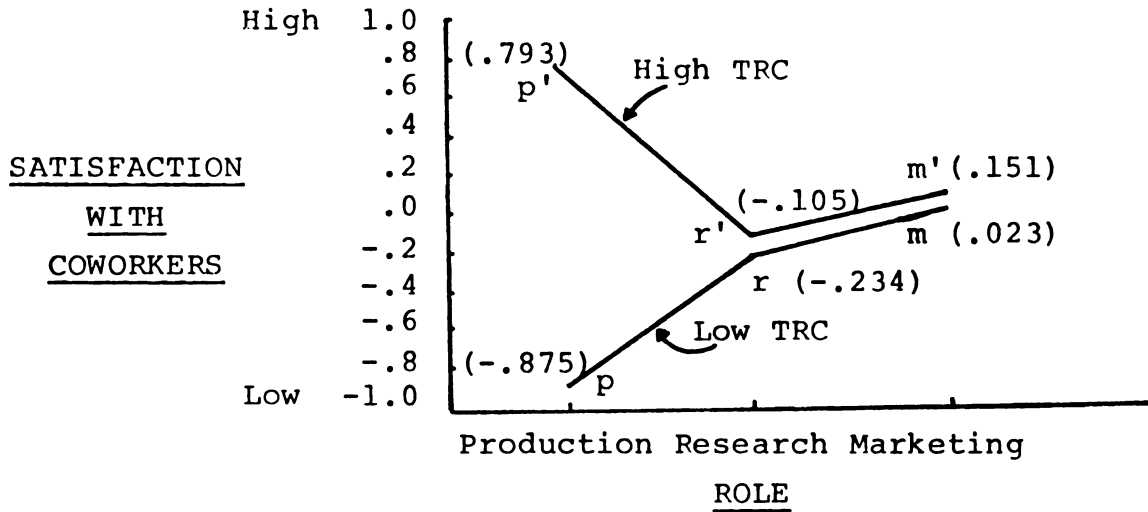


Figure 29. Role x TRC interaction on Satisfaction with Coworkers in a Stressful Climate¹.

¹The difference between p and p' is significant at .01, between p' and r' at .05, and between p and m at .05.

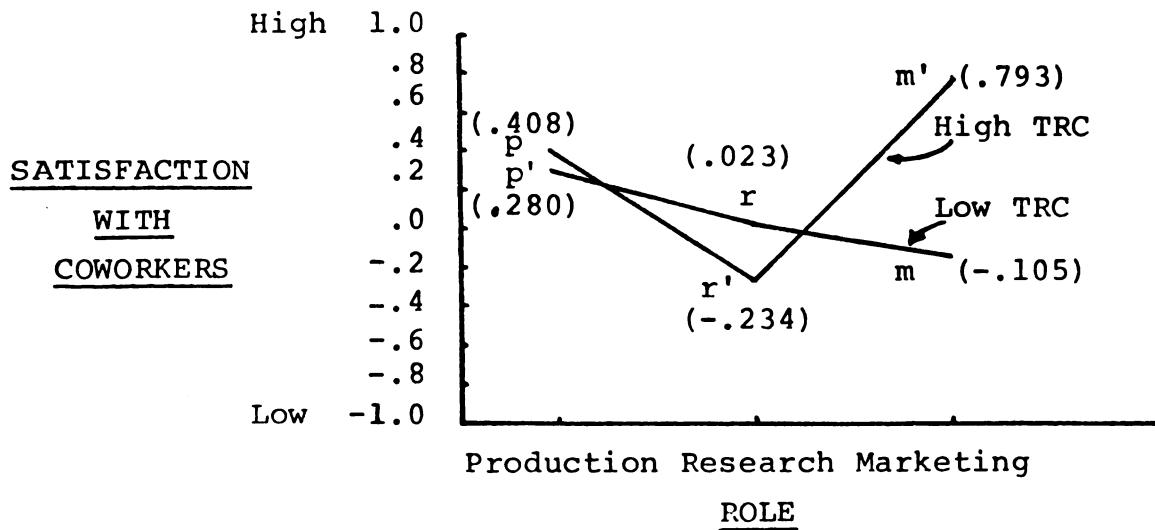


Figure 30. Role x TRC Interaction on Satisfaction with Coworkers in a Stressfree Climate¹.

¹The difference between r' and m' is significant at .05, between m' and m at .05.

In addition to these relationships for High TRC's, several significant findings were revealed for Low TRC's. Low TRC's in production indicated that they were less satisfied with co-workers when their climate was stressful than did Low TRC's in marketing ($p < .05$). They were also less satisfied than Low TRC's in production when climate was stressfree ($p < .05$). These relationships are illustrated in Figure 31.

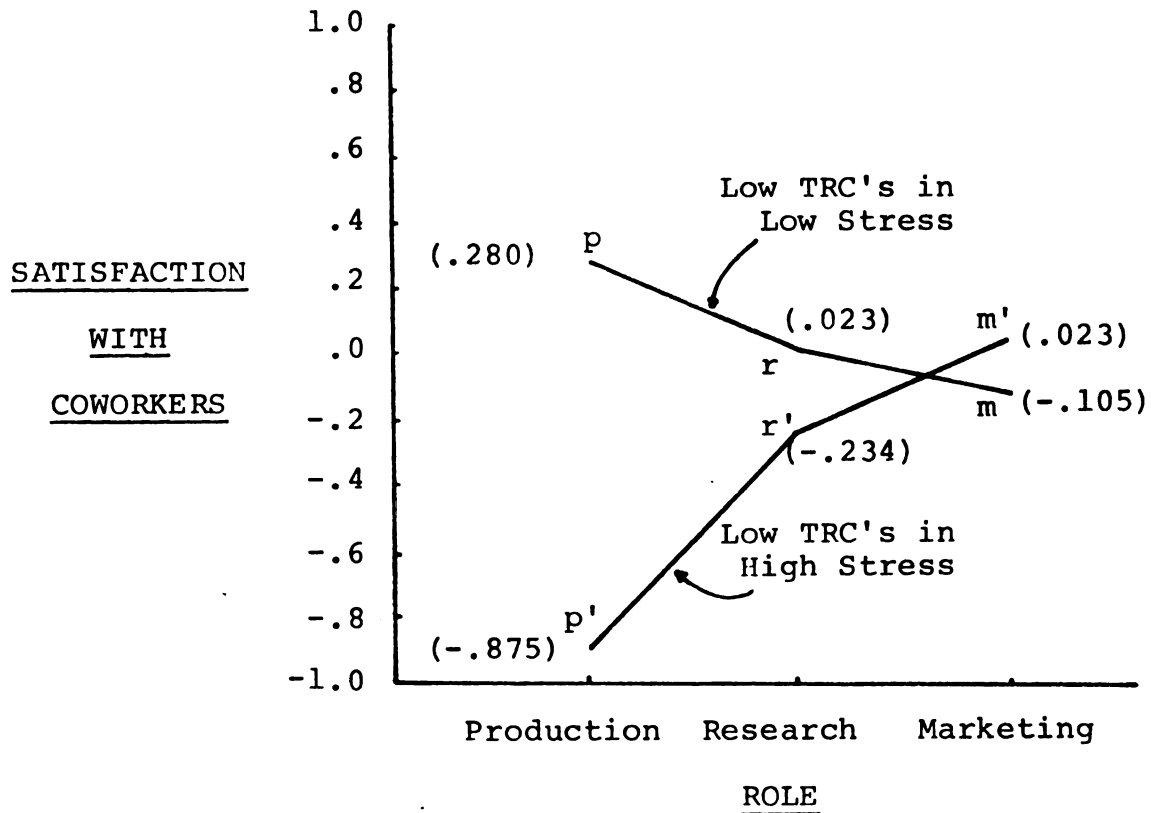


Figure 31. Role x Climate Interaction on Satisfaction with Coworkers among Low TRC's¹.

¹The difference between p and p' is significant at .05, between p' and m' at .05.

Summary Findings Related to
Research Question Three

The third research question centered on exploring the relationships between satisfaction and (1) firm performance, (2) own work role, (3) individual performance, (4) perceived climate, (5) personality, and (6) the interaction of personality and perceived climate. The first three of these relationships were examined in Design 1, with satisfaction treated as the dependent variable. The fourth relationship was explored in Design 2, with satisfaction as the dependent variable. And finally, the last two relationships were examined with Design 3.

(1) Satisfaction and Firm Performance

There were no significant differences between the high and low performing firms on overall satisfaction or on the individual satisfaction dimensions with the exception of satisfaction with Self-Actualization. This was greater in Firm H than in Firm L. ($p < .10$).

(2) Satisfaction and Own Work Role

It was found that managers in research were less satisfied than those in either production ($p < .10$) or marketing ($p < .05$).

Looking at dimensions of satisfaction, it was found that personnel in research were less satisfied with the firm as a place to work than were those in production ($p < .025$) or marketing ($p < .01$).

In addition, research personnel were less satisfied with their career opportunities and progress ($p < .10$) and with pay ($p < .01$) than personnel in production.

Furthermore, research managers were less satisfied with opportunities for self-actualization than were those in either production ($p < .05$) or marketing ($p < .05$).

Finally, research personnel were less satisfied with the amount of security in their job than were their colleagues in marketing ($p < .05$).

(3) Satisfaction and Individual Performance

Overall Satisfaction did not differ significantly between high and low performing managers. This indicates that the reward systems in the two firms in this study did not effectively discriminate between high and low performers to reinforce high performance behavior.

However, there were significant differences between the firms in the relationships between individual performance and the various dimensions of satisfaction.

Generally speaking, the high performing firm had a reward system which resulted in its high performing managers being more satisfied than its low performing managers. On the other hand, the low performing firm's reward system resulted in its high performing managers being less satisfied than its low performing managers. This difference in the overall relationships of satisfaction and individual performance between firms was significant at the .05 level.

With regard to Satisfaction with Career Opportunities and Progress, high performers in Firm H were more satisfied than low performers in the firm ($p < .01$).

On the other hand, in Firm L the low performers were more satisfied with the Firm as a Place to Work than were high performers in that firm ($p < .05$).

(4) Satisfaction and Perceived Climate Stress

The relationship between satisfaction and Perceived Climate Stress was highly significant. Subjects who perceived their climate as being relatively free of stress had greater overall satisfaction ($p < .001$), as well as greater satisfaction with Job ($p < .001$), Firm ($p < .005$), Career Opportunities ($p < .005$), Relations with Superior ($p < .01$), Competence of Superior ($p < .001$), Co-workers ($p < .10$), Esteem ($p < .001$), Autonomy ($p < .001$), Self-Actualization ($p < .001$), Security ($p < .001$), and Affiliation ($p < .001$) than subjects in high stress climates.

In fact the only dimension of satisfaction which was not significantly related to perceived climate stress was Satisfaction with Pay.

(5) Satisfaction and Personality

Satisfaction was found to be related to LPC, TRC, TRA, and N-Ach.

Task Oriented subjects were found to be less satisfied than Relationship Oriented subjects with Career Opportunities and Progress ($p < .10$), Self-Actualization ($p < .005$), and Affiliation ($p < .05$).

Individuals who had low tolerance for role conflict were found to be less satisfied than high TRC's on Composite Satisfaction ($p < .05$) as well as with Co-workers ($p < .01$), Autonomy ($p < .10$), and Self-Actualization ($p < .10$).

Managers who had low tolerance for role ambiguity were found to be more satisfied than high TRA's on Composite Satisfaction ($p < .10$).

Low N-Ach subjects were found to be less satisfied than high N-Ach subjects on Composite Satisfaction ($p < .05$) as well as with Job ($p < .025$), Esteem ($p < .01$), Autonomy ($p < .01$), Self-Actualization ($p < .05$) and Affiliation ($p < .01$).

(6) The Interaction of Personality and Perceived Climate Stress on Satisfaction

The Mix Model anticipates that the relationships between perceived climate and satisfaction would be moderated by personality. Specifically, Proposition 11 anticipated that in Stressfree climates satisfaction would be greater as Authoritarianism was greater and as LPC, TRC and TRA were lower. The converse of this was anticipated in Stressful climates by Proposition 12. Since N-Ach was not specifiable as a characteristic of Type X or Type Y personalities, no proposition was formulated on its relationship with satisfaction in various climate conditions.

While there were no significant interactions found for the Overall Satisfaction measure, there were significant interactions with some of the dimensions of satisfaction between

Climate and two dimensions of personality, LPC and TRC.

The relationship between LPC and Satisfaction with Relations with Superior was moderated by climate in the opposite way anticipated by Propositions 11 and 12, though this was significant only in stressfree climates (Proposition 11). In these climates, Low LPC's or task oriented subjects, were less satisfied than High LPC's or relationship oriented managers, rather than more as predicted.

In stressful climates, however, Low TRC's were less satisfied than High TRC's, as predicted by Proposition 12, with Autonomy, Self-Actualization, and Security. In stress-free climates, the Low TRC's were more satisfied than High TRC's, as predicted by Proposition 11, on each of these dimensions of satisfaction, but the differences were not significant.

Proposition 13, which predicted that in stable environments, Type X's would be more satisfied in stressfree climates than in stressful climates, was supported.

(7) The Interaction of Personality, Role and Perceived Climate Stress on Satisfaction

Second order interactions of this type were found to reach significant levels for Authoritarianism on Satisfaction with Firm and TRC on Satisfaction with Co-workers.

Auth-F.-- In production neither High nor Low Auth-F's revealed significant differences in Satisfaction with Firm when the climate was Stressful rather than Stressfree while

there were differences in other roles. In research, highly authoritarian subjects' levels of this dimension of satisfaction were less in Stressful than in Stressfree climates ($p < .005$). In marketing, on the other hand, it was the Low Auth-F's whose satisfaction declined with similar changes in climate ($p < .05$).

In Stressful climate, high Auth-F's were less satisfied with the firm than low Auth-F's in production ($p < .05$) and research ($p < .05$).

TRC.-- High TRC's were generally found to be more satisfied with their co-workers than Low TRC's. This relationship held for all roles in a Stressful climate, although it was statistically significant only in production ($p < .01$). This finding also held for production and marketing roles in Stressfree climates as well, though only in marketing was it significant ($p < .05$).

Low TRC's in production indicated less satisfaction with their co-workers when climate was Stressful than did Low TRC's in marketing ($p < .05$). They were also less satisfied than Low TRC's in production when climate was Stressfree ($p < .05$).

Chapter Summary

The findings relating to the three general research questions which were focused upon in this study were reported. In addition, the findings for each of the specific propositions developed in Chapter I were reported.

Discussion of these findings and their implications
is the subject of the following chapter.

CHAPTER V
SUMMARY AND CONCLUSIONS

Objectives

The objectives of this research were to (1) provide additional empirical evidence on the relationship between climate and firm performance for firms operating in relatively stable environments, and (2) to explore the validity of an extension of contingency theory which includes the personality dimension of organizational members along with environment and climate in explaining organizational performance and individual performance and satisfaction.

Methodology

The automobile parts and accessories industry was chosen for study since the volatility of earnings before interest, depreciation and taxes (EBIDT) over the ten year period 1959-69 was considered stable relative to other selected industries during the same time period. (See Table 3).

A high and a low performing firm was selected for closer examination. Performance was measured by average rate of EBIDT on total assets for the same ten year period as above. The high performing firm, Firm H, had an average rate of return of 24.36% compared with the industry average of 19.11% and the low performing firm's, Firm L, 8.15%.

The data was collected by a mailed questionnaire. Subjects were drawn from production, research and marketing managerial ranks and were performance rated, by the executive responsible for personnel, as being either an above average performer or an average or below average performer. The questionnaires were coded to distinguish responses returned by high and low performers. One hundred and thirty usable questionnaires were returned, for an overall return rate of about 58% with a cell range of 50% to 80%. (See Table 4).

Three designs were used for data analyses.

Design 1 was a 2 x 3 x 2 factorial design with two levels of individual performance, three levels of role, and two levels of firm performance. This design was employed to examine these factors' effects on climate, satisfaction, and personality.

Design 2 was also a 2 x 3 x 2 design with two levels of individual performance, three levels of role and two levels of climate. The dependent variables analyzed with this design were satisfaction and personality.

Finally, Design 3 was a 2 x 3 x 2 factorial design with two levels of personality, three levels of role and two levels of climate. Dependent variables examined were individual performance and satisfaction.

Findings

Objective One: Research Question One

The first objective of this research was to provide additional empirical evidence on the current contingency approach

to organization theory, particularly as it applies to firms in relatively stable environments.

The Relationship Between Climate and Firm Performance

The review of literature in Chapter I revealed that there is a growing body of theory and empirical evidence that supports what has become known as the contingency approach to organizational design and administration. Basically this approach suggests that there is no "one best way" to design and administer organizations that would be appropriate in all situations. Contingency supporters would suggest, however, that under some conditions one approach would work best and under different conditions another approach would be most appropriate. To date the contingency approach has focused on a search for the contingency variable as well as means by which firms' design and administration can be compared and evaluated. While several contingency variables have been suggested, most have in common the element of uncertainty or inability to predict outcomes in advance.

Coping successfully with differing degrees of uncertainty calls for different approaches to organizational design and administration, according to the contingency view.

One of the notions upon which the specific propositions developed in this study is based is that organizations in both stable and unstable environments can attain relatively high levels of task performance and low levels of stress on members. However, the internal arrangements by which these states will

be reached are likely to be quite different for firms in very different environmental settings.

Firms in stable or certain environments will tend to rely more on position power, rules and regulations, job descriptions, etc., or mechanistic approaches. Firms in dynamic environments, on the other hand, will rely on interpersonal interaction on an informal basis, influence based upon expertise rather than position, etc., or more organic approaches.

Since this study involves firms in a relatively stable environment, it is expected that their approach will be relatively mechanistic, compared, say, to firms operating in a much more dynamic environment. Furthermore the Mix Model in Chapter I suggests that in stable environments, firms that attain higher levels of performance will also have lower levels of stress by using more mechanistic approaches to design and administration than the lower performing firms in the same environment.

The relationship anticipated between firm performance and perceived stress by members, then, is that the stress in high performing firms will be less than that in low performing firms (Proposition 6). The findings in this study were in the predicted direction for the overall climate measure, but did not reach statistical significance except in production roles. (See Table 11).

Examination of the individual dimensions of climate stress revealed that Organizational Conformity was significantly

lower in the high performing firm, as predicted by Proposition 1 (see Table 15), and Relationship Orientation was significantly higher, as expected by Proposition 3a. (See Table 19).

However, several dimensions of climate stress indicated higher, though not significantly, stress in the high performing firm contrary to what was anticipated. These contrary tendencies were for Organizational Clarity (Proposition 2), Task Orientation (Proposition 3a), Role Conflict (Proposition 5a), and Role Ambiguity (Proposition 5b).

It is notable that those differences in climate dimensions between the high and low performing firms that were significant were in the directions predicted. This provides some support for the general notion that high performing firms will have less stress. Figure 32 illustrates the climate profiles of the firms.

The fact that several dimensions of climate tended to differ between the high and low performing firms in the opposite direction as that predicted deserves further consideration. These findings could be interpreted in several ways. They could indicate that differences in Organizational Clarity, Task Orientation, Role Conflict and Role Ambiguity are simply not closely related to organizational performance, or that due to lack of precision in measuring them, they are really related to firm performance, but in the opposite direction to that anticipated. A third explanation is available, however, which permits these findings to be reconciled with the propositions.

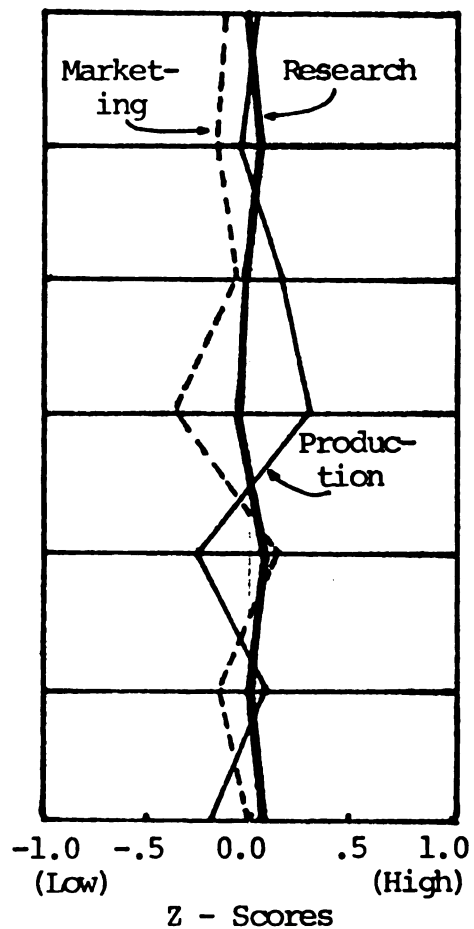
This explanation is that Firm L did have levels of some dimensions of climate that were more functional than those in Firm H, but they were insufficient to swamp the significant differences in favor of Firm H's climate along the dimensions of Organizational Conformity and Relationship Orientation. Furthermore, since the sample was restricted to only one firm in each performance category, there could be true differences in the Climate dimensions as predicted between high and low performing firms in the universe of stable environments that were not captured due to sampling error.

The conclusion of this study is that there is some support for the notion that in stable environments, high performing firms have lower levels of stress than low performing firms.

The Relationship Between Climate and Role

Overall Stress.-- While there were no differences in Overall Stress between roles across firms, there was a significant difference found between roles in Firm L. (See Table 11). Figure 33 illustrates the climate profiles by role. In the low performing firm Overall Stress was greater in production than in marketing. Further examination of Figure 33 reveals that the greater stress that is perceived in Firm L's production roles is due to greater Role Conflict and Task Orientation and less Relationship Orientation, relative to research roles. Each of these dimensions is discussed further below.

	<u>Contrast</u>	<u>p</u>
Overall Stress	P vs M	.01
Organizational Conformity		n.s.
Organizational Clarity		n.s.
Task Orientation of Superior	P vs R	.01
	P vs M	.01
	R vs M	.05
Relationship Orientation of Superior	P vs R	.05
	P vs M	.01
Role Conflict	Firm L: P vs R	.01
	P vs M	.001
Role Ambiguity		n.s.



PERCEIVED STRESS

Figure 33. Profiles of Perceived Stress by Role.

Role Conflict and Ambiguity. -- Proposition 4 stated the suggestions of Kahn, et al. (1964) that role conflict and ambiguity would be greater as one moved from roles "deep" within the organization to those near the "skin" of the organization's boundaries. Specifically, this anticipates that Role Conflict and Ambiguity would be greater as one moved from production to research to marketing.

The findings indicate that there was no significant difference between roles in Role Ambiguity. With regard to Role Conflict, the levels in Firm H were lowest in production as predicted but greatest in research, although differences between roles in this firm were not significant. In Firm L, however, the differences between all three roles were in the opposite direction to that predicted and the level in production was significantly greater than that in research and marketing. (See Table 13).

These findings suggest that the relationships between Role Conflict and role are moderated by firm performance for firms in a stable environment. They might also suggest that for low performing firms in a stable environment the pressures of role conflict might be backing into production from research and marketing functions who appear to have clear understandings of their roles yet are frustrated by the relatively low performance of the total organization.

Task Orientation. -- Task Orientation was found to vary between roles but only in the low performing firm. (See Table 17). In Firm L, Task Orientation was greater in production than

in research and marketing. This is consistent with the suggestion above that pressures are backing into production from research and marketing functions.

Relationship Orientation.-- Relationship Orientation was found to be lower in production than in research and marketing. (See Table 19). These findings might be explained by systematic differences in job content between roles. Those in research and marketing involve relatively complex tasks in that predictions of outcomes are more difficult to make since one is dealing directly with unknown technical relationships in research and the human element. Production tasks are likely to be based more on known physical relationships and consequently more certainty. (Perrow, 1970). Given these differences between roles, it is completely consistent with contingency theory that decisions be made closer to the source of application and a leadership style which is based on interpersonal influence and technical expertise rather than positional power in the organizational hierarchy. In short, the finding of greater Relationship Orientation in roles which have greater uncertainty is consistent with contingency theory.

Relationship Between Climate and Individual Performance

Individual performance was found to be unrelated to either Perceived Climate Stress or any of its separate dimensions of Role Conflict, Role Ambiguity, Organizational Clarity, Organizational Conformity, Task Orientation or Relationship

Orientation. Furthermore individual performance was not found to be significantly affected by any interaction of climate and role, except for some personality characteristics. However these will be discussed below in another section.

The implication of this finding is that climate does not affect individual performance. However, one must recall at this point that the measures of individual performance used in this study provided only two classifications, high and low performers. Furthermore, the method of classifying personnel into these categories was not able to be monitored for consistency by the researcher. It is possible that a relationship does exist between climate and performance but due to experimental error and lack of precision in weighting differences in performance levels, such relationships were not revealed.

Summary Findings and Conclusions Related to Research Objective One

The findings of this study indicate that the overall climate tended to be less stressful in the high performance firm than in the low performing firm as predicted. In particular, Firm H revealed significantly less Organizational Conformity and more Relationship Orientation than did Firm L.

The relationship between climate and role showed that in Firm L managers in production perceived their climate to be more stressful overall than those in marketing. Examination of individual dimensions of climate revealed that, in Firm L, production managers perceived significantly greater Role

Conflict and Task Orientation than those in research and marketing. One explanation for this finding may be that pressures for improved firm performance are backing up into the production roles.

It was also found that Relationship Orientation was significantly lower in production than in research and marketing roles. This finding was considered to be consistent with contingency theory to the extent that research and marketing roles have greater task complexity and uncertainty than do production roles.

Individual performance was found to be unrelated to either perceived climate stress or any of the dimensions of perceived climate employed in the study. Possible sources of experimental errors were cited as limitations of this finding.

Objective Two: Research Question Two

The second objective of this research was to explore an extension of contingency theory which includes the personality dimension of organizational members along with environment and climate in explaining organizational performance and individual performance and satisfaction. The second research question focused only on performance. The third research question centered on exploring these effects on satisfaction.

The Relationship Between Personality and Firm Performance

There was a significant difference in the level of Authoritarianism of managers in the two firms studied. (See

Table 24). The high performing firm's managers were less authoritarian than those in the low performing firm. While the extension to the contingency theory, the Mix Model, anticipated a difference in Auth-F between the two firms, it predicted the difference to be in the opposite direction. That is, it proposed that in a stable environment, the level of managers' authoritarianism in a high performing firm would be greater than in a low performing firm.

While this finding appears to contradict the Mix Model's suggestion that high performing firms in stable environments will be staffed by more authoritarian personnel than low performing firms, there are several ways in which this finding can be reconciled with the Mix Model.

The findings of lower authoritarians in Firm H than in Firm L could be due to a sampling error among the high and low performing firms in stable environments. Since only one firm in each performance category was included in this study, there is a substantial probability of sampling error.

Another way in which this finding could be reconciled with the Mix Model is if instead of being in a relatively stable environment, the firms were in fact in a dynamic environment. The Mix Model would then predict that the high performing firm's personnel would be less authoritarian than Firm L's as was found.

Reexamination of the range of the volatility of environment measures indicates that while the Auto Parts industry was not significantly more volatile than the Metal and Glass

Container industry it did have a higher volatility of earnings and tended to be more toward the middle of the range of volatility than the container industry. Furthermore, while the volatility of earnings does appear to be an improvement over paper and pencil perceptual tests of environmental stability/volatility, it is conceivable that where the number of firms in an industry is small (such as was the case in the Metal and Glass Container industry which had only six firms), there is a greater probability that managerial effectiveness in coping with environmental volatility will not be randomly distributed among firms in the industry and this ability will be confounded with the measure of environment volatility.

It is also possible that the relationship between environment stability and structure (or climate) on organizational performance is not a linear relationship, as assumed by current contingency theory, but a curvilinear relationship in which performance is highly sensitive to changes in environmental stability within a certain narrow range, and that range is toward the stable end of the volatility continuum. Such a relationship is depicted in Figure 34.

Point C may represent the location along the volatility dimension of the container industry studied by Lawrence and Lorsch. The auto parts industry studied in this research is represented by A. Under the curvilinear relationships depicted in Figure 34, it is seen that the apparently conflicting finding with respect to Auth-F and firm performance literature

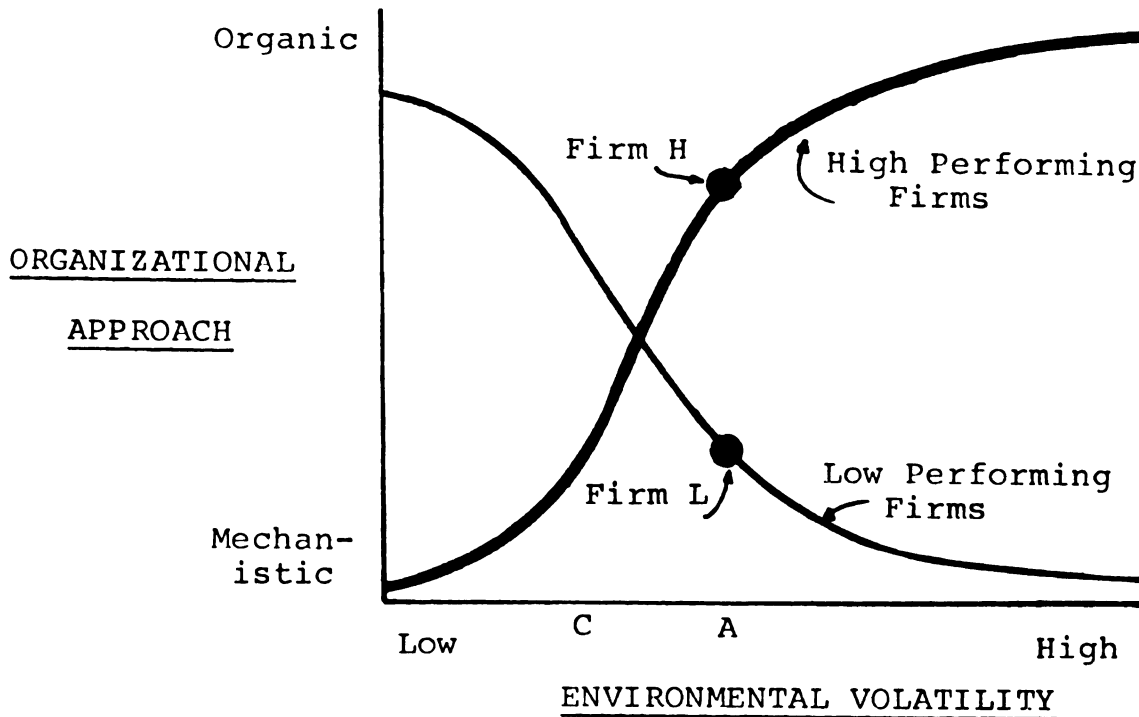


Figure 34. Possible Curvilinear Relationship Between Organizational Approach, Environmental Volatility and Firm Performance.

can be reconciled. The fact remains that the configuration of the performance curves has not been determined to date due to the lack of research in this area. One implication of this finding, however, is that there is some question about the linear relationship between climate and environment on firm performance which is implicitly assumed in current contingency theory. The indication from this finding suggests that the relationship may be more complex. Only additional research will reveal the region in which the relationship between environment and such variables as climate as well as personality are

While no specific predictions were made with respect to the personality profiles of managers in each role, these two dimensions are consistent with popular stereotypes, particularly of the "hard-nosed" production manager and the gregarious, people-oriented sales type. It is also consistent with the researcher who could be expected to prefer individual tasks and independence, consequently tending to be low in authoritarianism and task oriented as was found to be the case.

The remaining personality dimensions, Tolerance for Role Conflict and Ambiguity and Need for Achievement, were not found to vary significantly between roles across firms.

There was a difference, however, in the relationship between N-Ach and Role in the high performing firm, although there was no such difference in Firm L. In the high performing firm research personnel had a much lower need for achievement than those in production or marketing. Furthermore, research personnel in Firm H had a lower N-Ach than their counterparts in Firm L. This finding suggests that Firm H might do well to reexamine its personnel practices and turnover history for research personnel to determine if they are losing those who have greater needs for achievement. It is possible that research effectiveness in Firm H could be improved with more achievement oriented personnel and hence overall firm performance could be even higher.

Figure 36 illustrates the personality profiles of subjects by roles.

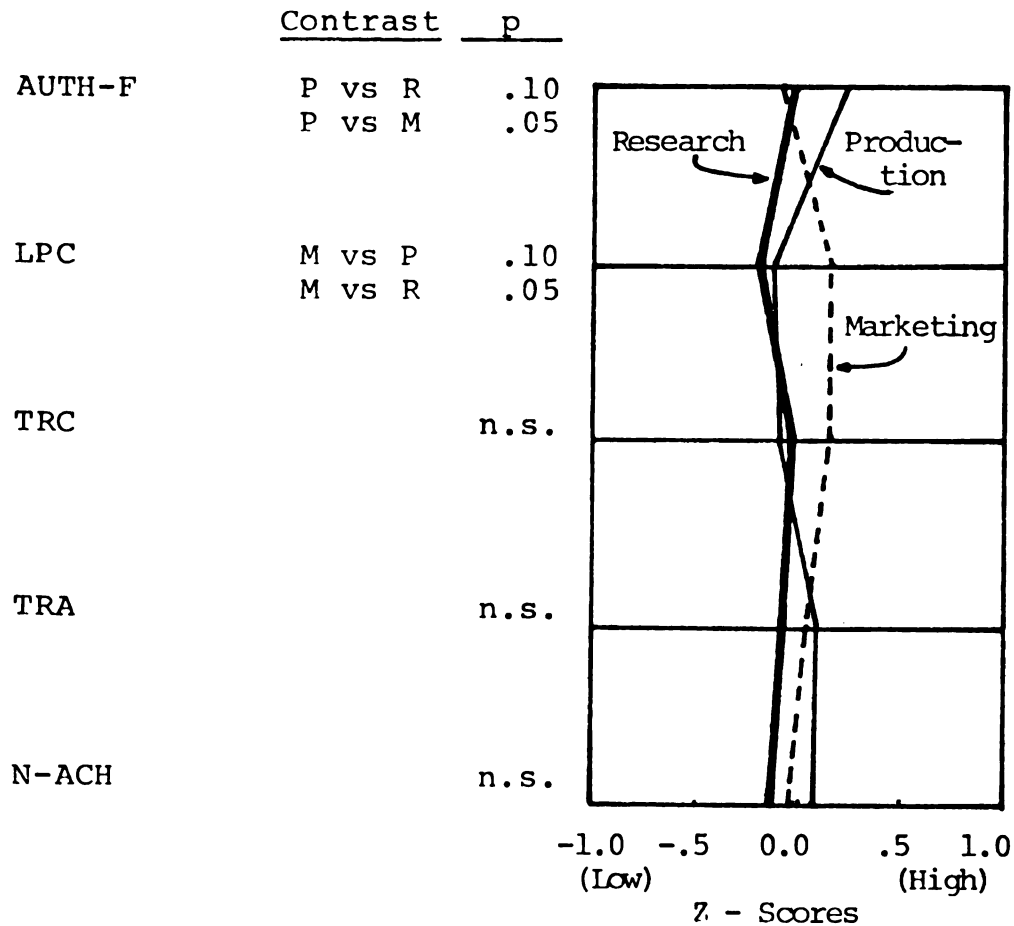


Figure 36. Personality Profiles of Subjects by Role

The Relationship Between Personality and Individual Performance

The Mix Model concept suggests that there is a relationship between personality and individual performance. Several significant relationships were revealed, although most varied between roles. (See Figure 37).

High performing managers had a higher Need for Achievement than low performing managers. The Mix Model anticipated that the high performing managers would have equal or

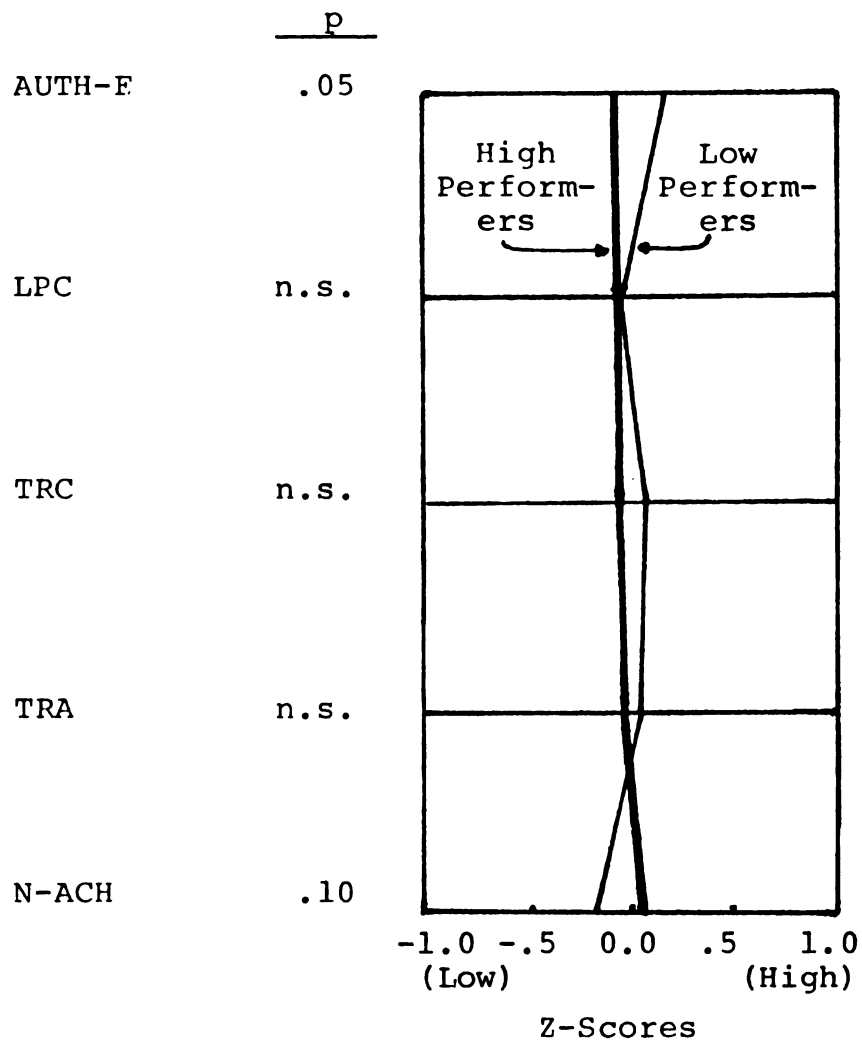


Figure 37. Personality Profiles of Subjects by Individual Performance.

greater Need for Achievement than low performing managers when they were in firms operating in relatively stable environments and highly structured climates. Consequently this finding is consistent with the Mix Model's extension of contingency theory. (See Table 28)

High performers also tended to be less tolerant of role conflict and ambiguity than low performers as expected, although these differences were statistically significant only in research roles. Furthermore, high performers tended to be somewhat more task oriented than relationship oriented as predicted, but again not significantly so. (See Tables 35 and 37 and Figure 17).

Finally, high performers were less authoritarian instead of more authoritarian than low performers as predicted by the Mix Model, but only significantly so in production and research. In marketing high performers tended to be more authoritarian than low performers but the difference was not statistically significant. (See Table 24). These findings are shown graphically in Figure 38.

One implication of these findings is that there are some personality profiles that are better fits for certain roles than others. The finding that Authoritarianism, Tolerance for Role Conflict, Tolerance for Role Ambiguity and Need for Achievement are significantly related to performance, at least for certain roles suggests that personnel placement procedures in these firms might benefit from the consideration of these personality characteristics.

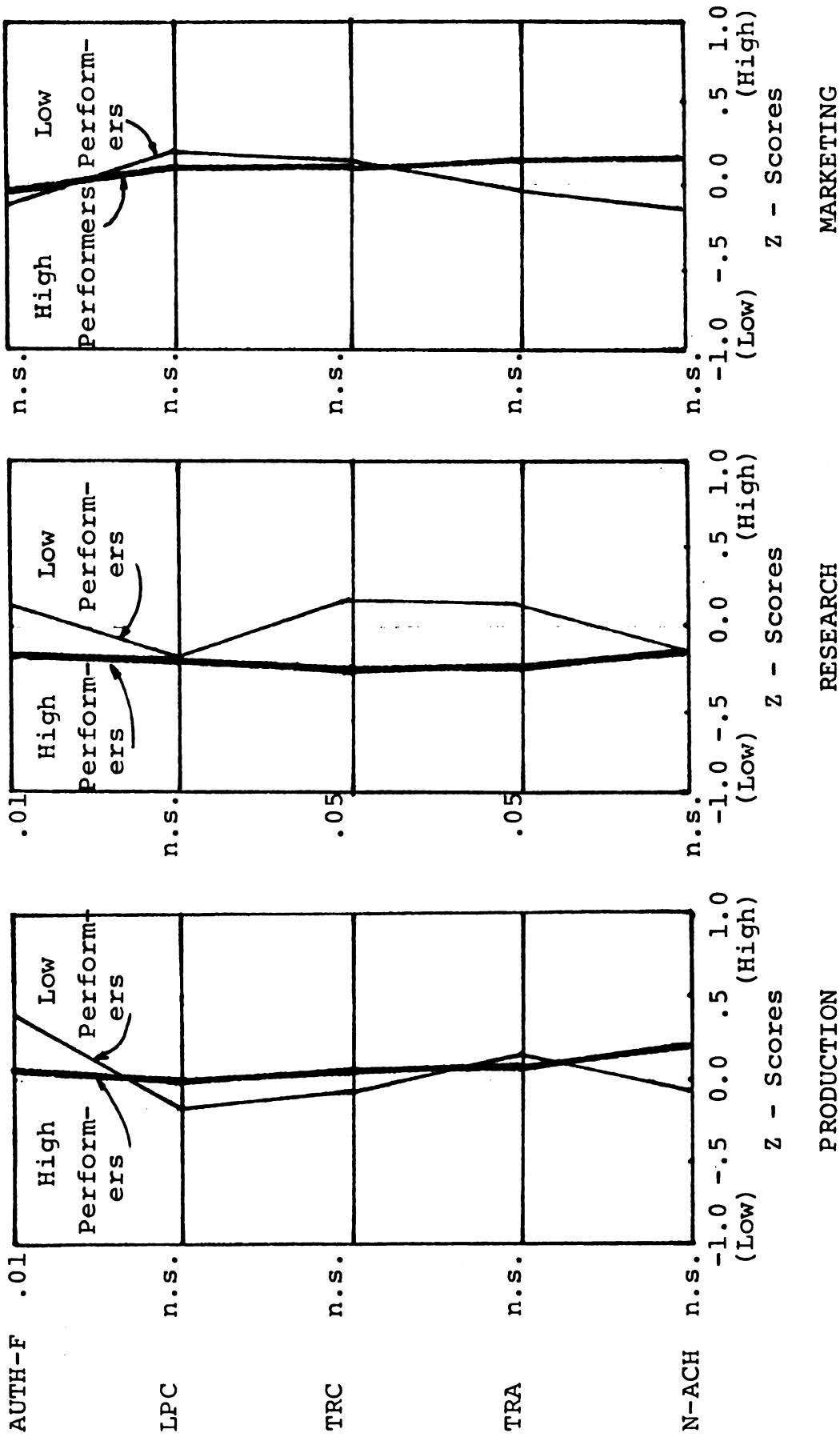


Figure 38. Personality Profiles of Subjects by Performance by Role.

Another implication of a more general nature is that there are characteristics of individuals which lend themselves to higher levels of individual performance in some situations than other. This suggests that the trait theories of leadership, selection and placement may have been doomed to inconclusiveness by virtue of the confounding effects of situational or job characteristics. Such findings suggest that there is new promise to these trait approaches if situational characteristics are considered simultaneously.

The Relationship Between Personality and Perceived Climate Stress

It was found that individuals who perceived their climate to be relatively stressful had greater Tolerance for Role Ambiguity (see Table 37) and lower Need for Achievement (see Table 39) than those who saw their climate as being relatively stressfree. The first of these relationships is a curious one. One might have expected that the more tolerant a manager would be of role ambiguity the less role ambiguity would be above his threshold of awareness and hence the lower he would perceive climate stress to be (since role ambiguity is one of the components of the climate stress measure). It is possible that this is the relationship between TRA and RA but that this effect is swamped by a stronger negative correlation between TRA and one of the other dimensions of climate stress. No further analyses was conducted to ascertain the relationships between TRA and the individual dimensions of climate stress.

However, this curious finding does suggest the need for further research.

That high N-Ach's perceive low climate stress is consistent with prior research (Hermans, 1970) which has shown that individuals with high N-Ach have greater persistence and are less deterred by environmental constraints in attaining goals than are low N-Ach's. This suggests that the same climate stress will be perceived by low N-Ach's as being a greater deterrent to goal attainment than it will by high N-Ach's. This suggestion could not be tested in this current study but presents an opportunity for future research.

The Relationship Between Personality, Climate and Individual Performance

The Mix Model suggests that Type X personalities will perform better than Type Y personalities in stable environments, regardless of whether the climate is perceived as stressfree (Proposition 8) or stressful (Proposition 9). Jointly, these propositions anticipate that there will be no significant interaction of Personality and Climate Stress on individual performance and that, for stable environments, Type X's will perform better than Type Y's.

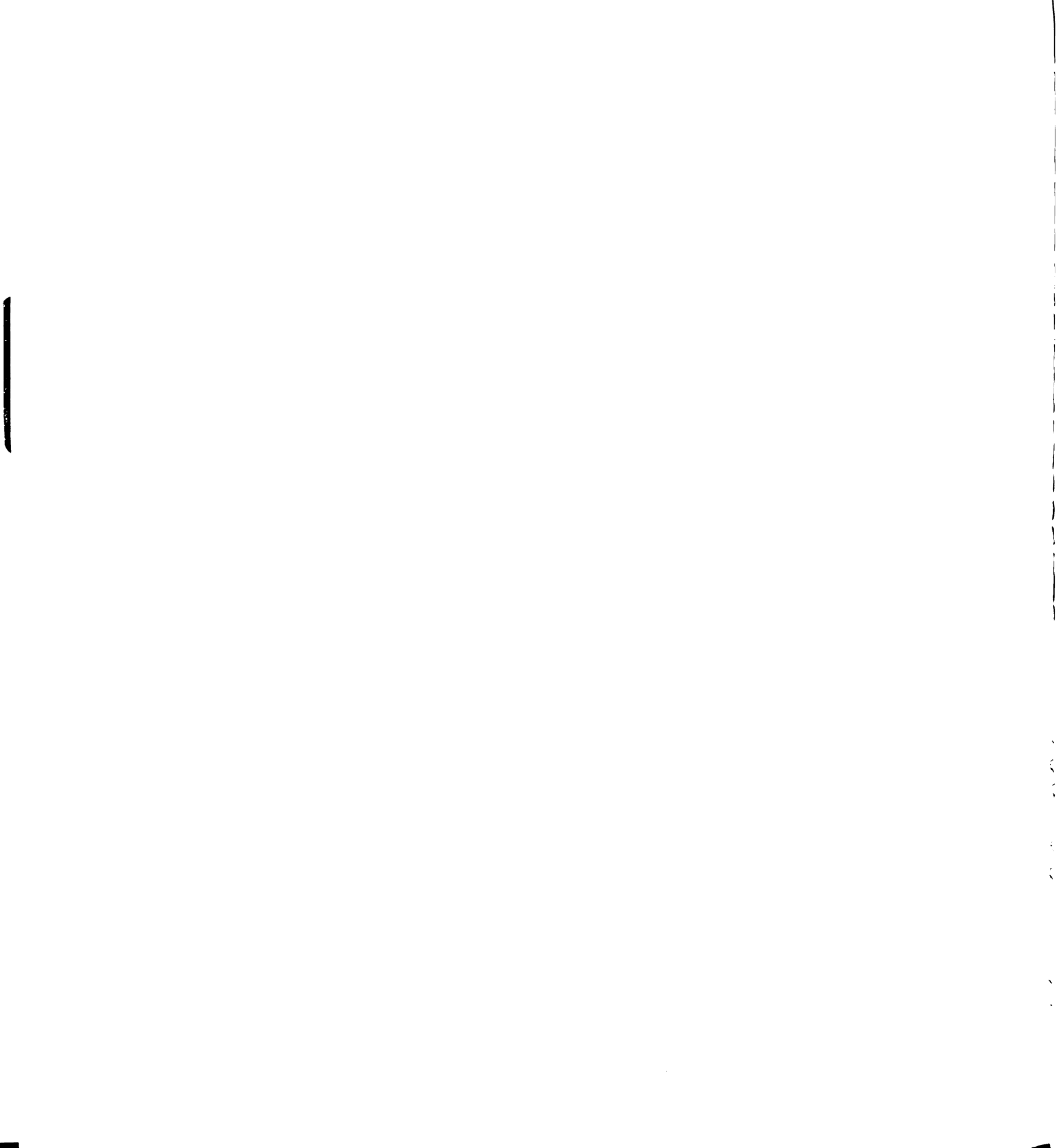
A sign test of the differences in performance levels for each personality type moderated by climate was interpreted as supporting the notions expressed by the joint propositions and Proposition 8 individually. (See page 130).

The implication of these findings is that firms in relatively stable environments ought to consider the personality

characteristics of employment applicants in the course of their employment and placement appraisal programs. The performance of individuals entering desired (Stressfree) climates in firms in a stable environment would appear to be more likely to be high if they are authoritarian, task oriented, and have low tolerance for role conflict and ambiguity.

Furthermore, high performers were found to have higher needs for achievement, although the differences were significant only in stressfree climates. This finding appears to conflict with that of Hermans (1970) who found that the difference in performance of high and low N-Ach's was significant only in unstructured situations. Since these firms are operating in stable environments, mechanistic structures would likely characterize employee situations. Consequently, according to Hermans' findings, one might expect a more significant difference between high and low N-Ach's performance in climates less suited to the stable environment, i.e., stressful climates.

One way in which these findings can be reconciled is if stressful climates were more structured than stressfree climates to the point of excess. Since one of the characteristics of stressful climates was excessive Organizational Conformity, such climates can be considered overstructured relative to the stressfree climates. Under these conditions the findings of this study and Hermans are compatible.



Objective Two: Research Question Three

In addition to exploring the validity of the Mix Model concept as a predictor of organizational and individual performance (which constituted the second research question of this study), the third research question focused upon the relationships between satisfaction and firm performance, role, individual performance, perceived climate, and the interactions of climate and personality on satisfaction.

The Relationship Between Satisfaction and Firm Performance

Managers in the high performing firm were found to be more satisfied with self-actualization than those in the low performing organization. (See Table 52). However, none of the remaining dimensions of satisfaction differed between firms. While it is conceivable that the opportunities made available in the high performing firm for satiating self-actualization needs might have resulted in greater task-oriented behavior by its members such that firm performance was enhanced, such a conclusion is very tenuous. Since no similar difference was revealed in any of the other twelve measures of satisfaction, this single relationship could be explained as a chance happening. That there is not a strong relationship between firm performance and member satisfaction is not an unusual finding as the review of literature in Chapter I indicated. While one might expect high performing organizations to have more satisfied employees than low performing firms, an effective reward system

would discriminate reward allocations on the basis of performance or employee contributions to the organization. If that were the case, differences between levels of satisfaction of high and low individual performers would be more pronounced than between high and low performing firms. This was in fact found, as discussed in more detail below.

The Relationship Between Satisfaction and Role

Satisfaction was found to vary significantly between roles. Personnel in research were considerably less satisfied overall, with the firm and with self-actualization than those in either production or marketing. (See Tables 42, 44, and 52).

In addition research personnel were less satisfied with their career opportunities and progress as well as with pay than production managers. (See Tables 46 and 48).

Finally, research personnel were less satisfied with the amount of security in their job than were those in marketing. (See Table 54). The satisfaction profile of subjects by role is illustrated in Figure 39.

The implication of these findings is that research is not given as high a priority in the firms studied as is production and, to a lesser extent, marketing. This is consistent with the interpretation of the environment being relatively stable. Under stable environmental conditions, the need to develop new production technology (production process research) and products (product research) are less critical to an

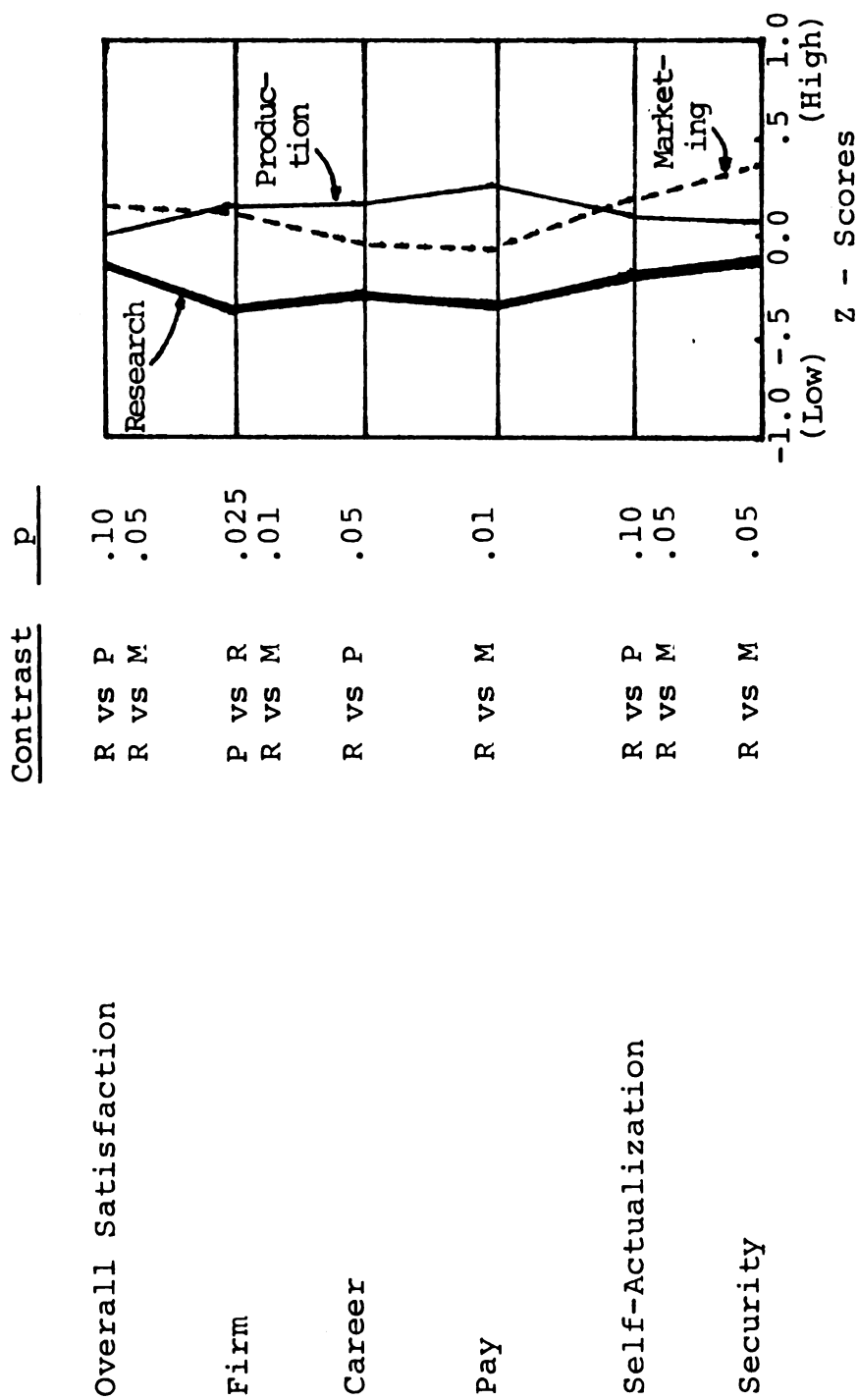


Figure 39. Satisfaction Profiles of Subjects by Role for Selected Dimensions of Satisfaction.

organization's short run success in the marketplace than production efficiency (resulting in competitive prices and delivery times) according to both economic theory and contingency theory. Consequently the most influential and prestigious, and hence satisfying, functional roles will be production and marketing. The least will be research.

The insidious nature of short run planning horizons, however, is the viciousness with which it locks out preparations for meeting secular changes in the environment. The role of research is central to this preparation and yet it is not seen as nearly as important as either production or marketing in these two firms.

Interviews with top level executives elicited the following comments which reveal their perceptions of the critical problems of doing business in the auto parts industry.

Engine Parts Product Manager:

"The most important factors that have to be contended with in this line are the technical problems related to keeping our prices down and quality up, and being able to get delivery out on time. As far as the production technology is concerned things are pretty much the same now as they were 10 or 20 years ago. But that's going to change in the future. Plastics and powdered metals are practically nothing now. But their potential is terrific. The rotary engine has some of us concerned too. It probably won't be too important for another 10 years. But when it comes it will mean a lot of changes for us due to the fact that it uses so much fewer parts - and no pistons! Some projections are calling for 90% of automobile engines will be rotary types within 10 years."

Manufacturing Engineering:

"There has been little basic change in manufacturing in the past several years. Research is basically in materials, not processes. The major problems are in applying old principals, but the basic process is still the same. But with the current pollution concern, there is more uncertainty shaping up for the future."

Division Sales Manager:

"The most demanding areas are price and quality, but these vary between markets. For instance the automotive market is the most demanding. Its high volume puts severe requirements on price, delivery and quality. The heavy engine industry has a much lower volume but the unit value is higher and the competition is not so keen.

In the auto industry, contracts are awarded on an annual basis. Computerization has aided prediction and has eliminated fear of overbuying or underbuying. We release projected delivery figures monthly. The first 30 days' are really precise. The first 60 days' are reasonably precise, and the first 90 days' will probably have some changes made but by and large they prove to be pretty close to the mark."

These comments serve to illustrate the perceptions held by those executives interviewed in the two firms. As indicated, they reveal the notion that the industry's environment has been very stable and predictable with few changes of any significance in either markets or technology in the recent past. However, there are indications that the demands placed on the industry will call for substantial changes in future. Many of these changes will require substantial inputs from research roles (both product and process engineering research).

In view of the more central importance that the research role will likely be called upon to play in the near future

in these firms, and since low levels of satisfaction are likely indicative of high turnover rates, it would seem advisable for the firms in this study to take immediate steps to raise the levels of satisfaction of research personnel, particularly high performers, in order to attract and hold those whose contributions will be of considerable importance for future organizational performance.

The Relationship Between Satisfaction and Individual Performance

Satisfaction was found not to vary between high and low performing managers across the two firms. However, there was a significant difference in the relationship between satisfaction and individual performance between the two firms. In the high performing firm, the high performers were more satisfied than their low performing colleagues. However, in the low performing firm, high performing managers were less satisfied than were low performing managers. (See Tables 44, 46, and 50).

This finding raises some interesting questions about the nature of these organizations' reward systems and their performance effectiveness. Lawler (1970) indicated that "the relationship between satisfaction and performance is important and should be monitored not to determine if satisfaction leads to performance, but because it tells us something about how rewards are being given out in an organization" (p. 228). He pointed out that the high performers should be the most satisfied.

If they are not, the organizational reward system probably is not working appropriately.

In the case of the firms in this study, the high performing firm's reward system is appropriate in that satisfaction varies directly with performance. Since turnover and absenteeism are highest among those who are least satisfied (Brayfield and Crockett, 1955; Herzberg, et al. 1957; Lawler, 1967; Schuh, 1967; Vroom, 1964), and since it is the low performers who are least satisfied in Firm H, this firm could be expected to have its greatest turnover among its least productive personnel. In Lawler's view this is precisely the kind of turnover organizations should seek.

On the other hand, in the low performing firm, the high performing managers are less satisfied than the low performers. Consequently, turnover will be greatest among high performing personnel. This, of course, is not the group to lose.

The ultimate result of such reward systems as were found in these two firms (if satisfaction reflects the system) is likely to be an increase in high performing individuals in the first firm and a subsequent increase in its overall performance. There would also be a decrease in the incidence of high performing personnel in the second firm which would be followed by its overall performance falling. That the first firm had in fact a much better performance record than the latter firm is consistent with the relationship between satisfaction and individual performance anticipated by Lawler.

The Relationship Between Satisfaction and Perceived Climate Stress

Satisfaction was inversely related to perceived climate stress. Subjects who perceived their climate as being relatively stressfree had greater overall satisfaction as well as greater satisfaction with job, firm, career opportunities, relations with superior, competence of superior, co-workers, esteem, autonomy, self-actualization, security, and affiliation than those in stressful climates. (See Table 56).

The fact that perceived climate was found to be so closely related to satisfaction calls for a note of caution. The data are ex post facto and this fact renders causal interpretation hazardous. While one is tempted to infer from these relationships that stressful perceived climates cause dissatisfaction, it is possible that dissatisfaction (caused by some third variable) distorts perception of climate in such a way that it appears to be stressful to the perceiver. Unfortunately, this uncertainty of the direction of causality can not be resolved with the research methodology used in this study. It could be resolved, however, if similar data were collected as of two or more time periods and the data were analyzed with dynamic correlational analysis. A second technique that could be used to improve the methodology would be that of using independent measures of climate and satisfaction. Since these measures were obtained from the same subjects in this study, they might not be completely independent. It may be a lack of independence that is causing the high correlations between

satisfaction and climate that were found.

The Relationship Between Satisfaction and Personality

Satisfaction was found to be related to several personality characteristics. These were interpersonal orientation (LPC), tolerance for role conflict (TRC), tolerance for role ambiguity (TRA), and need for achievement (N-Ach). (See Table 59).

Task oriented managers were less satisfied with career opportunities and progress, self-actualization, and affiliation than were relationship oriented subjects. Recalling that task oriented managers (Low LPC's) tended to be higher performers than relationship oriented managers (High LPC's), the finding that the former are less satisfied with career opportunities and progress and self-actualization might suggest promotion practices in the firms studied are biased against managers who are inclined to be task oriented in their interpersonal relations, even though this appears to be functional for performance. Such a bias in favor of the human relations approach would seem to be contrary to the best interests of firms operating in stable environments, like those in this study, as is predicted by contingency theory.

That Low LPC's are less satisfied with Affiliation than High LPC's lends validity to the interpretation of the LPC scale. This suggests that Low LPC's are more task oriented in their interpersonal relations than High LPC's and this

behavior prevents the quality of these relationships with others from being as affiliative as those of High LPC's even though such a quality is desired.

Individuals who had low tolerance for role conflict were found to be less satisfied than High TRC's on Overall Satisfaction. Since low tolerance for role conflict was associated with high individual performance, this finding could be indicative that reward systems are also biased against Low TRC's. Perhaps Low TRC's display behavior patterns in the course of coping with this conflict that are perceived by the reward system allocators as undesirable.

Managers who were Low TRA's were more satisfied overall and particularly with Relations with Superior and Self-Actualization than were High TRA's. This finding might indicate that Low TRA's find interaction with their superiors to be instrumental in attaining role clarification. The results of this clarification through interacting with superiors could then lead to greater satisfaction with Relations with Superior and Self-Actualization.

Finally, low achievement oriented managers were found to be less satisfied than High N-Ach's on Overall Satisfaction and particularly so with Job, Esteem, Autonomy, Self-Actualization, and Affiliation. Since High N-Ach's tended to be higher performers than Low N-Ach's, this finding is consistent with previous findings on N-Ach which indicate that those with high needs to achieve are motivated primarily by intrinsic rewards

such as Self-Esteem, Autonomy, and Self-Actualization and are more satisfied with their jobs when they provide for such satisfaction.

In summary, satisfaction was higher as the subject was more relationship oriented, tolerant of role conflict, intolerant of role ambiguity and achievement oriented.

Conceptually, there are three reward systems within which the individual operates. There is the formal reward system operated by the formal organization, which dispenses such rewards as promotion, pay, and autonomy. There is also the informal reward system which is administered by others with whom one comes in contact, such as peers, subordinates and others with whom one has informal relationships. The types of rewards provided here are also extrinsic, in that they are dispensed by others, but are individualistic rather than formalistic. Examples of these kinds of rewards are affiliation and esteem. The third reward system is comprised of those rewards which are intrinsic to the individual, i.e., which he gives himself. These rewards include self-esteem and self-actualization.

The implications of the above findings for the organizations center upon changing the reward system so that certain high performers, i.e., task and achievement oriented managers, find greater satisfaction within the organizations.

For low LPC's, this might be accomplished by reviewing practices of evaluating candidates for promotion and giving more favorable attention to those who are more task oriented.

Such explicit recognition by the formal reward system is likely to enhance these managers' self-actualization satisfaction as well.

The organizations might also give more favorable consideration for promotions to those with low tolerance for role conflict as well as allowing them more autonomy in reducing the role conflict in their immediate situation within the organization. Such action could be expected to have a favorable impact on low TRC's overall satisfaction as well as with their satisfaction with autonomy and self-actualization. To the extent that dissatisfaction with co-workers emanates from role conflict, such autonomy might be expected to reduce this dissatisfaction as well.

The Interaction of Personality and Perceived Climate Stress on Satisfaction

The Mix Model anticipated that the relationships between perceived climate and satisfaction would be moderated by personality. Specifically, Proposition 11 predicted that in Stressfree climates satisfaction would be greater as Auth-F was greater and LPC, TRC, and TRA were lower. The converse of this was anticipated in Stressful climates by Proposition 12. Since N-Ach was not specified as a dimension of Type X or Type Y personalities, no proposition was formulated on its relationship with satisfaction in various climate conditions.

While there were no significant interactions found for the Overall Satisfaction measure, there were significant

interactions with some of the dimensions of satisfaction between Climate Stress and two dimensions of personality, LPC and TRC. (See Table 61).

The relationship between LPC and Satisfaction with Relations with Superior was moderated by Climate Stress in the opposite way anticipated by Propositions 11 and 12, though this was significant only in Stressfree climate (Proposition 11). In this climate, Low LPC's or task oriented subjects were less satisfied than high LPC's or relationship oriented subjects, rather than more as predicted.

This may indicate that in stressfree climates, even in stable environments, there is considerable opportunity for close supportive relationships to develop between superior and subordinate. Furthermore, if relationship oriented subordinates (high LPC's) value such relationships more than task oriented subordinates (low LPC's) one might expect the former to register greater satisfaction on this dimension. This finding is also consistent with the interpretation of LPC as a measure of cognitive complexity (Mitchell, et al., 1970). Using this interpretation, High LPC's are more cognitively complex and therefore would more fully recognize variations in climate. Consequently, their increased awareness of climate differences would lead High LPC's to respond with greater satisfaction when the climate changed from being relatively stressful (undesirable) to more stressfree (desirable) than would Low LPC's.

Turning to TRC, it was found that in Stressful Climates Low TRC's were less satisfied than High TRC's, as predicted by Proposition 12, with Autonomy, Self-Actualization, and Security. In Stressfree climates, the Low TRC's were more satisfied than High TRC's, as predicted by Proposition 11, on each of these dimensions of satisfaction, but the differences were not significant.

As predicted, these findings suggest that in Stressful climates in stable environments there is likely to be lower perceived instrumentality of one's efforts in attaining task performance and personal need satisfaction, than might be expected in Stressfree climates. For subjects who attach high values to certainty of instrumentality (such as Low TRC's are likely to be) it is understandable that their satisfaction on such needs as Autonomy, Self-Actualization and Security would be jeopardized in Stressful climates.

With regard to N-Ach, it was found that this dimension of personality was also moderated in its relationship with Satisfaction with Security by Climate Stress. In Stressful climates, Low N-Ach's tended to be more satisfied with Security than High N-Ach's, though the difference was not significant. In Stressfree climates, on the other hand, High N-Ach's were more satisfied with Security than Low N-Ach's. Furthermore while the level of satisfaction on this dimension did not increase significantly in Stressfree over Stressful climates for Low N-Ach's, it did so for High N-Ach's. (See Table 61).

This finding seems to suggest that High N-Ach's perceive security as being more dependent upon job performance than Low N-Ach's. Furthermore it could indicate that High N-Ach's perceive their instrumentality for task accomplishment to be significantly greater in Stressfree rather than Stressful climates.

General Conclusions, Limitations and Suggestions for Further Research

Research Question One

There was some support for the notion that, in stable environments, high performing firms have lower levels of stress than low performing firms, particularly along the dimensions of Organizational Conformity and Relationship Orientation.

There was also some evidence to suggest that there are likely to be systematic difference in climate between roles, notably the Relationship Orientation of the immediate superior, which increased as one moved from production to research to marketing. Additional differences in climate were found between roles within one or other of the firms which might be related to firm performance.

The relationship suggested by Kahn, et al., (1964) that role conflict and role ambiguity would increase as one moved from production to research to marketing was found to be moderated by firm performance. No significant differences were found in these dimensions of climate in the high

performing firm and the differences in the low performing firm, which were significant, were in the opposite direction.

Research Question Two

The second research objective of this study was to explore the validity of the Mix Model as an extension of contingency theory. This model adds the personality dimension of organizational members to the environmental and climate dimensions in attempting to explain organizational performance and individual performance (Research Question Two) and satisfaction (Research Question Three).

Considering the relationship between personality and firm performance, the high performing firm was found to be staffed with managers who were less authoritarian than those in the low performing firm which was contrary to the direction hypothesized. This finding could be explained by sampling error since only one high and one low performing firm were included in this study. Or it could also be due to a curvilinear relationship between the organizational approach to design and administration (organic/mechanistic) and environmental volatility for high and low performing firms.

Interpersonal orientation and authoritarianism were also found to vary between roles. Marketing managers were found to be more relationship oriented than those in research and production. Production managers were more authoritarian than those in research and marketing.

A relationship was also found between personality and perceived climate. Individuals who perceived their climate as being relatively stressful had greater tolerance for role ambiguity and lower needs for achievement than those who saw their climate as being stressfree.

There was support found for the notion that there are personality characteristics that will be associated with individual performance in stable environments. However, some of these characteristics differed between roles for high performers. High performers tended to be task oriented, have high tolerance for role conflict in production and marketing and low tolerance for role conflict in research. They also had higher needs for achievement. Finally, high performers were found to be less authoritarian than low performers in production and marketing and more authoritarian in research. They also had higher needs for achievement than low performers in production and marketing and more authoritarian in research.

The implication of these findings is that there are certain personality characteristics of individuals which lend themselves to higher levels of individual performance in some situations than others. Such findings suggest that there is new promise to these trait approaches if situational or contingency characteristics are considered simultaneously.

To summarize the findings relative to personality and firm and individual performance, the notion that contingency theory can benefit from an extension to include personality

characteristics received support. However, some of the findings were inconclusive and the direction of others were inconsistent with the Mix Model. These findings appear to call for additional research to confirm those reported here.

Research Question Three

Considering the relationship between satisfaction and firm performance, no differences were found in satisfaction between the high and low performing firms or individuals.

However there was a significant difference between firms in the relationship between satisfaction and individual performance. In the high performing firm, high performing managers were more satisfied than low performing managers, which indicated an appropriate reward system. On the other hand, in the low performing firm, high performers were less satisfied than low performers. This indicates an inappropriate reward system and one which might have contributed to this firm's relatively poor overall performance.

Satisfaction was also found to vary between roles. In particular, personnel in research were found to be less satisfied than those in production and research on a number of dimensions. It appeared from these findings that research is not given as high a priority in the firms studied as is production and, to a lesser extent, marketing. This was seen as being consistent with the industry environment being relatively stable and thereby putting most competitive pressure on

production efficiency. The lack of importance given to research was seen as a high risk strategy in the event that the environment will undergo dramatic change in the near future. Indications are that such changes will emerge. This suggests that significant changes in the treatment of research personnel is warranted at this time.

Satisfaction was found to be considerably greater in climates perceived to be relatively stressfree as well as among those who were relationship oriented, more tolerant of role conflict, less tolerant of role ambiguity, and achievement oriented.

Summarizing the findings related to satisfaction, it appears that the high performing firm had an appropriate reward system in that it satisfied high performing managers more than low performing managers. The low performing firm's reward system was dysfunctional in that it rewarded low performers more than high performers. This anomaly might be largely responsible for the difference in overall firm performance. Research personnel were less satisfied than those in production and marketing and this could have dire consequences for the firms' future ability to adapt to changing environmental situations. Finally, satisfaction was found to be greater in stressfree climates and among managers with certain personality characteristics.

Again the indications are that the extension of contingency theory that is made by including the personality

dimensions is a useful one. Furthermore, the reward system is a dimension of climate that should also be given greater consideration in contingency studies.

Limitations

In the course of discussing the findings in the preceding sections, several references were made to difficulties in testing propositions due to certain limitations inherent in this study. These limitations fall into three categories.

The first relates to the number of firms studied. In view of the fact that only one firm was in each of the high and low firm performance cells, there are severe hazards in ascribing differences between the two firms to differences in their performance. Any number of other confounded variables might also explain such differences. Consequently, a vast improvement in future studies would be that of including two or more firms for each level of performance and environment. The difficulty in matching such firms and obtaining their cooperation in such studies however is a very real problem which future researchers will face.

A second limitation of this study which was recognized above is the measure of individual performance. Two problems arose in the measure as used here. The first was the impossibility of monitoring the method of assessing managerial performance. This meant that the problem of inconsistent rating procedures could have crept in and made inter-rater reliability

less than adequate. The second problem was that posed by the dichotomous measure of performance which made measures of relationships with other variables less precise than a more continuous measure would have provided. It must be recognized however, that the dichotomous measure made the assessment stage considerably less complicated and time consuming for the personnel executive in each firm and additional demands on him might well have been resisted.

The third limitation was the lack of complete independence of the measures. Although the analysis procedure assumed that climate and other measures such as personality and satisfaction were independent, in fact they were not, being measured by the same person. Consequently the relationships between these are somewhat subject to critical review. On the other hand, resources available for this study precluded the researcher from travelling to each site and measuring climate with more objective techniques.

Suggestions for Further Research

Further research is required among firms in a similar environment, preferably with more than one low and high performing firm to access the generality of the findings in this study, especially as they relate to firm performance.

In addition, similar research in firms whose environments are located throughout the continuum of environmental stability is required to generate data which would provide

additional tests of the validity of the Mix Model's suggestion that different personality characteristics and techniques for attaining stressfree climates are appropriate for firm performance as environment changes.

Such studies would also provide data which would permit testing of the validity of the curvilinear shape of the curve depicting the relationship between climate and environment for high performing firms which was suggested in this study.

As a final suggestion for future research, the findings of this study indicate that the reward system is a dimension of climate that should also be given consideration in contingency studies.

APPENDICES

APPENDIX I

RESEARCH QUESTIONNAIRE, SCORING KEY AND
VARIABLE LIST

1

MICHIGAN STATE UNIVERSITY

GRADUATE SCHOOL OF BUSINESS

Department of Management

Research Questionnaire

PART II

For each of the following statements circle the number which indicates the statement most accurately describing your experience or feelings.

<u>Variable</u>		<u>Rarely</u>	<u>Sometimes</u>	<u>Often</u>	<u>Very Often</u>	<u>Almost Always</u>
23	1. How often do you find that you can carry out subordinates' suggestions without changing them any?	1	2	3	4	5
(021)	2. How much do you usually want the person who is in charge of a group you are in to tell you what to do?	1	2	3	4	5
25	3. To what extent do you feel you ought to clear things with your superior before deciding on a course of action?	1	2	3	4	5

PART III

The following questions are not directed towards your work or the things you do at work but rather towards your life as a whole, both past and present. In answering these questions we are interested in what you as a person believe and feel in all your activities.

For each of the following statements circle the number which best indicates the extent to which you agree or disagree.

		<u>Strongly Agree</u>	<u>Agree</u>	<u>I Can't Decide</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
	1. Obedience and respect for authority are the most important virtues that children should learn.	1	2	3	4	5
	2. Every person should have complete faith in some supernatural power whose decisions he obeys without question.	1	2	3	4	5
	3. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.	1	2	3	4	5
	4. What the youth needs most is strict discipline, rugged determination, and the will to work and fight for family and country.	1	2	3	4	5
30	5. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.	1	2	3	4	5
	6. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.	1	2	3	4	5
32	7. Homosexuals are hardly better than criminals and ought to be severely punished.	1	2	3	4	5
(030)						

PART IV

Please place an "X" in the space indicating the statement which most closely describes your feelings or experience. There are no "right" or "wrong" answers. Work quickly since your first response will likely be the most appropriate one.

Variable

- (031) 1. I would find a life in which one wouldn't have to work at all:
 1 ideal
 2 very pleasant
 33 3 pleasant
 4 unpleasant
 5 very unpleasant
2. At high school, I thought perseverance was:
 1 not at all important
 2 not very important
 34 3 important
 4 quite important
 5 extremely important
3. When I am working, the demands I make upon myself are:
 5 very high
 4 high
 35 3 not so high
 2 low
 1 very low
4. If I have not attained my goal and have not done a task well, then:
 5 I continue to "stick with it" until I attain the goal
 4 I exert myself a second time to attain the goal
 36 3 I find it difficult not to lose interest in the goal
 2 I'm inclined to leave that task and move on to the next one
 1 I usually leave that task and move on to the next one
5. At school, they thought I was:
 5 very hard-working
 4 quite hard-working
 37 3 an average worker
 2 rather easy-going
 1 very easy-going
6. Working is something:
 1 I would rather not do
 2 I don't like doing very much
 38 3 I would rather do now and then
 4 I like doing
 5 I like doing very much
- (037) 7. To prepare yourself a long time for an important task:
 1 really is senseless
 2 often is a waste of time
 39 3 can often be useful
 4 is usually helpful
 5 is necessary to succeed

ORGANIZATIONAL CHARACTERISTICS QUESTIONNAIRE

Organizational units differ in the way they are designed to accomplish their tasks. We are interested in obtaining a better understanding of the way your unit is designed and put together to get its work done. The following questionnaire is intended to get your ideas of your unit's design. The questionnaire is divided into six short parts. The directions for each part differ, so be sure you read and understand the separate directions before you answer the questions in any one section.

PART I

Following are statements which describe certain things about some jobs. You are asked (a) to indicate the degree to which this statement describes your job by placing an "X" in the appropriate space on the scale which ranges from "Very False" to "Very True."

In addition, you are asked (b) to indicate how you feel about this characteristic of your job (if it is present now) or how you would feel about it if it were present, by placing an "X" in the appropriate space on the scale which ranges from "Dislike Very Much" to "Like Very Much."

Variable

- | | | | |
|-------|---|--|--------|
| | 1. I have to do things that should be done differently. | | Card 2 |
| (071) | a. How true is this of your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | 1 |
| | | 1 2 3 4 5 6 7 | |
| | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | 2 |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |
| | 2. I feel certain about how much authority I have. | | |
| | a. How true is this of your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | |
| | | 1 2 3 4 5 6 7 | |
| | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |
| | 3. I receive an assignment without the manpower to complete it. | | |
| | a. How true is this in your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | 5 |
| | | 1 2 3 4 5 6 7 | |
| | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |
| | 4. Goals and objectives for my job are clear and planned. | | |
| | a. How true is this in your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | |
| | | 1 2 3 4 5 6 7 | |
| | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |
| | 5. I have to buck a rule or policy in order to carry out an assignment. | | |
| | a. How true is this in your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | |
| | | 1 2 3 4 5 6 7 | |
| | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | 10 |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |
| | 6. I know that I have divided my time properly. | | |
| | a. How true is this in your job? | Very False: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very True | |
| | | 1 2 3 4 5 6 7 | |
| (082) | b. How do/would you feel about this characteristic in your job? | Dislike <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Like | 12 |
| | | Very Much <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :Very Much | |

PART II

Persons working on different activities are concerned to differing degrees with current and future problems. We are interested in learning how your time is divided between activities which will have an immediate effect on company profits and those which are of a longer-range nature. Indicate below what percent of your time is devoted to working on matters which will show up in the division profit and loss statement within each of the periods indicated. Your answers should total 100%.

29,30,31	(a) 1 month or less	_____	<u>Variable</u>
32,33,34	(b) 1 month to 1 quarter	_____	(099)
35,36,37	(c) 1 quarter to 1 year	_____	
38,39,40	(d) 1 year to 5 years	_____	
41,42,43	(e) More than 5 years	_____	(103)
	TOTAL =	100%	

PART III

In evaluating and considering the potentialities of a new idea, there are many considerations about which persons in different parts of the organization must be concerned. We recognize, while all of these concerns are important, that certain concerns will be most important to you. In order to learn which are most important in your personal opinion, we would like you to rank the ten criteria listed below as follows:

- (a) Place a "1" by the three criteria which are of most concern to you personally.
- (b) Place a "2" by the next three criteria which are of second most concern to you personally.

Criteria:

- | | | | |
|----|-------|--|-------|
| 44 | _____ | The manufacturing costs associated with products resulting from the proposed idea. | (104) |
| 45 | _____ | Competition's response to products resulting from the proposed idea. | |
| | _____ | The potentialities for scientific publication which might result from the proposed idea. | |
| | _____ | The return on investment the company might gain from the proposed idea. | |
| | _____ | The technical processing problems which might result from the proposed idea. | |
| | _____ | The contribution which research on the proposed idea might make to scientific knowledge. | |
| 50 | _____ | The capability of the sales organization to sell a product resulting from the proposed idea. | |
| | _____ | The technical capability of the research staff to conduct research on the proposed idea. | |
| | _____ | The plant facilities which would be required for a product resulting from the proposed idea. | |
| 53 | _____ | The effect of products resulting from the proposed idea on the sales of existing company products. | (113) |

PART IV

For each of the following statements below, please draw a circle around:

DA - if you DEFINITELY AGREE; that is if the statement definitely expresses how you feel about the matter.

IA - if you are INCLINED TO AGREE; that is if you are not definite, but think the statement tends to express how you feel about the matter.

ID - if you are INCLINED TO DISAGREE; that is, if you are not definite, but think that the statement does not tend to express how you feel about the matter.

DD - if you DEFINITELY DISAGREE; that is, if the statement definitely does not express how you feel about the matter.

		<u>Variable</u>				
	DA	IA	ID	DD		
54	(7)	(5)	(3)	(1)	1. The assignments in this section are clearly defined.	
(114)						
55	(7)	(5)	(3)	(1)	2. Our management isn't so concerned about formal organization and authority, but concentrates instead on getting the right people together to do the job.	
	(1)	(3)	(5)	(7)	3. My immediate superior does not place a high value on maintaining good relations and does not feel that the attitudes and feelings of people are important in their own right.	
	(1)	(3)	(5)	(7)	4. My immediate superior places a high value on making decisions that stick, and stands up for his decisions an ideas, even if it means stepping on someone else's toes.	
	(7)	(5)	(3)	(1)	5. The policies and organizational structure of this unit have been clearly explained.	
	(1)	(3)	(5)	(7)	6. Ordinarily we don't deviate from standard policies and procedures in this unit.	
60	(7)	(5)	(3)	(1)	7. My immediate superior tries to avoid disagreements, rejections, and conflict; whatever conflict does arise he tries to smooth over.	
	(1)	(3)	(5)	(7)	8. Things seem to be pretty disorganized around here.	
	(1)	(3)	(5)	(7)	9. My immediate superior tries to suppress or cut off conflict when it arises, when he cannot do that he tries to force his own solution to settle the issue.	
	(7)	(5)	(3)	(1)	10. New and original ideas are not prevented from receiving consideration by excessive rules, administrative details and red tape.	
	(7)	(5)	(3)	(1)	11. My immediate superior treats his people in a brotherly way, and his motto appears to be "nice guys don't fight."	
65	(125)	(1)	(3)	(5)	(7)	12. Our productivity sometimes suffers from lack of organization and structure.

Variable

- 66 DA IA ID DD 13. If you don't conform to standard practices around here, you will be looked upon critically by your superior. (126)
 (1) (3) (5) (7)
- DA IA ID DD 14. My immediate superior treats his people like a stern father, and his motto appears to be "nice guys finish last."
 (1) (3) (5) (7)
- DA IA ID DD 15. Unnecessary procedures are kept to a minimum in this unit.
 (7) (5) (3) (1)
- DA IA ID DD 16. My immediate superior does not use his hierarchical power in the authoritarian-obedience sense to maintain his control.
 (7) (5) (3) (1)
- 70 DA IA ID DD 17. My immediate superior strives to keep his emotions low-key, and his humor aims at maintaining good interpersonal relations.
 (7) (5) (3) (1)
- 71 DA IA ID DD 18. There are a lot of rules, policies, procedures, and standard practices one has to know to get along in this unit.
 (1) (3) (5) (7)
- 72 DA IA ID DD 19. I feel I am a member of a clearly and precisely structured team. (132)
 (7) (5) (3) (1)

74 Punch 2

75 }
 76 } Subject
 77 }
 78 }
 79 }
 80 }

PART V

(133)

Organizations differ in the way influence is distributed among people at various levels in the organization. The purpose of this section is to learn from you how influence is distributed in the production, research or marketing area (whichever is the general functional area with which your job is primarily connected) as seen from your management position.

In general, how much say or influence do you feel people at EACH of the following levels in your functional area (that is in the production, research, or marketing area) have on the major problems that your area faces. Please respond for your own functional area using the scale below. You may use the same score to describe more than one group or position in your functional area.

- Scoring Scale:
1. Little or no influence
 2. Some influence
 3. Quite a bit of influence
 4. A great deal of influence
 5. A very great deal of influence

- (a) For each level in the organization shown in the list below enter a number from the Scoring Scale above which shows the amount of influence people at that level have in determining solutions to the major problems facing your functional area. NOTE: Please indicate the number of levels in your functional area by adding more to the list below, or striking out those levels which are not present in your functional area.

Card 3

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14

Organizational Level		<u>SCORE (a)</u>	<u>MY POSITION (b)</u>
1. Top (Vice-Presidential level and above) (134)		<u>7</u>	<u>7</u>
2.		<u>6</u>	<u>6</u>
3.		<u>5</u>	<u>5</u>
4. Middle		<u>4</u>	<u>4</u>
5.		<u>3</u>	<u>3</u>
6.		<u>2</u>	<u>2</u>
7. First Level Management (139)		<u>1</u>	<u>1</u>

(141)

- (b) In the column under the heading "MY POSITION", please indicate with an "X" the level in the organization at which your position is located.

PART VI

The purpose of this final part of the questionnaire is to obtain an indication of the degree of satisfaction you derive from your work situation. For each of the questions below please indicate the statement which most accurately describes your feelings by placing an "X" in the appropriate space.

- Variable** 1. Please indicate with an "X" the statement which best tells how well you like your job.
- (142)
- 15
- 1 I hate it
2 I dislike it
3 I don't like it
4 I am indifferent to it
5 I like it
6 I am enthusiastic about it
7 I love it
2. Indicate with an "X" HOW MUCH OF THE TIME you feel satisfied with your job.
- 16
- 7 All the time
6 Most of the time
5 A good deal of the time
4 About half of the time
3 Occasionally
2 Seldom
1 Never
3. Indicate with an "X" the statement which best tells HOW YOU FEEL ABOUT CHANGING YOUR JOB.
- 17
- 1 I would quit this job at once if I could get anything else to do.
2 I would take almost any other job in which I could earn as much as I am earning now.
3 I would like to change both my job and my occupation.
4 I would like to exchange my present job for another in the same line of work.
5 I am not eager to change my job, but I would if I could get a better one.
6 I cannot think of any jobs for which I would exchange mine.
7 I would not exchange my job for any other.
4. Indicate one of the following to show how you think you compare with other people.
- 18
- 7 No one likes his job better than I like mine.
6 I like my job much better than most people like theirs.
5 I like my job better than most people like theirs.
4 I like my job about as well as most people like theirs.
3 I dislike my job more than most people dislike theirs.
2 I dislike my job much more than most people dislike theirs.
1 No one dislikes his job more than I dislike mine.
5. All in all, what do you think of this firm as a place to work?
- 19
- 5 It's a very good place - I wouldn't change anything.
4 It's a good place, but there are a few things which should be changed.
3 It's a fairly good place, but quite a few things should be changed.
2 It's all right, but there are many things that should be changed.
1 It's not a very good place to work.
- (147) 6. How does this firm compare generally with other places in this area as a place to work.
- 20
- 5 It's much better than most other places.
4 It's somewhat better than most other places.
3 It's about the same as most other places.
2 It's not quite as good as most other places.
1 It's not nearly as good as most other places.

Variable

Please indicate the degree of satisfaction you experience from each of the following areas in your present job situation by placing an "X" in the appropriate space on the scale provided.

- | | | |
|-------------|--|---|
| 21
(148) | 7. How do you feel about the opportunities that are available for a person to rise to a position which fully utilizes his abilities? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 22 | 8. How do you feel about the progress you've made in the company up to now? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 23 | 9. How do you feel about your earnings compared with what other companies have to offer? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 24 | 10. How do you feel about your earnings taking into account the difficulty and responsibility of your job? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 25 | 11. How do you feel about the kind of interpersonal relations you have with your immediate superior? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 26 | 12. How do you feel about the technical competence of your immediate superior? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |
| 27
(154) | 13. How do you feel about working with your current group of co-workers, as compared to other groups you have worked with? | Very: <u>1</u> : <u>2</u> : <u>3</u> : <u>4</u> : <u>5</u> : Very
Dissatisfied Satisfied |

Personal Data

- | | | |
|----------------------|-------|--|
| 28,29 | (155) | Age _____ |
| 30,31 | | No. of years employed
by the company _____ |
| 32,33
End Card 3 | (157) | No. of years in your
present position _____ |
| 74 Punch 3 | | |
| 75 }
76 {
77 } | (158) | |

Addendum to Scoring Method

The following variables' scores were reflected in the analyses: 21 to 30, 71, 74, 75, 78, 79, 82, 86, 87, 90, 91, 94, 95, and 97.

The scoring key was not shown on the copies of the questionnaire sent out.

78
79
80

APPENDIX II

MEANS AND STANDARD DEVIATIONS OF VARIABLES

APPENDIX II

MEANS AND STANDARD DEVIATIONS OF THE 158 VARIABLES

VARIABLE	MEAN	STANDARD DEVIATION	VARIABLE	MEAN	STANDARD DEVIATION
1	190.108	153.225	41	4.338	1.650
2	2.046	1.003	42	5.600	1.152
3	2.023	.830	43	5.769	1.492
4	1.492	.502	44	4.654	1.862
5	4.946	1.869	45	6.223	.990
6	4.954	1.968	46	6.254	1.143
7	3.723	1.730	47	4.492	1.388
8	3.369	1.881	48	5.569	1.049
9	4.269	2.034	49	5.492	1.377
10	3.854	1.965	50	5.085	1.545
11	3.585	1.760	51	5.985	.940
12	3.846	1.709	52	6.177	1.045
13	3.785	1.941	53	4.415	1.613
14	4.123	1.661	54	5.585	1.119
15	3.815	1.952	55	5.492	1.377
16	3.708	1.727	56	4.692	1.534
17	4.985	2.203	57	6.054	1.044
18	4.123	1.897	58	6.162	1.062
19	4.331	1.797	59	4.969	1.220
20	3.208	1.742	60	5.323	1.115
21	2.869	.839	61	5.062	1.445
22	1.962	.751	62	4.823	1.445
23	2.131	.893	63	6.131	.999
24	2.392	1.165	64	6.246	1.027
25	3.531	1.215	65	5.346	1.493
26	2.708	1.015	66	5.985	1.071
27	2.831	1.176	67	6.023	1.171
28	3.115	1.373	68	4.769	1.367
29	3.369	1.149	69	4.931	1.307
30	4.015	.757	70	4.638	1.666
31	4.031	1.019	71	4.038	1.667
32	3.477	1.036	72	3.008	1.776
33	4.269	.568	73	4.623	1.797
34	4.192	.705	74	2.862	2.037
35	3.431	.923	75	4.069	1.869
36	4.092	.762	76	3.146	1.788
37	4.162	.870	77	4.346	1.715
38	4.292	1.470	78	3.231	1.939
39	5.662	1.118	79	4.068	1.750
40	5.431	1.628	80	3.538	1.748

VARIABLE	MEAN	STANDARD DEVIATION	VARIABLE	MEAN	STANDARD DEVIATION
81	4.538	1.526	121	4.838	1.738
82	3.123	1.748	122	4.431	1.783
83	5.246	1.917	123	4.800	1.723
84	4.023	1.750	124	3.000	1.689
85	5.346	1.513	125	3.892	1.881
86	2.569	1.752	126	4.477	1.526
87	4.215	1.872	127	4.769	1.841
88	3.069	1.901	128	4.046	1.579
89	4.792	1.583	129	4.769	1.955
90	3.077	1.750	130	4.815	1.838
91	3.050	1.713	131	4.092	1.798
92	3.462	1.546	132	4.031	1.675
93	4.508	1.662	133	190.108	153.225
94	3.477	1.835	134	3.477	1.377
95	4.646	1.773	135	2.177	1.861
96	2.838	1.724	136	1.569	1.909
97	4.623	1.818	137	3.300	1.032
98	2.554	1.770	138	1.146	1.571
99	18.969	22.358	139	1.738	1.111
100	17.831	13.549	140	2.292	1.210
101	30.177	19.169	141	3.046	1.594
102	26.669	23.716	142	5.454	.881
103	6.085	10.096	143	5.215	.996
104	1.515	.662	144	4.938	.723
105	2.246	.716	145	4.992	.821
106	2.915	.353	146	3.615	.663
107	1.308	.541	147	3.677	.809
108	2.238	.766	148	3.385	1.081
109	2.869	.438	149	3.615	1.067
110	1.646	.735	150	3.131	1.088
111	2.569	.634	151	2.954	1.147
112	1.769	.677	152	3.769	1.053
113	1.923	.743	153	3.908	1.023
114	5.223	1.561	154	3.869	.866
115	4.246	1.619	155	42.069	8.999
116	5.215	1.965	156	13.538	9.632
117	3.585	1.936	157	3.892	4.228
118	4.369	1.946	158	190.108	153.225
119	4.169	1.610			
120	3.800	1.890			

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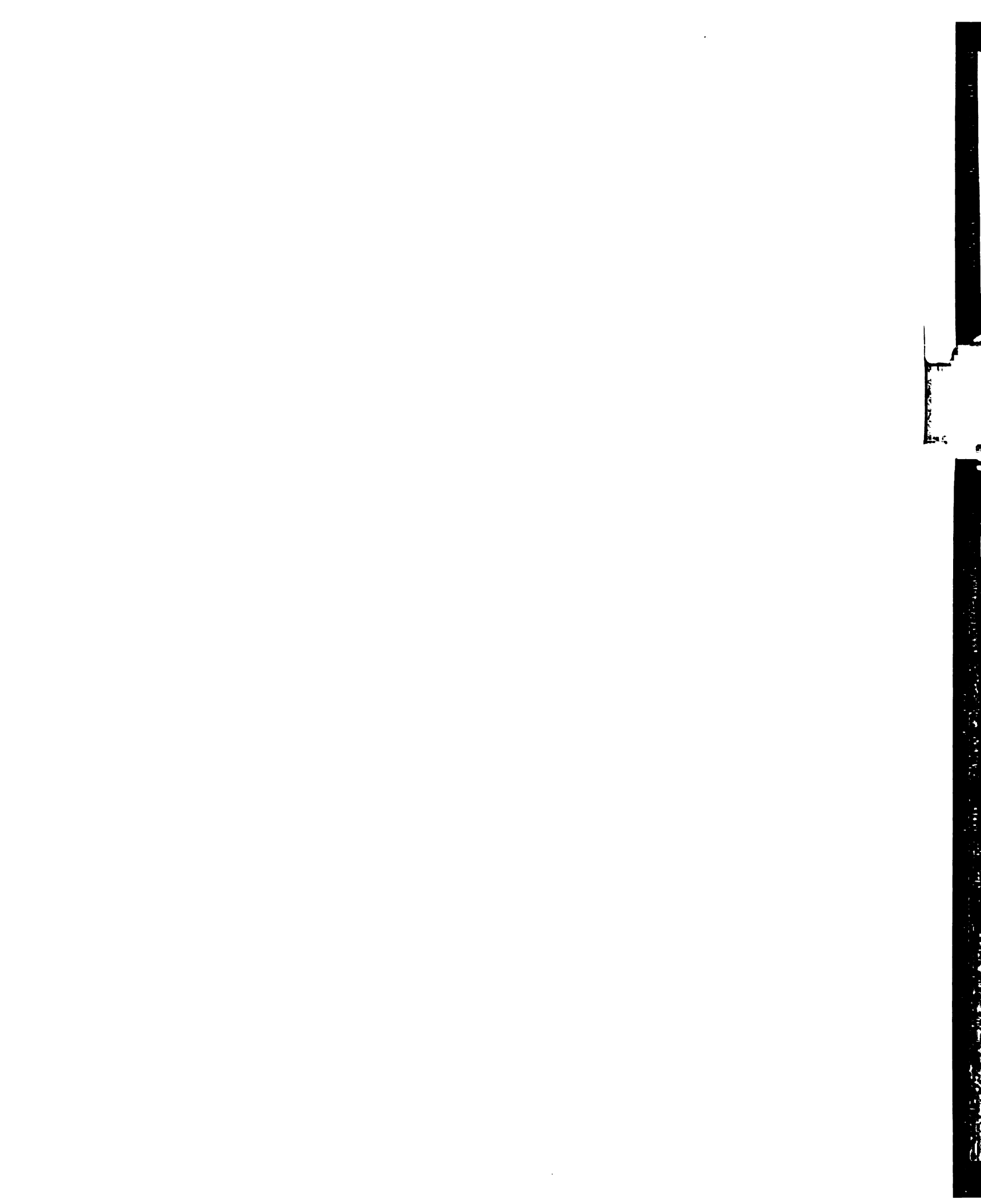
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