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Individual differences in managers' perceptions of their work.

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INDIVIDUAL DIFFERENCES IN MANAGERS' PERCEPTIONS OF THEIR WORK

A Dissertation Presented

By

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ABSTRACT

Individual Differences in Managers'
Perceptions of Their Work

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Sixty-six managers with identical job descriptions completed a survey of job perceptions and personal characteristics. Performance appraisals and demographics were collected from company records. A new scale for measuring managers' job perceptions in terms of managers' activity patterns was developed for the study and tested. Items from the locus of control scale, from the Intuitive-Sensation subscale of the Myers-Briggs Type Indicator, and items measuring personal resources for coping with stress were used to describe the sample, test the instrument, and investigate the effect of personal characteristics on perceived job characteristics and levels of performance.

The managers described themselves as internally controlled and as able to cope with stress. With respect to the managers' cognitive styles, Intuition was significantly correlated with job perceptions in a negative direction suggesting that these people pay attention to patterns other than those described in the literature on managerial activities. The job perceptions scale showed a high level of internal consistency and appears to be a reliable scale. There were

trends in the performance appraisal data but the only significant finding was that cognitive style discriminates between the high and low performers in the sample. Higher performers, and managers promoted into this job at an earlier age, tend to perceive themselves as more intuitive.

Thus a pattern, which bears further investigation, emerged from the correlations and differences expressed in the associations among job perceptions, cognitive style, starting age, and level of performance. The evidence is not conclusive and more research is needed. Further research is also required to establish the psychometric properties of the job perceptions scale. Finally, given the internal consistency of the new instrument, and the pattern of suggestive findings uncovered in this study, it is recommended that the job perceptions instrument be used in further studies, particularly with regard to examination of issues related to cognitive style and perceived job characteristics.

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C H A P T E R I

INTRODUCTION

Topics in This Report

This research report describes a study of managers' job perceptions, personal characteristics, and levels of job performance. The study reflects themes from the literature on managers' activity patterns (McCall, Morrison, and Hannan, 1978; Mintzberg, 1973), and from the literature on perceived job characteristics (Hackman and Lawler, 1971; Hackman and Oldham, 1975). A new instrument was developed for this study in order to measure managers' perceived job characteristics in terms of the observed job characteristics cited in the literature on managers' activity patterns, and the study provides a partial test of this instrument through an examination of research problems that are suggested by findings from the research on perceived job characteristics. Thus, the research questions for the present study were derived from the literature describing the everyday activities of managers at work, and from the research on perceived job characteristics.

These research questions will be introduced in the following section of this chapter. Then the third section of the chapter outlines a rationale for studying these questions, and the fourth section reviews the general design of the study. Next, chapter two briefly describes the background for these research questions by reviewing

pertinent themes from the literature on managers' activities, and from the research relating perceived job characteristics to job performance. Chapter Two also includes a description of the variables and instruments used in the study, and expands the research questions into testable hypotheses to guide the data collection and data analysis. Then, Chapter Three reviews the data collection procedures and data analysis techniques used in the study, and Chapter Four presents findings from the analysis. The report concludes with an interpretation of the more significant findings from the study and recommendations for additional research.

Research Questions

This study combines themes drawn from the managerial activity literature with findings from research on job perceptions and job performance in order to analyze the relationships among managers' job perceptions, managers' performance, and managers' individual characteristics. The main purpose of this analysis is to explore answers to the following question: How are managers' perceptions of their work, as measured in terms of characteristics cited in the literature on managerial activity patterns, related to managers' personal characteristics and to their levels of performance?

The managerial activity literature documents the day to day, minute by minute observable activities and interactions of managers at work. Researchers have measured the frequency and duration of managers' activities for the purpose of describing what managers do, and analysts

have inferred characteristics of managerial work from such research efforts. These characteristics are related to how long managers work, how rapidly the work flows, how often managerial activities are interrupted, how much time managers spend alone reflecting and planning, and so forth.

While these characteristics clearly describe what researchers have observed, there is no indication in the literature that managers experience their work in ways implied by the observers. Furthermore, observers of managerial activities generally collect data that is only descriptive; they rarely provide insight or interpretation of managers' behaviors either in terms of individual aims or in terms of organizational goals and functions.

In contrast, the present study assumes that managers' opinions and perceptions are relevant to understanding managerial work. Hence, the literature on perceived job characteristics and the relation of these characteristics to job performance, personal factors, and situational influences is useful since this literature both assumes that perceptions are important and provides instruments that measure perceived job characteristics. However, these instruments measure general characteristics associated with a wide range of different jobs, whereas this study focuses on the characteristics of a more restricted range of jobs, notably those jobs involving managerial work. Therefore, an instrument was designed specifically for the purpose of the present study.

Although the instruments used in previous studies of perceived

job characteristics will not be used in this study, the logic behind these studies of the relationship between job perceptions and job performance will be utilized in the design of the study. This logic involves demonstrating not only how job perceptions and job performance are related to each other, but also how personal and situational factors moderate this relationship. Thus, it has been shown that job perceptions are related to both personality and demographic differences among employees (Ivancevich and McMahon, 1977; Schwab and Cummings, 1976), and to characteristics of the organization in which the employees work (Dunham, 1977).

It follows that a study of perceived job characteristics should include either measures of both personal and situational factors or ways to control these influences. These design issues will be discussed in detail later in the chapter; they are mentioned at this point in order to introduce the reasons why the research questions have been framed as follows:

(1) How well do the observed characteristics cited in the literature on managers' activity patterns reflect job characteristics that managers' perceive?

(2) To what extent are such perceived job characteristics related to personality differences among the managers who hold these perceptions?

(3) To what extent are perceived job characteristics and individual differences among managers related to the managers' job performance in situations where all the

managers hold comparable jobs?

A Rationale for the Study

This section develops a rationale for the study in terms of issues of interest to managers, and in terms of issues raised in recent studies of managerial activities. The first part of the section presents a rationale for the study in terms of issues related to job design, performance, selection and development of managers. The latter part of the chapter deals with issues related to research design and the study of managerial activities.

Issues related to job design are important because the design of the job constrains the behaviors of individuals and affects their attitudes toward work and the organization. Moreover, how a job is designed affects personnel selection, training, and organizational functioning. Thus, Van de Ven and Ferry (1980) describe the importance of assessing the design and context of individual jobs on such factors as complexity, variety, and interdependence as part of the larger assessment of the functioning of entire organizations. In this context, job design issues include the mechanics of performing work assigned to a job, the effects of job design on the functioning of the organization, and the effects of job design on the attitudes and behavior of people working in particular jobs.

A series of studies reviewed by Dunham (1979) show that jobs which have a lot of variety, autonomy, significance, identity, and feedback, as experienced by the jobholder, are generally related to

higher levels of job satisfaction and worker motivation than are jobs which have few of these characteristics. Moreover, these characteristics are related to the complexity of the work, but some individuals respond more favorably to complexity than other individuals do.

Moreover, it has been shown that job design is more important to most employees than is the design of the social system in which the job is located (Pierce, Dunham, and Blackburn, 1979). In turn, this study also showed that workers in organic units responded to the effects of job design more positively than did workers in mechanistic work units. Such findings support Van de Ven and Ferry (1980) in their contention that job design is both important to job holders and to organizational functioning.

Thus, previous research indicates that information about perceived job characteristics, individual differences among jobholders, and the relationship of these factors to performance in various situations will be of use in designing work and implementing personnel practices. Following this rationale, it is a logical step to expand the recent research efforts on perceived job characteristics to include investigations of the characteristics of managers' activity patterns. If the general dimensions of various jobs are related to individual performance, individual attitudes, and the context of the jobs, then it is reasonable to suppose that salient dimensions of specific jobs should also provide links between perceived job characteristics and job performance.

If it turns out that managers' job perceptions, as measured in terms of events salient to observers, are related to managers'

performances, then it will be useful to know the extent to which this relationship can be attributed to individual characteristics, to previous training, and to situational differences. How these factors modify the relationship between perceptions and performance provides useful information for evaluating selection and training programs.

Now that the topics of the study have been related to managerial concerns, the design will be related to research needs suggested in recent research on managerial activities and perception. In the present study, all the managers hold identical positions in the same company; therefore, situational influences have been minimized by the design of the sample. The managers' tenure in these positions will be measured and the managers will be asked how much they rely on their previous training; therefore, the effects of previous experience in the company and job will be estimated. The effects of personality factors on managers' perceptions and performances will be estimated by examining individual differences among the managers that are logically related to the job characteristics cited in the managerial activities literature.

The study of managerial activity patterns relies upon data collected by direct observation and structured activity diaries, whereas the job perception data for the present study will be collected with a forced choice questionnaire instrument. The activity analysis literature provides a research base for studying managerial work from the perspective of the detached outside observer, whereas the perceived job perceptions literature provides a way to study managerial work from the manager's perspective.

Management researchers recommend that managerial work should be studied with complementary methods in order to compensate for the strengths and weaknesses of individual methods. Marshall and Stewart (1981) note that the study of managers' job perceptions and the study of managers' observed activities are complementary lines of inquiry. They suggest that more research is needed in the area of managers' perceptions because recent research has stressed activity patterns and this recent emphasis needs to be balanced by more perceptual studies. McCall, Morrison, and Hannan (1978) also point out the need to study managerial activities from different perspectives in order to find points at which research findings converge.

Measuring Managers' Perceptions of Their Activities

The rationale developed in the previous section introduced the need to study managers' perceptions, and the present section introduces how managers' perceptions of their own activities will be studied. Managers' perceptions are not directly observable phenomena for research purposes--they must be elicited from managers, using probes of various kinds. All social research originates in someone's perceptions, and methods are employed to develop the content and meaning of these perceptions in a systematic fashion. Perceptions are interpretations, whether gathered by formal researchers or by informal self-examination of memory. Managers are informal observers, and eliciting their impressions provides researchers with a rich store of data. Researchers who observe managers present their own perceptions and interpretation

which provide another rich store of data. Having managers report their perceptions in a way that permits comparison of managers' reports with observers' reports expands the data base of perceptions of managerial activity. Furthermore, it expands data about managerial work in a way that takes into account the reports of those people who actually engage in managerial work as well as the reports of those people who systematically study these activities.

Perceptions may be gathered through formal interviews, informal conversations, or through self-administered questionnaires. Each way of eliciting perceptions for further interpretations has advantages and disadvantages. In the present study, data about managers' perceptions of their every day activities will be gathered through a self-administered questionnaire for the following reasons. First, questionnaires provide a convenient way to study a large number of individuals in a relatively inexpensive format. Second, many standardized personality instruments are in questionnaire form, and information derived from such questionnaires will be used in this study. Third, questionnaires provide numerical data which facilitates the work of comparing the responses of individuals; this data is also amenable to tabular display and statistical analysis. Finally, the respondent can complete the survey at his convenience and with assurance of anonymity.

Thus, this study uses an instrument in questionnaire form to combine observers' formal perceptions with managers' less formal observations about managerial activities. A brief introduction to the nature of these questionnaire items will now be presented; specific

discussion of the content of each item appears in the following chapter in conjunction with an analysis of how each item reflects themes from the research literature on managerial work. Questionnaire items were developed for the present study from themes related to the observation of managers' daily activities, and the themes that were selected for use in the questionnaire were then worded so that each would reflect some aspect of a manager's experience.

The items were formulated to elicit managers' evaluations, rather than managers' estimates of how much time they spent in various activities, because research indicates that self-reports about such issues are usually inaccurate. Much of the observational literature deals with the frequency and duration of events and activities, but further research indicates that managers do not make accurate estimates of how much time they spend in activities such as formal meetings, reading reports, and so forth (Dahl and Lewis, 1975; Hinrichs, 1964). For this reason, the job perception questionnaire items were constructed to elicit judgments and evaluations rather than estimates of specific events.

Design Issues, Situational Variables, and Individual Differences

In this study, situational influences on managers' perceptions will be controlled through sample design. Large bureaucracies with routine workflows have many jobs that are similar in terms of job description and job specification. The managers chosen for this study work for such a large bureaucracy and their jobs are identical with

respect to job title, level in the hierarchy, degree of formal authority, company policy, industry, and technology. Thus, many of the factors related to the location of the job, the responsibilities of the job, and the design of the organization are minimized by sample selection.

There are two advantages to selecting a sample that is homogeneous with respect to job descriptions and situational influences. First, with respect to job perceptions, we know in advance that the characteristics of the job are formally identical; thus, evidence of variation in managers' perceptions is not likely to be related to job design or situational differences. Second, by constraining the situational influences upon individual perceptions through sample selection, the influence of personal characteristics will be more salient.

The managers chosen for this study have been selected and trained by the same company, and it is reasonable to assume that they resemble each other personally to some extent due to the fact that the company they work for invests resources in personnel selection and training efforts. In order to find personality measures on which there might be variation, it was necessary to consider standard instruments which have generated variation among managers in previous studies. Moreover, these personality inventories should be logically related to the items in the job perceptions inventory developed for the study, and the questionnaire instrument which includes all these instruments should be short enough not to evoke the subject's resistance.

After reviewing several standard instruments, and how they have

been used in previous research, three scales were selected and adapted for the purposes and constraints of this particular study. The first scale differentiates individuals in terms of their beliefs about the extent to which individuals have control over events (Rotter, 1966). It seems logical that general expectancies about control over the events affecting one's life would also apply to expectations in specific domains such as work on the job. In fact, there are studies which show how one's beliefs about the locus of control affect behaviors and attitudes related to jobs and careers (Spector, 1982). These studies will be reviewed in the following chapter.

The second scale used to assess individual differences discriminates between individuals who process information in terms of intuition from individuals who pay more attention to the information obtained through sense experience (Myers and Briggs, 1976). This scale has been effective in showing personality differences related to problem solving styles (Hellriegel and Slocum, 1975). It seems logical that problem solving styles and ways of forming patterns from information would be directly related to forming perceptions about job characteristics. Literature that explains the nature and use of this scale will also be reviewed in the following chapter.

The third scale used in this study reflects an individual's perception of his own resources for coping with stress (McLean, 1979). Most jobs induce some amount of stress, and how a person perceives himself to be able to cope with this job should be related to what he perceives the job to be like. How a manager evaluates the characteristics

of his job seems logically related to how he evaluates his own ability to cope with the stress induced by that job.

Thus, two of the instruments used in this study describe individual differences in terms of perceptions about one's ability to cope with everyday events, and one instrument describes individual differences in terms of how information is selected and perceived. All three instruments measure individual differences that should be related to how an individual perceives everyday events and activities associated with his job.

The design of the study requires data from company records regarding the managers' sex, ages, and length of tenure in their current positions. These are background factors representing past experience and biological differences which might shape perceptions. Moreover, the design requires a measure of each manager's performance from company records. The data for this study represents the four levels of performance used by the company to designate outstanding, above average, average, and below average performance.

Summary of Chapter One

The aims and the general design of the study were described in this chapter. To recapitulate, managers in identical positions will be surveyed with a questionnaire that measures beliefs in personal control over events, individual styles of information processing, and individual resources for coping with stress. Additional data about demographic variables and performance measures will be collected from company records. The following propositions summarize the direction the study

takes:

(1) Managers will perceive the characteristics of their jobs in ways that resemble observers' descriptions of the day to day realities of managerial work.

(2) The personality characteristics of managers will explain part of the variation in managers' job perceptions.

(3) Each personality characteristic and demographic difference will contribute both to explanations of the variation in job perception, and to levels of performance among these managers.

C H A P T E R I I

LITERATURE REVIEW

Introduction

The previous chapter established the questions and design for this study as well as a rationale for these questions. In introducing the research project, mention was made of the literature on managers' activity patterns and the research on perceived job characteristics and performance levels. The purpose of this chapter is to further introduce background for this study by reviewing these two literatures in conjunction with one another. Following these reviews, the variables and instruments used in this study will be discussed in order to connect the choice of these variables and instruments to the research literature as well as to the aims of this study. This chapter concludes with a discussion of several hypotheses which are logical expansions of the research questions framed in the preceding chapter. Thus, this chapter provides conceptual background that is pertinent to an understanding of the purpose and design of this research study.

Management Theory and Managers' Mundane Activities

In the history of management theory, there have been several approaches to the study of what managers do. Some of these perspectives on managing groups and organizations involve rational analysis,

but rely upon informal methods for gathering data. Thus, Fayol (1949) and the management process theorists who followed (Gulick and Urwick, 1937; Mooney and Reiley, 1939; Davis, 1951; Drucker, 1954; Koontz and O'Donnell, 1955) tended to rely upon their own experiences as managers, or upon their observations of other managers and their conversations with particularly astute managers, to form conceptual analyses of management in general and effective managerial practices in particular. Because these theorists examined what managers do in terms of organizational processes that appeared to them to be related to relevant organizational goals, these analysts produced descriptions of the management job in terms of goals and functions. From this perspective, the management job, or what managers do, is an interpretation of individual action in terms of social processes related to goal attainment.

In contrast, researchers who have analyzed the question of what managers do using the perspective of empirical behavioral science have relied upon systematic methods for collecting evidence about the behavior of individuals in managerial roles regardless of whether the behavior reflected social processes related to individual perceptions or to organizational purposes. There have been many studies of the day to day activities of managers from the behavioral perspective, but few analysts have drawn together these findings. The major interpretations of behavioral findings appear in Mintzberg (1973) and in McCall, Morrison, and Hannan (1978).

Mintzberg (1973) developed a number of propositions about the

characteristics of managerial work after reviewing the literature that reflects the behavioral perspective. Moss (1981) has conveniently summarized Mintzberg's propositions as follows:

1. Managers feel compelled to perform a great quantity of work at an unrelenting pace . . .
2. Activities are characterized by brevity, variety, and interruptions, with the trivial interspersed with the consequential. Superficiality is an occupational hazard of the manager's job.
3. The manager lives with continuing awareness of what else must be done.
4. The pressure of the job does not encourage the development of a planner, but of an adaptive information manipulator who favors live action--the current, the specific, the well defined, the nonroutine. Current information is favored (gossip, hearsay, speculation); routine reports are not.
5. Verbal and written contacts are the manager's work. Most time is spent in verbal contact . . .
6. The informal media of the telephone and unscheduled meetings are used for brief contacts when parties are known to each other and when information or requests must be transmitted quickly.
7. The scheduled meeting consumes more of the manager's time than any other communication media . . .
8. Generally little time is spent in open-ended touring that provides the manager with the opportunity to observe informally without prearrangement.
9. The manager may be likened to the neck of an hourglass, standing between the organization (or local work group) and a network of outside contacts (including other affiliated work groups) . . .
10. Subordinates generally consume one-third to one-half of the manager's contact time . . .

Mintzberg's propositions not only summarize the literature on managerial activities, but they also express Mintzberg's distinction between the characteristics and the content of managerial work.

> In discussing the results of the work-activity studies, we must draw a basic distinction between the content . . . and the characteristics of managerial work. A researcher studying the job of the manager may wish to know such things as where managers work, with whom they do so, how long they work, what media they use . . . Answers to questions like these give the characteristics of managerial work. Or, the researcher may wish to know what

> managers do in their work--that is, what activities they carry out and why. Answers to these questions describe the content of managerial work (Mintzberg, 1973, pp. 21-22).

The term "characteristics" used throughout this report follows Mintzberg's usage. Moreover, the propositions that Mintzberg elaborated under this rubric suggest the themes that have been incorporated in the job perception items constructed for this study. Mintzberg's analysis represents the most influential statement about what managers do when managerial work is studied from the behavioral perspective.

In one of his articles on the nature of managerial work, Mintzberg contrasted his perspective to the perspective adopted by Fayol and other analysts who described the management job in terms of social processes and organizational functions:

> What do managers do? Ask this question and you will likely be told that managers plan, organize, coordinate, and control. Since Henry Fayol . . . first proposed these words in 1916, they have dominated the vocabulary of management . . . In late 1966, I began research on this question, seeking to replace Fayol's words by a set that would more accurately describe what managers do (Mintzberg, 1971, pp. B-97, B-98).

Although Mintzberg implies that behavioral terminology is more accurate than functional terminology for the purpose of describing what managers do, the real question is one of perspective. Descriptions can be made of what managers do from the perspective of the manager who is acting, from the perspective of the behavioral scientist who is observing the manager acting, and from the perspective of the organization theorist who is making sense of observations of actions in terms of social processes and organizational functions. These are complementary perspectives and to argue that descriptions from one

perspective are more accurate than descriptions from another only begs the question of criteria. On what criteria should we consider one description more accurate than another? From Mintzberg's point of view, the criteria are related to the fact that structured observations are more objective than managers' reports or analysts' interpretation. Objective, in this sense, refers to what can be observed, rather than what individuals report about themselves. Moreover, Mintzberg seems to think that observation can occur without the observer bringing some conceptual framework into his observations.

There are issues which are better researched in terms of observable behaviors rather than in terms of perceptions and interpretations, but complex phenomena, such as the nature of managerial work, cannot be completely described from one perspective alone. Complex phenomena are better studied in terms of convergent perspectives; both converging conceptual schemes and converging empirical results from independent investigations using different methods.

In the present study, it is assumed that more can be learned about managerial work by combining two methods and two research traditions. Therefore, themes from the observational studies integrated by Mintzberg (1973) and McCall, Morrison, and Hannan (1978) have been incorporated into a questionnaire in order to study manager's perceptions of these aspects of managerial work.

Perceived Job Characteristics

The managerial activity perspective on managerial work produces

descriptions of managerial work from the point of view of the observer, whereas Fayol and his followers produced descriptions of managerial work from the combined perspectives of managers' reports and analysts' inferences. In one sense, the scientific study of perceived job characteristics resembles the studies made by Fayol and others. The resemblance comes from the fact that both the classical theorists and the scientists who study perceptions think it is important to understand managerial work from the point of view of the manager. Moreover, the study of managerial perceptions resembles the study of managerial activity in terms of methods: the systematic observation of managers at work and the systematic study of managers' perceptions are both informed by the logic and principles of social research. Thus, the idea of perceived job characteristics and the methods used by researchers who study such perceptions provide a way to bring together themes and methods that relate various theorists and researchers.

Studies that will be reviewed in this section involve various attempts to develop questionnaires that reflect either observed dimensions of jobs, or jobholders' perceptions of characteristics of jobs. The emphasis will be on the latter studies, but the others are included since some questionnaires deal with attempts to operationalize the social processes and organizational functions Fayol and others following him have described.

One line of research on the nature of the management job began with Hemphill (1959). Hemphill set out to describe the similarities and differences in executive jobs. Ninety-three executives responded

to his questionnaire, a 575-item description of possible responsibilities associated with management positions. Using an 8-point scale, respondents indicated the extent to which each item described an element of his own job. After analyzing the correlations between all possible pairs of executives, Hemphill summarized the clusters of duties that were formed by the data. These clusters, of which there were ten, ranged over such areas of responsibility as long-range planning, exercise of authority, supervision of work, internal business control, preservation of assets, personal demands, providing staff services in nonoperational areas, technical aspects of products and materials, community issues and social affairs (Hemphill, 1959).

Tornow and Pinto (1976) continued this line of inquiry in conjunction with research on job dimensions carried out by McCormick, Jeanneret, and Hecham (1972). Tornow and Pinto developed a questionnaire which consisted of 197 scorable items which ranged over four categories intended to describe the dimensions of management positions: concerns and responsibilities, demands and restrictions, activities, and miscellaneous characteristics. They administered this questionnaire to 433 executives, middle managers, and first-line managers. Each respondent indicated whether an item was related to his position or not; if it was related, then the respondent also cited the frequency with which the element could be found in his position. After statistically analyzing data from this study, Tornow and Pinto discovered thirteen clusters of activities, responsibilities, concerns, demands, and restrictions associated with management positions.

Many of these clusters resemble those uncovered by Hemphill (1959): long-range thinking, coordination of personnel and organizations, internal business control, product and service responsibility, public and customer relations, consulting, approval of financial commitments, autonomy, staff service, supervision, complexity and stress, and broad personnel and financial responsibility (Tornow and Pinto, 1976).

Mahoney, Jerdee, and Carroll (1965) studied 452 managers from different levels of management in thirteen companies for the purpose of discovering which organizational functions, such as those elaborated by Fayol and his followers, are filled at what levels. These researchers described the mix of planning and supervisory activities at various levels of the companies represented. The dimensions of the management positions that they examined were the following functions: planning, investigating, coordinating, evaluating, supervising, staffing, negotiating, and representing. These researchers found out that managers at all levels of organizations engage in all these functions; that the amount of time spent planning increases with level in the hierarchy; that the amount of time spent supervising decreases with the increase in level; and that the amount of time spent in other functions remains relatively constant as the level in the hierarchy increases.

Instead of examining perceptions of duties and functions, some researchers have examined perceptions of roles associated with managerial work, based on Mintzberg's (1973) classification of managerial work according to 10 roles within the interpersonal, informational,

and decisional realms of managerial work (Lau and Pavett, 1983; McCall and Segrist, 1980; Alexander, 1979; Whitely, 1978). Alexander (1979) found evidence that all ten of the roles suggested by Mintzberg--figurehead, liaison, leader, monitor, disseminator, spokesman, entrepreneur, disturbance handler, resource allocator, and negotiator--could be found in management positions at all levels of the hierarchy. Lau and Pavett (1983) have investigated which roles are emphasized at which levels among public sector managers and business managers. McCall and Segrist have been involved in developing a valid questionnaire that will operationalize all ten roles for the purpose of studying the dimensions of managerial roles.

All of these studies discussed thus far focus on the functions, roles, and responsibilities associated with management positions. All use large samples, questionnaires, and statistical analysis. In addition, all these studies show that the same kinds of activities are carried out by many managers at various levels in the hierarchy, but that the mix of activities differs.

A second line of investigation turns from the study of job content to the study of job characteristics. This line of inquiry has been pursued in conjunction with efforts to redesign jobs. The first study was conducted by Turner and Lawrence (1965). These researchers reviewed the literature on job characteristics and developed measures for six task attributes they thought would be related to job satisfaction and attendance at work. These characteristics were the variety, autonomy, required interaction, optional interaction, responsibility,

knowledge, and skill required for the job. Turner and Lawrence then conducted interviews and made field observations of these six attributes for 47 different jobs. Based on the data from these studies, Turner and Lawrence developed a summary measure called the Requisite Task Attribute Index, and related this index to satisfaction and attendance.

Hackman and Lawler (1971) adapted and revised the Requisite Task Attribute Index and developed measures for the following dimensions of jobs: variety, autonomy, identity, and feedback. In general, Hackman and Lawler were interested in relating characteristics of jobs to motivation and human needs; and they found that positive relations exist between the four dimensions represented in their measures of the job and variables reflecting individual measures. In general, the greater the job's variety, autonomy, identity, and feedback, the higher the level of satisfaction, motivation, performance, and attendance by jobholders. These relations were moderated by the level of needs being met by the jobs, suggesting that some individuals pay more attention to job characteristics that were measured than do other individuals. These findings were replicated by Brief and Aldag (1975).

Hackman and Oldham (1975) modified the original Requisite Task Attribute Index and this revision culminated in the Job Diagnostic Survey intended to measure five job characteristics: variety, autonomy, identity, significance, and feedback. At about the same time, Sims, Szilagyi, and Keller (1976) developed another instrument which they called Job Characteristics Inventory, and which has been shown to be

a viable alternative to the Job Diagnostic Survey (Sims, Szilagyi, and Keller, 1976; Pierce and Dunham, 1978).

These studies are more useful for the purposes at hand because they focus on perceived attributes of jobs rather than on perceived responsibilities. These studies use well-developed questionnaires and large samples to generate data that can be statistically analyzed in terms of the psychometric properties of the instrument and in terms of relationships between the perceived job characteristics and other variables. These studies have shown that there are relationships between perceived job characteristics and job performance, but that this relationship must be qualified in terms of personal factors (Ivancevich and McMahon, 1977) and in terms of situational factors (Dunham, 1977).

Thus, there are a series of studies representing two distinct lines of inquiry available for inspection with regard to studying the dimensions and characteristics of jobs by using questionnaires. Hemphill (1959) and Tornow and Pinto (1976) developed measures of managerial functions. Mahoney, Jerdee, and Carroll (1965) investigated the amount of time spent by various managers in different activities. Lau and Pavett (1983), McCall and Sechrist (1980), Alexander (1979), and Whitely (1978) examined management positions in terms of perceived roles and perceived activities related to these roles. Turner and Lawrence (1965), Hackman and Lawler (1971), Hackman and Oldham (1975), and Sims, Szilagyi, and Keller (1976) developed instruments more related to the kinds of perceptions being studied here. The

characteristics these researchers investigated were related to general dimensions of many jobs, and then were developed from theories related to individual motivation and job design. These instruments do not examine elements specific to managerial work, but findings from research conducted with these instruments show relationships that will be examined in this study.

Managerial work has been studied in terms of functions and in terms of observable activities; there are research studies which examine managerial work from both perspectives; each kind of study has its advantages and its limitations. In general, studies which use observers' reports describe what managers do in terms of what individuals in managerial positions can be observed doing; and studies which use managers' reports of their own activities or attitudes describe managers' experiences, but not necessarily what an observer would have seen happening.

Studies of perceived job characteristics, like all questionnaire studies, must be limited by the dimensions that are included in the questionnaire. Therefore, in order to study managerial work in terms of managers' perceived job characteristics, it is logical to develop the dimensions to be measured from an understanding of the domain being investigated. In addition, managerial work is such a complex and elusive phenomena that it should be investigated from a variety of perspectives. The instrument used to measure job perceptions in this study will be reviewed in the next section, where it will be shown how the content of this instrument reflects themes from the managerial activity literature in ways that make the instrument a job

characteristics perception instrument.

The Job Perceptions Questionnaire Items

The aim of this section is to analyze the contents of the questionnaire items dealing with job perceptions. The questionnaire items appear in Table 1. Each of these items will now be related to themes and findings that can be found in the management literature which describes the observed activities of people in managerial positions. This item analysis introduces both the job perceptions questionnaire items and it completes the literature review of observed managerial activities.

1. The work pace is rapid and hectic

Henry Mintzberg observed that "Because of the open-ended nature of his job, the manager feels compelled to perform a great quantity of work at an unrelenting pace. Little free time is available and breaks are rare" (Mintzberg, 1973, p. 51). The intention of this item is to summarize both the fact that managers perform a lot of work, and the fact that the work just keeps on coming. Since the word "unrelenting" is not a part of many people's vocabulary, work is described as "hectic" in this questionnaire item. The word "hectic" is used by Leonard Sayles (1980) to describe the pace of managerial work, and much of Sayles' earlier analysis of managerial behavior (Sayles, 1964) is in Mintzberg's work, and in these questionnaire items. The amount of activity that can be observed depends upon the level of the manager being observed. Studies of first-level supervisors show

TABLE 1

QUESTIONNAIRE ITEMS USED TO ELICIT MANAGERS' JOB PERCEPTIONS

1. The work pace is rapid and hectic.

2. The day is filled with talking and listening to other people.

3. One activity blends into the next, making it difficult to tell when one event ends and another one begins.

4. My plans and daily schedules are fragmented by frequent interruptions.

5. When there are not people to deal with, there is correspondence and paperwork to finish.

6. Time alone for reflection is scarce.

7. I can rely on set routines to accomplish most of the day's demands.

8. Things change rapidly and I am forced to cope with events by instinct and intuition.

9. I can rely on my previous training and experience to meet most of the demands made on me.

10. Important events and trivial ones present demands in no particular pattern and I have to shift my mood frequently.

11. My job is filled with making trade-offs in order to cope with the conflicting demands and constraints.

12. The momentum of the day's events carries me along on waves of immediate issues that I must react to.

13. My work day is filled with responding to requests and demands that other people initiate.

14. Pressures and constraints force me to treat many issues in ways that must seem abrupt and superficial.

15. My workload, in a normal week, is almost more than I can handle.

16. I have to continually shift my attention from person to person and from problem to problem.

17. My work day seems like a series of short episodes that may or may not be related to each other.

TABLE 1--Continued

18. My work requires me to seek out "hot" information, or current information "from the grapevine," to ensure that the right problems are being worked on.

19. My day is filled with checking our information, hunches, rumors, gossip, etc., and assessing how reliable and valid this information is.

20. My work is a matter of coping with short-term problems rather than reflecting on long-range issues.

that some individuals handle over 1,000 different incidents or episodes per day (Guest, 1956; Thomason, 1966, 1967). If we examine only those incidents or episodes in which foremen are making contact with other individuals, it turns out that foremen come into contact with other people 300 to 450 times daily (Jasinski, 1956; Walker, Guest, and Turner, 1956). In one of the most famous observations about how busy foremen are, Guest (1956) noted that foremen have a chance to sit down for only 58 seconds in any given eight hour day. Of course, these data reflect the very bottom of the managerial hierarchy; they also reflect one of the problems in empirical research on managerial work. Because anyone who is directly responsible for the work of other people may qualify as holding a managerial position, research on what managers do has used people at various levels in the hierarchy. Thus, the idea of general characteristics of managerial jobs may be inherently ambiguous from the outset.

As rank in the hierarchy increases, the activity rate decreases, and when observers examine general managers, the activity rate is about one-quarter what it is for first-level supervisors (Thomason, 1967). Mintzberg (1970), in a study of chief executives, tabulated the number of different activities for each individual on a per weekly basis, and found a rate of 86 to 160 activities per week. In addition to the activity rate being lower as the rank increases, it also appears that the activity level is fairly constant throughout the day for most managers (Dubin and Spray, 1964; Lawler, Porter, and Tannenbaum, 1968). The activity rate may be taken as an index of an unrelenting work pace,

and the fact that the pace is continuous adds to this sense that the work just keeps on coming. It is this sense that is intended in the questionnaire item that is phrased in terms of a hectic work pace.

2. The day is filled with talking and listening to other people.

This item reflects one of the key themes in studies of managerial work all the way back to Fritz Roethlisberger's early comments to the effect that the environment of the manager is a verbal environment (Roethlisberger, 1941). This item reflects difficulties in constructing questionnaire items related to choice of wording. No day is "filled" with talking and listening in a literal sense; but the idea is to tap the manager's feeling about the normal workday. We know that asking managers to note how much time they spend attending meetings and having informal conversations during the day will produce unreliable estimates because managers tend to underestimate the time they spend in these activities (Dahl and Lewis, 1975; Hinrichs, 1964). Therefore, it is more reasonable to ask about how the day seems, rather than how much time was spent in what kind of activity. But, will the respondent think of attending formal meetings as "talking and listening to other people?" There is no way to know, given the constraints of the research format.

Nevertheless, we do know from other research that the manager spends a lot of time in contact with other people. Earlier, the amount of contacts made by first-level supervisors and chief executives was discussed; this research also substantiates the reasonableness of the present questionnaire item. Foremen interact with an average of 25 to

50 different people each day (Guest, 1956). Higher managers associate with people who are members of the organization and with people from outside the organization (Mintzberg, 1970, 1971, 1973). Sayles (1964, 1980) underscores how much of a manager's time is spent in lateral relationships, rather than with bosses or subordinates. Formal meetings take up a lot of managers' time (Carlson, 1951; Mintzberg, 1970), and Stewart (1967) found that middle and upper managers spent almost half their time in informal meetings. If we add telephone calls as another activity in which managers speak and listen to other people, then we have one more way the day may be filled with oral communication, but telephone calls do not account for a large percentage of most managers' time (Dahl and Lewis, 1975; Dubin and Spray, 1964; Mintzberg, 1970; Stewart, 1967).

It appears that the oral nature of the managerial job is the best documented fact about managerial work; the amount of oral communication has been recorded in terms of the time spent in formal and informal meetings. For low to middle levels of management, it has been found that well over half of an individual's time is spent in oral communication (Brewer and Tomlinson, 1964; Hinrichs, 1964; Lawler, Porter, and Tannenbaum, 1968; Stewart, 1976; Thomason, 1966). Managers at higher levels may spend up to 90 percent of their time in oral communication; 65 to 75 percent is very common (Burns, 1957; Carlson, 1951; Dubin and Spray, 1964; Mintzberg, 1970). Most verbal interactions are face-to-face; foremen's encounters are extremely brief and informal; the length of individual encounters and the number of formal meetings appear to increase with rank (Hinrichs, 1975; Lawler, Porter,

and Tannenbaum, 1968; Mintzberg, 1970).

3. One activity leads into the next, making it difficult to tell when one event ends and another begins.

There is no direct finding in the literature to substantiate this inference; however, consider what has been repeatedly cited so far: managers carry out a lot of work in a fashion that some people describe as hectic. "Because of the open-ended nature of his job, the manager feels compelled to perform a great quantity of work at an unrelenting pace" (Mintzberg, 1973, p. 51). If the pace of the work is unrelenting, then it is plausible that people will experience the sequence of events as undifferentiated. Moreover, it is well known that many managers have difficulty communicating what their jobs involve. Of course, the faster the events occur, as in the fleeting encounters of the shop foremen mentioned earlier, the more activities would seem to blend together for the manager.

4. My plans and daily schedules are fragmented by frequent interruptions.

Again, Mintzberg may be quoted: "In general, managerial work is fragmented and interruptions are commonplace" (Mintzberg, 1973, p. 51). Interruptions and the brevity of managerial activities are confounded characteristics: are the interactions and activities brief because they are interrupted? Or, are interruptions just apparent because interactions can be handled so quickly? The constant stream of interruptions is often associated with lower level management positions, but Carlson (1951) tells of one chief executive who recorded in

his activity log a stream of interruptions over a thirty-five day period of self-observation; this executive recorded whether his time in his office was disturbed or not. Over the thirty-five day period, the chief executive went undisturbed for periods lasting twenty-three minutes or more on only twelve occasions. This implies that, on the average, this executive had an undisturbed half hour to himself about every third day of the month. Rosemary Stewart (1967) also conducted a diary study that included notations about being disturbed; Stewart studied 160 managers for a month and found that, on the average, an individual in the group that was studied could be expected to have only nine uninterrupted periods of one-half hour or more during the time span of the four weeks during which they recorded how their time was spent. Guest (1956) indicates how foremen are constantly interrupted; Carlson (1951) shows how managing directors find it difficult to find uninterrupted office time; and Stewart (1967) confirms the pattern for a variety of managers at different levels.

5. When there are not people to deal with, there is correspondence and paperwork to finish.

This item reflects another attempt to give content to the observation that managers' work just keeps coming. If the literature is to be believed, it is difficult to imagine when there could be any time for paperwork given all the informal and formal meetings that occupy a manager's time. A manager interviewed several years ago remarked that he got up very early in the mornings because he had to do his work before he went to the office in order to make way for all the

encounters with other people that occurred in his office.

As has been indicated, managers may prefer oral media to print media, but their jobs call for them to spend some time filling out reports and attending to matters related to desk work. The research on time spent at the desk, writing or reading, showsfirst that mail is a relatively minor and routine aspect of a manager's job; the average manager probably spends less than 5 percent of his time dealing with the mail (Dubin and Spray, 1964; Mintzberg, 1970; Stewart, 1976). Upper level managers spend more time at their desks than first-level managers; estimates indicate that anywhere from 22 percent to 36 percent of a manager's time is spent in desk work (Mintzberg, 1970; Stewart, 1967). Note that the item does not ask the managers how much time they spend attending to paperwork; instead, the item attempts to elicit a subjective impression. Furthermore, this item is placed after several items which form a logical sequence. If the work pace is rapid and hectic, if the day is filled with dealing with other people, if the pace is so unrelenting that activities blend into each other, and if a manager is constantly interrupted, then the first four items should cue him to see the fifth item in the way it is intended; namely, after all else has been taken care of, there is still paper-work.

6. Time alone for reflection is scarce.

All the items that have been discussed so far logically lead into this item. This item expressed the logical conclusion to the sequence of items that have gone before. Huge quantities of work, most

of which is carried out with other people, and which will probably be interrupted, should leave no time for reflection. This item in the questionnaire, of course, does not cue the manager to think about whether he spends any time planning; rather, it cues his perception in terms of general reflecting--whether it be on the nature of his job, on future plans for his group, or on some other topic. Rosemary Stewart has spent the last few years trying to assess how managers think about the choices they have in their jobs to do the job in a different way; and she finds that managers, for the most part, give little thought to how their job might be done. They simply react. Some react in systematic ways and others respond by instinct or intuition, but they spend little time in reflection about the job (Stewart, 1982).

7. I can rely on set routines to accomplish most of the day's demands.

If a manager has been trained for a particular job, or if he has been in the job for a long period of time, it is reasonable to think that he has evolved ways of handling the kinds of activities that have been described thus far. Another of the bits of folklore about managerial jobs is that the manager, particuarly the chief executive, has no set responsibilities or routines. In fact, according to Mintzberg, the contacts and networks a manager maintains are the regular duties of his job. Kotter (1982) has recently completed a study of general managers in which he shows that there are differences among general manager jobs and that general managers have specialties

which they emphasize. These specialties differentiate the managers' jobs, but all the managers spend a lot of time building and maintaining networks of contacts inside and outside the organization. A manager is not apt to understand the item in this sense; instead, the manager will probably understand the item to refer to how much of his job is determined either by procedures he has established or by policies and procedures handed to him with the job. Mintzberg has noted that decision-making behavior can be described in terms of higher level programs or routines, and this idea presupposes that there are some routines the manager can use, although Mintzberg is pretty sure that few aspects of the manager's work are explicitly programmed.

8. Things change rapidly and I am forced to cope with events by intuition and instinct.

In her interviews with managers, Stewart discovered that a number of the people she interviewed saw the management job as somewhat holistic. These people did not perceive of the management job as having a core of explicit duties or as having a distinct character. Instead, it seemed to these people that the environment was changing so rapidly that the only way to steer the crisscross of workflows and changing circumstances was to cope with events as they occurred (Stewart, 1982).

9. I can rely on my previous training and experience to meet most of the demands made on me.

This item is one of the diagnostic items from the Organization Assessment Survey (Van de Ven and Ferry, 1980). The intent of the item

is to try to characterize the managerial job in terms of whether it can be programmed in the sense of training and development on the job. This item is similar to the item about set routines. In addition, there may be some people who will tackle jobs in terms of set routines and in terms of their previous skills regardless of what the situation calls for.

10. Important events and trivial ones present demands in no particular pattern and I have to shift my mood frequently.

Mintzberg notes that managerial jobs include a variety of activities and that "the lack of pattern among subsequent activities, with the trivial interspersed with the consequential, requires that the manager shift moods quickly and frequently" (Mintzberg, 1973, p. 51). Other researchers use the term "discontinuity" to describe the fact that managers attend to events as they occur, regardless of the significance of the content implied by the event (McCall, Morrison, and Hannan, 1978). It appears that there is a tendency at all levels of management for managers to handle problems rapidly, and by attending first to a trivial matter, then to a significant one, in no particular pattern (Guest, 1956; Mintzberg, 1970). This tendency probably relates once again to the ceaseless flow of activities, the constant interruptions, and the fragmented character of the manager's day.

11. My job is filled with making trade-offs in order to cope with the conflicting demands and constraints.

This item represents an inference based on the assumption that the previous characteristics of the manager's job are accurate ones.

It seems logical to expect that anyone who is bombarded with activities he must attend to, and who has little time to reflect on matters and plan for the future, must feel like he is forced to make trade-offs just to keep on top of the ceaseless flow. If the pace of the job is unrelenting, then it is reasonable to assume that there will be conflicts and constraints associated with the job.

12. The momentum of the day's events carry me along on waves of immediate issues that I must react to.

One of the questions that researchers have sometimes asked about managerial work has to do with how much control over matters the manager actually has. Mintzberg (1973) notes that despite the fact that the environment seems to engulf the individual in the job, that managers soon learn to blend their skills with the demands in order to both flow with the work and steer it. This item is not apt to be construed by a manager in this light, however; instead, the manager responding to this item will probably interpret it in much the same way as the other items which underscore the unrelenting pace of the work day.

13. My work day is filled with responding to requests and demands that other people initiate.

This item combines two themes that have been discussed in great detail; managers spend a lot of time responding to other people, and managers spend a lot of time in oral communication. Kotter (1982), Mintzberg (1973), and Stewart (1967) emphasize that managerial work is accomplished through a network of contacts. Actually, the respondent

will probably interpret the item as simply asking whether the person initiates his own work or must respond to what others initiate.

14. Pressures and constraints force me to treat many issues in ways that must seem abrupt and superficial.

"The manager actually appears to prefer brevity and interruption in his work. He becomes conditioned by his workload . . . and he lives continuously with an awareness of what else might or must be done at any time. Superficiality is an occupational hazard of the manager's job" (Mintzberg, 1973, p. 51). The language of Mintzberg is colorful and not too clear. Here is one instance when an inference by an observer might never be confirmed by the subject because it calls for the subject to label his own efforts as incomplete. The wording of the item is intended to protect the respondent by allowing him to attribute the incompleteness of his job and the superficial way he responds to issues to the pressures and constraints of working with interruptions and too many demands. This interpretation, after all, is what Mintzberg intends with his idea of superficiality as an occupational hazard.

15. My workload, in a normal week, is almost more than I can handle.

How do managers feel about this unrelenting pace of managerial work? Of course, they may not want to admit that they are barely keeping up with the load. Here is one item which definitely should be checked by asking the manager the length of his work week. Unfortunately, the people who sponsored this research insisted that all the

managers worked 40 to 50 hour weeks and that I would not be allowed to ask individual managers about the length of their work weeks.

16. I have to continually shift my attention from person to person and from problem to problem.

This item is another working of the theme in Mintzberg (1973) which suggests that managers work at an unrelenting pace, shifting from significant to trivial issues in no particular order. The item also alludes to the fact that the manager spends a lot of time in face to face contact (Mintzberg, 1973; Stewart, 1967).

17. My workday seems like a series of short episodes that may or may not be related to each other.

Guest (1956), Mintzberg (1970), and Stewart (1967) describe how short each episode in a manager's workday is; even at the chief executive level, the average episode lasted nine minutes and only 10 percent of the executive's activities lasted longer than an hour (Mintzberg, 1970). These same researchers have shown that discontinuity marks the manager's day because the manager must respond rapidly to different events.

18. My work requires me to seek out "hot" information, or current information "from the grapevine," to ensure that the right problems are being worked on.

Information is what the manager's job is all about (Horne and Lupton, 1965; Mintzberg, 1970). Mintzberg, in particular, emphasizes that managers prefer live action and current information over the information in formal reports even when this current information is gossip and speculation. Kotter (1982) quotes a general manager as

explaining the need to remain informed in order to make sure that the right problems are being addressed.

19. My day is filled with checking out information, hunches, rumors, gossip, etc., and assessing how reliable and valid this information is.

This item expresses another way of emphasizing how a manager's job is defined in terms of information (Horne and Lupton, 1965; McCall, Morrison, and Hannan, 1978; Mintzberg, 1973).

20. My work is a matter of coping with short-term problems rather than reflecting on long-range issues.

Items 16 and 17 have indicated that managers spend most of their time shifting their attention from problem to problem, and items 18 and 19 have indicated that the manager's job is one that deals constantly with current information. Mintzberg (1973) argues that the result of managers having to deal with so many contacts, so briefly, and in respect to so many current issues, is that managers cannot be reflective planners. They do not have the time and they are not so inclined.

This item analysis concludes the review of the job perceptions instrument and the review of literature pertaining to managers' activities and managers' job perceptions. The remaining sections of this chapter examine the other scales used in this study, thereby relating the instruments of the study to previous research on managers and to the items of the job perception instrument just discussed.

Locus of Control

Mintzberg (1973) argues that managers work in situations that

appear uncontrollable, but that effective managers somehow manage to maintain some form of control by making eventswork for their own interests in the long run. How much control individuals believe they have over the events surrounding them varies from person to person. Whether or not a manager remains in the flow of action long enough to make events work for him may be related to the manager's sense of whether or not he is able to be in control of how things turn out. Some people seem to let events carry them along because they feel they have no control over what happens, while other people steer what seem to be uncontrollable events until desired outcomes emerge.

Julian Rotter (1966) proposed the idea that an individual's orientation toward his own life has a role in altering the events surrounding him because an individual can believe that he can affect the course of his life, or an individual can believe that control over events is the result of fate, luck, or the actions of powerful people other than himself. The degree to which an individual believes himself capable of affecting events, then, may well affect the outcomes of events.

Rotter (1966) developed a scale for differentiating among individuals on the basis of how much they perceive themselves to be in control of various outcomes. An individual who achieves a low score on Rotter's scale is said to have an internal locus of control. Internal locus of control refers to the belief that outcomes of interactions between individuals are partly determined by the individuals themselves, rather than by some external force such as fate or luck.

Rotter's scale would seem intuitively to be related to managerial actions. Managers, at least according to the perspective expressed by the items of the job perceptions questionnaire described in the previous section, have to deal with many people concerning a wide range of problems. Without some sense of "I can do" the manager would be swamped by the events occurring around him. There is research that substantiates this logical connection between an individual's locus of control and the effectiveness of his actions in organizational settings. Internals, as measured by Rotter's scale, show higher levels of motivation than do Externals. Internals earn more money than Externals. Internals hold higher status jobs than do Externals. Internals advance more rapidly in their careers than do Externals (Andrisani and Nestel, 1976). Internals are more inclined to attribute the attainment of their present jobs to their own efforts than are Externals (Roark, 1978). Internals are more likely to attribute past job changes to their own initiative; they perceive more alternatives in a job choice situation. They make better use of more information in complex problem-solving situations. They show more sense of self-esteem. They are less anxious. They see their own jobs as more purposeful, and they are more work-oriented (Spector, 1982).

Relationships have been found between the locus of control and work alienation, job satisfaction, job involvement, leadership style, and level of business activity (Rice, 1978). Internal managers are more task oriented and they function better in stress situations than Externals (Anderson, 1977; Anderson, Hellriegel, and Slocum, 1977).

Internals are more actively oriented and they are more likely to engage in entrepreneurial or strategy oriented matters than are Externals (Miller, De Vries, and Toulouse, 1982).

This research establishes two facts about the use of Rotter's (1966) instrument for measuring the locus of control. First, the instrument effectively discriminates between individuals in managerial positions. Second, those individuals who sense themselves in control of events achieve more of the outcomes generally associated with effective performance in organizational settings.

In regard to the job perceptions discussed in the last section of this chapter, the following relationship seems logical. Individuals who are Externals, as measured by Rotter's scale, should perceive the items related to job perceptions as accurate reflections of events associated with their jobs whereas Internals should perceive these items as inaccurate. The reason for correlating high scores on Rotter's scale with high scores on the job perception questionnaire is that the items on the job perceptions questionnaire are associated with what Mintzberg (1973) describes as the almost uncontrollable dynamics of managerial work. People who are Externals should perceive their work as more fragmented and hectic than people who are Internals. People who are Externals should perceive themselves as constantly shifting their attention to issues beyond their control more than Internals perceive themselves. Hence, this hypothesis: <u>There will be a significant, positive correlation between managers' job perceptions and their locus of control</u>.

Cognitive Style

In recent years, there has been increased interest in the notion of cognitive style with regard to managerial work, particularly with the rise of the management information processing specialty within management and policy. "The cognitive style paradigm emphasizes the problem-solving process rather than the cognitive structure and capacity. It categorizes individual habits and strategies at a fairly broad level and essentially views problem-solving behavior as a personality variable" (Keen and Scott Morton, 1978).

The relevance of this variable to job perceptions, as job perceptions will be measured in this study, should be apparent. Cognitive Style will be measured with items adopted from one subscale of the Myers-Briggs Type Indicator (Briggs and Briggs, 1975). Therefore, discussion in this section will be restricted to this conceptualization and measurement. For an introduction to the kind of research that use of this instrument implies with regard to managers, see Hellriegel and Slocum (1975).

Hellriegel and Slocum (1975) use three of the four subscales of the Myers-Briggs Type Indicator for the purpose of relating personality differences to problem-solving styles. Hellriegel and Slocum use the Intuition-Sensation subscale to type people's problem definition or problem selection style. Then, they use the Thinking-Feeling subscale to type people's problem-solving or decision-making style. Finally, Hellriegel and Slocum use the Introversion-Extroversion subscale to find out if people tend to avoid others, or work easily with

people.

For the purposes of this study, Hellriegel and Slocum's research provides support for the fact that the Intuition-Sensation subscale effectively differentiates individual managers and their styles of perceiving information. The job perceptions are flows of information patterned by individuals, and it seems logical that Intuitives will select and pattern information differently than will Sensation oriented individuals. Whether one is an Intuitive or a Sensate as described by this subscale of the Myers-Briggs Type Indicator is what is meant by cognitive style in the context of this report.

The idea of Cognitive Styles used in this context derives from a theory of personality types developed by Carl Jung (1923). Jung developed a set of personality types based primarily on the idea that people through biological and social evolution come to have different problem-solving styles. According to Jung, people have preferences for selecting or defining problems in one of two ways. How one prefers to define a problem is a function of how one perceives the surrounding events of the world--that is, how people define matters is a function of how they absorb data. For some people, reality is only that which they can sense; in other words, these people tend to think something does not exist if it cannot be conveyed to them in terms of hearing or seeing or touching or smelling or tasting.

It appears that people who emphasize this way of taking in data about the work they are involved in, or about any other aspect of the world, are apt to analyze problems in terms of facts and details

only; they will concentrate on the components of a problem, rather than see it in all its complexity and potential for change. In language that is familiar in management literature, people who define problems in this way observe things in terms of how they are structured--how they function. People who are oriented to sensation also tend to focus on problems they can control; they also tend to define problems in such a way that they can apply routine solutions that they have used before. Apparently, there is a connection between these people's way of taking information and how they learn to adapt. Jung labeled these people as sensates and their way of perceiving as sensation.

Jung also identified an entirely opposite approach to problem selection; this opposite, Jung labeled as intuitive. People who are intuitive in their selection and identification of problems tend to see the whole; in turn, they also tend to overlook the parts and the details that perhaps they would emphasize if they were more oriented to sensation rather than to intuition. This kind of person is apt to prefer to solve new problems every day of the week, and he wants to see new and creative ways of doing things. Of course, creative in this context means novel to the person, not necessarily creative in any artistic or aesthetic way. The routine and the standardized lacks appeal for the intuitive person; the intuitive focuses on the context. Therefore, he expects change because the context is never the same for a problem. In jargon that is used in organization theory, the intuitive always sees the structure of anything as enmeshed in its environment.

Jung's next bit of analysis turned from the individual as a gatherer of information through either sensation or through intuition to a discussion of what someone does once he has selected a problem. Jung noted that there are two ways of dealing with the information and arriving at a decision or a course of action. First, one may take a logical orientation to making the decision and try to deal with a problem only in terms of its logical implications. Jung saw that in arriving at a decision one might take personal values into account to a greater extent. People who evaluate options on the basis of such criteria as their impact on people fall under the way of arriving at a decision that Jung labeled "feeling." Thus, we have two ways of arriving at a decision, after selecting a problem, according to Jung's classification.

In management research, people have used these two dimensions and four types most often. There are other parts of Jung's theory, and one part is of related interest. June noted that people seem to go through this process of selecting a problem and then arriving at a decision in one of two ways. Some people take a methodical, orderly approach to both selecting and dealing with a problem; they tend to plan and avoid negative surprises as much as possible. This way of handling the sequence has been called "judging." The opposite way of handling the entire sequence is more immediate and is labeled "perceiving." People who are strong on perceiving make decisions quickly, make decisions seemingly without thinking, and respond quickly to crises.

This background on the Myers-Briggs Type Indicator, and the

roots of this instrument in Jung's theories, provides a picture of what is meant by cognitive style in this report. The Intuition-Sensation subscale was used as a source of items for measuring the dimension of cognitive style that is most closely related to perceiving information and patterning stimuli for cognitive processing and decision making. A manager's job perceptions are patterns of information that express his interpretation of what occurs in association with his performing his work.

However, the items on the Myers-Briggs Type Indicator are general statements, not statements specifically oriented to events related to the job. Therefore, items from the Myers-Briggs subscale were adapted for the purpose of the present study by adding the phrase "On your job" to the beginning of each item. Thus, questionnaire items from the Myers-Briggs were not altered in terms of content, but only in terms of reference. Thus, instead of asking people if they prefer to solve new problems or routine problems in general, the items in the present study ask, "On your job, do you prefer: (a) to deal with new problems, or (b) to deal with problems for which there is already some established routine." Adding the phrase that orients the respondents to events associated with their work should increase the chances of finding associations between people's ways of forming patterns and people's perceptions of the characteristics of their jobs.

Hence, the following relationship is hypothesized: <u>There will be a significant, positive relationship between the cognitive styles of the managers and their job perceptions</u>. This hypothesis suggests

that Intuitives will see the job perceptions as more accurate reflections of their jobs than the Sensates see them. This direction of the correlation is hypothesized on the assumption that Intuitives pay more attention to more sources of information than do Sensates; therefore, they will form patterns that reflect more of the variety and dynamism in the job. The variety and dynamism in the job is reflected in the job perception items.

Coping With Stress

The last of the personality inventories to be discussed in this chapter relates to stress and manager's perceptions of their abilities to deal with stress. There has been a lot of interest in stress in recent years. Both popular articles and research articles are devoted to defining stress, locating its sources, and giving instruction on how to deal with stress. A good introduction to literature on stress as it relates to management and organizational behavior may be found in Beehr and Schuler (1982).

There are many causes of stress in organizations and some occupations tend to be more stressful than others. A survey of more than a hundred different occupations indicated that office manager jobs, among others, are high in stress, and that high level managerial jobs involve stress from such sources as time pressure, too many meetings, and difficulties in attaining productivity standards (Parasuraman and Alutto, 1981). Some of these sources of stress resemble the kind of characteristics that make up the job perception items in this study.

Mintzberg has emphasized how the managerial job is conducted in a high tension environment (Mintzberg, 1973) and behavioral scientists have looked at some of the sources of management stress that make up this high tension environment.

Behavioral scientists have investigated stress associated with role conflict, role ambiguity, role overload, and role underload, responsibility for others, lack of participation, evaluation, working conditions, and interpersonal relations (Beehr and Newman, 1978; French and Caplan, 1970; Miles and Perreault, 1976; McGrath, 1976). These sources of stress are located in the situation, of course, but there have been studies relating stress to personal characteristics. For our purposes, the kind of relationship that is important is one such as found by Gemill and Heisler (1972), who showed that Internals describe their jobs as less stressful than do Externals. The amount of stress individuals experience in a given situation is not determined solely by the conditions of the objective situation, as Gemill and Heisler's findings clearly show; the amount of stress is clearly affected by the individual's cognitive appraisals of the situation (Lazarus and Launier, 1978).

Regardless of the sources of stress, the issue that is of concern in this study relates to developing skills for coping with stress, one's resources for coping with stress. It seems reasonable to assume that individuals with low resources for coping with stress are also individuals, like the Externals on the Internal-External scale, who see themselves more at the mercy of the environment, rather

than masters of the environment. In a sense, then, this issue returns to the issues of control raised at the opening of the chapter section on Locus of Control. It is interesting, in this regard, to note that the techniques most often prescribed for dealing with stress tend to be related to a sense of control; and when a sense of control is not possible, then looking for buffers appears to be the best strategy. Most self-help approaches emphasize physical action, social support, cognitive planning, relaxation techniques, meditation, and sheer withdrawal.

To measure an individual's sense of how many resources he has to cope with stress, Albert McLean developed a checklist of 20 items, and it is his checklist that will be used in this study (McLean, 1979). McLean thinks of stress as involving factors in the context of one's work that affect one's satisfaction with job, and as elements which lead to anxiety and fear at work. McLean emphasizes that there are many resources for coping with stress, and that individuals should not limit themselves to one or a few ways to support themselves.

McLean notes that people who cope with stressful situations tend to be people who know themselves well and understand their limitations. Knowing oneself in this sense means knowing both strengths and weaknesses and not punishing oneself for the shortcomings. People who do not cope well with stress tend to avoid acknowledging their limitations; instead they push themselves beyond levels that are physically and emotionally healthy.

Second, McLean observes that the person who copes well with

stress has many interests. Workaholics, who can find no other forms of interest for their attention and effort, often find themselves in a crisis when things at work do not reward them for their inputs. The person who copes well has interests in various areas in life; these keep him nourished with recreation and interesting pursuits. Third, according to McLean, people who cope effectively, especially at work, have a wide repertoire of emotional reactions to situations. They do not "get upset" at everything, nor are they cheerful when that response is uncalled for; instead, people who cope well match their emotional reactions to the situation.

McLean notes that a fourth characteristic of the person who copes with stress effectively is the ability to accept the values of another person. Perhaps this is extremely important in large organizations where understanding the "other fellow's point of view" is necessary for continued survival. People who are too judgmental with respect to other people's ways of handling matters tend to pay for their judgments in terms of internalized stress. Finally, McLean suggests that a person who copes well with life is a person who is active and productive; at least this is how he experiences himself. Of course, these characteristics McLean has chosen overlap somewhat, but it is the common sense approach that McLean has taken that makes his inventory appealing.

In terms of the current study, it would seem that stress is a characteristic of managerial work, so how one is able to cope with stress should be an important characteristic of managers. Because, as

Lazarus and Launier insist, stress is where one sees it, stress perception is a personality characteristic. McLean's composite involves five scales: Knows Self, Many Interests, Variety of Reactions, Accepts Other's Values, and Active and Productive. Scores on each of the five areas can vary between 5 and 20, given the five point Likert scale that McLean uses. The overall composite score can range from 20 to 100, and McLean suggests that any scores above 60 suggest some general difficulty in coping with stress.

It is obvious that McLean's dimensions do not exhaust all the various ways one might find resources for coping with stress. What we are interested in here, however, is not an exhaustive survey of stress, but a significant personality dimension that might give us some insight into managers' job perceptions. There has been no research on the use of McLean's coping checklist, to my knowledge, and the list appears in a popular paperback series addressed to managers and teachers, so the use of the scale also provides an opportunity to learn how much it discriminates among individuals. Given the connection between one's sense of control over events and experience of stress, it seems logical to hypothesize that:

Coping with stress and Locus of Control are positively correlated to a significant degree.

And given a line of reasoning that would suggest that Intuitives are apt to respond to experience more than Sensates who respond to logic and facts, it also seems logical to hypothesize that:

Coping with stress and Cognitive Style are positively related.

Finally, given that low scores on the Internal-External scale and low scores on the Coping with Stress scale show control over the events surrounding one, in the sense of believing in personal control and having many resources for coping with stress, it seems logical that:

Coping With Stress and Job Perception scores are positively correlated.

Demographic Variables

In addition to differentiating the managers with respect to personality variables, the managers' perceptions will be examined to see if there are any sources of variance due to demographics: sex, age, and tenure in the position. There is no reason to assume a priori that sex will affect the job perceptions in any particular way, although gender differences are often reflected in many attitudinal and perceptual phenomena.

Age and tenure are more logical variables, given the nature of the items being measured in the job perceptions questionnaire. It stands to reason that the longer a person holds a job, the more accustomed to events surrounding the job a person becomes. Therefore, with regard to age and tenure, it is reasonable to expect the following hypothesis to be supported by evidence from the data:

There will be a significant correlation between job perceptions and age or tenure related measures.

Performance Appraisal Data

Earlier it was explained that each manager receives a rating which expresses whether he is Outstanding, Above Average, Average, or Below Average. In this study, these levels of performance will be examined with regard to correlations between levels of performance and perceived job characteristics. The literature on perceived job characteristics reviewed earlier suggests that a correlation will be found, and that it will be significant; but no indication is given as to the direction of the association. Since investigations of associations with performance and other variables will be conducted in an exploratory manner, rather than according to a hypothetico-deductive procedure, a statment to the effect that association between performance and perceptions is expected will suffice instead of a formal hypothesis.

Similarly, associations between personality characteristics and levels of performance are also indicated in the literature that was reviewed, but no clue was given in the literature as to the direction of these associations. Therefore, an exploratory attitude, rather than a rigorous hypothetico-deductive approach, is in order with regard to these issues. Thus, a correlation between performance and the individual differences is expected, but the direction of these associations is not hypothesized.

Summary of Chapter Two

With this extensive review of the instruments and hypotheses that direct the data gathering and analysis, this chapter draws to a

conclusion. The literature reviewed in this chapter relates to management theory, empirical studies of managerial behavior and perceptions, and to locus of control, the Myers-Briggs Type Indicator, and resources for coping with stress. Finally, hypotheses were advanced and directions for additional exploratory analyses were discussed. This chapter, then, concludes background discussion, and the next chapter outlines the methods used to collect and analyze the data for this study.

C H A P T E R I I I

METHODS

Introduction

In this chapter, the following topics are covered: selecting the sample, collecting the data, processing the raw data, analyzing the reliabilities of the composite measures, using descriptive statistics, conducting regressions, and using inferential statistics in the study. This chapter, then, discusses the procedures used to gather the data and the techniques employed to analyze the data.

Selecting the Sample

The logic of the investigation suggests that finding managers with very similar duties is necessary in order to minimize the influence of situational factors on managers' perceptions. With these influences minimized, personal characteristics should be more apparent as influences shaping the managers' perceptions of their work.

While talking with two managers from an insurance company, I found out that these managers intended to study the correlations between personal characteristics and performance among managers in one division of their company. Their study was to be part of a management development program based on survey feedback. The managers agreed to include the questionnaire discussed in the previous chapter of this report as part of their survey. Therefore, a sample of

managers holding the same job, at the same level, in one division of the same company became the sample for the study. This sample met the requirements of the study in terms of minimizing situational influences.

Data Collection Procedures

The questionnaire was circulated to sixty-six branch office managers of one division in a large insurance company. Survey feedback is widely used for management development purposes in this company, and the questionnaire was part of a survey for these purposes. Because survey feedback is routine for these managers, and because the company solicited the information, the respondents were accustomed to the process, and all the managers to whom a questionnaire was sent returned a completed questionnaire.

The questionnaires were mailed from, and returned to, the home office of the insurance company. There they were coded so the identity of the respondents was known to company officials, but not to the researcher. Managers were told that the information was confidential and that each manager would receive an individualized feedback report. The home office delivered the coded questionnaires to me along with other data that I had requested.

The additional data came from company records. The home office supplied demographic data for each manager, a performance appraisal ranking for each manager, and a coded response for whether the manager worked in a large or small office. The questionnaires and

the data from company records were forwarded to me and I transferred the data to coding sheets. The data were keypunched and read into a file; data entry errors were checked and the file was set up for analysis using the VAX version of the Statistical Package for the Social Sciences (Nie and Hull, 1981).

Descriptive Analysis

The first step in analyzing this data involved examining the items related to job perceptions for two purposes: first, to find out which items were perceived as accurate by the managers; second, to determine the internal consistency of these items as items in a scale. The first purpose was accomplished by using descriptive statistics and the second purpose was accomplished by using the output of the SPSS Reliability subprogram. The descriptive statistics will be discussed first.

The SPSS Condescriptive subprogram was used to calculate means, medians, standard deviations, skewness, and kurtosis for each item in the questionnaire related to job perceptions. In addition, the coefficient of variation was calculated for each item by hand, using the means and standard deviations from the computer output. The means and medians, of course, provided indices of central tendencies for the empirical distributions, while the standard deviations and coefficients of variation provided indices of the absolute and relative dispersions in the distributions. Skewness and kurtosis provide ways of comparing the empirical distributions with the normal distribution in order to

determine whether scores on items tended to pile up in the center or at the ends of the scale. The closer the skewness is to zero, the more the empirical distribution resembles a normal distribution; if the skewness is negative, then the tail of the curve representing the distribution is to the left of the mean of the distribution; the converse holds for positive skewness. Kurtosis shows how flat or how peaked the empirical curve is relative to the normal curve: zero kurtosis implies a possibly normal distribution, a negative kurtosis suggests a distribution flatter than the normal curve, and a positive kurtosis represents a curve that is more peaked than the normal curve. These elementary statistics are described here in order to introduce the logic behind the weighting scheme used to separate accurate items from inaccurate ones.

How these descriptive statistics were used to rank the items related to job perceptions in terms of their perceived accuracy is the next topic. First, the items were clustered in groups according to their medians. Items with medians of six were grouped as the most accurate items; items with medians of one were grouped as the least accurate. Then, within each cluster, items were ranked. The item with the highest mean within a median cluster received a ranking of one; the item whose skewness suggested the most scores piling up at the accurate end of the scale received a ranking of one; the item in the cluster with the kurtosis nearest zero received one. All items within each cluster were similarly weighted according to ranks on these categories. This ranking procedure produced an ordering of the twenty items that had

only one tie; this tie was broken by doubling the weighting of the mean.

Of course, any rank ordering procedure is somewhat arbitrary, but the one used in this study produced a unique ordering of the items and used all the descriptive information available. However, given the amount of skewness in the distributions and the closeness of the means within median clusters, the most robust information is expressed by the median alone.

The next step in the analysis involved inspection of the composites in terms of means, standard deviations, skewness, kurtosis, and internal consistencies. Cronbach's alpha is reported for the reliability of the twenty items related to job perceptions used as a scale; this measure of internal consistency is also reported for McLean's coping with stress scale. Internal consistency coefficients for the locus of control scale, and for the cognitive styles scale, were calculated according to Kuder-Richardson formulas for dichotomous data.

In addition to these descriptive analyses of the data from the questionnaires, descriptive statistics were used in conjunction with the data from company records. Frequency tabulations were used to show the distributions of age, sex, and tenure in the sample. Means and standard deviations were calculated for each composite as broken down into four groups based on level of performance.

Regression Analysis, Factor Analysis, and Related Statistics

In order to examine the relationships among the personality

variables and the managers' job perceptions, two regressions were conducted. In the first regression, the job perceptions were treated as the dependent variable: each individual manager's scores on the twenty job perception items were summed and this sum was treated as a global representation of that manager's general perceptions of his own managerial work in terms of the mundane activities associated with the job. These summary scores were regressed on the summary scores representing the three personality characteristics.

In the second regression, the dependent variable was coping with stress. Coping with stress summary scores were regressed on the other two personality scores. The assumption behind this analysis was that cognitive style and locus of control should be contributing factors in a manager's perceptions of the events surrounding his job.

Both regressions were standard regressions; that is, the independent variables were entered simultaneously, rather than one at a time on the basis of either statistical or theoretical criteria. Of course, even when variables are entered simultaneously in a block, there is still an order of entry, and this order affects how much variance in the dependent variable is attributed to each individual independent variable. Therefore, different orders were tried to make sure that the relative weights were not greatly affected. The two regressions were logically formalized in a path diagram and path coefficients were inspected in addition to the regular regression statistics.

Another set of exploration used factor analysis to examine the

structure of the composite formed by the twenty job perception items. Of course, the size of the sample is much too small, given the number of items in the composite, to claim that more than crude suggestions could emerge from the data. But it was thought that some interesting patterns might emerge from such analysis; therefore, principal components extraction was followed by varimax rotation, and Kaiser's criterion (Child, 1970) was used to determine the number of significant factors.

Finally, inspection of the descriptive statistics relating the various composites to managers' performance levels suggested that there might be significant differences between high performers and low performers. Therefore, a series of t-tests was used to examine these differences. Now, with these remarks on data collection procedures and data anlysis techniques in order, it is time to relate the substantive findings of the study.

C H A P T E R I V

RESULTS

Introduction

The main purpose of this chapter is to report results, but some interpretation also appears throughout the discussion. Data characteristics and sample characteristics are reviewed first; then general results regarding the study are presented. This first part of the chapter presents results without much comment, but the second half of the chapter includes more interpretation because the study turns to examining the propositions and hypotheses that were formulated in Chapter II.

Data Characteristics and Sample Characteristics

Every manager returned a completed questionnaire, but one manager had received a questionnaire that did not include all of the locus of control items, and a second manager reversed the scoring procedure on the job perception items. The grand mean on locus of control was used to represent the score of the manager who received an incomplete questionnaire and the job perception ratings were recoded in the second case.

The data from the company records were complete and included the following measures: an individual's age, sex, and length of tenure in the current position; a coded performance rank; and a coded measure

of how large an office the individual manages. Some of these data were not useful for the purposes of this study. First, there were only two women represented in the sample, and these individuals showed no unusual scores on any index. Sex, then, is not a variable of much use for further analysis. Second, the company classifies its offices as large or small, based on volume of business and size of staff, but no patterns were found related to size. Third, there are trends in the data when they are partitioned according to level of performance, but these trends are not supported by measures of statistical differences between the groups. Demographic data appear in Table 2. Some discussion of the data partitioned by performance level will appear later in the chapter.

The most interesting results from the frequency analysis of demographic characteristics involve the ages of the managers and the years in the present position for each manager. These two measures show that managers in this position in this division are older than might be expected, and that they have been in their jobs for a long period of time. More than one third of the managers are older than fifty-five and about one third of all the managers have been in this position for more than ten years. It will be shown later that these managers are very similar with regard to some of the personality variables, and that, therefore, the sample used in this investigation is very homogeneous.

General Results

In the previous chapter, a procedure for ranking the job

TABLE 2

SAMPLE CHARACTERISTICS OF INTEREST

I. Sex: 64 Males 2 Females

II. Age:

Category	Absolute Frequency	Relative Frequency(%)	Cumulative Frequency(%)
20-29	2	3	3.3
30-34	5	7.6	11.5
35-40	13	19.7	32.8
41-45	9	13.6	47.5
46-50	9	13.6	62.3
51-55	5	7.6	70.5
56-	23	34.9	100.0

III. Years in Present Position:

Category	Absolute Frequency	Relative Frequency(%)	Cumulative Frequency(%)
2 or less	1	1.5	1.5
3	7	10.6	12.1
4	7	10.6	22.7
5	13	19.7	42.4
6-10	16	24.2	66.7
more than 10	22	33.3	100.0

perception items was outlined, and the results of this ranking procedure are shown in Table 3. The next step in the analysis involved describing the four composite measures that were used to determine how much variation in job perceptions can be attributed to personal characteristics. Table 4 shows the descriptive statistics calculated for each composite as well as a measure of the internal consistency of each composite.

Some interesting inferences can be drawn from the data in Table 4. First, the mean score on job perception items is 74.6. Since an individual who thought that the twenty items were all very accurate descriptions of his or her own experience would score 140.0, this mean for the group suggests that the items taken as a whole present only a moderately accurate picture of managerial work at best.

However, the second inference shows the index to be highly reliable in terms of internal consistency. Cronbach's standardized alpha for the twenty items is .845, so there are not many items in the scale that do not correlate with each other. In fact, only three items were negatively correlated with other items. When these items are omitted from the analysis, Cronbach's standardized alpha increases by less than 5 percent to .886. Dropping these three items lowers the mean of the index by almost eighteen points and does not affect the standard deviation, so there is little reason for eliminating these items. But it is interesting to note that these "unreliable" items are among the most accurate of all the items in the scale.

With regard to the descriptive statistics on the other

TABLE 3

DESCRIPTIVE STATISTICS FOR JOB PERCEPTION ITEMS

Questionnaire Item	Mean	Median	Std. Dev.	C.V.	Skewness	Kurtosis
1. The work pace is rapid and hectic.	4.167	4	1.535	36.8%	-0.184	-0.259
2. The day is filled with talking and listening to other people.	5.470	6	1.126	20.6%	-0.422	-0.667
3. One activity blends into the next, making it difficult to tell when one event ends and another one begins.	2.970	3	1.498	50.4%	0.591	-0.157
4. My plans and daily schedules are fragmented by frequent interruptions.	4.167	4	1.575	37.8%	0.033	-0.974
5. When there are not people to deal with, there is correspondence and paperwork to finish.	5.515	6	1.280	23.2%	-0.784	-0.156
6. Time alone for reflection is scarce.	4.197	4	1.915	45.6%	-0.154	-1.068
7. I can rely on set routines to accomplish most of the day's demands.	4.364	5	1.623	37.2%	-0.393	-0.681
8. Things change rapidly and I am forced to cope with events by instinct and intuition.	3.212	3	1.534	47.8%	0.343	-0.622
9. I can rely on my previous training and experience to meet most of the demands made on me.	5.864	6	1.149	19.6%	-1.609	3.073

TABLE 3--Continued

Questionnaire Item	Mean	Median	Std. Dev.	C.V.	Skewness	Kurtosis
10. Important events and trivial ones present demands in no particular pattern and I have to shift my mood frequently.	4.318	4.5	1.923	44.5%	-0.122	-1.216
11. My job is filled with making trade-offs in order to cope with the conflicting demands and constraints.	3.606	3.5	1.626	45.1%	0.137	-1.039
12. The momentum of the day's events carries me along on waves of immediate issues that I must react to.	3.424	3	1.479	43.2%	0.079	-0.916
13. My work day is filled with responding to requests and demands that other people initiate.	3.939	4	1.518	38.5%	-0.194	-0.994
14. Pressures and constraints force me to treat many issues in ways that must seem abrupt and superficial.	2.621	2	1.423	54.3%	1.103	0.785
15. My workload, in a normal week, is almost more than I can handle.	2.121	2	1.307	61.6%	1.219	0.714
16. I have to continually shift my attention from person to person and from problem to problem.	4.197	4	1.610	38.4%	-0.012	-0.998

TABLE 3--Continued

Questionnaire Item	Mean	Median	Std. Dev.	C.V.	Skewness	Kurtosis
17. My work day seems like a series of short episodes that may or may not be related to each other.	3.591	4	1.718	47.8%	0.028	-1.195
18. My work requires me to seek out "hot" information, or current information "from the grapevine," to ensure that the right problems are being worked on.	1.924	2	1.127	58.6%	1.747	3.206
19. My day is filled with checking out information, hunches, rumors, gossip, etc., and assessing how reliable and valid this information is.	1.561	1	1.079	70.3%	2.903	10.019
20. My work is a matter of coping with short-term problems rather than reflecting on long-range issues.	3.379	3.5	1.567	46.4%	0.157	-0.901

TABLE 4

DESCRIPTIVE STATISTICS FOR COMPOSITES AND "UNRELIABLE" JOB PERCEPTION ITEMS

Composite	Mean	Std. Dev.	Skewness	Kurtosis	Internal Consistency
Job Perceptions (all 20 (items)	74.606	15.107	0.061	-0.0698	.845
Job Perceptions (without 2,7,9)	58.909	15.464	-----	------	.886
Locus of Control	4.398	2.692	0.206	-0.6730	.672
Cognitive Style	9.833	3.707	0.106	-0.9120	.765
Coping With Stress	42.424	6.592	-0.561	1.2940	.719

"Unreliable"Job Perception Items

Item	Accuracy Rank	Questionnaire Item
(9)	(1)	I can rely on my previous training and experience to meet most of the demands made on me.
(2)	(3)	The day is filled with talking and listening to other people.
(7)	(4)	I can rely on set routines to accomplish most of the day's demands.

composites, the most interesting information concerns the scale for measuring Locus of Control. The small mean and the small standard deviation indicate little variation in this item. The skew is toward the Internal end of the scale, as is the mean score, which suggests that all the managers have a relatively high degree of belief in internal or personal control; it also indicates that any analyses based on median splits of the group are apt to be of little use. Perhaps the fact that the distribution is so heavy at the Internal end explains the low internal consistency, in part. The cognitive style variable shows more variation and a more centrally located mean. There are no reported data on the Coping With Stress measure, so the mean score is not easily evaluated.

Table 5 shows frequency counts for the four variables. From this Table, it is possible to see where the scores tend to cluster. The Job Perception scores have been classified into categories representing quartiles; the other categories are ad-hoc. It is clear from this tabulation how the Locus of Control scores pile up at the low end of the scale which is the Internal end. It is also clear that the Cognitive Style scores tend towards the middle of the scale. Similarly, the tabulation shows how the Coping With Stress scores tend towards the upper third of the scale. It would be ideal, for the purposes of more sophisticated analyses, especially those using tests built on assumptions of normality, for the variables to have more normal distributions. As it turns out, however, the analyses that will be used here do not require that normality be met; the amount of skew is tolerable, although

TABLE 5

FREQUENCY COUNTS FOR VARIABLE SCORES

	Score	Absolute Frequency	Relative Frequency (%)	Cumulative Frequency (%)
I. Job Perceptions (range=45-108)	45-64	17	25.0	25.0
	65-72	16	25.0	50.0
	73-84	16	25.0	75.0
	85-108	17	25.0	100.0
II. Locus of Control (range=0-14)	0-4	33	50.0	50.0
	5-9	32	48.5	98.5
	10-14	1	1.5	100.0
III. Cognitive Style (range=6-17)	0-4	6	9.1	9.1
	5-9	26	39.4	48.5
	10-14	27	40.9	89.4
	15-20	7	10.6	100.0
IV. Coping With Stress (range=0-55)	0-20	1	1.5	1.5
	21-40	23	34.8	36.4
	41-60	42	63.6	100.0

the skew and kurtosis associated with Coping With Stress suggest some piling up of scores toward the upper end of that distribution.

The fact that an entire population, not a sample, is being described in this study means that many of the concerns about normality can be put aside because few inferential tests are being used. The "F" and the "t" statistics are used to test goodness of fit and significant differences, respectively, but even these tests are carried out in the spirit of description and exploration, and not as confirmation or for inferences from this sample to a population.

As it turns out, the correlations among the variables are modest at best. Table 6 presents the correlation matrix for the four composites, as this is the next step in the analysis: preparation for regression analyses to show the relationships among the variables. The most robust correlation is between Cognitive Style and Job Perceptions ($r = -0.303$; $p = 0.007$). This is a modest, but significant correlation; all other correlations are smaller and insignificant. The correlation matrix in Table 6 is actually a set of two correlation matrices. Below the diagonal in the matrix are recorded the correlations corrected for attenuation; as is easily noted, there is not much gain in correcting for attenuation. The matrix of corrected correlations that appears below the diagonal is a theoretical matrix, and these correlations do not appear in any of the analyses.

Tables 7 and 8 show the statistics from the two regressions. The Job Perception composite is the left hand, or dependent variable for Table 7; Coping With Stress is the left hand variable in Table 8.

TABLE 6

CORRELATION MATRIX*
N=66

	Job Perceptions	Locus of Control	Cognitive Style	Coping With Stress
Job Perceptions	1.000	0.033 p=0.395	-0.303 p=0.007	0.115 p=0.178
Locus of Control	0.044	1.000	-0.082 p=0.256	0.096 p=0.223
Cognitive Style	-0.377	-0.114	1.000	0.026 p=0.419
Coping With Stress	0.148	0.138	0.035	1.000

*The correlations above the diagonal are shown with their level of significance. The correlations below the diagonal are the same correlations corrected for attenuation.

TABLE 7

STATISTICS FROM REGRESSING JOB PERCEPTIONS ON COPING WITH STRESS, COGNITIVE STYLE AND LOCUS ON CONTROL; AND FROM CORRELATING JOB PERCEPTIONS WITH THESE VARIABLES

Multiple R = 0.328

R Square = 0.107

Adjusted R Square = 0.064

Standard Error = 14.616

Analysis of Variance Table

	D F	S S	Mean Square
Regression	3	1588.366	529.455
Residual	62	13245.391	213.635

F = 2.478 Significance of F = 0.070

Variable	B	SE B	BETA	SE BETA	T	SIG T
Coping With Stress	0.283	0.276	0.124	0.121	1.025	0.310
Cognitive Style	-1.249	0.491	-0.307	0.120	-2.545	0.013
Locus of Control	-0.020	0.679	0.004	0.121	-0.030	0.976
(Constant)	74.962	12.831			5.842	0.000

Variable	Correlation	Semi-Partial	Partial Correlation	T	SIG T
Coping With Stress	0.115	0.123	0.129	0.936	n.s.
Cognitive Style	-0.303	-0.305	-0.308	2.670	.01
Locus of Control	0.033	-0.004	-.004	0.267	n.s.

TABLE 8

STATISTICS FROM REGRESSING COPING WITH STRESS ON COGNITIVE STYLE AND LOCUS OF CONTROL; AND FROM CORRELATING COPING WITH STRESS WITH THESE VARIABLES

Multiple R = 0.101

R Square = 0.010

Adjusted R Square = -0.021

Standard Error = 6.661

Analysis of Variance Table

	D F	S S	Mean Square
Regression	2	28.984	14.492
Residual	63	2795.137	44.367

F = .327 Significance of F = .723

Variable	B	SE B	BETA	SE BETA	T	SIG T
Cognitive Style	0.060	0.224	0.034	0.126	0.268	0.790
Locus of Control	0.241	0.308	0.098	0.126	0.782	0.437
(Constant)	40.788	2.790			14.620	0.000

Variable	Correlation	Semi-Partial	Partial Correlation	T	SIG T
Cognitive Style	0.026	0.034	0.034	0.205	n.s.
Locus of Control	0.096	0.098	0.091	0.772	n.s.

From the ANOVA table in Table 7, we can see that the regression of Job Perceptions on the other variables was statistically significant at the probability level of F = 0.07; but from the R-Square in the same Table, we can see that the regression accounts for only 10 to 11 percent of the variance. When the R-square is adjusted, in order to be conservative about the estimate with regard to the effects of chance in small samples, it turns out that just over 6 percent of the variance in perceptions may be accounted for in terms of these three variables. Thus, the significance of the regression exceeds the amount of variation explained.

When we look at the patterns of the regression coefficients, we find that they show essentially what was found in the simple correlations: namely, that Cognitive Style contributes modestly, but significantly, to explaining Job Perceptions, while other variables contribute less in terms of magnitude and significance than Cognitive Style does. Thus, it appears that Cognitive Style, Locus of Control, and Coping With Stress, taken collectively, explain 6 to 11 percent of the variation in Job Perceptions, but that this contribution to our understanding of Job Perceptions is almost entirely due to the correlation of Job Perceptions and Cognitive Style. Thus, when we look at the individual contributions to Job Perceptions by analyzing the quared semipartial correlations, we find once again that Cognitive Style is still much larger than the other variables as a source of influence on Job Perceptions. We will return to these issues in the next chapter. The same kind of analysis extends to the regression of Coping With Stress on Locus of

Control and Cognitive style; however, there is little or any interest in this data--there are not any correlations that can be called either modest in terms of their magnitude or significant in terms of the strength of the correlation. With these remarks, we can turn from a general presentation of results to more specific presentations that are relevant to the propositions and hypotheses formulated in Chapter II.

Results Related to Proposition I

At the end of Chapter II, several propositions and hypotheses were listed in order to guide the research effort outlined in Chapter III. Support for these propositions and hypotheses will now be discussed. The first proposition states that the managers who were studied tend to perceive the characteristics of their jobs in ways that resemble researchers' descriptions of the mundane activities associated with managerial work. The discussion in Chapter II showed that the twenty items used to measure managers' job perceptions in this study accurately reflect the researchers' point of view. The discussion in Chapter III demonstrated a procedure for ranking the items according to how accurately each item reflected some element of managers' experience. The rankings for this sample of managers appears in Table 9.

How to interpret these ranks is the issue at hand, and ranks are generally ambiguous: what is meant by the fact that the median score was six for three items, and that medians ranged all the way to one for a particular item? Clearly, the items with the highest medians

TABLE 9

ACCURACY RANKS FOR JOB PERCEPTION ITEMS

Group I: Median = 6

Rank	Questionnaire Item
1.	I can rely on my previous training and experience to meet most of the demands made on me.
2.	When there are not people to deal with, there is correspondence and paperwork to finish.
3.	The day is filled with talking and listening to other people.

Group II: Median = 5

4.	I can rely on set routines to accomplish most of the day's demands.

Group III: Median = 4.5

5.	Important events and trivial ones present demands in no particular pattern and I have to shift my mood frequently.

Group IV: Median = 4

6.	I have to continually shift my attention from person to person and from problem to problem.
7.	The work pace is rapid and hectic.
8.	My plans and daily schedules are fragmented by frequent interruptions.
9.	My work day is filled with responding to requests and demands that other people initiate.

TABLE 9--Continued

Rank	Questionnaire Item
	Group V: Median = 3.5
10.	My work day seems like a series of short episodes that may or may not be related to each other.
11.	Time alone for reflection is scarce.
	Group VI: Median = 3
12.	My job is filled with making trade-offs in order to cope with the conflicting demands and constraints.
13.	My work is a matter of coping with short-term problems rather than reflecting on long-range issues.
	Group VII: Median = 2
14.	One activity blends into the next, making it difficult to tell when one event ends and another one begins.
15.	Things change rapidly and I am forced to cope with events by instinct and intuition.
16.	The momentum of the day's events carries me along on waves of immediate issues that I must react to.
17.	Pressures and constraints force me to treat many issues in ways that must seem abrupt and superficial.
18.	My workload, in a normal week, is almost more than I can handle.

TABLE 9--Continued

Rank	Questionnaire Item
19.	My work requires me to seek out "hot" information, or current information "from the grapevine," to ensure that the right problems are being worked on.
Group VIII: Median = 1	
20.	My day is filled with checking out information, hunches, rumors, gossip, etc., and assessing how reliable and valid this information is.

are much better representations of the managers' experience than the items with the lowest medians; but where is the line to be drawn that separates the accurate and inaccurate items? My own inclination is to treat the items whose median rating is five or higher as items that tend to be accurate; to treat the items whose median rating is three or lower as items that tend to be inaccurate; and to treat the remaining items as issues which are not as salient in the experience of these managers as the issues represented by the other items.

Thus, it appears that these managers rely on previous training and experience, as well as on set routines; that their work is largely in terms of dealing with people and attending to paperwork; and that their days are filled with talking and listening to people. At the other end of the scale, it would appear that the managers do not have much difficulty remembering the events of the day as a series of discrete events, rather than as a blur of undifferentiated activities; that change is not rampant and coping by instinct and intuition is not called for in general; that the workload can be handled; that the momentum of the immediate issues does not sweep the managers along; that the managers do not perceive themselves as being forced by pressures and constraints to treat issues in ways that an observer would find abrupt and superficial; and that the work these managers do is routine enough that they spend little, if any, time checking informal information sources. At least this is how they perceive their work.

The patterns established by the data falling near the top of the rankings and the data falling near the bottom of the rankings are

reasonably clear. These managers see themselves working at a rather stable job in a rather stable environment. Anyone familiar with the jobs of middle managers in the insurance industry would probably not be surprised by these findings.

It seems to me that the more interesting items, the ones that most clearly represent the point of view of people like Henry Mintzberg, tend to fall toward the middle of the scale. Nine of the items cluster just above or just below the median of four. Because the scale has seven response choices, it could be argued that people used the number four as a way to register a lack of strong opinion. On the other hand, it could be argued that the items falling near the middle of the scale represent aspects of the managers' experience that are less salient than the other aspects; that is, managers may either ignore these issues, or have formed routines so that they are easily absorbed. If my assumption is correct--that the items falling near the middle of the scale better represent the point of view in the empirical literature--and if the managers responded to these items by giving them moderate rankings, rather than "no opinion" rankings, then this finding should mark a point of departure for additional analysis.

One way to interpret this finding would be to examine what the questionnaire might be tapping in terms of related perceptions, rather than in terms of perceptions about the accuracy of the items. The Job Perception composite was factor analyzed in order to explore this issue. The results of the factor analysis appear in Table 10. Informal inspection of the data arranged in terms of factors and rankings

TABLE 10

VARIMAX ROTATED FACTORS AND ACCURACY RANKINGS FOR JOB PERCEPTION ITEMS

Factor I: Eigenvalue=6.035, Percentage of Variance=54.9, Cumulative Percentage of Variance=54.9

Loading	Rank	Item
.676	6	I have to continually shift my attention from person to person and from problem to problem.
.651	5	Important events and trivial ones present demands in no particular pattern and I have to shift my mood frequently.
.598	10	My work day seems like a series of short episodes that may or may not be related to each other.
.477	16	The momentum of the day's events carry me along on waves of immediate issues that I must react to. (a)
.467	17	Pressures and constraints force me to treat many issues in ways that must seem abrupt and superficial.
.463	13	My work is a matter of coping with short-term problems rather than reflecting on long-range issues.
.458	9	My work day is filled with responding to requests and demands that other people initiate. (a)
.401	8	My plans and daily schedules are fragmented by frequent interruptions.

TABLE 10--Continued

Loading	Rank	Item
Factor II: Eigenvalue=1.470, Percentage of Variance=13.4, Cumulative Percentage of Variance=68.3		
.729	11	Time alone for reflection is scarce.
.712	2	When there are not people to deal with, there is correspondence and paperwork to finish.
.553	18	My workload, in a normal week, is almost more than I can handle.
.465	16	The momentum of the day's events carries me along on waves of immediate issues that I must react to.
.417	9	My day is filled with responding to requests and demands that other people initiate. (a)
.400	8	My plans and daily schedules are fragmented by frequent interruptions. (a)
Factor III: Eigenvalue=1.026, Percentage of Variance=9.3, Cumulative Percentage of Variance=77.6		
.658	14	One activity blends into the next, making it difficult to tell when one event ends and another begins.
.646	7	The work pace is rapid and hectic.
.548	12	My job is filled with making trade-offs in order to cope with the conflicting demands and constraints.
.509	15	Things change rapidly and I am forced to cope with events by instinct and intuition.

TABLE 10--Continued

Loading	Rank	Item
Factor IV: Eigenvalue=.959, Percentage of Variance=8.7, Cumulative Percentage of Variance=86.3		
.875	20	My day is filled with checking out information, hunches, rumors, gossip, etc., and assessing how reliable and valid this information is.
.793	19	My work requires me to seek out "hot" information, or current information, "from the grapevine," to ensure that the right problems are being worked on.
Factor V: Eigenvalue=.853, Percentage of Variance=7.8, Cumulative Percentage of Variance=94.1		
.621	3	The day is filled with talking and listening to other people. (b)
.408	1	I can rely on my previous training and experience to meet most of the demands made on me. (b)
Factor VI: Eigenvalue=.652, Percentage of Variance=5.9, Cumulative Percentage of Variance=100		
.685	4	I can rely on set routines to accomplish most of the day's demands. (b)

(a) These items load on more than one factor with a loading exceeding .400 on the factors.

(b) These items are "unreliable" in the sense that they are negatively correlated with many of the other items in the composite, thereby reducing the internal consistency of the composite.

suggests the following interpretation.

The factor analysis results show several things. First, it would appear that there are as many as six factors, or clusters, of relationships among the items in this data. Three of these factors are stable in the sense that most of the items load high on one factor rather than on many; and, using Kaiser's criterion, three of the six factors extract enough of the variance in the data to warrant some consideration as distinct clusters. Informal inspection of the factors and the accuracy ranks of the items, taken in conjunction with each other, suggests that the Job Perception items with extreme ranks tend to cluster at the bottom of the factor analysis, while the moderately ranked items form the clusters of the more significant factors. Thus, it could be argued that the questionnaire items are tapping perceptions about issues that are not particularly salient to the managers; on this view, it would seem plausible that the interesting information exists in the moderately rated items.

Another finding which reinforces this view stems from the fact that eliminating the "unreliable" items causes the mean of the composite to drop considerably, but leaves the standard deviation virtually the same. Thus, these items are tightly coupled in the managers' perceptions; moreover, these are the items most closely related to the dominant themes in the empirical literature on what managers do.

Finally, it might be noted that the correlation between age and Job Perceptions is 0.0712 (n.s.), and that the correlation between Job Perceptions and number of years in the position is -0.0627 (n.s.). The

sample consists of older managers who have been on the job for a long period of time, so it might be thought that age and tenure would explain the rankings. Perhaps age and tenure explain the fact that the routine job themes are seen as accurate, and the fact that the search for hot information items is seen as inaccurate, but, in general, these tenure variables provide little interpretive information about the source of these job perceptions.

Proposition II

Proposition II states that the personality characteristics measured in this study contribute collectively to explaining the variation in the managers' job perceptions. It is not important which items are rated accurate characteristics of managerial work for this analysis, but it is important that the composite be reliable, at least in the sense of having not too many negative correlations among the items. The reliability of the entire index was estimated, using Cronbach's Alpha (Alpha = .845). For these data, the composite of job perceptions appears to be internally more consistent than the other composites used despite the fact that one of the other instruments, Rotter's Locus of Control, is a well-established instrument. Assuming internal consistency for each composite, a descriptive regression will produce statistics to estimate the contribution of the composites representing personality factors to understanding the variation in perceptions among the managers.

The most relevant statistics are R-Square, which provides an

index of the percentage of variation in the job perceptions accounted for by the personality factors; and the F-statistic, which estimates the probability that the regression results provide a good fit with the data. The R-Square shows that the three personality factors account for 10 to 11 percent of the variation in perceptions; a more conservative estimate is provided by an adjusted R-Square statistic which takes into account sample size and chance fluctuations that might lead to an overestimated R-Square. The adjusted R-Square shows only about 6 percent of the variation in perceptions to be accounted for.

Finally, the F-Statistic suggests that the regression is significant at about the 0.06 level. Thus, the regression is statistically significant to a high degree, but very little variation is actually accounted for by the personality variables considered together. These results are due mainly to the correlation between Job Perceptions and Cognitive Style.

Proposition III

Proposition III subsumes hypotheses one, two, and five because proposition three states that each personality characteristic contributes to our understanding of the variation in job perceptions, apart from its contribution in conjunction with the other variables:

1. There will be a significant, positive correlation between managers' job perceptions and their locus of control scores. This hypotheses must be rejected on two grounds. First, the simple correlation is positive ($r = 0.033$), but the t-test of the significance of this

correlation shows that the correlation is not significant. Second, the best single measure of an individual variable's contribution to explaining the variation in another variable, by using regression techniques, is conveyed in the statistic called the squared semi-partial correlation. This statistic eliminates the influences of other variables on the dependent variable and assesses the influence of the variable of interest in a regression analysis. The squared semi-partial for locus of control is zero unless we carry out the figure beyond the fifth digit. Therefore, it is clear that locus of control scores tell us nothing about these job perceptions. All the locus of control scores were clustered near the Internal end of the scale, so locus of control is not a variable for these individuals. Perhaps more variation could be induced by adding tag phrases to the locus of control items so that managers focus on these issues with regard to work issues, rather than with regard to general issues. There is effort under way by locus of control theorists to devise new scales for specific environments; perhaps such a scale is needed for populations of managers. Alternatively, it may be that control cognitions are not relevant for job perceptions because managers eventually learn to perceive themselves in some degree of control in order to survive in the job.

2. <u>There will be a significant, positive correlation between coping with stress and job perceptions</u>. Using the same kind of statistics mentioned in regard to studying the influence of locus of control, we can assess the amount of variation explained by coping with stress. The simple correlation between coping with stress and job perceptions

is: (r = 0.1154) which is not significant. Furthermore, the squared semi-partial correlation is almost zero: (0.0144). Therefore, this variable appears to contribute almost nothing to our understanding of job perceptions. The lack of contribution may be explained by the fact that the managers cluster at the lower half of the scale and this particular inventory shows more about similarities among managers rather than ways to differentiate among them. This line of reasoning is the same as the line of reasoning with regard to the locus of control items.

3. There will be a significant, positive correlation between managers' job perceptions and their cognitive styles. There is a significant simple correlation and a significant squared semi-partial correlation of roughly the same magnitude, but the direction of the correlation is negative rather than positive. Both of these findings are interesting. First, the squared simple correlation and the squared semi-partial correlation both show that cognitive style accounts for 9 percent of the variation in perceptions. But the direction of the correlation is even more interesting. It appears that the job perception items reflect the perceptions of the Sensation oriented managers, better than they reflect the perceptions of the intuition oriented managers. That is, there is a modest but significant correlation which suggests that the job perception items are seen as better reflections of the experiences of the sensation oriented managers. The average ranking of the items in this composite tends to be lower for Intuitives than for Sensates. The Cognitive Style composite is much more revealing of the data than the other two variables. Perhaps this is due in part

to the fact that managers were cued by the tags on these items to think in terms of work issues, rather than general issues, while the tags on the other items focused the managers on general issues. Perhaps the modest correlation is also due to the fact that the cognitive style scale differentiates more among the managers than the other two scales. Naturally, we would expect a correlation between the job perception scale and the cognitive style scale because there are logically related items in both scales dealing with perceptions and preferences about routine and change.

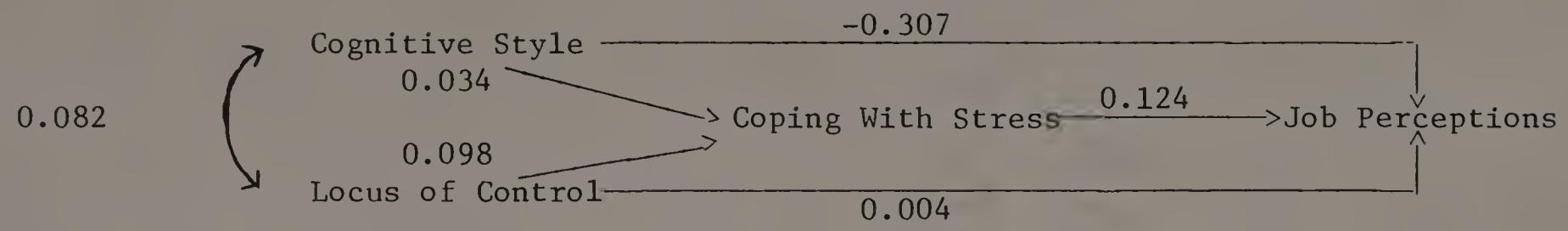
When the job perception scores are categorized in terms of three groups representing Intuitives, Sensates, and Mixed, it turns out that the mean job perception score for the Intuitives is 68.68; for the Mixed group, it is 74.50; and for the Sensates, it is 80.21. Then, when we conduct a t-test between the means of the two extreme groups, the t (= 2.54) is significant at the (p = .01) level. Hence, there is good reason to think that cognitive style discriminates between individuals in this sample with regard to job perceptions. These three groups are comprised by the top one-third of all cognitive style scores being labeled Intuitive; by the bottom twenty-four scores being labeled Sensate; and by the remaining twenty scores being labeled Mixed. Thus scores of twelve to nineteen were treated as representing Intuitives; scores of two to eight as representing Sensates; and scores of nine to eleven as representing mixed modes of selecting problems.

4. <u>There will be a significant positive correlation between coping with stress and locus of control</u>. The correlation is positive,

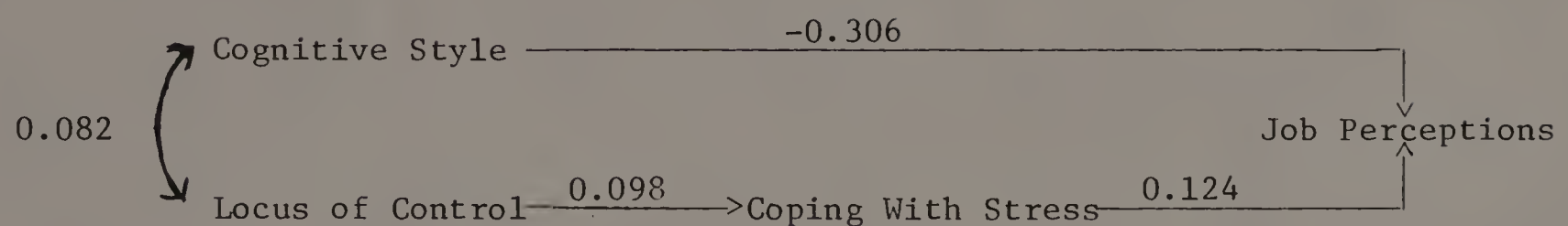
but not significant (r = .0956). Apparently, the logical relationship between believing in personal control and coping with stress is not revealed by these indices.

5. There will be a significant, positive correlation between coping with stress and cognitive style. The correlation is virtually zero and not significant in any statistical sense (r = 0.0256). Cognitive style would not appear to have any connection with these managers' perceptions of their resources for coping with stress.

Now despite the insignificant correlations, an interesting pattern may be illustrated through path analysis. Path analysis shows the patterns of relationships between variables in terms of the standardized regression coefficients from a regression on standardized data where the means of the variables have been transformed to zero and the standard deviations transformed to one. The path coefficients are closely related to the correlation coefficients, but they are ratios of standard deviations which show individual contributions of individual variables. A look at Figure 1 shows a postulated relationship among all the variables. Essentially, this is a model of the relationships discussed above with two other relationships also included. The correlation between Cognitive Style and Locus of Control is presented; this is a correlation that was not part of the theoretical analysis. The pattern of path coefficients reproduces the same information that the correlation analysis showed because there were so many near zero correlations in the data. The point of interest in this diagram is the fact that locus of control contributes to job perceptions through coping with



a. Proposed Model

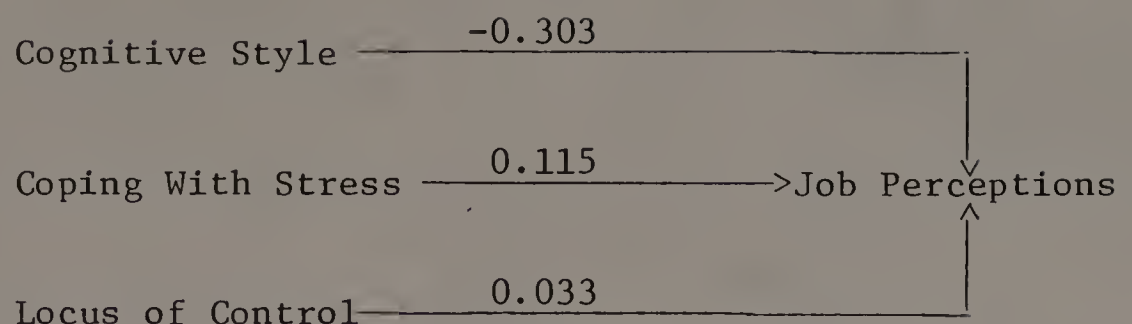


b. Revised Model

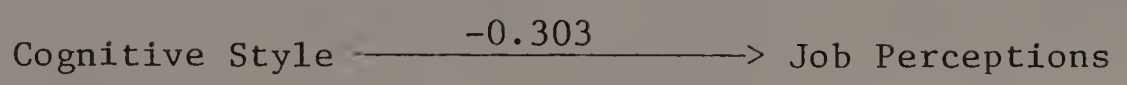
Figure 1. Estimated Path Models

stress. The relationship is almost insignificant, but it points up the usefulness of examining relationships among variables in more than one way. The proposed model in Figure 1 expresses the relationships hypothesized in this study. The revised model eliminates the most insignificant relationships and shows the direct relationship between cognitive style and job perceptions as well as the indirect relationship of locus of control through coping with stress. This model does not imply that coping with stress is any more important in understanding job perceptions than was previously shown. But it does emphasize that relationships among variables may be more subtle than first anticipated. Figure 2 summarizes the pattern of correlations between job perceptions and the personality factors. The proposed model expresses the hypotheses and findings, while the revised model shows that only the relation between job perceptions and cognitive style is statistically significant.

Finally, there is an interesting relationship between job perceptions and cognitive style. Therefore, explorations were made using these variables. First, correlations between tenure related variables, job perceptions, and cognitive styles were assessed. These are shown in Table 11. The only significant correlations are between cognitive style and job perceptions, as already discussed, and between cognitive style and the starting ages of the individuals. In fact, the largest correlation in the study is between the age the manager enters the job he presently holds and his cognitive style ($r = -0.3705$). The direction of the correlation suggests that lower ages for entering the



a. Proposed Model



b. Revised Model

Figure 2. Estimated Correlation Models

TABLE 11

CORRELATION MATRIX FOR JOB PERCEPTION, COGNITIVE STYLE, AND TENURE VARIABLES

	Job Perceptions	Age	Tenure[a]	Starting Age[b]	Cognitive Style
Job Perception	1.000	0.071	-0.063	0.107	-0.303
Age		1.000	-----[c]	-----[c]	0.009
Tenure			1.000	-----[c]	0.003
Starting Age				1.000	-0.371
Cognitive Style					1.000

[a] Tenure refers to years in the position.

[b] Starting Age refers to age when starting in present position.

[c] These are logically correlated variables, and the empirical correlations were omitted from the table in order to focus on the other correlations.

job are associated with Intuitive cognitive styles.

Finally, the major variables of the study--job perceptions and personality factors--were examined in terms of the performance ratings of the individuals. The data and tabulations are shown in Table 12. It appears that outstanding managers respond to job perception items differently from the way the other managers respond and that the job perception composite is rated as being more accurate by people with lower performance ratings. However, it should be added that the difference in average ratings between the outstanding managers and the below average managers is not statistically significant despite the trend suggested by the means.

The locus of control also shows a trend: outstanding managers have a greater sense of internal control than below average managers, but this difference is not significant either. Then, with regard to coping with stress, there is also a trend: outstanding managers register a greater sense of resources for coping with stress than do the below average managers; but this difference is not statistically significant. But the outstanding managers are more Intuitive as a group than the rest of the managers and the difference is more significant ($p = .10$). Thus, outstanding performance ratings, the age one enters the job, and cognitive style seem to be related. Perhaps Intuitive people are promoted earlier in their careers. It is interesting that Intuitives perform at a higher level than the other managers--or rather, that the highest rated managers, on the average, are more intuitive as a group--because the environment would seem to be routine.

TABLE 12

RELATIONS BETWEEN INDIVIDUAL PERFORMANCE RATINGS AND THE VARIABLES

	Rating			
Variable	Outstanding (N=8)	Good (N=20)	Average (N=30)	Below Average (N=8)
Job Perception				
$\bar{X}$	68.63	75.00	75.60	76.88
S	15.10	15.61	12.98	16.09
Locus of Control				
$\bar{X}$	3.75	3.62	4.90	5.50
S	1.64	2.59	3.02	2.40
Coping With Stress				
$\bar{X}$	41.13	41.83	43.20	44.00
S	5.82	7.09	6.32	4.87
Cognitive Style				
$\bar{X}$	11.88	9.53	9.70	9.25
S	2.71	3.49	4.37	2.44

STATISTICAL DIFFERENCES BETWEEN OUTSTANDING AND BELOW AVERAGE PERFORMERS

Variable	T	SIG T
Job Perception	0.989	n.s.
Locus of Control	1.590	n.s.
Coping With Stress	0.174	n.s.
Cognitive Style	-1.907	.10

These issues are interesting also, when we look at the tendency (although not statistically significant) of outstanding managers to perceive their work in slightly different ways from the other managers, as revealed by the trend in job perception means. But these are suggestive trends, not firmly supported conclusions; they are presented here, at the end of this chapter, because they imply the need for interpretation and additional research--the subjects of the next chapter.

C H A P T E R V

INTERPRETATIONS AND RECOMMENDATIONS

Introduction

The aim of this final chapter is to pull together themes and findings discussed in the earlier chapters of the report. Both interpretations of the findings and recommendations for additional research appear in this chapter. Moreover, the interpretations are in terms of the objectives expressed in the first chapter of the report, while the recommendations relate to both conceptual and empirical issues discussed in the report.

The Managerial Activity Perceptions Scale

A central finding of this study concerns the reliability of a scale composed of twenty items which survey managers' perceptions of activities associated with performing their jobs. In keeping with the nomenclature established in the literature on management, personnel psychology, and organizational behavior, these twenty items have been referred to throughout the report as job perceptions items.

These twenty separate items, however, correlate with each other to such a high degree that the items may be collectively referred to as a scale. Since the items were intended to measure managers' perceptions of dimensions of their work that have been labeled characteristics of managerial activities (Mintzberg, 1973), then it seems

logical to name this scale the Managerial Activity Perceptions Scale.

When all twenty items of the Managerial Activity Perceptions Scale are examined in terms of intercorrelations, it turns out that only three items are negatively correlated with any other items in the scale. Even with these negatively correlated items left in the scale, the internal consistency of the scale is 0.845. A coefficient of internal consistency that is as high as this one, indicates that the scale is an accurate, stable representation of what it is intended to represent (Kerlinger, 1973). If the three negatively correlated items are eliminated from the scale, and the internal consistency is checked once again with Cronbach's Alpha, the coefficient increases to 0.886. Thus, we can be confident in assuming that the scale will probably be an accurate, stable representation of whatever it measures: the scale is a reliable instrument.

The reliability of a scale is a relative measure, however. Reliability may differ from sample to sample; moreover, the measure of internal consistency does not imply that the same coefficient will be found for this particular sample on another occasion, say six months from now. The measure of reliability only shows that this scale is very homogeneous, or internally consistent, for this sample, as measured in terms of the average correlation of split measures of the test. What this homogeneity means, however, is that there is a high probability that the test will be internally consistent for a variety of different samples.

Moreover, the job perceptions items are more homogeneous for

this sample than the standard measures that were also used in the study: the locus of control, the adapted Myers-Briggs items, and the scale for coping with stress. The fact that the scale is more homogeneous than the standard instruments, when used with this sample of managers, is more support for the fact that the scale is a reliable instrument. Furthermore, if we examine the four scales used in the study with respect to skewness and kurtosis, it appears that the distribution of scores on the job perceptions scale is much more normal than the distributions of scores for any of the other three measures. The skewness and kurtosis for the job perceptions items taken as a scale are zero in the first decimal place, whereas the similar measures for the other scales range from 0.2 to 1.2 in absolute value, which suggests that the other distributions deviate from normality to a greater degree than do the job perceptions scores. Therefore, it is reasonable to conclude that the twenty items comprising the Managerial Activity Perceptions Scale show enough internal consistency and normality that the scale is a promising measure.

Future research needs to be conducted, however, concerning the psychometric properties of this instrument. Internal consistency needs to be assessed by using the scale with several samples of managers in different organizations, and in different positions. Next, there is a need for some measure of the measure's stability over time; thus, a test-retest sequence needs to be conducted with one particular sample, or preferably, in conjunction with multiple samples, in order to assess the extent to which managers respond similarly to the items while still

working in the same jobs.

This research would only establish the reliability of the instrument. Some checks of its validity need to be made. The extensive item analysis in Chapter Two starts this process. This analysis shows logical arguments for believing that the items accurately reflect the themes in the literature on managerial activities. To the extent that these items do reflect the content of the literature, the scale may be interpreted as having content validity with respect to the literature. However, this content validity would be stronger if it could be assessed in a more empirical fashion. In keeping with the discussion of multiple methods in social research converging upon a phenomena, it is reasonable to suggest that a construct validity test of the items in this scale might be carried out by both observing a particular job extensively and simultaneously distributing the survey so that analytical observations may be compared with the participants' perceptions. As these different points of view converge, the validity of the instrument is supported.

Therefore, in summary, it is reasonable to conclude that the Managerial Activity Perceptions Scale exhibits a strong degree of reliability based on limited evidence from this one study. Accordingly, it is logical to recommend that more research be conducted to establish the psychometric properties of this instrument with respect to reliability and validity. This research would include using the instrument with different samples and using the instrument in conjunction with observational studies in order to establish both long-term reliability, reliability across samples, and empirical validity of the scale.

Managerial Activity Perceptions and Perceived Job Characteristics

The research questions for this study were framed in reference to the job characteristics literature. Because there is good evidence that the Managerial Activity Perceptions Scale is a reliable instrument, one way to use this instrument would be to connect it with the job characteristics investigations more clearly. This connection can be made both empirically and conceptually.

With respect to empirical tests, another cue can be taken from the job characteristics literature, and the Managerial Activity Perceptions Scale may be used in a study of job satisfaction and individual motivation. Most of the perceived job characteristics studies, from Turner and Lawrence (1965) onward have been attempts to examine the effects of jobs on the individual holding the job. These effects have been measured in terms of performance levels, attendance patterns, expressions of dissatisfaction, and feelings that needs are being met in the work environment. The Managerial Activity Perceptions Scale could be examined in such a study, just as the Job Description Survey or the Job Characteristics Inventory are currently used. The advantage of the Managerial Activity Perceptions Scale would be that it focuses on characteristics associated with managerial work; therefore, in the study of managers' jobs, this scale should be more appropriate than the others.

With respect to conceptual investigations, the following line of reasoning should be pursued. First, throughout the study of

management theory, it has been maintained that managers are responsible for environments in which other people work. Second, when we read the literature on managerial activity studies, we find a series of studies which examine the characteristics of the manager's immediate environment, at least indirectly. There are elements of Mintzberg's propositions (1973) about the characteristics of managerial work which make it explicit that the study of managerial work is also the study of the environments in which managers work. These themes are incorporated in the instrument, so the Managerial Activity Perceptions Scale reflects issues related to the dimensions of managers' environments. Third, the study of individual behavior in social psychology has taken a cognitive focus in recent years, and this cognitive perspective has appeared in the perceived job characteristics literature under the label of psychological climate (James and Jones, 1980). Psychological climate refers to the way that individual perceive attributes of the organization such as size and top management policies. Insofar as these attributes of work organizations are really reflections of individuals' cognitive processing, these attributes are labeled psychological climate variables. James and Jones (1980) have linked the study of individual perceptions about job characteristics to the idea of psychological climate, and it is a logical extension of this current work to think of the Managerial Activity Perceptions Scale as operationalizing psychological climate items.

Therefore, it is recommended that the literature on perceived characteristics and psychological climate be integrated in a way that takes managers' perceptions of their everyday activities into account.

The first empirical instrument for this purpose exists in the form of the Managerial Activity Perceptions Scale. We can be reasonably sure that this scale has measured something akin to psychological climate in this study because the environments of these managers are so similar: the managers work the same division of the same company and their formal job descriptions are identical.

Of interest in this regard is the fact that the homogeneity of this environment may be contrasted with the diversity of opinions about the activities that go on in the environment. There was great variation in the scores on the composite job perceptions measure, and a number of individual items elicited a wide range of responses as to their accuracy as descriptions. Coupling the large amount of variation with the fact that the environments were similar in many respects adds further evidence to the interpretation that individual perceptions are important aspects of managerial work. People view managerial work environments in diverse ways, even when we ask them to reflect on their daily activities.

Moreover, the demographics of the sample show that most of these people have been in their current jobs for quite awhile; and the locus of control scale shows that they are similar in terms of this dimension of personality. Thus, a set of similar individuals working in homogeneous jobs displays a wide range of opinions about the nature of their work. This fact points up once again the importance of appreciating individual perceptions and individual differences when examining the nature of work related activities.

Managerial Activity Perceptions, Cognitive Style, and Levels of Performance

Levels of performance were examined in relation to personality variables, demographic differences, and perceptions of job related activities. This line of analysis showed trends in the data when mean scores on the individual difference measures are categorized by performance level. The trends include the following: the highly rated managers see the job descriptors as less accurate than the lower rated managers see them; highly rated performers are more internal with respect to locus of control; highly rated managers report more resources for coping with stress. Finally, the most significant difference concerns performance and cognitive style: the outstanding managers, on the average, were more intuitive than the other managers as measured by the Myers-Briggs self-report items.

Cognitive style thus appears to discriminate among individuals and among levels of performance. Furthermore, cognitive style is significantly correlated with job perceptions as measured by the Managerial Activity Perceptions Scale, and cognitive style is also significantly correlated with the age at which the manager entered the position he held when this study was made. Specifically, lower starting ages and lower scores on the Managerial Activity Perceptions Scale are both correlated with scores on the Myers-Briggs Type Indicator that tend toward the Intuition pole of the Sensation-Intuition subscale. Moreover, outstanding performers tend to be managers whose scores reflect the Intuition pole of the scale.

This pattern of personal characteristics, job perceptions, and levels of performance is suggestive, but the evidence is not strong enough to establish policy recommendations concerning the selection and training of effective managers. The sample characteristics are too restrictive to generalize beyond this one population; but for this particular population, it is clear that additional investigation of these managers and the relationship between their personal characteristics and job performance should include a study of their cognitive styles and the selection mechanisms which tend to result in intuitive people becoming managers earlier. The evidence here is correlational, not causal, but the correlations are significant enough to follow up this lead with further research.

Summary

Several conclusions and recommendations emerge from this study. First, the Managerial Activity Perceptions Scale is reliable enough that it warrants further use and further investigation of its psychometric properties. Particularly necessary are investigations of the longitudinal reliability of the scale and the construct validity of the scale with respect to dimensions of managerial activity.

The scale is reliable enough that it appears possible that different managerial jobs might be contrasted in terms of these dimensions. Furthermore, it is recommended that, given the situational homogeneity of the sample in this study and the diversity of individual opinion about work characteristics expressed in response to the

instrument, that the source of this diversity needs further examination. A logical starting point for further conceptual work in this area is to examine the notion of psychological climate in conjunction with examinations of cognitive style.

Second, the pattern of correlations and differences associated with cognitive style, the age at which the manager entered this particular job, and the performance ratings of the managers received, suggest that the company employing these managers should examine the selection and appraisal mechanisms associated with this particular job. There is not enough evidence to generalize beyond this sample with regard to issues of performance, but it appears that the link between cognitive style, starting age, and performance level is worth investigating for these managers.

These issues obviously have relevance for training issues in addition to understanding the selection mechanisms at work in the company employing these managers if the relation between cognitive style and performance holdsup over time. The most interesting aspects of this study, in conclusion, concern the development of a new scale for measuring managers' perceptions of their activities in terms of dimensions that observers consider important. If the instrument can be shown through further investigation to be reliable and valid, then a data based instrument for understanding the everyday characteristics of managerial work now exists.

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