1986

An analysis of job characteristics, leadership, teamwork, and job satisfaction in the Cooperative Extension Service

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AN ANALYSIS OF JOB CHARACTERISTICS, LEADERSHIP, TEAMWORK, AND JOB SATISFACTION IN THE COOPERATIVE EXTENSION SERVICE

Iowa State University PH.D. 1986

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An analysis of job characteristics, leadership, teamwork, and job satisfaction in the Cooperative Extension Service

by

Sue K. Gunkel Kruse

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I. INTRODUCTION

This chapter provides background information relevant to the research problem addressed in this study and describes the organizational context for the research. A conceptual framework is presented, with statement of the research problem, the purpose of the study, and research objectives. Finally, important terms are defined, assumptions and limitations are noted, and the significance of the research is summarized.

A. Background

Both public and private organizations demonstrated high interest in organizational effectiveness during the early 1980s. Through their study of excellence in large American companies, Peters and Waterman (1982) synthesized characteristic patterns of organization behavior important to organizational effectiveness. Peters and Austin (1985) extended the excellence study to other types of organizations. A federal commission appointed by the current U.S. Secretary of Education, Terrence Bell, prepared the report, A Nation At Risk, with recommendations for the achievement of excellence in elementary and secondary schools (National Commission on Excellence in Education, 1983). This interest in effectiveness is not a recent phenomenon, however. "For the past one hundred years, writers representing both the private and public sectors have expressed concern about the effective and efficient operation of

virtually every type of organization" (Hoy & Miskel, 1982, p. 319). Organizational effectiveness is an important area of study for both researchers and organizational leaders.

Before organizational leaders seek to improve effectiveness, they need both theory and data to understand how and why an organization functions in its current state (Cummings & Molloy, 1977; Hackman & Oldham, 1980; Lawler et al., 1980). Such theory and data provide the basis for understanding organizational behavior. Organizational behavior represents the multidimensional, dynamic activities of individuals and groups in a context of working toward organizational goals (Scott & Cummings, 1973). Staw (1980) reasoned that decisions must always be made in a context of incomplete information and uncertainty of outcomes, but leaders who have access to reliable, valid information about organizational behavior have a better foundation for their decisions than those who must rely only on personal opinions or beliefs.

Austin (1983) determined that the study of colleges and universities as work places had received insufficient attention from researchers to warrant many generalizations about work life. A review of satisfactions in academic versus other professional work revealed an unquestioned assumption that the tasks of faculty members in colleges and universities were inherently rewarding (Bess, 1981). Bess concluded that there was still much uncertainty about job satisfactions in higher education organizations. Organizational behavior in institutions of higher education has received minimal attention from researchers (Bess, 1983).

One cannot necessarily assume that higher education organizations are similar to business or government organizations. Colleges and universities have some characteristics which differentiate them from other types of organizations. Some of these unique aspects include: vague, ambiguous goals; intangible product or service; broadly diffused decision-making; high specialization of faculty; commitment to a discipline rather than an institution; and the expectations of self-direction and decision-making by faculty members (Baldridge et al., 1977; Corson, 1980). Green (1982) deduced that the value systems and organizational structures underlying business and higher education were more dissimilar than alike. These differences are sufficient to warrant further study of organizational behavior in the work environment of colleges and universities.

Within the higher education community, there has been even less assessment of the Cooperative Extension Services associated with the land-grant universities across the nation. While the Cooperative Extension Services are units of these universities and share some of the features of the higher education organizational environment, they also have some distinguishing characteristics. Many Extension faculty are decentralized in individual county offices throughout the state, unlike the university faculty who share a common campus location (Sanders, 1966). Departmentation, or the grouping of activities into work units, is largely geographic in nature, although work is also organized into broad program areas: agriculture, home economics, youth, and community development (Buford, 1979). Extension faculty in the counties are

generalists rather than specialists; they rely on informal methods of teaching as opposed to credit courses. Extension faculty do not routinely pursue research projects of their own, but disseminate the research of faculty members at the university (Sanders, 1966). Like the university, the Extension system values creativity and academic freedom, but must also rely on cooperation and coordination across units and disciplines to accomplish its purposes (Buford, 1979). The Cooperative Extension Service is a unique part of the land-grant university. Research is necessary to understand organizational behavior in this context.

B. Organizational Context

The Cooperative Extension Service was created in 1914 by the Smith-Lever Act for the purpose of extending knowledge from the land-grant university in each state to the people throughout those states. Warner and Christenson (1984) described the Extension Service as a unique organization. Its mission is education, so it is appropriately placed within an education system. However, it is also tied to three levels of government through funding from county, state, and federal tax dollars. The United States Department of Agriculture is the headquarters agency for the Cooperative Extension Service, yet Extension has no regulatory or financial powers as many government agencies have. Extension does not provide formal classroom instruction either, as is typical of the universities. The purpose of the Cooperative Extension Service is to provide informal, noncredit educational programs based on local needs and priorities. As such, it is "one of the largest

educational outreach organizations in the United States" (Warner & Christenson, 1984, p. 115).

Not only is the function of Extension unique, but the structural arrangement also differentiates the organization from many others as well. Although there are federal and state offices, about two-thirds of the total Cooperative Extension staff nationally are placed in county level offices. Thus, each state organizational structure is quite flat, with as many county offices as there are counties in the state, and a very limited number of middle managers to provide coordination and supervision for the county staff (Buford, 1979).

The Cooperative Extension Service also varies its programs across geographic locations and over time. The organization in any state is not restricted to a single program or activity. This flexibility has been the strength of the Cooperative Extension Service, with the adaptability to adjust to changing needs. Yet Warner and Christenson (1984) questioned whether an organization created in 1914 can make the adjustments necessary to survive rapid and pervasive changes in American society. They identified a number of issues to be addressed by administrators in each state, to enable Extension to maintain its viability and resource base in the years ahead. Extension, like other organizations, must search for ways to enhance organizational effectiveness.

Warner and Christenson (1984) also noted that one of the most striking aspects about the body of literature on Extension is its absence. Lacy et al. (1980) stated, "The Extension Service rarely

seems to devote attention to itself as an organization. If it did, it might discover that many administrative actions are inappropriate to the Extension Service" (p. 478). A national report called Extension in the '80s (Joint USDA-NASULGC committee on the future of cooperative extension, 1983) encouraged further research about various aspects of the organization. The report stated that the professional quality of the county based staff was very important to the future of the Cooperative Extension Service and urged study with county staff as the focal point. In the Iowa Cooperative Extension Service, county professional staff have a program assignment in agriculture, home economics, or 4-H youth. One county professional also has administrative responsibilities for the local office. Although most agriculturists work full-time in only one county, many home economists and 4-H youth leaders either have part-time positions or work in more than one county. These structural differences among the jobs, as well as perceived differences in educational methods used in the three types of positions, prompted several of the research objectives for this study.

In Iowa, Extension administrators examined a number of issues, including staffing arrangements, as part of a strategic planning process (Powers, 1984). Background data for the planning was collected from Extension clientele, the general public, and Extension staff at all levels (Iowa State University Extension, 1985b). The planning report, Future Directions: Continuing Excellence in Serving People (Iowa State University Extension, 1985a), recommended changes in the staffing patterns at both county and area levels. Budget reductions from state

and federal levels, as well as legislative action in Iowa, created an urgent need for decisions about area staffing patterns (Crom, 1986). Extension administrators needed relevant data about work life variables affecting county staff. Changes in the number of area Extension directors, who supervise county Extension professionals, as well as in their geographic assignments, also prompted a need to review mid-management roles and responsibilities. Data about the perceived leadership behavior of area Extension directors could also be useful as these positions are clarified.

C. Conceptual Framework

Cameron (1981) indicated that the underlying purpose of most organizational research is to improve effectiveness in some manner. Therefore, the selection of the organizational behavior variables for study was guided by examination of organizational effectiveness models.

Cameron (1980) reviewed several models for assessing organizational effectiveness; goal achievement, system resource, internal process, and strategic constituencies. The goal achievement model analyzes outputs of the organization. The system resource model assesses whether the organization acquires the resources necessary to function effectively. The internal process model defines effectiveness in terms of smooth functioning and the absence of internal strain among employees and units. The strategic constituencies model examines whether all groups concerned with the organization are at least minimally satisfied by organizational action. Cameron (1980) reasoned that no single model is appropriate in all circumstances or with all types of organizations. He concluded that

"to gain meaningful results from any organizational evaluation the concept of organizational effectiveness must be clearly specified and limited" (p. 79). The internal process model discussed by Cameron set the scope of the organizational effectiveness research for this study.

To assess the degree of smooth functioning and absence of internal strain within an organization, the behavior of people and units within the organization need to be described. An integrative model of organizational behavior was proposed by Kotter (1980) to help managers assess an organization's health and select important tools to implement improvements. The model included seven major elements, the most central of which is key organizational processes. These are the major information gathering, communication, decision-making, and related actions of employees. The other elements are shown in Figure 1.

Although all elements need to be considered to fully understand and predict organizational behavior, Kotter indicated that whenever certain elements are clearly more influential, they may become the driving forces for the system. It is common for some elements to be more influential than others. Kotter reasoned that in well-established, institution-like organizations, the internal social system and the formal organizational arrangements are often the most important elements. The Cooperative Extension Service approximates this description. The study of variables related to organizational arrangement, social system, and key organizational processes is important to understand organizational behavior in the Extension Service. Kotter's model influenced the selection of teamwork as one of the research variables for this study.

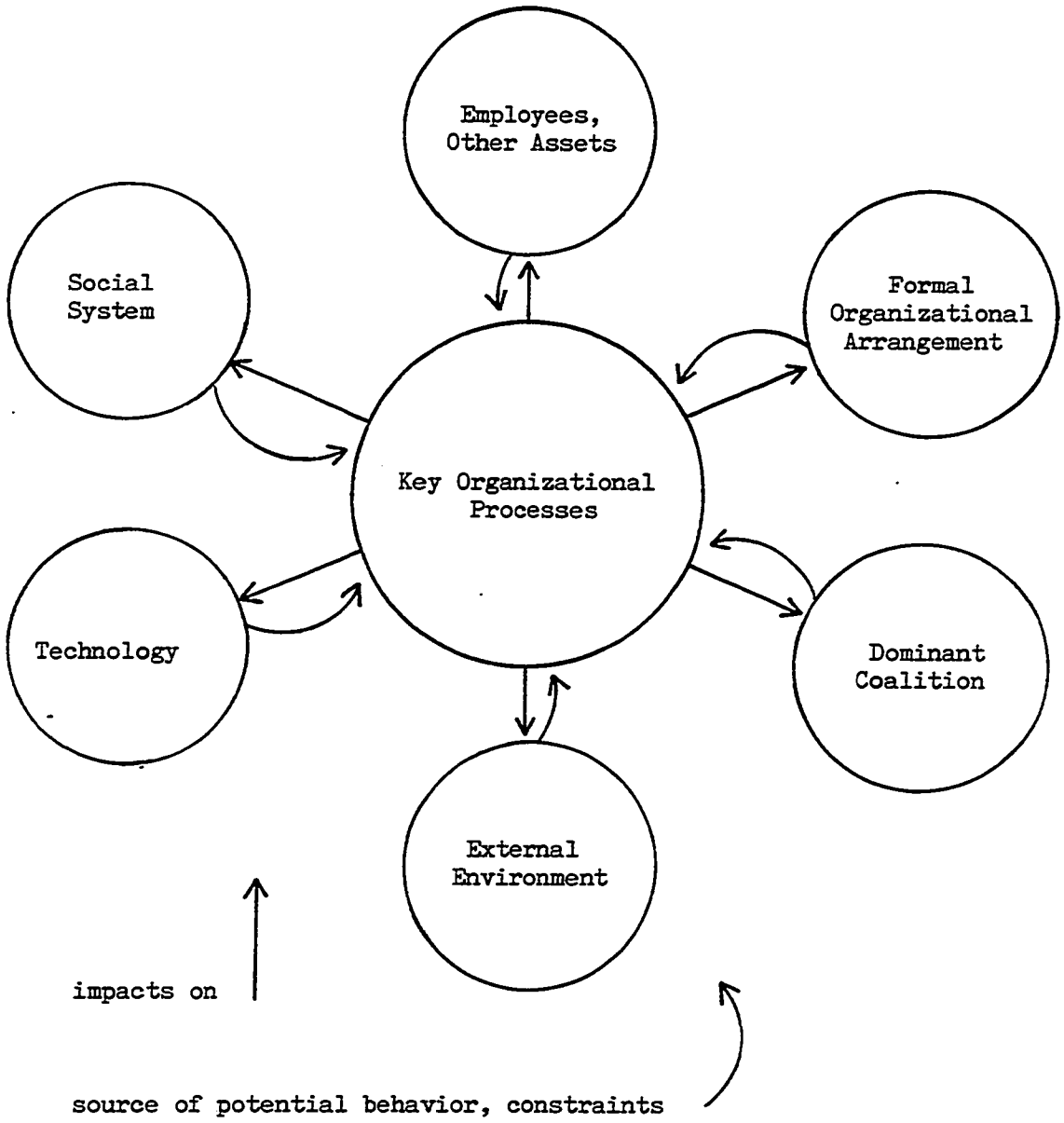

Figure 1. Organizational dynamics model

Likert (1961) postulated three types of variables for assessing organizational behavior; he termed these causal, intervening, and end-result variables. Causal variables are those factors that influence

the course of development within an organization and the results achieved. These variables are independent ones which an organization could alter or change. Leadership, management decisions, policies, and structural factors were examples cited (Likert, 1967). The intervening variables are the current conditions of the internal state of the organization, reflected in such functions as communication, decision-making, motivation, and related human processes. The end-result variables are dependent variables which illustrate accomplishments of the organization, such as high productivity or low turnover. Likert conceptualized a framework to aid in understanding of these variables, their analysis, and diagnosis of areas for improvement (see Figure 2).

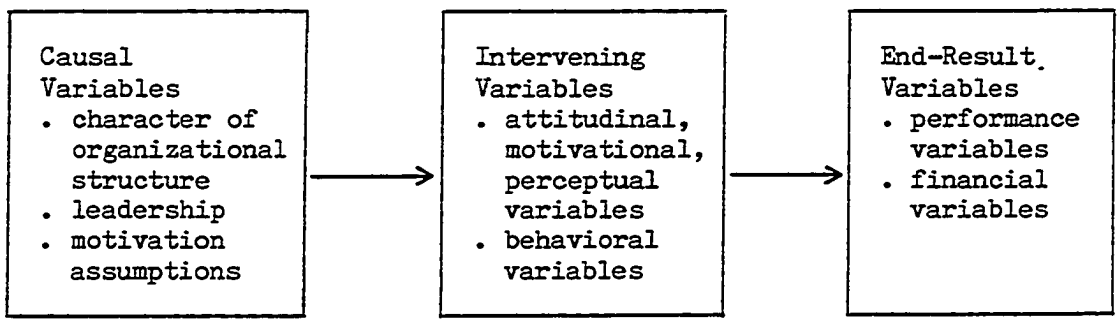

Figure 2. Organizational variables and their relationships

While this graphic oversimplifies the relationships, it makes clear the pattern Likert postulated among the variables. "Changes...in the causal variables will lead in turn to changes in the intervening and end-result variables" (Likert & Likert, 1976, p. 143). Likert theorized that leaders who attempt organizational improvement by concentrating directly on intervening or end-result variables would

achieve fewer results. Rather, leaders should direct organizational improvement efforts toward causal variables.

Although his list of organizational variables was lengthy, Likert (1961) encouraged organizations to start with measurement of a limited number of variables, focusing on those dimensions of greatest interest and importance. He suggested that priority be given to study of the organizational structure (extent to which overlapping work groups have well defined functions, with roles understood and accepted); work group functioning (extent of group loyalty, trust, personal worth, communication, goal setting, and decision-making processes); character of supervisory processes and reactions of subordinates to these processes.

This research project was an exploratory study of selected variables in a Cooperative Extension Service. Cameron's (1980) description of the organizational effectiveness models and his recommendation to clearly specify and limit organizational effectiveness research lead to the first delimitation of this study. The internal process model was used to select the type of research variables. Kotter's (1980) model of organizational behavior emphasized the importance of key organizational processes. His model also suggested that the internal social system and the formal organizational arrangements were driving factors of individual and group behavior in organizations similar to the Cooperative Extension Service. Finally, Likert's (1961, 1967) theory provided the framework to categorize the variables and test relationships among them.

The review of related literature (see Chapter II) identified

specific variables related to the purpose of this study. The characteristics of the Cooperative Extension Service were also considered as variables were defined. Figure 3 graphically depicts these variables within the framework proposed by Likert (1961, 1967).

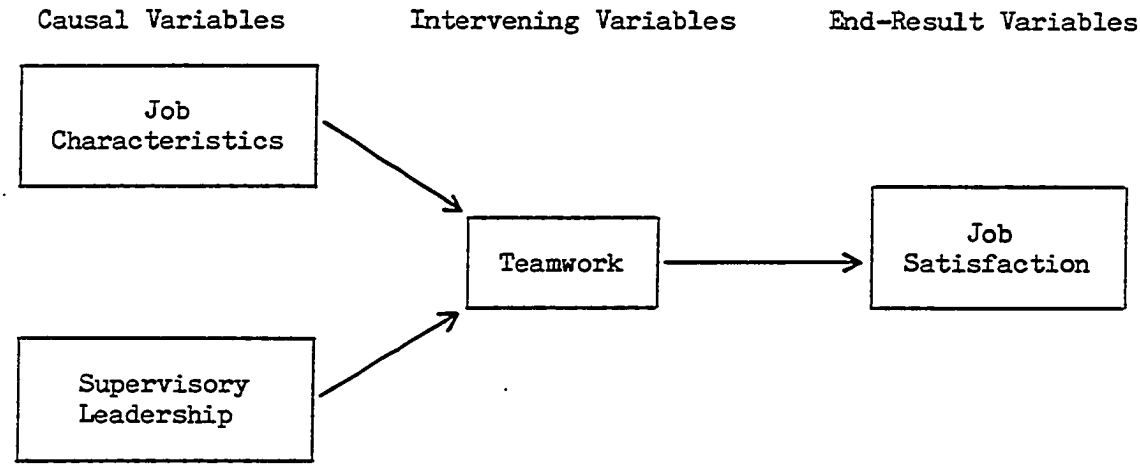

Figure 3. Conceptual framework for research

D. Statement of the Problem

The prior reviews of organizational effectiveness research revealed limited attention to the study of organizational behavior variables in higher education generally and the Cooperative Extension Service specifically (Austin, 1983; Bess, 1981). There was an inadequate research base to predict whether an Extension organization within the higher education system will respond in the same ways suggested by theory and supported by research in other organizational settings (Lacy et al., 1980; Warner & Christenson, 1984).

Within the Iowa Cooperative Extension Service, there was limited knowledge about the characteristics of the three types of positions

(agriculturist, home economist, 4-H youth leader) at the county level, the perceived teamwork among county staff, and the job satisfaction experienced by incumbents in the positions. Likewise, little was known about the perceived leadership behavior of the area Extension directors. No data existed to verify how county staff viewed the leadership behavior of their supervisors.

Likert's (1961, 1967) conceptual framework suggested possible relationships among organizational behavior variables, as well as possible relationships between these behavior variables and measures of organizational effectiveness. To study organizational functioning within the Cooperative Extension Service organization, a data base was needed to describe the job characteristics, teamwork, and job satisfaction of county Extension staff, as well as their perceptions of supervisory leadership behavior.

E. Purpose of the Study

The purpose of this study was to examine organizational behavior within a higher education context. To accomplish this purpose, the study first developed a data base of selected organizational variables within the setting of the Iowa Cooperative Extension Service. The county staff positions were the focal point of the research. Specifically, descriptive information about the job characteristics of the three major positions at the county level was collected. Using survey data, perceptions of supervisory leadership behavior and teamwork among county staff were examined. The fourth variable, job satisfaction, was measured for all county Extension staff. The researcher also explored differences

among groups for each organizational variable. Groups were defined by type of position, area assignment, or length of experience in Extension.

Following the development of the data base, relationships among the variables were studied, using the Likert (1961, 1967) framework described earlier. The causal variables were defined as job characteristics and leadership; the intervening variable was teamwork; job satisfaction was the end-result variable in this research.

In summary, the purposes of this research included the following:

1. To describe four organizational variables: job characteristics, supervisory leadership, teamwork, and job satisfaction within the Iowa Cooperative Extension Service.

2. To analyze differences in perceived job characteristics, supervisory leadership, teamwork, and job satisfaction among groups of Extension staff defined by position, area assignment, or length of experience.

3. To explore relationships among the causal, intervening, and end-result variables in this research.

F. Research Objectives

Through the following objectives, a descriptive data base of job characteristics, leadership, teamwork, and job satisfaction was developed for the Iowa Coopertive Extension Service:

1. To identify job characteristics of county Extension positions as perceived by incumbents in agriculture, home economics, and 4-H and youth positions.

2. To determine the nature and extent to which differences in perceived job characteristics exist across the types of county positions or levels of experience.

3. To determine the nature and extent to which differences in perceived job characteristics exist among incumbents according to three position characteristics: those who also have county administrative responsibilities and those who do not; those who work part-time and those who work full-time; and those assigned to only one county and those who work in more than one county.

4. To describe supervisory leadership behavior of area Extension directors, as perceived by the county Extension staff.

5. To determine the nature and extent to which differences in perceived leader behavior exist across types of county positions, level of experience, or geographic areas.

6. To describe the perceived status of teamwork among county Extension staff.

7. To determine the nature and extent to which differences in perceptions of teamwork exist across positions or areas.

8. To identify the degree and type of job satisfaction experienced by county Extension staff.

9. To determine the nature and extent to which differences in job satisfaction exist across positions, levels of experience, or geographic areas.

Another set of objectives for the research directed the analyses of relationships among the several categories of variables:

10. To assess the relationship between job characteristics and teamwork.

11. To assess the relationship between perceived supervisory leadership and the teamwork among county staff.

12. To assess the relationship between the teamwork variable and the job satisfaction variables.

13. To assess the relationship between perceived supervisory leadership and the job satisfaction variables.

14. To assess the relationship between job characteristics and the job satisfaction variables.

These research objectives were divided into three sets, based on similarity of purpose. The first set of objectives included numbers 1, 4, 6, and 8. Since these were descriptive objectives, no research hypotheses were stated. The second set of objectives (numbers 2, 3, 5, 7, and 9) focused on differences among subgroups of the population. The purpose of the third set of research objectives (numbers 10, 11, 12, 13, and 14) was to assess relationships among the variables.

The hypotheses related to the second and third sets of objectives follow:

H^1 There are no differences in the seven job characteristic variables as perceived by agriculturists, home economists, or 4-H youth leaders.

H^2 There are no differences between county Extension directors and other county Extension staff in their perceptions of seven job characteristic variables.

H^3 There are no differences in the seven job characteristic variables perceived by groups with varying lengths of experience.

H^4 There are no differences in the seven job characteristic variables perceived by those employed part-time and those employed full-time.

H^5 There are no differences between job characteristics as perceived by those staff assigned to one county and those assigned to more than one county.

H^6 There are no differences in perceived leadership behavior among the twelve geographic areas.

H^7 There are no differences in perceived leadership behavior by subjects holding different positions in the Iowa Cooperative Extension Service.

H^8 There are no differences in perceived leadership behavior by subjects with different lengths of experience in their positions.

H^9 There are no differences in the degree of teamwork as perceived by staff in the twelve geographic areas of the Iowa Cooperative Extension Service.

H^{10} There are no differences in perceptions of teamwork among staff members in the three county Extension positions: agriculturist, home economist, and 4-H youth leader.

H^{11} There are no differences in job satisfaction among three groups of county Extension staff: agriculturists, home economists, and 4-H youth leaders.

H^{12} There are no differences among staff in the twelve

geographic areas on the job satisfaction variables.

H^{13} There are no differences in job satisfaction for staff who vary in their length of experience in Extension positions.

H^{14} There is no relationship between job characteristics and teamwork as perceived by county Extension staff.

H^{15} There is no relationship between supervisory leadership and teamwork, as perceived by county Extension staff.

H^{16} There is no relationship between teamwork and job satisfaction, as perceived by county Extension staff.

H^{17} There is no relationship between job characteristics and job satisfaction, as perceived by county Extension staff.

H^{18} There is no relationship between supervisory leadership and job satisfaction, as perceived by county Extension staff.

The research variables identified in the research objectives and hypotheses are shown in Figure 4. The framework suggests possible relationships among the causal, intervening, and end-result variables. The terms in Figure 4 are defined in the next section.

G. Definition of Terms

1. Job characteristics

Job characteristics assessed in this study included five core dimensions and two supplementary dimensions, listed below in like order. These were previously defined by Hackman and Oldham (1975, p. 161-162).

> Skill variety: the degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee.

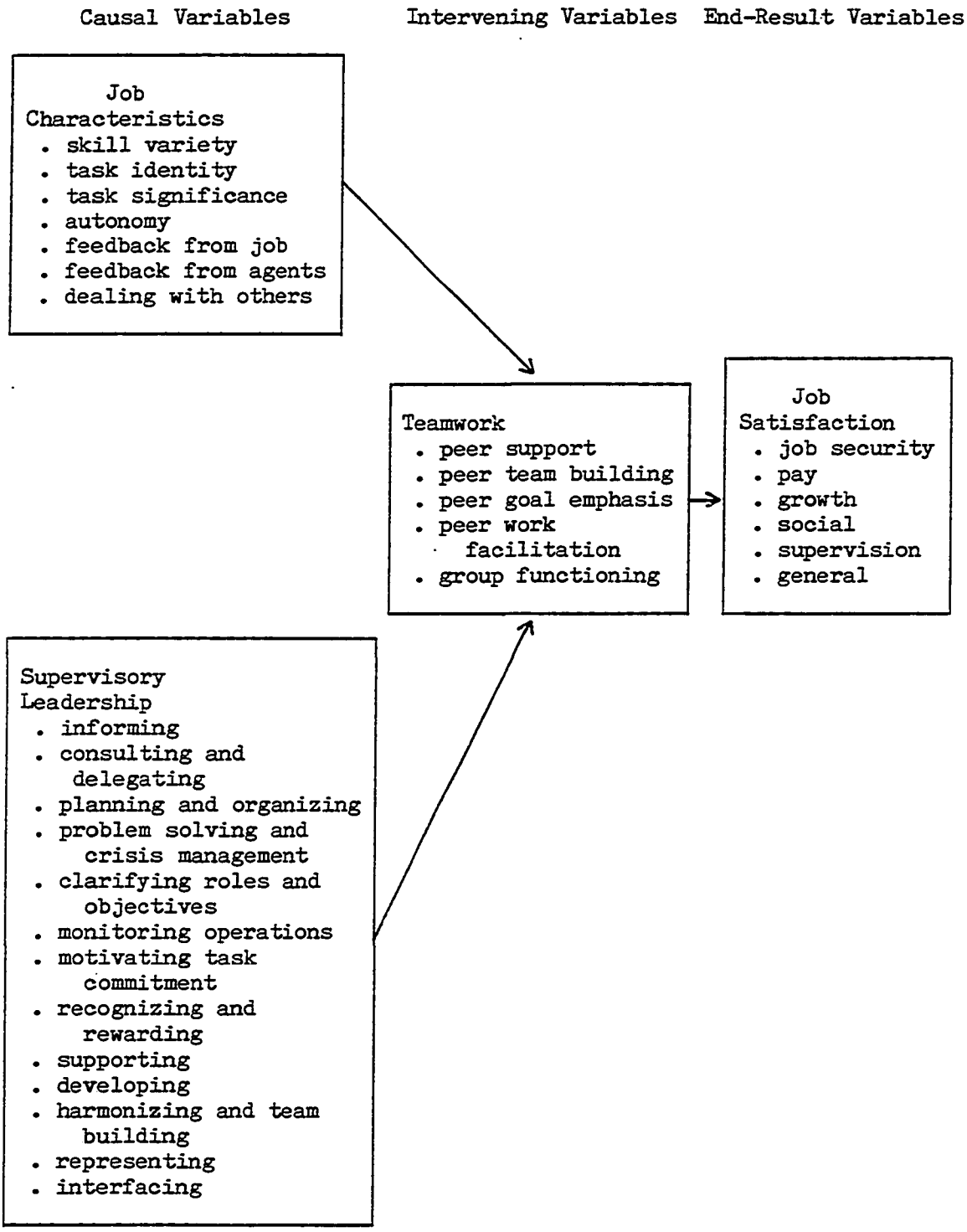

Figure 4. Organizational behavior research variables

Task identity: the degree to which the job requires completion of a "whole" and identifiable piece of work-that is, doing a job from beginning to end with a visible outcome.

Task significance: the degree to which the job has a substantial impact on the lives or work of other people-whether in the immediate organization or in the external environment.

Autonomy: the degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out.

Feedback from the job itself: the degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance.

Feedback from agents: the degree to which the employee receives clear information about his or her performance from supervisors or from co-workers.

Dealing with others: the degree to which the job requires the employee to work closely with other people in carrying out the work activities.

2. Leadership

Leadership was identified by thirteen categories of potential leader activities. The terms and definitions for each of these types of supervisory leadership behavior were adapted from a taxonomy by Yukl (1985) for the Cooperative Extension Service organizational context. Each category is defined below.

Informing: disseminating relevant information to staff and informing them about decisions, plans, and events that affect their work.

Consulting and delegating: encouraging staff to participate in making decisions, and delegating authority and responsibility to individual staff members.

Planning and organizing: determining county/area program objectives and strategies, and determining how to use personnel and resources efficiently to accomplish objectives.

Problem solving and crisis management: identifying serious work-related problems (including personnel problems) quickly by systematically analyzing the cause, then acting decisively to deal with the problem or crisis.

Clarifying roles and objectives: establishing a clear understanding of job responsibilities, task objectives, and performance expectations with staff.

Monitoring operations: gathering information about the Extension programs in the area, and checking on the progress and quality of the work.

Motivating task commitment: using personal influence to generate enthusiasm for the work, commitment to task objectives, and compliance with orders and requests.

Recognizing and rewarding: praising effective performance by staff, showing appreciation for special contributions and achievements, and rewarding effective performance with tangible benefits.

Supporting: acting friendly and supportive, being patient and helpful, and showing consideration for a person's needs and feelings.

Developing: counseling a staff member about skill deficiencies or inadequate performance, providing coaching or arranging for skill training to be provided, and providing advice and assistance in a staff member's professional growth and career development.

Harmonizing and team building: developing teamwork, cooperation, and identification among county and area staff, and facilitating the constructive resolution of conflicts and disagreements.

Representing: acquiring necessary resources and support for the area and county, and promoting and defending its interests while serving as a spokesperson, negotiator, lobbyist, or recruiter for it.

Interfacing: developing contacts and interacting with program leaders and others to gather information, improve coordination, and discover how the area and county can better adapt to a changing environment.

3. Teamwork

For the purpose of this research, teamwork was defined by four measures of peer relationships among county Extension staff members and a fifth measure of group functioning. These definitions and measures were adapted from Taylor and Bowers (1972).

Peer support: extent to which behavior of county staff encourages their own feelings of self-worth.

Peer team building: extent to which behavior of county staff encourages teamwork among themselves.

Peer goal emphasis: extent to which behavior of county staff generates contagious enthusiasm for effective performance.

Peer work facilitation: extent to which staff help each other remove road blocks to effective performance.

Group functioning: extent to which staff function well as a group.

4. Job satisfaction

The fourth variable in this study was job satisfaction. Hackman and Oldham (1975) incorporated six satisfaction variables in their Job Diagnostic Survey. General satisfaction was "an overall measure of the degree to which the employee is satisfied and happy with the job" (p. 162). Five more specific measures included satisfaction with job security, pay, social (peers and co-workers), supervision, and opportunity for personal growth and development on the job. The six measures were viewed as personal outcomes employees obtained from performing their jobs.

H. Assumptions

A major assumption of this study, as discussed in the conceptual framework of this chapter, was that the internal state of the organization is important for organizational productivity and effectiveness. The researcher assumed that the variables studied were relevant to organizational effectiveness. An assumption was also made that the measures selected from prior research reliably and validly measured the variables: job characteristics, supervisory leadership, teamwork, and job satisfaction. Furthermore, the study was based on an assumption that subjects responded honestly to the survey items. It was assumed that perceptions of staff adequately represented actual behavior or situations and that perceptual data were useful in ascertaining implications of the results.

I. Delimitations of the Study

This research was confined to the study of one organizational setting, the Cooperative Extension Service of Iowa State University. The study examined only the perceptions of the county staff, collected via a mailed survey. Since the data in this study were self-reported by individuals, the accuracy of their perceptions may not reflect actual organizational behavior.

This study provided data about the Cooperative Extension organization at only one point in time. The data may not be representative of any other time. Furthermore, the study was not, at this point, part of a longitudinal design so it was limited to a short-term assessment of the organization. A long-term analysis is necessary to more accurately assess how variables are related to each other.

J. Significance of the Study

As Lawler et al. stated:

> Assessment is of value to those who are in organizations, in the roles of employees or managers. By organizational assessment, organizations gain in the capacity to identify problems, reshape themselves, and measure variables that have great consequences for long-run organizational performance (1980, p. 10-11).

This study enabled the Cooperative Extension Service of Iowa State University to analyze data about its leaders serving in middle management positions, as well as the characteristics of jobs at the county level. Organizational administrators were provided information about teamwork at the county level, as well as an assessment of the job satisfaction of

county staff. This information provided administrators with information which may have utility in decision-making about structural characteristics of the organization. Further, this study preceded substantial changes in the Iowa Cooperative Extension Service organization. The data provided a baseline against which changes in organizational variables can be measured longitudinally.

Although the study did not provide a measure of all relevant organizational variables, it tested relationships among the several variables. Yukl indicated that:

> To advance the integration of approaches, some studies are needed with a perspective broad enough to encompass leader traits, behavior, influence processes, intervening variables, situational variables, and end-result variables (1981, p. 287).

This research provided an exploratory view of a limited number of variables within a higher education organizational context.

II. REVIEW OF SELECTED LITERATURE

Chapter II presents a review of selected literature on the theory and research for each of the variables in this study: job characteristics, supervisory leadership, teamwork, and job satisfaction. Following the citation of relevant research in each section, instruments adapted for this study are also reviewed. The final section of this chapter examines selected theory and research regarding relationships among these variables in organizational settings comparable to the Cooperative Extension Service. Computer searches of the ERIC and Social Sciences Citation Index data bases produced many of the literature sources. A manual search of Dissertation Abstracts International furnished other citations. Bibliographies from primary references were also useful in identifying relevant literature.

A. Job Characteristics

Sims et al. (1976) noted that both managers and researchers have vested interests in understanding job characteristics and their relationship with productivity and satisfaction among individuals in an organization. Much of the job characteristics research cited Turner and Lawrence (1965) for their early work in identifying key attributes of tasks. The six task attributes which the researchers found to be important dimensions of jobs were variety, autonomy, required interaction, optional interaction, knowledge and skill required,

and responsibility. Jobs which scored high on these variables were positively correlated to high worker satisfaction and attendance, but only for some of the employees studied. The job characteristics theory base for this research is an extension of the Turner and Lawrence research. The tenets of the theory are described in the following section.

1. Theoretical framework

The job characteristics theory was conceptualized by Hackman and Lawler (1971), then refined and summarized by Hackman and Oldham (1976, p. 255):

> At the most general level, five "core" job dimensions are seen as prompting three psychological states which, in turn, lead to a number of beneficial personal and work outcomes. The links between the job dimensions and the psychological states, and between the psychological states and the outcomes are...moderated by individual growth need strength.

The theoretical psychological states experienced by employees are:

1. Experienced meaningfulness of the work. The three job characteristics which determine this psychological state when combined additively are skill variety, task identity, and task significance.

2. Experienced responsibility for the outcomes of the work. Autonomy is the core job characteristic which the theory predicts as prompting employee feelings of personal responsibility for work outcomes.

3. Knowledge of the results of the work activities. This psychological state should, according to the theory, result from the job characteristic, feedback from the job itself.

The job characteristics theory predicted that employees experience

positive affect to the extent they learn they personally have performed well on tasks they care about. "This positive affect is reinforcing to the individual, and serves as an incentive for him to continue to try to perform well in the future" (Hackman & Oldham, 1976, p. 256).

The theory includes a summary measure of job characteristics, the Motivating Potential Score (MPS). The MPS indicates the degree to which the five core job characteristics meet conditions necessary for positive work outcomes to occur. It is computed with the following formula.

$$\text{MPS} = (\text{Skill Variety} + \text{Task Identity} + \text{Task Significance} / 3) \times \text{Autonomy} \times \text{Feedback}$$

The theory also predicts that employees who have higher needs for growth and development will respond more positively to jobs higher in motivating potential than those with lower growth and development needs. Favorable work outcomes, including internal work motivation, quality of work performance, job satisfaction, absenteeism and turnover, are theoretically affected by the level of job-based motivation experienced by employees.

This job characteristics theory has prompted much of the research in work and task design in the last decade (Pierce & Dunham, 1976; Roberts & Glick, 1981). The Job Diagnostic Survey (Hackman & Oldham, 1975) has been widely used as a measure of the job characteristics specified in the theory. Some of the research generated by this theory and the corresponding instrumentation is cited in the next section.

2. Supporting research

Hackman and Lawler's research (1971) was instrumental in developing job characteristics theory. They assessed relationships between job characteristics, employee attitudes, and behavior in thirteen different jobs. Data were collected from 200 telephone company employees. Generally, the better a job scored on core dimensions, the more positively the employee responded both in attitudes and behavior. Employees in jobs scoring higher on the dimensions had higher intrinsic motivation to perform well. The relationship between job characteristics, attitudes, and behavior was moderated by the employee's need for growth. The relationship was substantially higher for employees in the top third of the distribution of need-strength scores. The authors concluded, "these results suggest that the way jobs are designed can have important implications for the kinds of managerial and organizational competencies which are necessary for effective organizational functioning" (Porter et al., 1975, p. 307). This research suggests that organization leaders need to assess characteristics of jobs and how these relate to employee attitudes and behavior.

Hackman and Oldham (1976) designed a later study to test their job characteristics theory and instrument. They collected data from 658 employees working in 62 heterogeneous jobs across seven organizations. The Job Diagnostic Survey was administered to groups of employees. Supervisors and researchers also completed a job rating form to measure the characteristics of the focal job from the perspectives of those who did not work on that job. Managers in the organizations rated work

performance of each respondent and absentee data were obtained from organizational records. Hackman and Oldham found that the relationships between the job characteristics and outcome measures were as theoretically predicted and were generally highly significant. However, correlations between the characteristics, absenteeism, and work performance were lower than for other outcome measures. The researchers found mixed results for the effects of the psychological states on outcome measures. Generally, there was substantial support for the mediating effect of the psychological states between job characteristics and outcome measures, but the effect was not as strong for feedback and autonomy as it was for the other job characteristics. The moderating effect of growth need strength was also supported by the data. Although there were a number of issues raised by the study, the results generally supported the theory.

Job characteristics theory prompted a number of empirical studies by other researchers. Roberts and Glick (1981) reviewed more than 80 studies related to the job characteristic variables and their measurement. Research which studied the main effects of job characteristics on employees responses to their jobs generally showed significant positive correlations between higher scores on the job characteristics and the affective measures, including job satisfaction and internal work motivation. Relationships between job characteristics and behavioral measures, such as absenteeism and job performance, were less predictable. They also found minimal evidence in the research for the role of moderator variables, such as growth need strength. Roberts

and Glick criticized task design research, citing a number of problems; among these was the fact that "most research failed to examine the relationships of task characteristics and job responses to their organizational contexts" (p. 210).

Pierce and Dunham (1976) also reviewed research literature on task design. Their assessment agreed with Roberts and Glick (1981): the empirical literature is suggestive of main effects of task design on a number of worker responses. The strongest relationships were noted for affective outcomes, with behavior outcome associations neither as strong nor consistent. Muchinsky's review (1983) of job design research revealed that the importance of the intervening critical psychological states was not strongly supported by the empirical data. Throughout the research literature, support of the moderating variables between job characteristics and job responses was minimal.

Katerberg et al. (1979) examined the moderating effects of contextual variables on relationships between job characteristics of part-time employees and five different response variables. The sample included 534 National Guardsmen. The researchers found that the job characteristic variables seemed to operate in much the same way for part-time employees as prior research had shown for full-time workers. There was a moderately strong relationship between job scope or complexity, as measured by the Job Diagnostic Survey, and satisfaction with the work, internal work motivation, organizational commitment, intention to continue membership in the organization and actual reenlistment. The researchers claimed that the significance of their

study was (1) the extension of the research to part-time employees and (2) the evidence of an objective relationship between job complexity and turnover. However, the contextual moderating variables studied: pay satisfaction, supervision satisfaction, co-worker satisfaction, sum of contextual factors and civilian job involvement, were not dependable in their effects on the relationships between complexity and response.

Oldham and Kulik (1983) noted that little research examined job characteristics in higher education. They contended that the topic merited study because of deteriorating economic conditions in higher education and the resulting erosion of the quality of jobs. Further, the limited job mobility, decreasing of autonomy, and centralization of decision-making--factors shown to accompany financial distress in many institutions of higher education--may well have detrimental effects on quality of work life, job performance, and satisfaction. The study of job characteristics in higher education organizations may guide job redesign or otherwise improve the quality of work life for faculty and staff.

This review of selected job characteristic research illustrates that characteristics of jobs have previously been related to a number of employee responses, including internal work motivation and satisfaction. The role of both individual and contextual moderating variables on the job characteristic-response relationship has received minimal support. Roberts and Glick (1981) concluded that most research on job characteristics is still exploratory. Broad reviews of related research (Pierce & Dunham, 1976; Roberts & Glick, 1981) emphasized the need to

examine task design in the organizational context or environment. This study extends the study of job characteristics into an organizational context within higher education. In describing the job characteristics of county Extension positions within the Cooperative Extension Service, the study examines the effects of several unique structural characteristics of the positions.

3. Instrumentation

The Job Diagnostic Survey (JDS) was developed by Hackman and Oldham (1975) to measure the concepts of their job characteristic theory. By 1975, the instrument had undergone three major revisions and had been tested with 1500 individuals working in more than 100 different jobs in about 15 different organizations. A number of reviews of job design measures indicate that the Job Diagnostic Survey is the most complete and widely used instrument to assess perceptions of task or job characteristics (Aldag et al., 1981; Cook, et al., 1981; Pierce & Dunham, 1978).

Hackman and Oldham (1975) measured five core and two supplementary job dimensions in two different sections of the survey. Core dimensions influenced the motivating potential of jobs. Supplementary dimensions were useful in understanding employees' responses to their jobs. Different response formats were designed to decrease the degree to which substantive content and measurement technique were confounded in the instrument. The reliability of the seven dimensions was established by internal consistency, adjusted with Spearman-Brown procedures.

Cook et al. (1981) provided a comprehensive review of the Job

Diagnostic Survey in a compendium of job measurement instruments. The reviewers noted the internal reliability of the seven JDS characteristics ranged from .58 to .78. These were obtained via the median interitem correlation for each subscale and adjusted by the Spearman-Brown formula. The five core characteristic subscales were moderately intercorrelated, with a 0.24 median.

Factor analysis studies of the instrument have had mixed results (Dunham, 1976; Dunham et al., 1977). However, Cook et al. (1981) indicated that "the measure of job characteristics has by now proved its worth. Items have good face validity, and their inclusion into two separate sections probably helps to break the response set" (p. 182). They reported that the instrument is not significantly associated with a measure of socially desirable response. The major reservation in their review was the discriminant validity of the subscales, but the authors noted this is the weakest factor of most measures reviewed.

Cook et al. (1981) responded to the concerns about the dimensionality of the seven characteristics by suggesting that users of the JDS might use the factor computation procedure advocated by Dunham, et al. (1977). However, this procedure reduces the comparability of scores across investigations. Further, Harvey et al. (1985) found the seven dimensions were supported by confirmatory factor analysis. They noted that the different item formats may have contributed construct-irrelevant method variance in previcus studies. Lee and Klein (1982) also found support for the a priori dimensionality of the Job Diagnostic Survey for public sector occupations. Green et al. (1979)

evaluated the response format and scale structure of the JDS and noted that the inconsistencies in factor structure found in prior research may be partially attributable to an overly complex response format.

This review of selected research on the Job Diagnostic Survey suggested that the instrument has shown adequate validity and reliability for use in the exploratory research for this study. The a priori job characteristic factors were used for the analysis of county Extension positions within the Iowa Cooperative Extension Service. The complexity of the response formats was simplified to minimize construct-irrelevant variance.

B. Leadership

Leadership is one of the most extensively researched topics in the field of work behavior (Muchinsky, 1983). Through the years, researchers have examined personality traits and individual differences among leaders to identify the variables related to leadership effectiveness. Behavioral and situational leadership theories have also been tested through research. A brief review of the theoretical foundations for leadership research, and for this study, are presented in the next section of this chapter.

1. Theoretical framework

Vroom (1976) reviewed several theoretical orientations to the study of leadership in organizations. Much of the early research on leadership analyzed traits of organizational leaders. Results of this research did not conclusively indicate that effective leader traits were significantly

different from traits of ineffective leaders. Researchers began to look at behaviors of leaders, rather than personality traits or individual differences, to identify the distinguishing variables associated with leadership effectiveness.

Yukl (1981) reviewed the theoretical basis for the examination of leadership behavior. The behavioral approach to leadership research became widely known through studies at Ohio State University (Fleishman, 1953) and the University of Michigan (Likert, 1961). The Ohio studies identified two major dimensions of leader behavior: consideration and initiating structure. Generally, research indicated that effective leader behavior was associated with high performance on both dimensions, though the results for initiating structure were less consistent. The Michigan research studied relationships among leader behavior, group processes, and group performance. According to the research, effective leaders used more supportive relations, group methods of supervision, participative decision-making, and high performance goals.

Hoy and Miskel (1982) included research on leadership roles in their description of behavior theory. Mintzberg (1973) concluded that leadership studies had not provided much insight into what leaders do. His research identified ten managerial roles which accounted for all the leadership activities observed in his study. These roles covered three types of leader behavior: interpersonal, informational, and decisional. He reasoned that managerial effectiveness could be improved if leaders spent less time on superficial activities and more time on the important, but neglected functions of planning and organizing, subordinate

development, and team building.

Vroom (1983) noted that in recent years, researchers have realized that the kind of institution or setting in which they studied leadership might make a difference in understanding the determinants of effectiveness. "Virtually all theories of leadership introduced in the last decade or two have been contingency theories which, by their very nature, view the consequences of leader actions or attributes as contingent on situational and organizational conditions" (p. 368). Vroom reviewed four different contingency theories: Fiedler's LPC theory (Least Preferred Co-worker); Hersey and Blanchard's situational leadership; House's path-goal theory; and Vroom and Yetton's decision-process theory. His critique of the theories showed marked differences among them in the amount and kind of advice they would provide to leaders in higher education organizational settings. Research results based on the contingency theories have been mixed.

Other theoretical models have been proposed to explain leadership effectiveness. Although the present study of leadership in the Iowa Cooperative Extension Service built on both the behavior and contingency theory bases, Yukl's (1981) Multiple-Linkage Model summarized the theoretical foundation for this study. The Yukl model utilized the Likert (1961, 1967) framework of causal, intervening, and end-result variables. Leadership behavior (causal variable) has a short term influence on intervening variables and a longer term capacity to modify situational variables as a means of improving group performance (end-result variable). The basic proposition of the model is that a

leader's short term effectiveness depends on the extent to which he or she acts skillfully to correct any deficiencies in the intervening variables for the work unit. The situation determines which intervening variables are most important, most in need of improvement, and what potential actions are available to the leader. The second basic proposition of the model is that over a longer time period, leaders can act to change some of the situational variables and create a more favorable situation.

Wexley and Yukl (1984) noted that the Multiple-Linkage Model is sketchy; it is not a highly developed, formal theory. It was developed to aid analysis of leadership effectiveness of administrators in organizations and help identify important variables to study. Because of the exploratory nature of the present research, as well as the use of the Likert (1961, 1967) conceptual framework, the Yukl (1981) model provided the theoretical base for the leadership portion of this study.

2. Supporting research

Vroom (1983) noted a paucity of research on leadership in higher education. Of the 5000 citations he reviewed, most of the research was in business organizations, with secondary emphasis on military or government agencies. However, one study (Robert & Vroom, 1983) explored differences among four types of institutions: military, government, business and higher education, in the kinds of leadership styles they elicit. Leaders from the four types of organizations read case studies and chose a method to handle the work problem presented. Types of methods varied in the degree of participation provided to

subordinates in the case study. Differences in responses were also compared according to the choices these representative leaders made when the case study was presented as taking place in each of the four organizational settings. Of the four groups of subjects, those from the military were most autocratic, followed by business, universities, and government in that order. When the case studies were presented as occurring in different contexts, the results were similar. The military emerged as the institution eliciting the most autocractic responses. Business organizations were in the middle, while universities and government organizations emerged as the two participative settings. Vroom (1983) summarized the results, "Apparently, there are quite widely held views of the relative appropriateness of autocratic and participative leadership styles in these four institutions" (p. 373). This study suggested that more participatory leadership behavior is considered necessary for effectiveness in higher education.

Astin and Scherrei (1980) studied administrative style and its effects on faculty and students in small liberal arts colleges. They stated that empirical research on administrative behavior in colleges has produced little information about the relationship between management behavior and desired organizational outcomes. The researchers hypothesized that administrative leadership behaviors affected attitudes, behavior and overall satisfaction of both faculty and students. Analysis of survey and interview data from the sample colleges lead the researchers to conclude that leadership styles of administrators were related to behavior of faculty, specifically the amount of time faculty

spent in teaching, research, or other scholarly activity. Significant relationships between administrative style and faculty job satisfaction are summarized below, with the range of the correlation coefficients from .35 to .52. Hierarchical administration was negatively related to faculty satisfaction with relations with students, but positively related to satisfaction with competency of colleagues and salary. Humanistic administration was positively related to satisfaction with relations with students and faculty influence, but negatively related to faculty members' opportunity for leisure time. Entrepreneurial administration was negatively related to six satisfaction variables. With this style of leadership, faculty were less satisfied with their responsibility, challenge, variety in activities, autonomy in decision-making, opportunity for scholarly pursuits, and visibility for jobs at other institutions. The insecure administrative style was negatively related to faculty satisfaction with salary, while the task-oriented administration was positively related to faculty satisfaction for better job opportunities and visibility for jobs at other institutions. Astin and Scherrei (1980) suggested that college administrators might govern more effectively if they spent more interaction time with faculty, students, and valued advisors. This study suggests some possible relationships between the leadership variables defined in the present study and job satisfaction variables.

Only two studies were identified which explored leadership behavior of Cooperative Extension administrators and both used the categories of

consideration and initiating structure. In Smoot's study (1984), county Extension agents and county Extension directors both rated the director's leadership behavior. The Extension agents rated directors significantly lower on both dimensions than the directors' own ratings, but both identified significant differences between ideal and actual leader behavior. Higher scores on both dimensions were positively related to overall ratings of the county Extension directors' effectiveness. In the second study, Wood (1981) found only two of twelve leader behaviors (tolerance of uncertainty and tolerance of freedom) were related to overall job satisfaction of county Extension agents.

Extensive reviews of leadership research are available (Bass, 1981) but there is a paucity of research in higher education organizations, as was noted earlier. No studies were identified which used the Yukl taxonomy to measure leadership behavior in contexts similar to the Cooperative Extension Service. Exploratory research was necessary to identify the leadership activities of Extension administrators and assess relationships with other variables.

3. Instrumentation

Wexley and Yukl (1984) stated that the "major reason for lack of greater progress in the behavior research has been inadequate conceptualization of leadership behavior and reliance on inaccurate measures" (p. 172). The most widely used classifications, consideration and initiating structure, were viewed as too general and simplistic. "The more general a behavior category is, the more likely it is relevant to many different kinds of leaders, but the less useful it is for

determining what makes a leader effective in a particular situation" (Yukl, 1981, p. 120). Accordingly, Yukl developed a taxonomy of specific leader behaviors. His preliminary research showed more utility for the specific categories than for the general ones (i.e., consideration and initiating structure) in discovering what effective leaders do.

The published taxonomy (Wexley & Yukl, 1984; Yukl, 1981) has been refined (Yukl, 1985) and was adapted for use in this study. Although no published instrument was available to measure the leadership behavior, the researcher (1) modified language of the leadership definitions to have greater face validity for Extension staff, (2) added a five point response scale for staff to indicate the extent to which they perceived their supervisor engaging in the specific types of leadership behavior, (3) then tested reactions to the instrument with the theorist, representatives of research subjects, Extension administrators, and Extension staff development coordinators. These steps were taken to assure the best possible reliability and validity for response to the Yukl taxonomy of leadership behaviors, as adapted for this study.

Although leadership has been widely studied, results have not been conclusive. Yukl (1981) proposed a taxonomy of behaviors to aid more consistent definition and exploration of leadership effectiveness. Yukl's leadership model incorporated the Likert (1961, 1967) research by recognizing the influence of the leader on intervening variables in an organization. This model provided the theoretical basis for the present research, which explored supervisory leadership in the Cooperative Extension Service.

C. Teamwork

As noted in Chapter I, several organizational effectiveness models guided the selection of variables for the present study. Specifically, the internal process model described by Cameron (1980), the key organizational processes, and the internal social system identified by Kotter (1980) influenced the selection of teamwork as the intervening variable to be examined within the context of the Cooperative Extension Service. Selected literature pertinent to the theoretical basis, prior research, and measurement instruments of the teamwork variable set are described below.

1. Theoretical framework

Likert (1961) identified the importance of the work group as a primary tenet of his organization and management theory. He suggested that more effective organizations consisted of cohesive, interlocking work groups with a high degree of loyalty and trust among members. Likert reasoned that the face-to-face groups with whom employees spend the bulk of their work time are highly important to group members' sense of personal worth. Theoretically, group members are highly motivated to behave in ways consistent with the goals, values, or norms of the work group in order to obtain recognition, support, security, and favorable reactions from the group. Likert (1961) concluded:

> Management will make full use of the potential capacities of its human resources only when each person in an organization is a member of one or more effectively functioning work groups that have a high degree of group loyalty, effective skills of interaction, and high performance goals (p. 104).

Likert derived an ideal model of effective work groups from prior research on group dynamics and management effectiveness.

The performance characteristics of ideal teams, based on Likert's theory, were grouped into several categories. The interpersonal characteristics of effective teams include group member skills in the various membership and leadership roles necessary for interaction; attraction and loyalty to the group; high degree of confidence and trust in group members; a supportive atmosphere for interaction, problem solving and decision-making activities; and commitment to help each group member develop his or her full potential.

Several of the characteristics were goal-related. Specifically, values and goals of the group integrate the values and goals of individuals; the more important values of the group are accepted by individuals; group members are highly motivated to abide by major values and goals of the group; and as members link with other groups through the organization, the values and goals of the groups are in harmony. Further, members of effective teams willingly accept goals and expectations of the group; the expectations challenge growth for all members; mutual help is available to accomplish goals; and goals and philosophy are clearly understood, so individuals feel secure in making appropriate decisions.

Communication characteristics were predominant in the theory about effective teams. Likert believed that group members have strong motives to communicate all relevant information to others in the group; there is high motivation to use the communication process to serve the interests

and needs of the group and to receive communications from other group members.

The influence process was also discussed by Likert. He indicated that effective teams show strong motivations to influence and be influenced by other members of the team; the mutual influence process contributes to adaptability and flexibility of the group; the supportive atmosphere stimulates creativity among members; yet the group uses "constructive" conformity for useful purposes.

Likert noted that effective teams need time to develop a well established, relaxed working relationship among all members. The extensive reference to supportive relationships was apparent throughout Likert's characteristics of highly effective work groups.

Beer (1976) noted that the primary work group is the most important subsystem within an organization. Building on Likert's theory, he identified team building as the most advanced and frequently used of the organizational development techniques. Beer reviewed four models which have guided team development research: goal setting, interpersonal, role, and managerial grid. The goal setting model suggests that direction, coordination and the extent of group effort, as well as the degree of commitment and motivation of group members, can best be influenced through participation in setting challenging work goals for the team. The interpersonal model assumes that the more interpersonally competent group members are, the more effectively they will function as a team. Trust, coordination, communication, and climate are key characteristics in this model. The role model views the team members as

actors in interdependent roles. Role perception and clarification techniques are used to reduce conflict and ambiguity among the roles. The managerial grid model encourages team members to assess actual and ideal group functioning in relation to concern for both people and productivity. Woodman and Sherwood (1980) concluded that the assumption underlying the value of team development through any of these models was found in the central role that groups play in organizations. They contended that the basic building blocks of organizations are groups of people, rather than individuals, so the basic units of change are also groups. "Most interventions designed to improve the effectiveness of work groups are ultimately intended to improve the effectiveness of the organization" (Woodman & Sherwood, 1980, p. 166). Team development is designed to improve the effectiveness of a group of people whose jobs require that they work together.

The theoretical basis for studying teamwork in the Cooperative Extension Service can be traced to Likert's research on highly effective work groups. Research related to characteristics and results of teamwork, as well as outcomes of team building efforts in organizations are reviewed in the next section of this chapter.

2. Supporting research

Lorge et al. (1958) contrasted the quality of group performance and individual performance in a review of literature relevant to teamwork. The review was limited to the research on quality of the product from group interaction. They did not review research on group process or group dynamics, although they acknowledged the importance of those

characteristics. Several of the generalizations drawn from twenty-five years of research studies were relevant for the current study. Group superiority in making judgments depended upon the quality and range of judgments of individual members of the group. At best, group judgment equaled the best individual judgment but usually was somewhat inferior to the best individual. The superiority of group judgment was more predictable when material was unfamiliar or there was an extensive range of opinion in the group. Groups usually were superior in relative productivity, but the effect was moderated by the nature of the task, the type of group, and the interaction pattern. A number of studies reviewed by Lorge et al. (1958) found some evidence of group superiority in problem solving. The average product of ad hoc groups significantly exceeded the product of the average individual or of the best individual, but the product was still inferior to the full resources of all the individual members. With respect to group size, research conclusions were that in groups of four, individuals have sufficient space in which to behave, so the basic abilities of each individual can be expressed. In larger groups, only more forceful individuals were able to freely express their abilities and ideas. Research conducted in realistic settings, such as intact organizations, showed that a trained leader can improve the quality of the group product. Also, participation was the key to success in group production. In summary, the results of group efforts were generally equal to or better than the best individual effort, but didn't meet the level of productivity which might be expected from utilizing each individual's resources completely. Group size, the

leadership, nature of the group, and characteristics of the job itself all influenced the product of group effort.

In a more recent review, Hackman (1976) cited research on the effects of groups on individual effectiveness in organizations. Hackman summarized research on the effects of groups on individuals' job-relevant knowledge and skill; studies have shown that the group can assist members through direct instruction, providing feedback about behavior and serving as models of correct or appropriate behavior. The research indicated the amount of power and influence a group had over an individual was greater when the individual was attempting to perform a complex new job or role. Hackman documented the effects of groups on individuals' attitudes and values. Findings supported the impact of the group, but only if the group is accepted as a relevant point of reference for those attitudes and values. Group participation techniques were also shown to be supportive of individual effectiveness. Hackman also summarized some of the research on group cohesion. As the cohesiveness of a work group increased, the conformity of members to the norms of the group also increased. If norms are functional for group and individual productivity, cohesion was seen as a positive characteristic. However, when norms favor lower productivity or the phenomenon of "group think," high cohesiveness can be dysfunctional in some circumstances for the effectiveness of the group as a whole. Three bases of cohesiveness were identified in the literature: personal attraction, prestige of being a group member, and the task itself. The first two bases were largely interpersonal in nature. Hackman noted that few guidelines for designing

tasks which can provide a strong basis for group cohesiveness exist in the literature.

Woodman and Sherwood (1980) critically reviewed the role of team building in organizational effectiveness. They concluded that the team building research provides few unambiguous interpretations of results. The empirical studies reviewed suggested the most common models of team development were goal setting and interpersonal approaches. More confidence was placed in the goal setting model, because of greater internal validity of the studies using that model. However, the authors suggested that "although this task-oriented approach is likely to be appropriate for many work groups, any conclusion that this model of team development is the most effective is probably premature" (p. 182). Woodman and Sherwood also noted a tendency to rely more on affective reactions as dependent measures of team building effectiveness. Of thirty studies reviewed, measures of satisfaction, attitudes, organizational climate, or perceived effectiveness were used in the majority of the studies. Convergent evidence was cited that team building activities affect participant attitudes in positive directions. However, the linkage to improvement in performance of work groups was not clear. The authors warned that while it is fairly safe to conclude that team development is likely to result in attitudinal changes, it may be unwarranted to assume that improved climate, greater satisfaction, better attitudes, or other positive changes in affective states cause behavior changes.

Moore (1983) applied the concept of teamwork to Cooperative

Extension Service staff groups. She cited (1) the structural changes in Extension organizations, (2) expanding organizational mission, and (3) increasingly complex clientele problems as reasons why cooperative effort among county staff teams was a necessity for effective programming. Case study data from existing teams pointed out several organizational and individual factors which influenced the extent of team cooperation: the degree of administrative support and rewards for teamwork, the size of the staff, and the staff members' perceptions of their roles, responsibilities, and functions. Moore (1978) emphasized that organizations need to analyze present situations and identify the current state of teamwork and planning as part of an action research plan, prior to attempting improvements through team building interventions.

This summary of selected teamwork research suggested that effective work groups can be quite influential, not only in terms of improved group productivity, but also in affecting individual members' information, attitudes, and behavior. A number of positive relationships were found between measures of teamwork, job satisfaction, and organizational climate. The need for data about the extent of teamwork in specific organizational contexts was emphasized. The research identified some possible relationships and points of intervention to affect the degree of teamwork among county Extension staff.

3. Instrumentation

DeMeuse and Liebowitz (1981) identified a number of well-known questionnaires used to assess teamwork and results of team building

programs in a variety of organizations. The Survey of Organizations was one example (Taylor & Bowers, 1972). This instrument includes item clusters for five teamwork variables: peer support, peer work facilitation, peer goal emphasis, peer team building, and group functioning. A review in the Eighth Mental Measurements Yearbook (Buros, 1978) indicated there is convincing evidence of content validity, with reasonable efforts to establish construct and criterion related validity in the manual as well. The reviewer concluded that the efforts at validation were well conceived and that the instrument is a good representation of the Likert theory. A second review in Buros was critical of lack of objective evidence from multiple sources to verify construct validity of the Survey of Organizations.

Cook et al. (1981) reported internal consistency reliability coefficients for the four peer leadership scales (support, work facilitation, goal emphasis, and team building). For one sample of 325 groups, the coefficients ranged from .70 to .90. Another sample of 1048 respondents showed reliability coefficients ranging from .78 to .95. Cluster analysis generally supported the a priori classification of dimensions, but the scales were found to be highly intercorrelated. The group process scale consisted of seven items. The concept is described in terms of levels of cooperation, competence, and task motivation of group members. Cook et al. (1981) reported that the construct appears to have much in common with group morale. A cluster analysis based on data from 754 work groups supported use of the scale as a single index with an alpha coefficient of .96. A test-retest correlation based on 284 work

groups was .38; the time interval between applications of the instrument was unspecified.

The Survey of Organizations was compatible with the theoretical basis of this research. Prior research evidenced acceptable reliability and validity. Consequently, items which comprised the five teamwork measures were adapted to fit the Cooperative Extension context. These items were included in a compositive survey for this study.

This review of teamwork literature described characteristics of effective work groups. The effects of groups on individuals, group performances, and organizational effectiveness were discussed. Because of the importance of coordination and cooperation in Extension programming, teamwork was chosen as the intervening variable in this study. Items from the Survey of Organizations were adapted to measure teamwork among county Extension staff.

D. Job Satisfaction

Job satisfaction has been studied extensively. Locke (1976) estimated that over 3000 articles had been published on the subject by 1972, and that the number was growing at the rate of more than one hundred per year. The early interest in job satisfaction was due to its presumed relationship to productivity. More recently, the general concern with quality of work life has stimulated the continuing interest in job satisfaction (Hoy & Miskel, 1982). Muchinsky (1983) identified cultural, functional, and historical reasons for the job satisfaction studies. The functional interest occurred because of satisfaction's relationship to variables like absence, turnover, and other measures of

organizational effectiveness. Historical interest dates from the Hawthore studies and the emphasis on employee attitudes. Porter et al. (1975) suggested that criteria for organizational effectiveness in the future must include making a positive contribution to the physical and psychological health of organization members.

1. Theoretical framework

Wexley and Yukl (1984) reviewed major theories used to explain job satisfaction. Discrepancy theory states that satisfaction depends on the difference between what the employee perceives he or she is receiving from the organization and what is expected from it. Locke (1976) noted, however, that studies relating expectancies to satisfaction have failed to measure or control for the effects of values or to separate them from expectancy effects. Equity theory proposes that an employee judges his or her treatment by the organization in comparison to others and assesses fairness in relation to effort. The social influence theory proposes that influence from co-workers rather than the job itself leads to satisfaction. The two factor theory associated with Herzberg presents a set of variables associated with the work itself as satisfiers and another set of factors associated with the environment as potential dissatisfiers. A number of different theories have been advanced to explain the causes of job satisfaction.

The value theory states that the perceived job situation in relation to the individual's values most directly determines job satisfaction. Locke (1976) cited research from Likert, Smith, Kendall and Hulin, Katzell, and others to support this explanation of job

satisfaction. Employees' emotional responses to job situations result from their dual value judgment: the discrepancy between what individuals want and what they perceive they are getting, and the importance of what is wanted by the individual (Locke, 1969). Wexley and Yukl (1984) indicated that the best way to explain how job attitudes are determined is an interaction model that includes the characteristics of the job situations and characteristics of the person. Discrepancy theory, in their view, was the most explanatory theory. Locke (1976) summarized the most defensible aspects of each of the theories reviewed and hypothesized that:

> Job satisfaction results from the appraisal of one's job as attaining or allowing the attainment of one's important job values, providing these values are congruent with or help to fulfill one's basic needs. These needs are of two separable but interdependent types: bodily or physical needs and psychological needs, especially the need for growth (p. 1319).

The widely studied causal factors in job satisfaction research included the work itself, pay, promotion, verbal recognition, working conditions, self-esteem, supervisors, co-workers, subordinates, company, and management. A brief review of the major findings from job satisfaction research follows.

2. Supporting research

Locke (1976) identified those work conditions most related to job satisfaction, as derived from an extensive review of the literature. These included mentally challenging work; personal interest in the work itself; work which is not too physically tiring; equitable rewards for performance; working conditions which meet physical needs and help

employees accomplish work goals; high self-esteem; and other agents who help employees attain relevant job values. The consequences of job satisfaction for employees were varied. Studies have shown that job satisfaction affects attitudes toward life, family, and self; physical and mental health; absenteeism and turnover, and other kinds of on-the-job behavior. The relationship between job satisfaction and productivity was negligible. "Both logic and research suggest that it is best to view productivity and satisfaction as separate outcomes of the employee-job interaction, and to expect causal relationships between them only in special circumstances" (Locke, 1976, p. 1333). Job satisfaction and quality of work life were considered important areas for research because of the positive relationships with many of the outcomes identified.

Locke (1983) also concluded that relatively few of the thousands of studies in job satisfaction had involved college and university faculty. He found that the limited job satisfaction research in higher education has been largely confined to faculty positions, although many other professional and nonprofessional staff are employed in colleges and universities. Bess (1981) explained the lack of research on job satisfaction in higher education.

> It is believed that for the person who has chosen professional, as contrasted with other kinds of work, performance of the tasks themselves provides opportunity for the expression of creativity and the exercise of competence, while the climate of the organization supports the freedom and autonomy needed for professional discretion in work-related decisions. These feelings of creativity, competence and self-determination are allegedly associated with intrinsic satisfactions (p. 1).

Although Bess found this analysis to be logical its validity has not been tested empirically. He concluded there was need for greater caution in inferring that faculty can and do derive intrinsic satisfaction from their work, particularly teaching.

A number of studies explored job satisfaction of Cooperative Extension Service faculty. In Arkansas, Graham (1983) found no differences in satisfaction by sex or subject matter assignment, but differences were related to age, level of education, tenure, and salary. The satisfaction with work, supervision, and people had the highest correlation with an overall measure of job satisfaction. In Wisconsin, Dereinda (1984) found a significant positive relationship between job performance and satisfaction with work and co-workers among county agents. County staff were more satisfied with the work itself, co-workers, and supervision than with salary and opportunity for promotion. In North Carolina, the work itself showed the strongest relationship with job satisfaction. Positive relationships were found between job satisfaction and all of Herzberg's theoretical satisfying factors (Feaster, 1981). Fugler (1974) found that Louisiana Cooperative Extension agents were most satisfied with work, co-workers, and supervision. Pay and promotion were least satisfying. The most motivating characteristics of the jobs were the type of work, co-worker relationships, participatory decision-making, and job autonomy. Louisiana 4-H youth staff were less satisfied than other county staff. A West Virginia study (Manthe, 1976) showed that county agents with five to nine years of experience had the lowest job satisfaction ratings. The

satisfying factors were similar to other studies, with the work itself, co-workers, and responsibility ranked highest. The two most dissatisfying factors were technical supervision and human relations supervision. In Nebraska, Sward (1974) found significant correlations between job satisfaction and performance ratings. Job satisfaction was not related to age, tenure, or type of assignment. With different measures, theoretical bases and findings, it is difficult to draw generalizations about job satisfaction in Cooperative Extension work, in spite of a number of studies from different states. However, satisfaction with the work itself and with co-workers seemed to generally be the most satisfying factors in the research, with pay and promotion least satisfying.

This review showed limited research on job satisfaction in higher education. Studies with Extension staff subjects had inconsistent findings. To describe job satisfaction and explore relationships with other research variables, the present study utilized six measures of job satisfaction. These are described in the following section.

3. Instrumentation

Locke (1976) related that most job satisfaction research used direct verbal self-reports to measure job satisfaction. Formats have included Likert scales, Thurstone-type scales, drawings of faces with different expressions, and lists of adjectives with responses of "yes," "no," or "?." A problem inherent in many scales was the use of descriptive items as well as evaluative items, which may show different relationships with different variables.

Although there are many different job satisfaction instruments available, this study used the job satisfaction scales which are incorporated into the Job Diagnostic Survey (Hackman & Oldham, 1975). Cook et al. (1981) reported that the general satisfaction measure consisted of five items with seven point response scales. The reliability coefficient reported by the authors was .76, which was computed by applying the Spearman-Brown formula to the median interitem correlation. Significant relationships were found between the general measure and job characteristics, as well as the specific satisfactions.

The Job Diagnostic Survey included mesures of five specific work satisfactions. These were: pay, job security, social (satisfaction with co-workers and clientele relationships), supervision, and growth satisfaction. The first four scales are representative of the work context; they have a mean intercorrelation of .42. The fifth specific satisfaction, growth, has a higher intercorrelation with each of the other measures, ranging from .43 to .57. The Spearman-Brown corrected reliability coefficients reported for the scales ranged from .64 to .87.

With only slight language modifications, the job satisfaction measures from the Job Diagnostic Survey were selected for the present study. The authors' guidelines regarding items to measure each specific and general satisfaction variable were followed.

Research has related job satisfaction to positive consequences at the individual and organizational levels. Because job satisfaction represents one personal outcome from the work situation and has received limited research in higher education, six measures of specific and

general satisfaction were chosen for end-result variables in this study.

E. Variable Relationships

The conceptual framework for this study hypothesized relationships between causal, intervening, and end-result variables (Likert, 1961, 1967). Research pertinent to the relationships between variables in this study was reviewed and discussed below.

1. Job characteristics, teamwork, and job satisfaction

No studies were identified which specifically described the relationship between the causal and intervening variables identified in this research: job characteristics and teamwork. However, Ferris and Gilmore (1984) examined the moderating effect of organizational climate on the relationship between job characteristics and job satisfaction among nursing service employees. Measures for the study were the Job Diagnostic Survey and an overall organizational climate index. The results supported organizational climate as a moderator of the relationship between job characteristics and job satisfaction, specically for the dimensions of task identity and autonomy. When the climate was favorable, job complexity explained little of the variance in job satisfaction. But when the climate was more unfavorable, employees were more satisfied if they had challenging or complex work. The researchers concluded that challenging work could compensate for a poor work environment, but the job complexity had little impact if the organizational climate was positive. There was moderate support for the belief that organizational climate moderates the relationship between job

complexity and satisfaction. Since group cohesiveness and other indicators of teamwork are often included in organizational climate measures, the Ferris and Gilmore (1984) study suggests the possibility of a moderating effect of teamwork on the relationship between job characteristics and job satisfaction in the present study.

Hackman, Brousseau, and Weiss (1976) tested the relationships among task design, group performance strategies, and group effectiveness. In an experimental study with 144 college students, the researchers examined the effects of three process-intervention conditions (strategy, antistrategy, control) under two task conditions (equal and unequal information). Dependent variables were the quantity and quality of products produced by the group, as well as observational and self-report measures of the group interaction process. Two of the hypotheses tested are salient for the present study. The researchers found it was possible to create, by instructional intervention, a group norm that lead members to overtly discuss strategies for the task, thus changing the characteristics of the job they were to do. Also, the research confirmed that when the most obvious task design was not optimal for group effectiveness, groups that overtly discussed performance strategies performed more effectively than groups operating under "traditional" norms. Strategy groups also showed more flexibility, shared influence, and found the group experience to be more positive, even though they experienced more task and interpersonal problems than groups in other conditions.

If one considers the group task design similar to job complexity,

the Hackman et al. (1976) experiment suggests a relationship between the causal variable (task design) and the intervening variable (group performance strategies or teamwork). The strategy groups, which experienced changes in the design of their tasks, were more effective on both objective and affective criteria (end-result variables). Generalizations beyond the experimental setting are not warranted by the research. However, the results provided some evidence of relationships to be explored in the present study.

Adler, Skov, and Salvemini (1985) questioned whether cues concerning job attitudes, such as satisfaction, might actually be a determinant of perceptions of job characteristics, rather than the reverse which has generally been assumed to be true. They conducted two parallel experiments with college students to test the hypothesis that satisfaction feedback affects descriptions of work characteristics. They found that subjects who received satisfaction feedback rated the group as having been more cohesive, more positive in communication, more open to change, more motivated, capable, and better performing. The subjects were also more satisfied with group performance. The researchers concluded that job characteristic-job satisfaction correlations based on cross-sectionally collected, self-report data cannot necessarily be viewed as supportive for the effects of job characteristics on satisfaction.

Related research supported possible relationships among job characteristics, teamwork, and job satisfaction. Both theory and research have generally assumed a causal connection between job

characteristics and job satisfaction. Experimental studies have shown, however, that feedback about satisfaction affected perceptions of the work characteristics and the work group. This study explored relationships among the variables, but causality was not determined.

2. Leadership, teamwork, and job satisfaction

Likert (1977) reviewed research in higher education organizations which tested his management theories. When community college department heads practiced participatory leadership, called "system 4" by Likert, there was greater cohesion and cooperation among department members and greater satisfaction among faculty. In a large university liberal arts college, there was greater satisfaction among faculty with the more participatory department head leadership style. Within professional schools in the same university, faculty members felt greater commitment to the school and experienced greater satisfaction when the dean's administrative style fit the participative group model typified by "system 4."

Several studies examined relationships between the leader behavior or management system of Cooperative Extension Service organizations and job satisfaction. Prosise (1983) found a significant positive relationship between leadership behavior and job satisfaction. The Extension district was also positively related to satisfaction, as was satisfaction with supervision. Smith (1980) discovered a significant relationship between seven organizational variables and job satisfaction of Cooperative Extension staff in Maryland. Group interaction was most predictive of satisfaction, but leadership, communication, control,

decision-making, motivation, and goal setting all had significant positive relationships with satisfaction. In Oregon, Oester (1973) found a significant positive relationship between the staff perception of leaders and the level of job satisfaction. The more participative the management style was perceived, the greater the job satisfaction level. As in Maryland, leadership, motivation, communication, interaction, decision-making, goal setting, control, and training were all significantly related to perceptions of the management system.

Mitchell, Larson, and Green (1977) experimentally manipulated perceptions of group performance with college student subjects to assess effects on ratings of leader behavior and situational variables (group atmosphere, task structure, position power, and situational favorability). They predicted that perceptions of good performance would result in higher ratings on both leader behavior and situational characteristics than in a condition where poor performance perceptions existed. The hypothesis was based on attribution theory. Three experiments supported the hypothesis regarding situational variables. In all three studies, the group atmosphere score was higher when subjects received positive feedback about performance. The leader behavior results were not as consistent as those for the situational characteristics. In one of the experiments, perceptions of performance had no effect on ratings of leadership behavior. This research, as well as Staw's (1975), suggested that an attributional process may confound some of the interpretations from correlation studies which incorporate situational moderators in complex leadership theories. This experimental

study identified the need for caution in drawing causal inferences from correlation research, particularly when the data are collected via a common method and time.

F. Summary

This chapter reviewed the theoretical bases and supporting research for the four classes of variables in this study: job characteristics, leadership, teamwork, and job satisfaction. The discussion of selected research suggested possible characteristics of the variables in organizational settings similar to the Cooperative Extension Service, as well as relationships which may exist among the variables. However, several studies which question the direction of causality in variable relationships were also reviewed. Caution was urged in inferring causality between job characteristics or leadership and job satisfaction.

III. METHODOLOGY

This chapter reviews the methods and procedures which were followed for this research. The major topics discussed include the research design, instrumentation, data sources and collection, and data analysis.

A. Research Design

The design chosen to meet the objectives of this study was survey research. In their review of research design and methodology, Borg and Gall (1983) listed several uses of surveys, including study of relationships, effects of treatments, longitudinal changes, comparisons among groups, as well as description. To accomplish the purpose of this study, the design utilized a printed, mailed survey instrument to gather descriptions of the job characteristics, leadership perceptions, teamwork, and job satisfaction of county Extension staff. The survey design also permitted examination of differences among subgroups of the population as well as analysis of relationships among the variables.

Borg and Gall (1983) noted that "a serious criticism of questionnaire studies is that they are often shallow, that is, they fail to dig deeply enough to provide a true picture of opinions and feelings" (p. 436). To minimize this weakness in the present study, open-ended questions were asked at the end of each major section of the survey form. The open-ended questions probed for additional information or comments to clarify and explain the numerical responses to survey items. Subjects

were also encouraged to communicate with the researcher about any questions or concerns they had.

B. Instrumentation

Since the purpose of this study was unrelated to instrument development, but did require the gathering of specific information, a number of questionnaires and surveys were reviewed for possible adaptation and use in the research. This study included four major areas of study: job characteristics, supervisory leadership, teamwork, and job satisfaction. Thus, relevant portions of different instruments were chosen, adapted to fit the organizational context and combined into a single survey for this research. As noted in Chapter II, the job characteristic and job satisfaction items were adapted from the Job Diagnostic Survey (Hackman & Oldham, 1975). The leadership items were taken from Yukl's (1985) taxonomy of managerial behaviors. The teamwork items were a part of the Survey of Organizations (Taylor & Bowers, 1972).

The first step in developing the survey instrument was securing approval from the individuals or organizations who held copyrights on the Job Diagnostic Survey, the Survey of Organizations, and Definition of the Thirteen Managerial Behaviors. A draft of the proposed research instrument was prepared and mailed with a cover letter seeking permission to adapt the original instruments as shown. An approval form was provided for the convenience of the respondents. All three requests for permission to adapt instruments for this research were granted. Documentation of the approval process is available in Appendix A.

Draft copies of the survey instrument were reviewed by Cooperative Extension Service administrators, by representatives of the research subjects, by Extension staff development leaders in the midwest, and by the Human Subjects Committee of Iowa State University. In the Iowa Cooperative Extension Service, the dean, associate deans, assistant dean, and program leaders were asked to critically review the survey. Also, area Extension directors were asked to review the survey for clarity, accuracy and completeness of items, as well as editorial improvements. Representatives of agriculturists, home economists and 4-H youth leaders, the research subjects, were selected and asked to critique the survey. Selected Extension staff development leaders in the midwest, who are peers of the researcher, were also asked to review the instrument. Although no major revisions occurred as a result of this review process, a number of questions, comments, and suggestions provided by the reviewers were useful in making the instrument more readable, clear, and attractive. Approval was granted by the Human Subjects Committee for the survey to be used as proposed. Documentation of the review process is shown in Appendix A.

After the survey content was revised and approved, the researcher utilized techniques which have been shown to increase survey response. To avoid the lower response rates which are frequently typical of survey research (Muchinsky, 1983), the researcher incorporated the following elements into the final survey:

1. Attractive packaging of the survey, including an eye-catching

cover page, booklet format, reduced type size, ample white space, and printing on colored paper.

2. Evidence of sponsorship from Iowa State University Extension on the front cover.

3. Common, easily completed response format throughout the survey.

4. Placement of demographic questions at the end of the survey.

By following these guidelines, Dillman (1978) has shown that researchers can substantially increase response rates for mailed surveys.

C. Data Sources and Collection

The target population for this study was Iowa Cooperative Extension Service staff at the county level. At the time the research was initiated, there were 223 individuals in professional positions at this level. The entire population was included in the survey. The subjects were identified from employment lists of the Iowa Cooperative Extension Service which were available to the researcher. The population of county staff were classified into three types of positions: agriculturist, home economist, or 4-H youth leader. All three staff categories were included in the study. The research objectives required that subjects' responses could be identified by county or by area assignment. However, the researcher did not include these questions in the demographic section of the survey because responses to county or area assignment, together with several of the other demographic items, would have violated the anonymity of subjects. Anonymity of responses was an important issue, since subjects were reporting their views about the leadership behavior of their supervisors. Therefore, a detailed coding procedure was developed

which allowed for identification by county and by area, as well as for follow-up correspondence with nonresponding individuals.

Alphabetic letters were randomly chosen for the twelve geographic areas for the Iowa Cooperative Extension Service. Subsequently, numbers from 00 to 99 were randomly chosen for the 100 county offices. Finally, alphabetic letters were randomly chosen to represent the three types of staff members in any county office: agriculturist, home economist, or 4-H youth leader. In counties which had more than one staff member in any given position (i.e., two home economists) another alphabetic letter was chosen to identify the second individual. A master list showing identification numbers for each subject, by county and area was developed. This list was used by a research assistant to check respondents and nonrespondents. Since the researcher was employed by the Iowa Cooperative Extension Service, she never reviewed the master list after its initial development, thus assuring anonymity of all subjects who completed surveys for the research.

Dillman (1978) outlined a number of procedures which have proven to increase response to mailed surveys. These guidelines were followed in the present research:

1. Preliminary contacting of subjects. This was accomplished with a letter from an associate dean of Extension, informing staff of the study and encouraging them to respond.

2. Cover letter to subjects with key information about the study, use of the data, and assurance of anonymity. The researcher signed each letter individually with blue ink.

3. Identification code, rather than name on survey instrument, inconspicuously placed.

4. Inclusion of a stamped return envelope. To further assure anonymity of respondents, the surveys were mailed to the Iowa State University mail center address rather than to the researcher's address, which was a part of the Extension administrative offices.

The survey was mailed to 223 county professional staff members of the Iowa Cooperative Extension Service. The initial response yielded 215 returns, or 96.4 percent. A follow-up letter (see Appendix B) was mailed to nonrespondents, with a second survey form and return envelope. The second mailing brought the total response to 222, or a 99.5 percent return. The extremely high response rate was attributed to several factors: use of recommended techniques for mail surveys; the relevance of the research items for staff members; the encouragement from Extension administration; and the name recognition of the researcher to the subjects.

Once surveys were received, they were reviewed by a research assistant to facilitate the follow-up procedure. The demographic items were also checked against employment information available to the research assistant for accuracy and clarity. Minimal recoding of selected items was necessary, since they had been stated in the negative form (see items 11, 13, 14, 15, 17, 20, 22, Appendix C). With this careful review of the returned surveys, all were deemed usable. There was a minimal amount of missing data and it was considered insufficient to bias the analysis. Data were then keypunched for subsequent analysis,

using the Statistical Package for the Social Sciences (SPSS^x, 1983). The responses to open-ended items were summarized for each major section, by area and staff position. Twenty-one percent of the subjects responded to the open-ended items.

D. Data Analysis

The first data analysis, following keypunching of the raw data, used the SPSS^x Frequencies subprogram. Data were examined for responses which had been miscoded outside the response range, missing data, and mean scores for each items. Only one coding error was discovered and corrected. The results of the Frequencies analysis may be seen in Appendix C.

As noted in Chapter I, there were three sets of research objectives for this study, based on similarity of purpose. Each set of objectives is restated, with a description of the data analysis used to accomplish the objectives.

1. Objectives and analyses for description

The first set of objectives were descriptive in nature. This set enabled the development of a data base for the remainder of the research objectives. Specific objectives were:

To identify job characteristics of county Extension positions as perceived by incumbents in agriculture, home economics, and 4-H and youth positions (number 1).

To describe supervisory leadership behavior of area Extension directors, as perceived by the county Extension staff (number 4).

To describe the perceived status of teamwork among county Extension staff (number 6).

To identify the degree and type of job satisfaction experienced by county Extension staff (number 8).

These research objectives were concerned with variables, rather than individual items on the survey. These variables were generally formed by averaging selected survey items, based on guidelines from the original instruments and factor analysis in prior research. The names of each variable are shown in Table 1 with the survey items which comprised the variables.

The operational definition for each of the variables named in Table 1 was the mean score for the survey item or items which had been associated with the variable through theory and prior research.

To accomplish the research objectives in the first set, it was first necessary to assess reliability of the variable measures. Coefficient alpha was used to measure the internal consistency reliability of the multiple-item variables. Internal consistency describes the extent to which the multiple items are homogeneous, representative of the variable, and deserving of equal weight in the compositive variable measure. Nunnally (1967) indicated that a reliability coefficient of .50 is adequate for exploratory research. The reliability coefficients were calculated for each of the multiple-item variables and reviewed to assure that the variable measures were acceptable for further data analysis.

Table 1. Research variables

Name of Variable	Items from Survey
Job Characteristics	
Skill variety	4, 9, 13
Task identity	3, 11, 19
Task significance	5, 16, 22
Autonomy	2, 17, 21
Feedback from the job	8, 12, 20
Feedback from agents	6, 7, 15, 18
Dealing with others	1, 10, 14
Leadership	
Informing	36
Consulting and delegating	37
Planning and organizing	38
Problem solving and crisis management	39
Clarifying roles and objectives	40
Monitoring operations	41
Motivating task commitment	42
Recognizing and rewarding	43
Supporting	44
Developing	45
Harmonizing and team building	46
Representing	47
Interfacing	48
Teamwork	
Peer support	50, 51, 52
Peer team building	53, 54, 55
Peer goal emphasis	56, 57
Peer work facilitation	58, 59, 60
Group functioning	61, 62, 63, 64, 65, 66, 67
Job Satisfaction	
Job security satisfaction	71, 81
Pay satisfaction	72, 79
Growth satisfaction	73, 77, 80, 82, 83
Social satisfaction	74, 78
Supervision satisfaction	75, 76, 84
General satisfaction	85, 86, 87, 88, 89

The descriptive research objectives also required examination of mean scores, ranges and standard deviations for each variable, both for the total population and for subgroups of the population. The Frequencies subprogram of SPSS^{X} was used for this analysis.

2. Objectives and analyses for differences among groups

The second set of research objectives tested differences among subgroups of the population based on type of position, level of experience, and geographic area. Specific objectives were:

To determine the nature and extent to which differences in perceived job characteristics exist across the types of county positions or levels of experience (number 2).

To determine the nature and extent to which differences in perceived job characteristics exist among incumbents according to three position characteristics: those who also have county administrative responsibilities and those who do not; those who work part-time and those who work full-time; and those assigned to only one county and those who work in more than one county (number 3).

To determine the nature and extent to which differences in perceived leader behavior exist across types of county positions, level of experience, or geographic areas (number 5).

To determine the nature and extent to which differences in perceptions of teamwork exist across positions or areas (number 7).

To determine the nature and extent to which differences in job satisfaction exist across positions, levels of experience, or geographic areas (number 9).

Although the subjects for this study comprised the entire population of county professionals in the Iowa Cooperative Extension Service, they were assumed to be representative of a much larger population of Extension professional staff across the United States. Therefore, inferential statistics were chosen for the data analysis.

The analysis of variance was used to test for differences as noted in the research objectives. The subgroup characteristics (type of position, level of experience, or geographic area) were the independent variables used to form the groups for observations, and the research variables were the dependent variables. Hinkle et al. (1979) noted that the analysis of variance tests "whether the group effect, as evidenced by differences among the group means, is greater than can be expected due to random sampling fluctuation" (p. 249-250). When a significant F-ratio results from the analysis, the researcher can only conclude that at least one pair or a combination of population means is different. Post hoc multiple comparison tests must be used to ascertain specifically which groups are different from others.

The Duncan multiple range test was chosen for the post hoc analysis in this study. It was preferred over the more conservative options available through SPSS^{x} because of the exploratory nature of this research.

Several multiple classification analyses of variance were also used to test for interaction effects. Hinkle et al. (1979) indicated that interaction effects occur when levels of one independent variable affect the dependent variable in different ways across levels of a second

indepedent variable. In this study, the multiple classification analyses were used to test for interaction effects between any of the independent varibles.

For the set of research objectives testing for differences among groups, single and multiple classification analysis of variance techniques were used, with Duncan multiple range tests for the post hoc analysis of differences among groups.

3. Objectives and analyses for relationships among variables

The final set of research objectives for this study assessed relationships among the variables, according to the Likert (1961, 1967) framework reviewed in Chapters I and II. The relationship objectives were:

To assess the relationship between job characteristics and teamwork (number 10).

To assess the relationship between perceived supervisory leadership and the teamwork among county staff (number 11).

To assess the relationship between the teamwork variable and the job satisfaction variables (number 12).

To assess the relationship between perceived supervisory leadership and the job satisfaction variables (number 13).

To assess the relationship between job characteristics and the job satisfaction variables (number 14).

Correlation coefficients indicate the extent of relationship between two variables. Hinkle et al. (1979) noted that the Pearson product-moment correlation coefficient (r) is the standard measure of the

relationship between two variables. Since the r value may range from -1.00 to +1.00, the coefficient indicates both the strength and direction of the variable relationship. In this study, the Pearson product-moment correlation coefficient was used to assess relationships between the job characteristics measure and teamwork, teamwork and job satisfaction variables, and job characteristics measure and job satisfaction variables. A partial correlation technique was also employed to assess the relationship between the job characteristic measure and job satisfaction variables, while controlling for the variance contributed by the teamwork measure.

Multiple regression analysis was used to examine the predictive power of the variables in the Likert (1961, 1967) framework, discussed in Chapters I and II. Borg and Gall (1983) defined multiple regression as "a multivariate technique for determining the correlation between a criterion variable and some combination of two or more predictor variables" (p. 596). The multiple correlation coefficient, R, has a range from 0 to 1.00, with the larger values indicating a stronger association between variables. A statistically significant F-ratio for the regression analysis indicates that the relationship is stronger than the researcher would attribute to chance. The multiple correlation coefficient squared, R^2, reflects how much of the variance in the criterion variable is accounted for by the predictor variables. The multiple regression technique allowed the researcher to examine the extent to which the causal variables (job characteristic measure and leadership variables) predicted teamwork and job satisfaction measures.

Multiple regression was also used to predict the job satisfaction variables from the leadership variables.

E. Summary

This chapter reviewed the research design chosen for this study, as well as the methodology for adapting and developing the instrumentation to support the research. The data sources and collection strategies were summarized. Finally, the sets of research objectives were restated, with discussion of the corresponding data analysis techniques. Chapter IV presents the results of the data analysis for each of the descriptive research objectives, as well as the specific hypotheses.

IV. RESEARCH RESULTS AND ANALYSIS

This research examined job characteristics, supervisory leadership, teamwork, and job satisfaction variables among county professional staff employed by the Iowa Cooperative Extension Service. Chapter IV presents results of data collected via a mailed self-report survey and the subsequent analysis, as described in Chapter III. A copy of the survey and raw data are available in Appendix C. The results are organized into five major sections, corresponding to the four categories of variables and the relationships among them. Names of variables are underlined within the text for clarity. All research hypotheses are stated in the null form, with a .05 probability level for rejection of the hypotheses. Only those analyses which resulted in significant differences or relationships are shown in tabular form, although other analyses are discussed throughout the chapter. Comments from subjects on the open-ended questions are included where they contributed to understanding of significant relationships identified in the quantitative analysis.

A. Job Characteristics

The conceptual framework for this study called for assessment of certain independent, or causal variables in an organization. The job characteristics of county Extension positions were identified as causal variables. Therefore, the first research objective for this study was to identify job characteristics of county Extension positions as perceived

by incumbents in agriculture, home economics, and 4-H youth positions.

1. Reliability

The seven job characteristic variables resulted from averaging the pertinent individual items from the Job Diagnostic Survey. Reliability coefficients were calculated for each job characteristic variable and are shown in Table 2.

Table 2. Reliability of job characteristic variables based on internal consistency

Job Characteristic	Coefficient of Reliability
Skill variety	.56
Task identity	.68
Task significance	.52
Autonomy	.60
Feedback from job itself	.80
Feedback from agents	.77
Dealing with others	.35

The coefficient for the variable, dealing with others, was lower than expected based on the previous research with the Job Diagnostic Survey. Hinkle et al. (1979) warned that when the research group is relatively homogeneous, there is a restricted range of scores which makes the correlation coefficient smaller. Although subjects for this study held different positions in the Cooperative Extension Service, their work

had a number of common elements. Restriction of range likely affected the size of the reliability coefficient for all the variables. Further, the variables were formed from three or four individual items. A larger item pool for each variable would have improved the possibility of a higher reliability coefficient. However, this researcher was limited to the items from the Job Diagnostic Survey. With the exception of the one variable, dealing with others, the reliability coefficients were generally acceptable.

2. Descriptive analysis

The mean ranking on each job characteristic for the total population is shown in Table 3. Standard deviations are also shown to illustrate the variability of responses.

Table 3. Description of job characteristic variables

Job Characteristic	Mean	Standard Deviation
Skill variety	6.11[a]	.74
Task identity	4.68	1.17
Task significance	5.95	.77
Autonomy	5.74	.80
Feedback from job	4.62	1.13
Feedback from agents	4.13	1.26
Dealing with others	6.48	.52

[a] N = 222.

Extension staff generally perceived their positions as relatively high on four characteristics: dealing with others, skill variety, task significance, and autonomy. These four variables had higher means and lower variability in responses. The other three characteristics: task identity, feedback from job, and feedback from agents received lower scores, but these were still above the midpoint of the seven point response scale. A number of the comments from open-ended survey items focused on feedback. A few quotations which illustrate the lower scores on the two feedback variables follow.

> There are so few ways to get feedback on a job well done. I would like to see some recognition that doesn't require blowing your own horn.
>
> We need to help our co-workers know they are doing good work. A pat on the back, thank you's, and praise on a job well done will help. Sometimes we have poor communications on this phase of others' work.
>
> You, as an individual, have to have a good sense of personal satisfaction and be able to tell if you have or haven't done a good job because no one ever acknowledges good work.

Although three of the scores were clearly lower than the other four, means for all seven job characteristics were above the midpoint of the response scale. Table 4 shows some similarities and differences in the seven job characteristics across the three professional positions held by the research subjects. While the three positions show similar mean scores, home economists are the highest on four of the seven variables: skill variety, task identity, autonomy, and feedback from agents. Agriculturist mean scores are highest on the three other variables: task significance, feedback from the job itself, and dealing with others. 4-H youth leader positions never received the

Table 4. Description of job characteristic variables by position

Job Characteristic / Position	Mean	Standard Deviation
Skill variety		
Agriculturist[a]	6.12	.72
Home economist[b]	6.26	.63
4-H youth leader[c]	5.90	.87
Task identity		
Agriculturist	4.54	1.20
Home economist	4.91	1.14
4-H youth leader	4.62	1.14
Task significance		
Agriculturist	5.97	.73
Home economist	5.93	.74
4-H youth leader	5.94	.87
Autonomy		
Agriculturist	5.66	.74
Home economist	5.91	.72
4-H youth leader	5.65	.97
Feedback from the job itself		
Agriculturist	4.72	1.16
Home economist	4.66	1.06
4-H youth leader	4.38	1.17
Feedback from agents		
Agriculturist	4.16	1.24
Home economist	4.25	1.22
4-H youth leader	3.88	1.33
Dealing with others		
Agriculturist	6.52	.43
Home economist	6.42	.54
4-H youth leader	6.48	.64

[a] $N = 98$.

[b] $N = 73$.

[c] $N = 51$.

highest mean, but ranked the lowest on four of the characteristics. Although mean scores for the seven variables were frequently very similar across the three types of positions, some patterns were apparent.

Prior to analyses of differences among subgroups of the population, descriptive data were generated for job characteristic perceptions of staff with varying lengths of experience. Table 5 describes the job characteristics from the perspective of length of experience in Extension. Five categories of experience were defined on the survey instrument and responses were analyzed for these groups.

There was a trend in the job characteristic mean scores according to length of experience. Subjects with 5 to 10 years experience had the lowest mean scores on four of the seven job characteristics, while those with 10 to 20 years experience rated their jobs highest on five of the seven characteristics. The groups with 3 to 5 years and 5 to 10 years of experience accounted for six of the lowest mean scores and none of the highest scores. Those with 10 to 20 years or more than 20 years accounted for six of the highest scores and none of the lowest scores.

Other job characteristic research objectives were related to differences among groups of subjects. Specific hypotheses are stated below, followed by discussion of the statistical techniques used to test the hypotheses.

3. Hypothesis 1

H^1 There are no differences in the seven job characteristic variables as perceived by agriculturists, home economists, or 4-H youth leaders.

Table 5. Description of job characteristic variables by length of experience

Job Characteristic Length of Experience	Mean	Standard Deviation
Skill variety		
< 3 years[a]	5.98	.86
3 years, < 5 years[b]	5.84	.89
5 years, < 10 years[c]	5.94	.90
10 years, < 20 years[d]	6.30	.51
20 years, > 20 years[e]	6.19	.63
Task identity		
< 3 years	4.72	1.21
3 years, < 5 years	4.73	1.40
5 years, < 10 years	4.43	1.17
10 years, < 20 years	4.77	1.15
20 years, > 20 years	4.68	1.08
Task significance		
< 3 years	6.09	.70
3 years, < 5 years	5.97	.76
5 years, < 10 years	5.78	.93
10 years, < 20 years	5.95	.76
20 years, > 20 years	5.95	.72
Autonomy		
< 3 years	5.44	1.14
3 years, < 5 years	5.81	.79
5 years, < 10 years	5.63	.70
10 years, < 20 years	5.96	.59
20 years, > 20 years	5.72	.70

[a] $N = 42$.

[b] $N = 21$.

[c] $N = 36$.

[d] $N = 68$.

[e] $N = 55$.

Table 5. (continued)

Job Characteristic Length of Experience	Mean	Standard Deviation
Feedback from the job itself		
< 3 years	4.40	1.13
3 years, < 5 years	4.33	1.15
5 years, < 10 years	4.16	1.08
10 years, < 20 years	4.88	1.10
20 years, > 20 years	4.88	1.08
Feedback from agents		
< 3 years	3.96	1.35
3 years, < 5 years	3.92	1.08
5 years, < 10 years	4.03	1.42
10 years, < 20 years	4.22	1.17
20 years, > 20 years	4.28	1.26
Dealing with others		
< 3 years	6.43	.58
3 years, < 5 years	6.46	.41
5 years, < 10 years	6.40	.61
10 years, < 20 years	6.53	.54
20 years, > 20 years	6.51	.42

To test Hypothesis 1, each job characteristic variable was analyzed for variance across the three positions. The independent variable, which divided the subjects by groups, was position; groups were identified as agriculturist, home economist, or 4-H youth leader. No significant differences on the one-way analysis of variance were found for the following job characterstics: task identity, task significance, autonomy, feedback from the job, feedback from agents, and dealing with others. A significant difference was observed on the characteristc, skill variety. Results of the analysis of variance are shown in Table 6.

Table 6. Analysis of variance of skill variety by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	1.95	3.68*
Within groups	219	.53	

*Significance > .05.

The Duncan multiple range test showed a significant difference (> .05) between the skill variety means of home economists (6.26) and 4-H youth leaders (5.90). The difference on this job characteristic variable occurred between the groups with the highest mean (home economists) and the lowest mean (4-H youth leaders). The F value (3.68) was significant at the .05 level. One comment provided by a 4-H youth leader relates to the differences in skill variety.

> I feel the 4-H and youth leader is a very frustrating job. One of the characteristics which is very difficult to handle is that nobody thinks of you as an expert or even a resource. The general public always tells you how to run your program. They think twice before passing comment on the agriculturist or home economist.

Although differences among positions were found for only one of the seven job characteristics, Hypothesis 1 was rejected.

4. Hypothesis 2

H^2 There are no differences between county Extension directors and other county Extension staff in their perceptions of seven job characteristic variables.

One staff person in each county has additional administrative responsibilities beyond his or her program position as agriculturist, home economist, or 4-H youth leader. A one-way analysis of variance was used to determine if the administrative responsibilities significantly affected the perceived job characteristics. Therefore, county Extension directors' responses on the seven variables were compared to those of all other staff. No significant differences were found between the groups on any of the seven characteristic variables. Hypothesis 2 failed to be rejected.

5. Hypothesis 3

H^3 There are no differences in the seven job characteristic variables perceived by groups with varying lengths of experience.

Hypothesis 3 was also tested with a one-way analysis of variance. Five groups were analyzed, based on responses to the demographic survey item regarding length of experience. No significant differences were

found among groups for four of the job characteristics: task identity, task significance, feedback from agents, and dealing with others. The differences among groups on the remaining three job characteristics: skill variety, autonomy, and feedback from the job itself, are summarized in Tables 7-9.

Table 7. Analysis of variance of skill variety by length of experience

Source of Variation	df	Mean Squares	F Value
Between groups	4	1.54	2.94*
Within groups	217	.52	

*Significance > .05.

The Duncan multiple range test showed that those with 10 to 20 years had a skill variety mean score (6.30) significantly different (> .05) than those with less than 3 years (5.98), those with 3 to 5 years (5.84), and 5 to 10 years (5.94).

Table 8. Analysis of variance of autonomy by length of experience

Source of Variation	df	Mean Squares	F Value
Between groups	4	1.89	3.06*
Within groups	217	.61	

*Significance > .05.

The Duncan multiple range test showed a significant difference between those with 10 to 20 years (5.96) and those with fewer than 3 years (5.44) on the autonomy variable.

Table 9. Analysis of variance of feedback from the job itself by length of experience

Source of Variation	df	Mean Squares	F Value
Between groups	4	4.90	4.03**
Within groups	217	1.21	

**Significance > .01.

For the job characteristic, feedback from the job itself, the Duncan multiple range test showed a significant difference (> .05) between those with 10 to 20 years (4.88), and those with 5 to 10 years (4.16), as well as those with less than 3 years (4.40). Those with more than 20 years had a mean score (4.88) significantly different from the same two groups, i.e., those with fewer than 3 years and those with 5 to 10 years.

Each of the post hoc tests revealed that the group of subjects with 10 to 20 years experience had significantly higher mean scores on the job characteristics than several other groups with less experience. On one characteristic, feedback from the job itself, the group with the greatest length of experience also had a mean score significantly higher than two other groups.

Hackman and Oldham's theory (1976) suggested that a summary score

to describe the motivating potential of a job could be derived from a combination of the five core characteristics. They called this score the motivating potential score. Since several differences among jobs were perceived by groups with varying lengths of experience, the motivating potential score (MPS) was calculated for each group, using the formula below.

$$MPS = (\text{skill variety} + \text{task identity} + \text{task significance} / 3) \times \text{autonomy} \times \text{feedback from the job itself}$$

The motivating potential scores ranged from 299.39 (5 to 10 years) to 385.17 (10 to 20 years). A one-way analysis of variance was performed to assess differences among groups. Results are shown in Table 10.

Table 10. Analysis of variance of motivating potential score by length of experience

Source of Variation	df	Mean Squares	F Value
Between groups	4	60949.34	3.85**
Within groups	217	15826.28	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the motivating potential scores of those with 10 to 20 years (385.17) and those with 5 to 10 years (299.39), as well as those with less than 3 years (317.92). Those with more than 20 years had a score (363.83) significantly different than the group with 5 to 10 years also.

The job characteristics, skill variety, autonomy, and feedback from the job itself, were perceived differently by Extension staff with varying lengths of experience. These staff also differed in their motivating potential scores. Based on the results summarized in Tables 7-10, Hypothesis 3 was rejected.

6. Hypothesis 4

H^4 There are no differences in the seven job characteristic variables perceived by those employed part-time and those employed full-time.

Among professional staff employed by the Iowa Cooperative Extension Service, two of the three county positions may be filled by part-time staff. Prior research (Katerberg et al., 1979; Eberhardt and Shani, 1984) has documented that part-time employees may perceive their jobs differently than full-time employees. To test Hypothesis 4, home economists and 4-H youth leaders were each divided into groups of part-time and full-time employees. Each position was examined for differences between the groups, using a one-way analysis of variance. No significant differences were found between the home economists working part-time and those working full-time. However, there were significant differences between 4-H youth leaders working part-time and those working full-time. Results of the analysis of variance for this position are shown in Table 11.

Table 11. Analysis of variance of task significance between part-time and full-time 4-H youth leaders

Source of Variation	df	Mean Squares	F Value
Between groups	1	3.87	5.36*
Within groups	49	.72	

*Significance > .05.

Examination of means revealed full-time 4-H youth leaders had a higher mean (6.09) for task significance than those employed part-time (5.44). Six of the seven job characteristics were viewed the same by incumbents in part-time and full-time 4-H youth leader positions. However, the job characteristic of task significance was perceived differently by the two groups. As shown, the 4-H youth leaders working full-time perceived a greater degree of task significance in their jobs than did those who were working part-time. Hypothesis 4 was, therefore, rejected.

7. Hypothesis 5

H^5 There are no differences between job characteristics as perceived by those staff assigned to one county and those assigned to more than one county.

A number of county Extension professionals have positions which require them to work in more than one county. Extension administrators questioned whether job characteristics might be perceived differently by those working in only one county when compared to those working in more

than one county. Although several comments from open-ended items on the survey mentioned the difficulties and frustrations with two-county positions, the analysis of variance showed no significant differences between the two groups. Hypothesis 5 failed to be rejected on the basis of this analysis. Job characteristics were not perceived differently by Extension staff working in different types of geographic assignments.

The job characteristic analyses revealed significant differences among groups based on type of position, as well as experience. Therefore, a multiple classfication analysis of variance was also performed to test for interaction effects. No interaction was found between position and length of experience for any of the job characteristics.

B. Leadership

The second type of causal variable in this study was supervisory leadership perceived by the county Extension staff. Within the Iowa Cooperative Extension Service, there were twelve area Extension directors, each charged with the responsibility of supervising all county Extension staff in a geographic area. County Extension staff were asked to identify the extent to which they perceived their supervisor engaging in thirteen different types of leadership behavior, as defined by Yukl's (1985) taxonomy of managerial behaviors and used in the survey instrument. Leadership behavior was rated on a five point scale, with a response option for "don't know." Very few subjects chose the "don't know" response, as shown in the raw data in Appendix C.

1. Descriptive analysis

The descriptive research objective related to supervisory leadership (see research objective 4 in Chapter I) was met by analyzing mean scores and standard deviations for each of the leadership variables, both for the total population and for each of the twelve geographic areas of the state. The twelve Extension administrative areas in Iowa were identified by a randomly chosen alphabetic character. These data are summarized in Tables 12 and 13.

When describing the perceived leadership behavior of all area Extension directors in Iowa, the data showed that most of the thirteen variables were rated just above the midpoint of the scale. County Extension staff saw their supervisors doing more informing than any other type of behavior. Also, team building and problem solving received the lowest ratings among the thirteen variables. Many of the comments from open-ended items pertained to these two variables:

> Could deal with teamwork problems.
>
> Not willing to be involved in resolution of county staff conflicts.
>
> Problems in improving or removing incompetent staff. Tends to avoid resolution of problems between staff.
>
> Loves to keep staff in turmoil. Is constantly asking staff about their colleagues.
>
> AED believes more in divide and conquer. I prefer the teamwork approach of the old days.
>
> Cannnot stand conflict but does nothing to resolve it.

Very few comments were made about the informing variable, but there were many comments about supporting behavior, which received the second highest mean for the total population, shown in Table 12.

Table 12. Description of leadership variables

Leadership Variable	Mean	Standard Deviation
Informing	4.11[a]	.75
Consulting	3.66	1.00
Planning	3.36	1.07
Problem solving	3.00	1.17
Clarifying roles	3.27	1.10
Monitoring	3.22	1.06
Motivating	3.31	1.06
Recognizing	3.27	1.19
Supporting	3.96	1.05
Developing	3.24	1.16
Team building	3.00	1.18
Representing	3.73	1.05
Interfacing	3.58	1.00

[a] $N = 222$.

Table 13 lists the mean and standard deviation for each of the thirteen leadership variables according to the geographic area assigned to each of twelve regions in Iowa. As might be expected from the total population rankings, the variable of informing was ranked as the most prevalent leadership behavior in six of the twelve areas, while the supporting variable was ranked highest in five others. The variable of representing was the other leadership behavior receiving the highest ranking in a single area. By contrast, team building received the lowest ranking in five areas. Problem solving behavior was perceived the least in three areas, while monitoring behavior received the least response in two areas. Developing and recognizing each were rated the least perceived leadership behavior in one area. The difference between the high and low mean ratings of the thirteen variables in each area ranged from .77 to 2.05. Almost half the areas had ranges above 1.5.

Table 14 compares the supervisory leadership rankings across the twelve areas for each of the thirteen variables. For each variable, the rank order of the areas is shown. One indicates the area had the highest rating on the variable.

Areas were compared to determine to what extent the rank orders for the thirteen variables consistently fell in the top, middle, and bottom third of the distribution. The areas clearly grouped into thirds, as shown on the table. By counting the number of times an area was ranked in the top third across all leadership variables, the researcher determined that Areas W, G, B, and P received the most consistently high ratings of supervisory leadership behavior, in that order. The middle of

Table 13. Description of leadership variables by area

Area	Mean (Standard Deviation)					
	Informing	Consulting	Planning	Problem Solving	Clarifying Roles	Monitoring
G[a]	4.78 (.43)	4.28 (.75)	4.12 (.72)	3.44 (.92)	4.06 (.87)	3.61 (.70)
B	4.39 (.50)	4.41 (.71)	3.65 (1.06)	4.06 (.90)	3.56 (.86)	3.35 (.86)
K	3.85 (.74)	3.55 (.94)	2.68 (1.00)	2.42 (1.17)	2.68 (1.16)	2.90 (.91)
T	4.10 (.66)	3.00 (.74)	2.79 (.98)	2.10 (.88)	2.63 (1.21)	2.28 (.67)
A	4.00 (.73)	3.26 (1.13)	3.56 (.97)	3.04 (1.15)	3.15 (1.03)	3.12 (.93)
M	3.95 (.78)	3.50 (1.25)	3.26 (1.10)	3.00 (1.08)	3.21 (.98)	3.05 (1.13)
J	4.28 (.57)	3.88 (.70)	3.39 (.78)	3.38 (.81)	3.33 (.77)	3.19 (.98)
W	4.46 (.66)	4.17 (.94)	4.00 (.91)	3.92 (.86)	4.15 (.80)	4.00 (.91)
V	3.69 (.70)	3.31 (.95)	2.69 (.95)	2.07 (1.16)	2.50 (1.15)	2.94 (.93)
P	4.33 (.59)	4.00 (.91)	4.06 (1.11)	3.50 (1.37)	3.88 (1.27)	3.83 (1.10)
F	4.44 (.63)	3.88 (.81)	3.81 (.75)	2.94 (.68)	3.62 (.72)	3.93 (.83)
U	3.30 (.80)	3.20 (.83)	2.53 (.84)	2.50 (1.00)	2.85 (.93)	2.63 (1.06)

[a]Letters ramdomly assigned to geographic areas.

Table 13. (continued)

Area	Mean (Standard Deviation)						
	Moti-vating	Recog-nizing	Sup-porting	Devel-oping	Team Building	Repre-senting	Inter-facing
G	3.83 (1.04)	4.17 (1.10)	4.61 (.78)	3.60 (1.30)	3.78 (1.06)	4.00 (.73)	3.94 (.90)
B	3.61 (1.04)	3.65 (1.06)	4.65 (.61)	4.06 (1.03)	4.17 (.92)	4.31 (.87)	3.76 (.90)
K	2.83 (.86)	2.74 (.99)	3.70 (.86)	2.83 (1.20)	2.33 (1.03)	3.20 (.86)	3.47 (.94)
T	2.68 (1.00)	2.68 (1.06)	3.63 (1.06)	2.47 (.77)	2.05 (.78)	3.12 (1.09)	2.94 (.94)
A	3.59 (1.08)	3.48 (1.19)	3.48 (1.19)	3.08 (1.12)	2.38 (1.06)	4.35 (1.02)	4.00 (1.02)
M	3.16 (1.07)	2.53 (1.12)	3.79 (1.18)	3.44 (1.15)	2.95 (1.13)	3.44 (1.09)	3.28 (1.02)
J	3.76 (.90)	3.50 (1.20)	4.35 (.86)	3.59 (.87)	3.59 (.80)	3.53 (.80)	3.47 (.72)
W	3.92 (1.00)	4.46 (.52)	4.62 (.77)	4.08 (.67)	3.85 (.80)	4.08 (1.04)	4.08 (1.00)
V	2.75 (.93)	2.87 (1.12)	4.00 (1.26)	2.40 (1.35)	2.12 (1.02)	3.56 (.81)	3.19 (.83)
P	3.83 (.98)	3.53 (1.33)	4.00 (.91)	3.67 (1.08)	3.71 (.98)	3.88 (.99)	4.24 (.75)
F	3.31 (.60)	3.19 (.66)	3.69 (1.08)	3.25 (.86)	3.31 (.70)	4.33 (.72)	3.75 (1.00)
U	2.55 (.89)	2.80 (1.10)	3.60 (.88)	2.69 (1.08)	2.39 (.92)	2.78 (1.06)	2.82 (1.01)

Table 14. Comparison of area rankings on leadership variables

Rank Order of Mean	Area Letter[a]					
	Informing	Consulting	Planning	Problem Solving	Clarifying Roles	Monitoring
1	G	B	G	B	W	W
2	W	G	P	W	G	F
3	F	W	W	P	P	P
4	B	P	F	G	F	G
5	P	J	B	J	B	B
6	J	F	A	A	J	J
7	T	K	J	M	M	A
8	A	M	M	F	A	M
9	M	V	T	U	U	V
10	K	A	V	K	K	K
11	V	U	K	T	T	U
12	U	T	U	V	V	T

[a]Letters randomly assigned to geographic areas.

Table 14. (continued)

Rank Order of Mean	Moti-vating	Recog-nizing	Sup-porting	Devel-oping	Team Building	Repre-senting	Inter-facing
1	W	W	B	W	B	A	P
2	P	G	W	B	W	F	W
3	G	B	G	P	G	B	A
4	J	P	J	G	P	W	G
5	B	J	P	J	J	G	B
6	A	A	V	M	F	P	F
7	F	F	M	F	M	V	J
8	M	V	K	A	U	J	K
9	K	U	F	K	A	M	M
10	V	K	T	U	K	K	V
11	T	T	U	T	V	T	T
12	U	M	A	V	T	U	U

the distribution was represented by Areas J, F, A, and M. The bottom third of the areas, which consistently had lower ratings across the leadership variables, included Areas V, K, U, and T. The distinction between the areas receiving the highest and lowest leadership ratings are marked: Area W received rankings in the top third on all thirteen variables while Area T received rankings in the bottom third on twelve of the thirteen variables.

Another research objective tested differences in perceived leadership behavior among subgroups of the population. Groups were defined by types of positions, levels of experience, and geographic areas. Several specific hypotheses were stated and tested with analysis of variance techniques.

2. Hypothesis 6

H^6 There are no differences in perceived leadership behavior among the twelve geographic areas.

To test this hypothesis, the survey leadership item responses (adapted from Yukl, 1985) of all subjects supervised by the same area Extension director were recoded for statistical analysis. The researcher subsequently performed a one-way analysis of variance for each of the thirteen leadership variables, using the geographic area assignment as the independent variable for grouping of subjects. Tables 15 through 27 reveal the results of each analysis.

The informing variable measured perceptions of the area Extension director's communication with county staff about information relevant to their work. Informing behavior scores in some areas were significantly

different from others. Table 15 shows a significant difference across groups.

Table 15. Analysis of variance of informing variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	2.94	6.63**
Within groups	210	.44	

**Significance > .01.

The group differences on the informing variable were investigated with a post hoc range test. The Duncan multiple range test showed significant differences (> .05) between the area with lowest mean (U) and ten other areas (all but V). Area V, with the second lowest mean was different from the top six area means (Areas G, W, F, B, P, and J). Area K, with the third lowest mean was also different from the top five areas. The area with the highest mean, Area G, was significantly different from all other areas except W, F, B, and P. County Extension staff in the twelve geographic areas perceived significantly different amounts of informing leadership from their area Extension directors.

The consulting variable measured perceptions of the degree to which area Extension directors engaged in participative decision-making and delegation of responsibility. Table 16 summarizes the analysis of variance for this variable.

Table 16. Analysis of variance of consulting variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	3.88	4.64**
Within groups	206	.84	

**Signifance > .01.

The Duncan multiple range test showed significant differences (> .05) between Area T, which had the lowest mean on consulting and the top six areas (B, G, W, P, J, and F). Areas U and A, with the next lowest means, were significantly different from the top four areas. Area V, with the fourth lowest mean was different from the top three areas. The top two areas were different from the lowest six areas (T, U, A, V, M, and K). The analysis represented in Table 16 illustrates significant differences among county Extension staff from different geographic areas, as they perceived the consulting behavior of their area Extension directors. Again, the top and bottom of the area rankings on this variable were significantly different.

Planning behavior, described as determining objectives, strategies and resource use, was the third leadership variable. The pattern of responses for planning showed differences among groups, shown by Table 17.

Table 17. Analysis of variance of planning variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	5.87	6.58**
Within groups	205	.89	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the area with the lowest mean (U) and the top eight areas on the planning variable. Areas K and V, with the next lowest means, were different from the top seven areas. Area T, with the fourth lowest mean, was different from the top six areas. Areas G and P, with the highest means, were different from the bottom five areas. Significant differences in planning behavior were observed between the areas with the highest and lowest rankings on this variable.

When area Extension directors were perceived as leaders who identified serious work problems, analyzed causes and acted decisively to

Table 18. Analysis of variance of problem solving variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	7.24	6.92**
Within groups	201	1.05	

**Significance > .01.

deal with them, they received higher ratings on the problem solving variable. The analysis of variance across areas for this variable is shown in Table 18.

The Duncan multiple range test showed significant differences (> .05) in perceptions of problem solving leadership between the two areas with lowest means (V and T) and the top eight areas. The next two lowest means (Areas K and U) were different from the top five areas. The two areas with highest means (Areas B and W) were significantly different from the seven lowest areas. The four areas with the lowest mean scores, the bottom third, saw significantly less problem solving behavior than the top third of the areas.

When area groups had highest means on the clarifying leadership variable, they perceived their area Extension directors establishing clear roles, responsibilities, and expectations. Again, differences were found among area groups, as shown in Table 19.

Table 19. Analysis of variance of clarifying roles variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	5.36	5.35**
Within groups	208	1.00	

**Significance > .01.

The Duncan multiple range test showed significant differences (>. 05) between the six areas with highest means and the area with the lowest mean. The five top areas were different from the bottom three areas; the three highest were different from the six lowest. Area W, with the highest mean, was different from the seven lowest means, while Area G, with the second highest mean, was different from the lowest six.

The leadership variable, clarifying roles, showed a more mixed pattern of differences than the previous variables. The higher and lower rankings by area groups were significantly different from each other but the area groups in the middle of the distribution on this variable were not clearly different from the top or bottom thirds.

Monitoring leadership was defined as gathering information about programs in the area, checking on progress, and quality of work. The monitoring leadership behavior variable as perceived by county Extension staff followed the pattern which was typical of most of the leadership variables. The analysis of variance (Table 20) revealed differences among area groups.

Table 20. Analysis of variance of monitoring variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	4.67	5.38**
Within groups	201	.87	

**Significance > .01.

The Duncan multiple range test showed that Area T, with the lowest mean, was significantly different (> .05) from the eight areas with highest means. Area U with the second lowest mean was different from the five top areas, while Area K (third lowest mean) was different from the top four. The area with the highest mean (W) was different from the bottom seven areas, while Areas F and P, with the next highest means, were different from the bottom six areas. The three areas with the lowest mean ratings on this variable perceived significantly less monitoring from their area Extension directors than the areas which ranked highest on this variable.

Motivating was described as the use of personal influence to generate enthusiasm, commitment, or compliance. Two-thirds of the area groups perceived a degree of motivating behavior well above the midpoint of the scale for their area Extension directors. Table 21 illustrates the presence of differences among groups.

Table 21. Analysis of variance of motivating variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	4.56	4.88**
Within groups	206	.93	

**Significance > .01.

The Duncan multiple range test clearly showed a top half and a bottom third on the motivating variable. The six areas with highest

means (W, P, G, J, B, and A) were all significantly different (> .05) from the four bottom areas (U, T, V, and K). Area F, with the seventh highest mean, was also different from Area U, which had the lowest mean. The six area groups which perceived the greatest degree of motivating behavior from their area Extension directors were all different from the four areas with the lowest motivating scores.

The recognizing leadership variable measures perceptions of supervisors praising and rewarding effective performance or special contributions. The analysis of variance among area groups is shown in Table 22.

Table 22. Analysis of variance of recognizing variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	6.18	5.33**
Within groups	204	1.16	

**Significance > .01.

Once again, significant differences were found among area group perceptions of supervisors' recognizing behavior. Duncan multiple range test showed significant differences (> .05) between the top six and bottom two area means on the recognizing variable. Area W, with the highest mean, was different from all other areas except G and B, which had the next highest means. Area G was different from the bottom six areas, while Area B was different from the bottom four. Area A, which

had the fifth highest mean was also different from the bottom three areas. Area P actually had a higher mean score on the recognizing variable than Area A. However, because of unequal numbers of subjects in the area groups, the mean score of Area P was not statistically different from the bottom three areas. County Extension staff rated their supervisors quite differently on the recognizing variable. The three areas which observed a greater degree of recognizing behavior were all significantly different from the three areas with the lowest scores on this variable.

When the mean scores of area groups were compared for each leadership variable, the top, middle and bottom thirds, representing four area groups in each, were identified. Differences among the mean scores were not always significant, but for the supporting variable, this pattern of thirds was apparent. The supporting variable represented supervisory friendliness and consideration. Table 23 summarizes the analysis of variance.

Table 23. Analysis of variance of supporting variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	3.44	3.54**
Within groups	208	.97	

**Significance > .01.

The Duncan multiple range test showed that the three areas with highest supporting means (B, W, and G) were significantly different (> .05) from the bottom six areas. Area J, which had the fourth highest mean, was different from the two lowest means as well. The three area groups which perceived the most supporting behavior from their area Extension director were significantly different from half of the twelve geographic areas.

Developing was defined as supervisory coaching, counseling, or otherwise assisting staff to grow and develop. The analysis of differences among area groups for this variable is shown in Table 24.

Table 24. Analysis of variance of developing variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	5.29	4.68**
Within groups	194	1.13	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the two areas with highest means (W and B) and the bottom five areas on the developing variable. Area P, with the third highest mean, was different from the bottom four areas; Areas G and J, with the fourth and fifth highest means, were different from the bottom three areas. Area M, which had the sixth highest mean, was also different from the two areas with lowest means. Again, area groups perceived

significantly different degrees of developing behavior from their area directors.

The team building variable measured perceptions of area Extension directors' attempts to develop cooperation and coordination among staff in a work unit. Area groups were analyzed for differences on this variable as shown in Table 25.

Table 25. Analysis of variance of team building variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	10.41	11.46**
Within groups	203	.91	

**Significance > .01.

The Duncan multiple range test showed fairly distinctive top and bottom halves among the twelve areas for team building leadership behavior. Areas with the four highest means were all different from the bottom six areas. Areas with the six highest means were all different from the bottom five areas. Area B, which had the highest mean, was different from the seven lowest means. Areas T and V, which had the lowest means, were different from the seven highest means. When rating their supervisors on team building leadership behavior, the area groups were split into a fairly distinctive top and bottom half.

Representing leadership behavior is particularly appropriate for area Extension directors. In their middle management positions, they

acquire resources and serve as spokespersons for their areas. The representing variable assesses county staff perceptions of the degree to which their area Extension directors engage in this type of behavior. The analysis of variance revealed differences, as shown by Table 26.

Table 26. Analysis of variance of representing variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	4.80	5.44**
Within groups	189	.88	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) on the representing variable between means of the three top ranked areas (A, F, and B) and the bottom six areas. Areas W and G, with the fourth and fifth highest means, were different from the bottom three areas. Area P, with the sixth highest mean, was different from the bottom two areas, while Area U, the lowest ranked area, was different from the top eight areas. More "don't know" responses were recorded for representing than any other leadership variable (see Appendix C). However, the missing data were still low (21 out of 222) and distributed evenly across the area groups, so they were not considered problematic for data analysis. For this variable, the three areas which perceived the most and least representing leadership were significantly different from each other, but the areas in the middle of the distribution were not

clearly aligned with a top, middle, or bottom third.

The final leadership variable, interfacing, also was relevant to middle management positions. Interfacing was described as interactions with other individuals and groups to gather information and improve coordination for the work unit. Results of the analysis of variance are in Table 27.

Table 27. Analysis of variance of interfacing variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	3.61	4.19**
Within groups	196	.86	

**Significance > .01.

For the interfacing variable, the Duncan multiple range test showed significant differences (> .05) between the top five area means and the bottom two. The four top area means were different from the bottom three. The three highest means were different from the four lowest ones. Area P, with the highest mean, was different from the bottom six. While there was not a uniform grouping into top, middle, or bottom thirds for any of the leadership variables, the interfacing mean scores fit that general pattern quite well. As shown by the multiple range test, the four areas which perceived the greatest degree of interfacing behavior from their area Extension directors were different from the three area groups which rated the lowest.

Because significant differences were apparent among area groups on all thirteen leadership variables, Hypothesis 6 was rejected.

3. Hypothesis 7

In studying the supervisory leadership behavior of area Extension directors as perceived by the county staff they supervise, certain research objectives (see research objective 5 in Chapter I) were concerned with differences among groups based on position or length of experience.

H^7 There are no differences in perceived leadership behavior by subjects holding different positions in the Iowa Cooperative Extension Service.

A one-way analysis of variance was used to examine differences among types of positions (agriculturists, home economists, and 4-H youth leaders) for each of the thirteen leadership variables. No significant differences were found among positions on twelve of the variables. Table 28 shows the analysis for the team building variable, where differences existed among positions.

Table 28. Analysis of variance of team building variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	5.51	4.06*
Within groups	212	1.36	

*Significance > .05.

The Duncan multiple range test showed a significant difference (> .05) between the mean score of 4-H youth leaders (2.59) and the other two groups (agriculturists: 3.16; home economists: 3.09) for the team building variable. 4-H youth leaders perceived a significantly lower degree of team building behavior from their area Extension directors than was perceived by any other group of staff. Although this was the only difference among groups, it was sufficient to reject Hypothesis 7.

4. Hypothesis 8

H^8 There are no differences in perceived leadership behavior by subjects with different lengths of experience in their positions.

One-way analyses of variance were used to detect differences in leadership perceptions among groups based on their length of experience in their position. No significant differences were discovered. Subsequently, Hypothesis 8 failed to be rejected.

Since county Extension directors have administrative responsibilities and must frequently communicate with area directors, the researcher reasoned that differences might exist between the leadership perceptions held by county directors and other county staff. Multiple classification analysis of variance was used to determine if differences existed between these groups and if there were any interaction effects for area or length of experience. No significant differences or interaction effects were found, except for those among area groups which had previously been ascertained.

C. Teamwork

Likert (1961, 1967) suggested that organizations must improve intervening variables to effect desired changes in the end-result variables. The intervening variables studied in this research were teamwork among county Extension staff members. The Survey of Organizations (Taylor and Bowers, 1972) included items for five different variables related to teamwork: peer support, peer team building, peer goal emphasis, peer work facilitation, and group functioning. These items were adapted for this study and included in the composite survey instrument. This section reviews the data analysis for the five teamwork variables.

1. Reliability

Mean scores for each teamwork variable were obtained by averaging the single items related to each, based on prior research. Coefficients

Table 29. Reliability of teamwork variables based on internal consistency

Teamwork Variable	Coefficient of Reliability
Peer support	.90
Peer team building	.88
Peer goal emphasis	.52
Peer work facilitation	.85
Group functioning	.90

of reliability were calculated to determine whether the variables were acceptable for further use in the research. The results are displayed in Table 29.

Four of the five reliability coefficients were high, and the fifth had a sufficient level of internal consistency for the exploratory nature of this study.

2. Descriptive analysis

Research objective 6 (see Chapter I) was to identify the perceived status of teamwork among county Extension staff. Mean response scores to the survey instrument and standard deviations for each of the five teamwork variables are shown for the entire population in Table 30. The response scale had five points. High scores represent a great degree of perceived teamwork, measured by the five variables, while low scores suggest little teamwork among county staff.

Table 30. Description of teamwork variables

Teamwork Variable	Mean	Standard Deviation
Peer support	3.88[a]	.82
Peer team building	3.22	.89
Peer goal emphasis	3.46	.79
Peer work facilitation	3.13	.85
Group functioning	3.68	.76

[a]N = 222.

All five of the variables had mean scores above the midpoint of the five point response scale. Peer support received the highest rating, while peer work facilitation was rated lowest. Generally, there was little variability among the five teamwork variables. Comments on open-ended survey items illustrated the difficulties in teamwork.

> Seems too easy for everyone to do their "own" thing.
>
> We work well together but need to do more team efforts, have more staff conferences.
>
> Because of the diversity in Extension, teamwork is very difficult without common tasks.
>
> Teamwork is hard to build in the county when programming is done separately on area basis.

Other types of barriers to teamwork were mentioned: personality conflicts, two-county assignments, and poor management/leadership skills of county Extension directors.

County Extension work groups vary in the number of professional staff assigned to the unit. In Iowa, the number of staff range from two to six professionals. The teamwork data were categorized by the number of staff in the county to determine if there were apparent trends or differences among work groups. The mean scores, with minimum and maximum ratings for each classification are displayed in Table 31.

A general trend was noted, based on size of the work group. For three of the teamwork variables, there was an indirect relationship between the size of the work group and higher ratings on the variables. That is, the mean score decreased slightly as the size of the work group increased. For the two other variables, minor variations on the same general pattern existed. The ranges in mean scores for the five teamwork

variables were also smaller for the two classifications of larger work groups. As the number of staff in a county unit increased, the extent of perceived teamwork decreased.

Table 31. Range of teamwork variable mean scores by county classifications

Number of Staff in County	Mean (Highest Mean for Classification) (Lowest Mean for Classification) Peer Support	Peer Team Building	Peer Goal Emphasis	Peer Work Facilitation	Group Functioning
2[a]	4.14 (5.00) (3.50)	3.57 (4.33) (2.67)	3.58 (4.50) (2.50)	3.34 (4.67) (2.67)	3.94 (4.86) (2.00)
3[b]	3.96 (5.00) (2.00)	3.26 (4.83) (1.56)	3.55 (4.50) (2.25)	3.20 (4.50) (1.67)	3.74 (4.64) (2.24)
4[c]	3.82 (4.00) (3.44)	3.33 (3.83) (2.78)	3.44 (3.75) (3.00)	3.11 (3.50) (2.78)	3.95 (4.46) (3.52)
5+[d]	2.82 (3.20) (2.33)	2.14 (2.83) (1.67)	2.55 (2.83) (2.40)	2.19 (2.72) (1.80)	2.58 (2.71) (2.43)

[a] N = 29 counties.

[b] N = 64 counties.

[c] N = 3 counties.

[d] N = 4 counties.

3. Hypothesis 9

Research objective 7 was to determine differences in teamwork perceptions among staff grouped by position, area assignment, and length

of experience. Again, specific hypotheses were stated in the null form, with a .05 probability level to determine significance.

H^9 There are no differences in the degree of teamwork as perceived by staff in the twelve geographic areas of the Iowa Cooperative Extension Service.

A one-way analysis of variance was used to detect differences among area teamwork ratings for each of the five variables. The means and standard deviations for each area are shown in Table 32.

Examination of the means revealed that most ratings of teamwork were between three and four, on a five point response scale with five as the higher end of the scale. There were only six mean scores below three and six means above four across all variables and all areas. The pattern of area ratings of teamwork is illustrated by Table 33.

There are clearly two areas which had consistently higher teamwork ratings across all five variables. Areas M and B had all five variable means in the top fourth of the distribution. Also, the bottom fourth of the distribution was easily discernible. Areas K and G had all five variable means in the bottom fourth, while Area T had four variable means in the lower fourth of the distribution. The other seven areas were not so clearly divided, but showed more variability across the middle of the distribution.

Table 32. Description of teamwork variables by area

Area	Mean (Standard Deviation)				
	Peer Support	Peer Team Building	Peer Goal Emphasis	Peer Work Facilitation	Group Functioning
G	3.50 (1.19)	2.57 (.75)	3.11 (.90)	2.63 (.77)	3.34 (.84)
B	4.17 (.54)	3.57 (.51)	3.67 (.69)	3.39 (.70)	4.00 (.53)
K	3.53 (.91)	2.65 (.89)	3.05 (.84)	2.57 (.91)	3.16 (.82)
T	3.46 (1.07)	2.91 (1.17)	3.39 (.91)	2.68 (.98)	3.20 (.87)
A	4.07 (.88)	3.40 (.85)	3.57 (.91)	3.38 (.72)	3.70 (.84)
M	4.30 (.47)	3.54 (.64)	3.82 (.56)	3.42 (.78)	3.91 (.69)
J	4.15 (.56)	3.41 (.81)	3.75 (.62)	3.26 (.94)	3.82 (.68)
W	4.08 (.56)	3.64 (.93)	3.50 (.50)	3.31 (.75)	3.83 (.66)
V	3.71 (.78)	3.02 (.83)	3.25 (.66)	3.10 (.84)	3.75 (.55)
P	3.78 (.62)	3.30 (.65)	3.44 (.64)	3.30 (.68)	3.81 (.72)
F	3.88 (.89)	3.21 (1.07)	3.31 (.87)	3.08 (.93)	3.76 (.73)
U	3.97 (.63)	3.43 (.81)	3.55 (.89)	3.42 (.68)	3.91 (.61)

Table 33. Comparison of area rankings on teamwork variables

Rank Order of Means	Area Letter[a]				
	Peer Support	Peer Team Building	Peer Goal Emphasis	Peer Work Facilitation	Group Functioning
1	M	W	M	M	B
2	B	B	J	U	M
3	J	M	B	B	U
4	W	U	A	A	W
5	A	J	U	W	J
6	U	A	W	P	P
7	F	P	P	J	F
8	P	F	T	V	V
9	V	V	F	F	A
10	K	T	V	T	G
11	G	K	G	G	T
12	T	G	K	K	K

[a]Letters randomly assigned to geographic areas.

To further test the hypothesis that there were no significant differences among area ratings of teamwork (Hypothesis 9), one-way analysis of variance was performed for each of the five variables. Peer goal emphasis measured the extent to which county staff behavior

generated enthusiasm for effective performance. There was no significant difference among the area groups for the peer goal emphasis variable. However, significant differences were detected for each of the other variables and are summarized in Tables 34-37.

Peer support was defined as the extent to which behavior of county staff encourages their own feelings of self-worth. Area groups of county staff perceived significantly different degrees of peer support as shown by Table 34.

Table 34. Analysis of variance of peer support variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	1.53	2.41**
Within groups	210	.64	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the three areas with highest means and the three areas with lowest means for peer support. Area A, which had the fifth highest mean was also different from the three bottom areas, although the area with the fourth highest mean was not. Three area groups which perceived the most peer support were all significantly different from the three areas with the lowest peer support scores. Unequal numbers of subjects in the area groups were responsible for the aberration in the pattern: the area with the fourth highest mean was not significantly

different from the bottom fourth of the distribution, while the area with the fifth highest mean was significantly different.

Peer team building represented the extent to which county staff encouraged teamwork among themselves. Significant differences among area groups were observed, shown in Table 35.

Table 35. Analysis of variance of peer team building variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	2.32	3.27**
Within groups	210	.71	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the three areas with highest peer team building means and the three areas with lowest means. The two areas with lowest means were different from the seven areas with highest means; Area G, with the lowest mean, was also different from an additional area with the eighth highest mean. A similar pattern was apparent for the peer team building variable. The three area groups which perceived the greatest degree of peer team building were significantly different from the three areas which perceived the least team building.

The peer work facilitation variable measured perceptions of staff behavior in helping each other remove blocks to effective performance. The differences among area groups were significant, as shown by Table 36.

Table 36. Analysis of variance of peer work facilitation variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	2.01	3.06**
Within groups	210	.66	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the four areas with highest means and the three areas with lowest means on peer work facilitation. Areas P and J, which had the sixth and seventh highest means, were also different from the bottom three areas. Area W, with the fifth highest mean, was different from only the two areas with lowest means. The pattern of differences for the peer work facilitation variable showed a top half of the distribution which was significantly different from the three areas with the lowest means, i.e., the bottom fourth of the areas. Unequal numbers of respondents in the area groups caused one of the areas in the top half of the distribution to show fewer significant differences. Half of the area groups perceived significantly more peer work facilitation than the three areas with the smallest mean scores on the variable.

The final teamwork variable, group functioning, was defined as the extent to which staff function well as a group. The analysis of variance among groups was significant, as shown by Table 37.

Table 37. Analysis of variance of group functioning variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	1.52	2.86**
Within groups	210	.53	

**Significance > .01.

The Duncan multiple range test showed significant differences (> .05) between the three areas with highest group functioning means and the three with lowest means. Areas K and T, with the lowest means, were different from all other areas except the one with the next lowest mean. The group functioning variable was perceived differently by county staff teams across the twelve geographic areas. The three areas which perceived the greatest degree of group functioning were significantly different from the three areas which perceived the least extent of group functioning.

Based on the differences among areas on four of the five teamwork variables, Hypothesis 9 was rejected.

Another area of investigation for this study was whether incumbents in the various county positions viewed teamwork differently. Therefore, Hypothesis 10 tested for differences among three types of positions.

4. Hypothesis 10

H^{10} There are no differences in perceptions of teamwork among staff members in the three county Extension positions: agriculturist,

home economist, and 4-H youth leader.

Mean scores on each of the teamwork variables were calculated for each type of position. Those scores, with the standard deviations, are displayed in Table 38.

Table 38. Description of teamwork variables by position

Teamwork Variable - - - - - - - - - Position	Mean	Standard Deviation
Peer support		
Agriculturist[a]	4.01	.82
Home economist[b]	3.93	.77
4-H youth leader[c]	3.58	1.03
Peer team building		
Agriculturist	3.48	.74
Home economist	3.09	.85
4-H youth leader	2.90	1.06
Peer goal emphasis		
Agriculturist	3.66	.61
Home economist	3.55	.73
4-H youth leader	3.22	1.05
Peer work facilitation		
Agriculturist	3.37	.74
Home economist	3.04	.74
4-H youth leader	2.81	1.05
Group functioning		
Agriculturist	3.98	.57
Home economist	3.51	.71
4-H youth leader	3.32	.92

[a] $N = 98$.

[b] $N = 73$.

[c] $N = 51$.

There was a consistent pattern for all five variables. Agriculturists had the highest mean rating on each teamwork variable, while 4-H youth leaders had the lowest mean rating on all five variables. 4-H youth leaders tended to show more variability in their responses than the other two positions.

One-way analysis of variance was used to determine if the differences among these types of positions were significant. The analyses, which are summarized in Tables 39-43, revealed differences among types of positions for each of the five variables.

Table 39. Analysis of variance of peer support variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	3.18	4.85**
Within groups	219	.66	

**Significance > .01.

The Duncan multiple range test showed a significant difference (> .05) between the mean of the 4-H youth leaders (3.58) and the other two groups (home economist mean of 3.93; agriculturist mean of 4.01) for peer support. The 4-H youth leaders perceived significantly less peer support than was true for either of the other two staff groups.

Table 40. Analysis of variance of peer team building variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	6.40	8.69**
Within groups	219	.74	

**Significance > .01.

The Duncan multiple range test showed a significant difference (> .05) between the mean of the agriculturists (3.48) and the other two groups (home economist mean of 3.09; 4-H youth leader mean of 2.90) for peer team building.

Table 41. Analysis of variance of peer goal emphasis variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	3.99	6.71**
Within groups	219	.60	

**Significance > .01.

A similar pattern of differences was found for peer goal emphasis. The Duncan multiple range test showed a significant difference (> .05) between the mean of the agriculturists (3.66) and the other two groups (home economist mean of 3.35; 4-H youth leader mean of 3.22).

Table 42. Analysis of variance of peer work facilitation variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	5.65	8.34**
Within groups	219	.68	

**Significance > .01.

Again, the Duncan multiple range test showed a significant difference (> .05) between the mean of the agriculturists (3.37) and the other two groups (home economist mean of 3.04; 4-H youth leader mean of 2.81) for the peer work facilitation variable.

Table 43. Analysis of variance of group functioning variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	8.80	17.40**
Within groups	219	.51	

**Significance > .01.

The Duncan multiple range test showed a significant difference (> .05) between the mean of the agriculturists (3.98) and the other two groups (home economist mean of 3.51; 4-H youth leader mean of 3.32). The same pattern of differences existed for group functioning as was true for peer team building, peer goal emphasis, and peer work facilitation.

The differences among groups detected by the analyses of variance for peer team building, peer goal emphasis, peer work facilitation, and group functioning were consistent in their direction. Agriculturists were significantly higher in their perceptions of these teamwork variables than either of the other two staff groups.

Based on these findings, Hypothesis 10 was rejected. Significant differences among the groups were identified for each of the five teamwork variables.

D. Job Satisfaction

The job satisfaction variables in this study were chosen for the end-result classification. The survey measured five specific types of job satisfaction: satisfaction with job security, pay, growth, social relationships, and supervision. A general satisfaction measure was also included. All job satisfaction measures were adapted from the Job Diagnostic Survey.

1. Reliability

The individual survey items relating to each variable were examined for reliability based on internal consistency. The results of that analysis are shown in Table 44.

Reliability coefficients were high for two of the variables. All variables were sufficiently homogeneous to use them for research purposes.

Table 44. Reliability of job satisfaction variables based on internal consistency

Job Satisfaction Variable	Coefficient of Reliability
Job security satisfaction	.77
Pay satisfaction	.89
Growth satisfaction	.73
Social satisfaction	.60
Supervision satisfaction	.90
General satisfaction	.77

2. Descriptive analysis

To meet research objective 8, it was necessary to identify the degree and type of job satisfaction experienced by county Extension

Table 45. Description of job satisfaction variables

Job Satisfaction Variable	Mean	Standard Deviation
Job security satisfaction	5.35[a]	1.19
Pay satisfaction	4.44	1.69
Growth satisfaction	6.15	.74
Social satisfaction	6.15	.74
Supervision satisfaction	5.25	1.48
General satisfaction	5.17	1.01

[a]N = 222.

staff. Means and standard deviations were calculated for each of the six variables across the entire population. Table 45 displays these data.

Since the response scale used seven points, with seven indicating greatest satisfaction, the midpoint for these variables was four. All six variables received mean scores above the midpoint, with pay satisfaction receiving the lowest rating. This variable also had the largest standard deviation. Growth satisfaction and social satisfaction had the highest mean scores. Many of the comments from the open-ended item emphasized the value subjects placed on working with people.

> The satisfaction I receive does not come directly from the job, it comes from the people I work with while doing my job.
>
> Enjoy variety, people, independent thought and action, update-training, teaching, feedback from residents.
>
> I do enjoy helping others help themselves.

These comments illustrate satisfaction derived from working with both clientele and co-workers, which was measured by the social satisfaction variable.

When the subjects were divided by types of positions, some differences among groups were observed. Table 46 lists the means and standard deviations of each variable across the three types of staff positions.

4-H youth leaders had the lowest mean satisfaction scores on five of the six variables. Agriculturists and home economists each gave highest mean scores on three of the variables. A research hypothesis was stated to test differences among groups.

Table 46. Description of job satisfaction variables by position

Job Satisfaction Variable / Position	Mean	Standard Deviation
Job security satisfaction		
Agriculturist[a]	5.60	1.12
Home economist[b]	5.32	1.14
4-H youth leader[c]	4.92	1.28
Pay satisfaction		
Agriculturist	4.15	1.79
Home economist	4.82	1.52
4-H youth leader	4.45	1.64
Growth satisfaction		
Agriculturist	6.03	.68
Home economist	6.10	.62
4-H youth leader	5.92	.70
Social satisfaction		
Agriculturist	6.23	.71
Home economist	6.16	.77
4-H youth leader	5.97	.76
Supervision satisfaction		
Agriculturist	5.29	1.43
Home economist	5.32	1.40
4-H youth leader	5.06	1.69
General satisfaction		
Agriculturist	5.51	.91
Home economist	5.26	.87
4-H youth leader	4.40	.96

[a] N = 98.

[b] N = 73.

[c] N = 51.

3. Hypothesis 11

H^{11} There are no differences in job satisfaction among three groups of county Extension staff: agriculturists, home economists, and 4-H youth leaders.

A one-way analysis of variance was used to test this hypothesis. Each of the six variables was analyzed, using type of position as the independent variable. Three of the variables showed no significant differences among position types: growth satisfaction, social satisfaction, and supervision satisfaction. The results of the analysis of variance for the three other variables are summarized in Tables 47-49.

Table 47. Analysis of variance of security satisfaction variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	7.71	5.67**
Within groups	219	1.36	

**Significance > .01.

The Duncan multiple range test showed that the agriculturists had a mean score (5.60) significantly different (> .05) from either of the other groups (home economists = 5.32; 4-H youth leaders = 4.92). The post hoc test indicated that the agriculturists were more satisfied with their job security than either of the other two staff groups. The difference was large enough that it was not attributed to chance.

Table 48. Analysis of variance of pay satisfaction variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	9.17	3.28*
Within groups	219	2.79	

*Significance > .05.

The Duncan multiple range test showed that the home economists had a mean score (4.82) significantly different (> .05) from agriculturists (4.15). For the variable of pay satisfaction, home economists had the highest mean and agriculturists, the lowest. Only these two position types were significantly different from each other. There were many comments on open-ended survey items regarding inadequacy of salary increases and levels in relation to job demands. Although all position types were represented by comments, agriculturists gave more negative opinions about this variable, which illustrated their lower level of satisfaction.

Table 49. Analysis of variance of general satisfaction variable by position

Source of Variation	df	Mean Squares	F Value
Between groups	2	21.10	25.46**
Within groups	219	.83	

**Significance > .01.

The Duncan multiple range test showed a significant difference (> .05) between the 4-H youth leader mean (4.40) and the other two groups (agriculturists = 5.51; home economists = 5.26). Analysis of differences for the general satisfaction variable distinguished the 4-H youth leaders from both of the other two positions. With a mean score slightly more than one point lower on the response scale, the 4-H youth leaders averaged a significantly lower degree of general satisfaction than either the agriculturists or home economists. Comments from 4-H youth leaders provided some insight into this difference.

> Maintaining the 4-H organization in two counties with two sets of committees, councils, fair boards, etc., is stifling my creativity and willingness to do more.
>
> When I am able to teach or work with adults and youth it's great-but setting up roller skating parties and making sure the program has "fun staff all the time" is very discouraging.
>
> The amount of nights and weekends away from my family cause me to job search every now and then. I think it is a big concern with youth staff.

The comments of 4-H youth leaders were primarily related to dissatisfaction with organizational maintenance and time demands.

Because of the differences among types of positions shown on Tables 47-49, Hypothesis 11 was rejected. The differences between the types of positions were greater than chance variation.

Research objective 9 was to determine the nature and extent to which differences in job satisfaction exist across positions, levels of experience, or geographic areas. Hypothesis 12 tested differences among the twelve geographic areas.

Table 50. Description of job satisfaction variables by area

Area[a]	Mean (Standard Deviation)					
	Job Security	Pay	Growth	Social	Super-vision	General
G	5.81 (1.06)	4.44 (1.74)	6.36 (.56)	6.21 (.69)	6.15 (1.20)	5.27 (.99)
B	5.42 (1.32)	4.25 (1.81)	6.11 (1.01)	6.22 (1.02)	6.09 (.92)	5.41 (1.03)
K	5.27 (1.18)	5.17 (1.30)	6.33 (.42)	6.35 (.54)	4.87 (1.47)	5.21 (1.09)
T	4.74 (1.49)	3.87 (1.75)	5.68 (.74)	5.87 (1.15)	3.90 (1.68)	4.61 (1.41)
A	5.15 (1.12)	4.07 (1.78)	6.05 (.50)	6.09 (.56)	5.05 (1.37)	4.98 (.81)
M	5.32 (1.29)	4.61 (1.63)	5.97 (.55)	6.13 (.60)	5.21 (1.57)	4.93 (1.01)
J	5.81 (1.03)	4.61 (1.90)	6.11 (.71)	6.11 (.63)	5.63 (1.15)	5.43 (.77)
W	5.15 (1.62)	4.50 (1.72)	6.15 (.73)	6.23 (.52)	6.08 (1.30)	5.34 (1.08)
V	5.72 (.93)	4.50 (1.90)	6.19 (.59)	6.47 (.53)	4.65 (1.54)	5.70 (.88)
P	5.56 (.80)	4.44 (1.63)	5.70 (.72)	5.72 (1.03)	5.57 (1.40)	5.11 (.92)
F	5.53 (.90)	4.44 (1.61)	5.86 (.66)	6.22 (.73)	5.81 (.78)	4.97 (.93)
U	4.92 (1.17)	4.50 (1.59)	5.88 (.54)	6.25 (.50)	4.52 (1.40)	5.31 (.91)
Total	5.35 (1.19)	4.44 (1.69)	6.03 (.67)	6.15 (.74)	5.25 (1.48)	5.17 (1.01)

[a]Letters randomly assigned to geographic areas.

4. Hypothesis 12

H^{12} There are no differences among staff in the twelve geographic areas on the job satisfaction variables.

Descriptive information about the mean scores for job satisfaction variables are shown for each area in Table 50.

With only one exception, area groups consistently rated social satisfaction the highest of the five variables, and pay satisfaction the lowest. One area scored highest on growth satisfaction; another area was least satisfied with supervision.

To test for significant differences, the one-way analysis of variance was used. Results are summarized in Tables 51 and 52.

Table 51. Analysis of variance of growth satisfaction variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	.89	2.10*
Within groups	210	.42	

*Significance > .05.

The Duncan multiple range test showed a significant difference (> .05) between the two areas with highest means (Areas G and K) and the two areas with the lowest means (Areas T and P) for growth satisfaction. The two areas with highest growth satisfaction differed significantly from the two areas who were least satisfied with the same variable.

Another difference among area groups was their supervision satisfaction as shown by Table 52.

Table 52. Analysis of variance of supervision satisfaction variable by area

Source of Variation	df	Mean Squares	F Value
Between groups	11	9.21	5.06**
Within groups	210	1.82	

**Significance > .01.

For supervision satisfaction, the Duncan multiple range test showed a significant difference (> .05) between the three groups with highest means (Areas G, B, and W) and the five areas with lowest means (Areas T, U, V, K, and A). Area F, with the fourth highest mean, was different from the three lowest areas. Areas J and P, which had the fifth and sixth highest means, were different from the two lowest areas. Area T, with the lowest mean, was different from the top nine areas. The area group reporting the least satisfaction on this variable differed significantly from most of the other areas. There seemed to be three area groups who were more satisfied with their supervision than almost half of the area groups.

Hypothesis 12, which predicted no difference among area groups on the job satisfaction variables, was rejected. Observed differences in groups on growth satisfaction and supervision satisfaction were significant at the .05 level.

5. Hypothesis 13

The final analysis of job satisfaction variables dictated by the research objective 9 was differences by length of experience in the position.

H^{13} There are no differences in job satisfaction for staff who vary in their length of experience in Extension positions.

Staff were divided into five levels of experience: less than 3 years, 3 to 5 years, 5 to 10 years, 10 to 20 years, and more than 20 years.

The mean response scores and standard deviations for each job satisfaction variable were calculated for the five levels, based on demographic information about respondents' length of experience. The descriptive information is shown in Table 53.

The staff group with 20 or more years of experience were consistently the most satisfied. Their mean ratings were the highest on all five satisfaction variables. The lowest means came from two groups. Staff with 5 to 10 years of experience rated job security, growth, social, supervision, and general satisfaction variables lower than any other group. Staff with 3 to 5 years experience were least satisfied with pay. One particular comment from the open-ended item reflects this difference.

> I think it's very unfair that someone who starts in Extension today can get almost as high of a salary as someone who has worked for three years or sometimes the person starting is getting just as much if not more as the person who has worked three years.

Table 53. Description of job satisfaction variables by respondents' length of experience

Satisfaction Variable - - - - - - - - - - - Length of Experience	Mean	Standard Deviation
Job security satisfaction		
< 3 years[a]	4.96	1.04
3 years, < 5 years[b]	5.19	1.30
5 years, < 10 years[c]	4.94	1.26
10 years, < 20 years[d]	5.29	1.19
20 years > 20 years[e]	6.05	.91
Pay satisfaction		
< 3 years	4.52	1.62
3 years, < 5 years	3.83	1.76
5 years, < 10 years	4.04	1.50
10 years, < 20 years	4.62	1.76
20 years, > 20 years	4.65	1.69
Growth satisfaction		
< 3 years	6.05	.69
3 years, < 5 years	5.95	.62
5 years, < 10 years	5.73	.68
10 years, < 20 years	6.11	.62
20 years, > 20 years	6.15	.67
Social satisfaction		
< 3 years	6.11	.79
3 years, < 5 years	6.07	.68
5 years, < 10 years	5.79	.98
10 years, < 20 years	6.25	.64
20 years, > 20 years	6.32	.60

[a] $N = 42$.

[b] $N = 21$.

[c] $N = 36$.

[d] $N = 68$.

[e] $N = 55$.

Table 53. (continued)

Supervision satisfaction		
< 3 years	5.25	1.36
3 years, < 5 years	5.13	1.87
5 years, < 10 years	4.96	1.60
10 years, < 20 years	5.17	1.44
20 years, > 20 years	5.58	1.35
General satisfaction		
< 3 years	5.22	1.00
3 years, < 5 years	5.00	1.21
5 years, < 10 years	4.46	1.12
10 years, < 20 years	5.20	.84
20 years, > 20 years	5.63	.77

This comment was illustrative of the pay satisfaction difference among staff with 3 to 5 years of experience.

One-way analysis of variance showed no significant differences among the groups discussed for any of the specific satisfaction variables. However, a difference larger than that attributable to chance was detected for general satisfaction. The analysis is reviewed in Table 54.

Table 54. Analysis of variance of general satisfaction variable by length of experience

Source of Variation	df	Mean Squares	F Value
Between groups	4	7.58	8.51**
Within groups	217	.89	

**Significance > .01.

For the general satisfaction variable, the Duncan multiple range test showed a significant difference (> .05) between those with the longest experience (more than 20 years = 5.63) and all other groups. Those with 5 to 10 years of experience (4.46) were also different from all other groups. The groups with the highest and lowest general satisfaction levels were each significantly different from all other groups of staff. Staff with the most lengthy experience in Extension positions showed more general satisfaction with their jobs than any other group. Likewise, staff with 5 to 10 years experience showed less general satisfaction than any other group.

Although there were no significant differences for the specific satisfaction, the results shown in Table 54 were sufficient to reject Hypothesis 12. Differences were clear between some groups with varying lengths of experience.

A multiple classification analysis of variance was used to identify any differences among groups due to the interaction of position, area, and length of experience. Only the main effect differences which had been previously detected by the one-way analyses of variance were significant. No differences resulted from the interaction of the independent variables.

E. Relationships Among Research Variables

Figure 5 illustrates the conceptual model which guided the development of this research. The causal variables, job characteristic and leadership, were described in sections A and B of this chapter. The intervening variable, teamwork, was reviewed in section C. The end-result variable, job satisfaction, was discussed in the previous section. Research objectives 10 through 14 for this study were concerned with the relationships between job characteristics and teamwork (A); leadership and teamwork (B); teamwork and job satisfaction (C); job characteristics and job satisfaction (D); and leadership and job satisfaction (E).

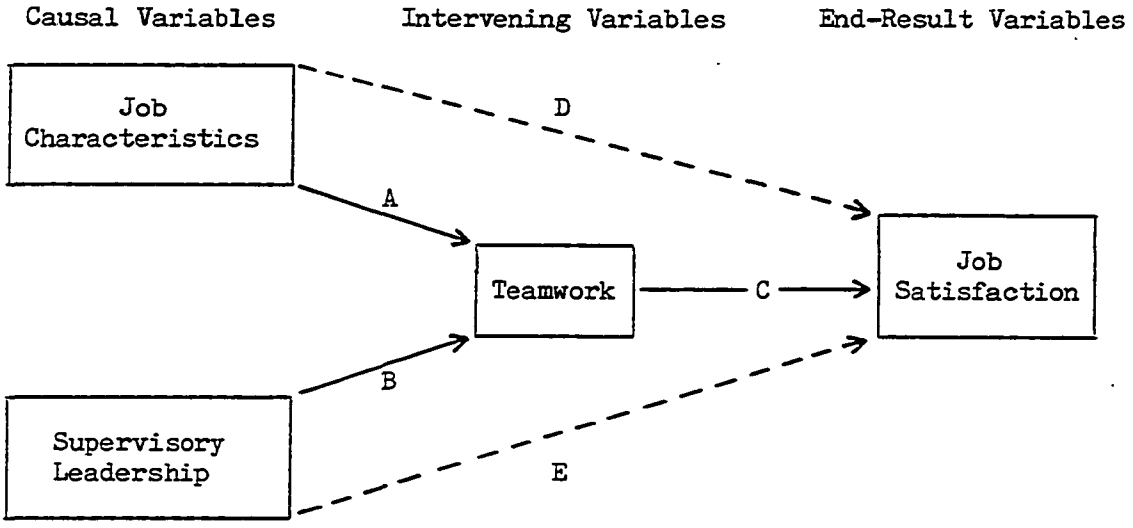

Figure 5. Conceptual framework: testing relationships

Although prior research documents positive relationships among the variables, the specific hypotheses were stated in the null form for statistical tests.

1. Hypothesis 14

H^{14} There is no relationship between job characteristics and teamwork as perceived by county Extension staff.

As previously discussed, the motivating potential score is a composite of the five core job characteristics. The theory base (Hackman & Oldham, 1976) provides the rationale for using this measure to assess relationships between job characteristics and teamwork.

The intercorrelations of the five teamwork variables were analyzed to determine the possibility of combining these into one teamwork measure. Intercorrelation coefficients were high, ranging from .64 to .76. Based on this information, the researcher averaged the scores on all teamwork variables to form a new teamwork measure. The reliability

coefficient for this teamwork measure was .93, based on internal consistency.

The relationship between the motivating potential score, representing job characteristics and teamwork, representing the five variables described earlier in this chapter, was assessed with a Pearson product moment correlation. The coefficient of correlation was .15. While this value was low, it was significantly different from 0, at the .01 probability level. Therefore, the hypothesis of no relationship between job characteristics and teamwork was rejected.

2. Hypothesis 15

H^{15} There is no relationship between supervisory leadership and teamwork, as perceived by county Extension staff.

Because there were thirteen leadership variables, the relationship between leadership and teamwork was assessed with multiple regression, using a stepwise order. The results of the regression are shown in Table 55.

Table 55. Multiple (stepwise) regression for teamwork by leadership variables

Variable[a]	Multiple R	R^2	B	F Value
Problem solving	.19	.04	.16	6.83**
Constant			3.17	

[a]No other leadership variables made a significant contribution to teamwork, so only one step was performed.

**Significance > .01.

The regression showed only one of the thirteen leadership behaviors to be significantly related to teamwork. In the views of county Extension staff, problem solving behavior from area Extension directors was related to the level of teamwork among county staff. The relationship was significant at the .01 probability level, even though the R value was low and only a small amount of the variance in teamwork was accounted for by the leadership behavior of problem solving. However, Hypothesis 15 was rejected. There was a significant relationship between perceived problem solving leadership behavior and teamwork among county staff.

3. Hypothesis 16

The next relationship investigated in this study was between teamwork and job satisfaction. The null hypothesis is stated below.

H^{16} There is no relationship between teamwork and job satisfaction, as perceived by county Extension staff.

Pearson product moment correlation was used to evaluate the degree of relationship between the combined teamwork measure and each of the six

Table 56. Correlation coefficients for teamwork and job satisfaction variables

	Security	Pay	Growth	Social	Supervision	General
Teamwork	.23**	.12*	.16*	.20**	.22**	.32**

*Significance > .05.

**Significance > .01.

job satisfaction variables. The summary is shown in Table 56.

A positive relationship existed between the teamwork measure and every job satisfaction variable. The smallest relationship was between teamwork and pay satisfaction, but even this correlation was significant at the .05 level. The other five relationships were significant at the .01 level, even though they were modest in degree. The strongest relationship was between teamwork and general satisfaction. Hypothesis 16 was rejected, based on the relationships summarized in Table 56.

4. Hypothesis 17

The relationship between job characteristics and job satisfaction in the Iowa Cooperative Extension Service was also assessed with a correlation procedure.

H^{17} There is no relationship between job characteristics and job satisfaction, as perceived by county Extension staff.

Correlation coefficients were calculated to assess the degree of relationship between the motivating potential score, representing job characteristics, and each of the six job satisfaction variables. Table 57 displays the findings.

Table 57. Correlation coefficients for motivating potential score and job satisfaction variables

	Security	Pay	Growth	Social	Supervision	General
MPS	.27**	.32**	.55**	.41**	.37**	.41**

** Significance > .01.

All relationships were significant at the .01 level. The strongest association was between motivating potential score and growth satisfaction. Pay satisfaction showed the weakest relationship to the job characteristic measure. A partial correlation procedure was used to further evaluate the relationship between job characteristics and job satisfaction.

Table 58. Partial correlation coefficients for motivating potential score and job satisfaction variables, controlling for teamwork

	Security	Pay	Growth	Social	Supervision	General
MPS	.26**	.32**	.53**	.39**	.36**	.39**

**Significance > .01.

As seen in Table 58, the relationship between each of the variables was only slightly changed when the teamwork variance was controlled. The hypothesis of no relationship between job characteristics and job satisfaction was rejected.

5. Hypothesis 18

Research objective 13 was satisfied by analyzing the relationship between the supervisory leadership variables and job satisfaction. The null hypothesis was stated:

H^{18} There is no relationship between supervisory leadership and job satisfaction, as perceived by county Extension staff.

A stepwise multiple regression analysis was performed for each of

the job satisfaction variables. The summary of those five regression analyses is displayed in Table 59.

Table 59. Multiple (stepwise) regression for job satisfaction variables by leadership variables

Variable[a]	Multiple R	R^2	B	F Value
Job security satisfaction				
Clarifying roles	.27	.08	.28	14.12**
Constant			4.48	
Pay satisfaction				
Motivating	.19	.04	.29	6.45**
Constant			3.48	
Growth satisfaction				
Clarifying roles	.26	.07	.16	12.74**
Constant			5.51	
Social satisfaction				
Problem solving	.15	.02	.10	3.90*
Constant			5.81	
General satisfaction				
Problem solving	.29	.08	.24	15.68**
Constant			4.45	

[a]Only one leadership variable made a significant contribution to the job satisfaction variables, so only one step was performed.

*Significance > .05.

**Significance > .01.

There were modest relationships identified between job security satisfaction and leadership behavior of clarifying roles; growth satisfaction and clarifying roles; and general satisfaction and problem solving supervisory leadership. Smaller relationships were detected between pay satisfaction and motivating leadership behavior.

The regression procedures all stopped after only one step, since no other leadership variables contributed significantly to the variance in the job satisfaction variable. The relationships identified by the regression analyses were all significant, yet accounted for minor amounts of the variance in the job satisfaction variables.

Only one of the regression analyses added more than one leadership variable into the equation to predict job satisfaction. Table 60 summarizes the results.

Table 60. Multiple (stepwise) regression for supervision satisfaction variable by leadership variables

Variable	Multiple R	R^2	B	F Value
Step 1				
Recognizing	.66	.44	.32	137.07**
Step 2				
Developing	.74	.55	.23	105.22**
Step 3				
Supporting	.78	.60	.34	86.97**
Step 4				
Problem solving	.79	.63	.24	72.44**
Step 5				
Consulting	.80	.64	.25	61.53**
Constant			.50	

**Significance > .01.

Five of the thirteen leadership variables were included in the prediction equation. The cumulative relationships of the leadership variables: recognizing, developing, supporting, problem solving,

and consulting accounted for 64% of the variance in satisfaction with supervision.

The hypothesis of no relationship between perceptions of leadership and job satisfaction was rejected.

F. Summary

This study was designed to describe the job characteristics, supervisory leadership, teamwork, and job satisfaction perceptions of county Extension staff. Data were presented in this chapter to describe the total population, as well as to compare differences among types of positions, levels of experience, and geographic areas. Relations were tested for the following variables: motivating potential score and teamwork; leadership variables and teamwork; teamwork and job satisfaction variables; motivating potential score and job satisfaction variables; and leadership variables and job satisfaction variables. Significant positive relationships were identified by each analysis.

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purposes which guided this research project are reviewed in this final chapter. The content is divided into three major sections. First, Chapter V provides an overview of the study. Secondly, discussion and conclusions are included for each of the hypotheses. Finally, recommendations are made for the different audiences who may have interests in the results of this research.

A. Summary

This study examined the interrelationship of four variable sets relative to organizational effectiveness. The study was delimited to organizational behavior variables, consistent with an internal process model of organizational effectiveness (Cameron, 1980) and an organizational dynamics model (Kotter, 1980). Likert's conceptual framework (1961, 1967) provided structure to identify the variables and their relationships. He theorized that more effective organizations direct improvement efforts toward causal variables: those independent variables over which the organization has control and can alter to influence the course of development and results achieved. The causal variables, according to Likert's theory, affect intervening variables and ultimately produce changes in the desired end-result variables of the organization. Intervening variables were described as the current conditions of the internal state of the organization, reflected in such

functions as communication, decision-making, motivation, and related human processes. The organizational variables for this study included job characteristics of county Extension positions and leadership behavior of those who supervise county staff (causal variables); teamwork among county staff (intervening variable); and job satisfaction of county staff (end-result variable).

Purposes of the research included the following:

1. To describe four organizational variables: job characteristics, supervisory leadership, teamwork, and job satisfaction within the Iowa Cooperative Extension Service.

2. To analyze differences in perceived job characteristics, supervisory leadership, teamwork, and job satisfaction among groups of Extension staff defined by position, area assignment, or length of experience.

3. To explore relationships among the causal, intervening, and end-result variables in this research.

A survey research design was used to develop the data base required for this study. A composite instrument was developed from three primary sources. The Job Diagnostic Survey (Hackman & Oldham, 1975) provided measures of the job characteristic and job satisfaction variables. The leadership measures were defined by Yukl (1985). Teamwork measures were adapted from the Survey of Organizations (Taylor & Bowers, 1972). The composite instrument incorporated Dillman's (1978) guidelines and was reviewed by representatives of potential respondents, Extension

administrators, Extension staff development leaders, and Iowa State University officials.

The survey was mailed to 223 subjects employed in county professional positions by the Iowa Cooperative Extension Service. The response rate after one follow-up letter to nonrespondents was 99.5 percent. All completed surveys yielded usable data for subsequent analysis.

The first purpose of this study was to describe the job characteristics, leadership, teamwork, and job satisfaction of county Extension staff. Descriptive statistics were employed to accomplish these objectives. Means and standard deviations were calculated for each of the variables and trends were described in the patterns of mean scores.

Differences among subgroups of the population were explored through analysis of variance. The four types of variables were analyzed to identify differences among types of positions, lengths of experience, or geographic areas. When significant differences ($> .05$) were observed, the Duncan multiple range test was performed as a post hoc analysis to discover the nature of the differences among groups.

Relationships among individual variables in this study were assessed with the Pearson product-moment correlation. When the relationship involved more than one independent variable, multiple regression analysis was used to test for significant relationships.

Specific findings of the research are discussed in the following section, but generally, Iowa Cooperative Extension Service staff rated

all variables above the midpoint of the response scales. Significant differences were observed among groups defined by type of position, length of experience, and geographic area. Relationships among variables were generally small, but statistically significant. The results, discussed below, are interpreted in relation to the theory and research bases for the study.

B. Conclusions

The variable classifications for this study were job characteristics, leadership, teamwork, and job satisfaction. Research objectives were stated to describe the population. Both objectives and hypotheses were developed to explore the nature and extent of differences among subgroups of the population, as well as relationship among the variables. Findings and conclusions are discussed for each variable classification. The final part of this section describes the findings and conclusions for relationships among variables.

1. Job characteristics

One research objective was to identify job characteristics of county Extension positions as perceived by incumbents in agriculture, home economics, and 4-H youth positions. All seven job characteristics (skill variety, task identity, task significance, autonomy, feedback from the job, feedback from agents, and dealing with others) were rated above the midpoint of the response scale by county Extension professionals. The characteristic, dealing with others, was most highly rated, but the reliability measure for that variable was low,

suggesting that the measure was not as internally consistent, or homogeneous, as the other job characteristic measures. County Extension staff also perceived their jobs as requiring a high degree of skill variety. Task significance and autonomy both received higher mean scores, indicating that staff perceived their jobs as having considerable impact on others and that the jobs provided substantial freedom and independence to staff members. The three characteristics which received lower mean ratings were task identity, feedback from the job, and feedback from agents. All three of the mean scores for these characteristics were more than one point below the next highest mean. There appeared to be a distinctive difference between the four higher and the three lower characteristics. The two feedback measures received the lowest mean scores. Extension staff apparently perceive that neither their jobs nor their co-workers and supervisors provide a great extent of feedback to them.

Hackman and Oldham (1975) reported a range of mean scores from 3.98 to 5.49 (seven point scale) for a sample of 658 employees in heterogeneous jobs, including blue-collar, white-collar, and professional work in business organizations. Since complex jobs are theoretically more motivating, one might expect higher job characteristic means for subjects representing professional positions in a higher education setting. For county Extension positions, the means ranged from 4.13 to 6.48. Feedback from agents was the only job characteristic which held the same relative position in both studies. For both Hackman and Oldham's heterogeneous sample and the present research subjects,

feedback from agents received the lowest mean score.

Job characteristic theory suggests that jobs which show a high degree of the five core characteristics (skill variety, task identity, task significance, autonomy, and feedback from the job) are more inherently motivating than jobs scoring lower on the same characteristics. Since the county Extension positions received mean scores ranging from 4.62 to 6.11 on these five characteristics, it was concluded that they have a high degree of motivating potential. Unfortunately, none of the literature on Extension or higher education organizations (see Chapter 2) yielded mean scores on the Job Diagnostic Survey from which comparisons could be drawn.

Hypothesis 1 for this study was: there are no differences in the seven job characteristic variables as perceived by agriculturists, home economists, or 4-H youth leaders. Examination of job characteristic perceptions by positions revealed one pattern of responses. The 4-H youth leader position never scored highest on any of the characteristics. Both agriculturists and home economists perceived their jobs most favorably on several of the characteristics, while 4-H youth leaders observed the least skill variety, autonomy, feedback from the job, and feedback from agents in their positions.

The mean scores of respondents in the three types of positions were subjected to analysis of variance to determine if the differences were significant. The differences for six of the job characteristics were small enough that they could have occurred by chance or error. However, home economists perceived that their jobs required a significantly

greater degree of skill variety than was true for 4-H youth leaders. 4-H youth leader ratings of their jobs was the lowest among positions for this characteristic, which measured the degree to which a job requires different activities, skills, and talents of the employee.

Although Hypothesis 1 was rejected on the basis of this difference, the job characteristic summary score for each position indicated the difference was not great enough to distinguish among the positions by degree of motivation potential in the jobs. Therefore, the practical significance of this difference among the three county Extension professional positions was negligible.

Hypothesis 2 was: there are no differences between county Extension directors and other county Extension staff in their perceptions of seven job characteristic variables. Since one Extension staff member in each county had an administrative component in his or her job description, in addition to the program responsibilities common for all staff, the mean scores of county Extension directors for each of the job characteristics were contrasted with all other staff to determine if the administrative responsibilities significantly affected the nature of the job. No differences were found for any of the seven characteristics. Apparently, the addition of administrative responsibilities did not significantly affect the motivating potential of county Extension positions in Iowa.

Researchers have recommended that jobb characteristics be studied in an organizational context (Roberts & Glick, 1981). Some studies have examined the extent to which different perceptions of job characteristics

are associated with organizational frames of reference (O'Reilly et al., 1980), rather than objective differences in the job. In the present study, Hypothesis 3 tested for some of these potential differences: there are no differences in the seven job characteristic variables perceived by groups with varying lengths of experience.

Examination of the mean scores for the five experience levels revealed a general pattern of response. Respondents with 5 to 10 years experience typically rated their jobs lowest on the job characteristic measures, while those with 10 to 20 years experience rated their jobs highest on the measures. The analyses of variance identified no differences among groups by length of experience for four of the job characteristics. However, the characteristics of skill variety, autonomy, and feedback from the job were affected by the length of experience.

Staff with 10 to 20 years experience perceived significantly more skill variety in their jobs than any others with less experience. On the autonomy variable, the 10 to 20 year group saw greater autonomy than newer staff with less than 3 years experience. When rating feedback from the job, the same group (10 to 20 years) perceived greater amounts of this characteristic in their jobs than staff with less than 3 or 5 to 10 years experience. For the feedback characteristic, staff with the greatest length of experience were also significantly higher in their perceptions than the groups with shorter tenure. These differences were sufficient to create a difference among levels of experience for the motivating potential scores. Therefore, it was concluded that staff

with 10 to 20 years experience perceived their jobs as more inherently motivating than those with either less than 3 years to 5 to 10 years experience. Staff with longest experience (20 years or more) perceived their jobs as more inherently motivating than the 5 to 10 year group as well.

A multiple classification analysis of variance tested whether the differences in job characteristic perceptions across levels of experience also varied with type of position. However, no interaction effects were found. Regardless of the type of position, the main effect of level of experience on job characteristic variables was the same.

Results of this study were similar to those obtained by O'Reilly et al. (1980). Perceptions of job characteristics were associated with varying frames of reference about the job, specifically length of experience. However, the characteristics in this study which showed more variability by length of experience were not the same as O'Reilly et al. found to have a higher degree of relationship with tenure. O'Reilly et al. did an objective task analysis to insure that the focal job they were investigating was indeed identical. Task analysis of county Extension positions was not objectively studied. Whether jobs of Extension staff with longer experience were objectively different from jobs held by newer staff was not determined. One can only conclude that job characteristic perceptions vary with experience levels.

Two other hypotheses in this study tested whether differences in job characteristics varied with structural aspects of the Cooperative Extension Service context. Hypothesis 4 was: there are no differences

in the seven job characteristic variables perceived by those employed part-time and those employed full-time. The part-time home economists did not perceive the characteristics of their jobs any differently than full-time home economists. Part-time 4-H youth leaders, however, differed from their full-time colleagues on the task significance characteristic. Specifically, those working part-time perceived that their jobs had a less substantial impact on the lives of other people than the full-time staff. Organizationally, 4-H youth leader positions were defined the same, regardless of whether a part-time or full-time employee filled the position. Operationally, perhaps the part-time employee actually was more limited to maintenance of programs, as opposed to development activities, which typically require more time to accomplish. Another possible explanation was that part-time 4-H youth leaders compared their jobs with those of other full-time employees and believed that their part-time position had less task significance, whether it was objectively accurate or not. Recommendations for future research to compare objective and perceptual measures of jobs are included in the last section of this chapter.

Hypothesis 5 also tested a structural condition of employment in the Iowa Cooperative Extension Service. Some employees were assigned to work in more than one county. Therefore, they performed some repetitive tasks in both counties and drove longer distances to reach their work sites. Hypothesis 5 stated: there are no differences between job characteristics as perceived by those staff assigned to one county and those assigned to more than one county. This hypothesis was not

rejected on the basis of the data analysis. While there were small differences in the mean job characteristic ratings, they could be due to chance or error. The geographic assignment to one county versus more than one county did not affect perceptions of job characteristics in Iowa Cooperative Extension positions.

2. Leadership

Another research objective for this study was to describe supervisory leadership behavior of area Extension directors, as perceived by the county Extension staff. The mean ratings for the leadership variables ranged from 3.00 to 4.11 on a five point scale. Seven of the thirteen measures had mean scores between 3.00 and 3.31. Three others were in the middle of the range (3.36 to 3.66), while three ratings were in the upper part of the range (3.73 to 4.11). County staff perceived their area Extension directors engaging in more informing, supporting, and representing than any other leadership activities. Slightly less consulting, interfacing, and planning were reported, while the least commonly perceived types of leadership behavior were team building, problem solving, monitoring, developing, recognizing, motivating, and clarifying roles. Informing was the only leadership behavior perceived to occur to a great degree. Team building and problem solving were rated well below the rest of the leadership behaviors.

Comparison of the leadership ratings by geographic areas indicated that four areas consistently perceived their area Extension directors engaging in greater degrees of all thirteen types of leadership behavior, while four others consistently rated their supervisors lower on most of

the leadership variables. If leadership effectiveness is measured by greater degrees of all leadership behaviors, then there appeared to be top, middle, and bottom thirds among the area Extension directors. The consistency with which area Extension directors were rated near the top, bottom, or middle of the range across the thirteen measures leads to questions of whether a "halo effect" might be operating. If an area Extension director was generally perceived to be effective, he or she might have been rated more highly across all variables, regardless of actual behavior.

Hypothesis 6 tested differences in perceived leadership behavior across the geographic areas. The analyses of variance statistical tests revealed significant differences among the areas for each of the thirteen leadership variables. Typically, the areas with the highest mean rating for each leadership variable proved to be significantly different from those with the lowest mean scores. Since the respondents from each area were reporting their perceptions of the leadership behavior of their own area Extension director, one would expect to find some differences. The twelve area Extension directors would perhaps interpret their own roles and responsibilities differently, emphasizing some leadership activities more than others, and utilizing their unique skills and abilities. However, even the three most prevalent leadership behaviors (informing, supporting, and representing) were perceived to occur to a significantly greater degree in some areas than in others.

The research on leadership in higher education cited in Chapter II (Astin & Scherrei, 1980; Vroom, 1983) suggested that participative

leadership is widely considered to be appropriate in colleges and universities. Participative leadership in the present study was identified by the consulting category of Yukl's (1985) taxonomy. Area Extension directors were perceived as engaging in a moderate degree of consulting and delegating behavior. Smoot (1984) found that both of the general leadership dimensions, "consideration" and "initiating structure" were positively related to overall ratings of Extension supervisors' effectiveness. Consideration was defined as the leader's friendliness, while initiating structure was perceived as providing direction. Yukl (1981) described the consideration and initiating structure dimensions sufficiently for comparison with the leadership behaviors defined in this study. Initiating structure could conceivably incorporate the following variables: informing, planning, problem solving, clarifying roles, monitoring, and motivating task commitment. Of these variables, area Extension directors were perceived to perform a great degree of informing, moderate planning and less problem solving, clarifying roles, monitoring, or motivating. The consideration dimension could include consulting, recognizing, supporting, developing, team building, representing, and interfacing variables. Of these, county staff perceived a great degree of supporting and representing, a moderate amount of consulting and interfacing, and less recognizing, developing, or team building. Both consideration and initiating structure were represented in the three leadership behaviors perceived to occur to the greatest extent among area Extension directors, given the dichotomous division of the thirteen variables just described. However, if either consideration or initiating

structure dimensions required that leaders engage in all the related behaviors, then area Extension directors were perceived as moderate in their consideration and low in their initiating structure. This research did not equate the Yukl (1985) categories with the consideration and initiating structure dimensions, but similarities were discussed for comparison with prior research involving similar subjects.

Hypothesis 7 for this study was: there are no differences in perceived leadership behavior by subjects holding different positions in the Iowa Cooperative Extension Service. The hypothesis was rejected, but only one difference was found across thirteen leadership variables and three types of positions. 4-H youth leaders perceived significantly less team building behavior from their area Extension directors than either of the other two staff groups. Although Extension administrators endorse interdisciplinary cooperation across all programs, the 4-H youth leaders relied on agriculture, home economics, and community development content to develop programs for their audiences. Effectiveness in the 4-H youth program perhaps depended on teamwork to a greater extent than the other specialities. When discrepancies occurred between the actual teamwork among staff and the level 4-H youth leaders felt was needed, they may have placed responsibility with the supervisor, attributing less team building behavior to the area Extension director. This greater need offered a potential explanation for the one difference observed in leadership perceptions by position.

This study also measured covariance of leadership perceptions with the organizational variable, length of experience. Hypothesis 8 stated:

there are no differences in perceived leadership behavior by subjects with different lengths of experience in their positions. Area Extension directors had a key role in orienting and training new staff members. One might expect that newer staff would perceive greater degrees of certain leadership behaviors, such as clarifying roles, monitoring, or developing, which other staff would not. Objective differences in leadership behavior of supervisors with staff who have varying lengths of experience might be expected. However, in this study, perceptions of leadership behavior were not affected by length of experience.

3. Teamwork

Another of the research objectives for this study was to describe the perceived status of teamwork among county Extension staff. All five teamwork measures (peer support, peer team building, peer goal emphasis, peer work facilitation, and group functioning) were perceived to occur to some extent. Each of the means was above the midpoint of the response scale, but all were clustered closely together suggesting that the measures did not have great discriminate power for these varibles. Means ranged from 3.13 for peer work facilitation to 3.88 for peer support. Prior research suggested that group size influences the degree of teamwork (Lorge et al., 1958). Data from this study was consistent with earlier findings. There was a marked decrease in the mean scores of staff teamwork when groups exceeded four in size. The larger county staffs perceived less teamwork than those with four staff members or fewer.

Hypothesis 9 in this study was: there are no differences in the

degree of teamwork as perceived by staff in the twelve geographic areas of the Iowa Cooperative Extension Service. Examination of the mean teamwork ratings revealed some clear differences across the area groups. Two areas consistently rated their teamwork on all five measures higher than most of the others, while three other areas were consistently lower in their teamwork perceptions across each measure. The analysis of variance revealed significant differences among area groups for four of the five variables. Generally, the several areas with the greatest degree of perceived teamwork were significantly different from the areas with the least perceived teamwork.

Prior research (Hackman, 1976) suggested that work groups can have a number of positive influences on individual members, especially in helping new staff members develop job-relevant knowledge and skill and through group participation. In a study of the Iowa Cooperative Extension Service, Morrow (1978) found that two system factors, "communication" and "internal integration," were significantly related to the achievement of purpose of county Extension units. Communication was defined as county staff interaction, while internal integration was defined as interdependency of county staff, receptivity to each other, and teamwork. Developing cohesion of the work group based on relevant tasks was suggested as a positive approach to team building. Findings of the present study indicated some Extension areas are clearly developing their team skills to a greater degree than others. This greater teamwork may have desirable benefits for individual and organizational effectiveness. Prior research indicated that cohesion in the areas with

less teamwork might best be increased through defining task-relevant group responsibilities, consistent with the goal setting model of team building (Woodman & Sherwood, 1980).

The perceptions of teamwork by position were examined through analysis of variance. Hypothesis 10 stated: there are no differences in perceptions of teamwork among staff members in the three county Extension positions: agriculturist, home economist, and 4-H youth leader. The data indicated that perceived levels of teamwork were affected by position for most of the measures. Agriculturists perceived the highest degree of teamwork on all five measures, and their ratings were significantly higher than both other staff groups on four of the variables. Analysis of differences on the fifth variable indicated that 4-H youth leaders perceived significantly less peer support than either the home economists or agriculturists. Therefore, perceptions of teamwork were affected by type of position.

Like the job characteristic data, the teamwork variables were affected by some organizational frame of reference factors, such as position in the organization or level of experience. These differences lead to questions about why teamwork perceptions vary. Since the teamwork measures theoretically reflect group characteristics, rather than individual phenomena, they should not be as susceptible to the frame of reference biasing effect as the job characteristic measures. One possible explanation for the higher teamwork ratings of agriculturists resulted from their administrative responsibilities. Most agriculturists in the Iowa Cooperative Extension Service also carried the title of

county Extension director. In this role, they had some responsibilities for coordination and communication among the county staff. One of the leadership studies (Smoot, 1984) indicated that leaders rated their own behavior higher than their subordinates. Perhaps the same effect was true for agriculturists, who perceived they had a role in developing teamwork and therefore rated teamwork higher than other county staff. In most counties, agriculturists were also the only staff members working full-time in only one county. Perhaps their perceptions of teamwork were influenced by this frame of reference, whereas other staff working in more than one county had another basis of comparison.

4. Job satisfaction

The final descriptive research objective in this study was to identify the degree and type of job satisfaction experienced by county Extension staff. The mean ratings of five specific and one general satisfaction measures ranged from 4.44 (pay satisfaction) to 6.15 (growth satisfaction and social satisfaction). The satisfaction variables grouped into lower, moderate, and higher levels. County Extension staff were least satisfied with pay. Slightly more satisfaction was expressed for general satisfaction, supervision, and job security. The two areas of greatest satisfaction were growth and social relationships. All satisfactions were above the midpoint of the response scale. Extension staff expressed slight to moderate satisfaction on all six measures. These results were somewhat similar to prior studies with Extension subjects which generally reported greatest satisfaction with the work itself (not measured in this study) and

satisfaction with co-workers, which is equivalent to social satisfaction in this study. The least satisfying factors in previous studies were pay and promotion. The promotion variable was not addressed in this research, but the least satisfying of all variables was pay.

Again, hypotheses were stated to test for differences among subgroups of the population. Specifically, Hypothesis 11 was: there are no differences in job satisfaction among three groups of county Extension staff: agriculturists, home economists, and 4-H youth leaders. Three of the job satisfaction variables were rated essentially the same by all three types of positions. Satisfaction with growth opportunities, with social relationships, and with supervision showed no differences among the groups. However, agriculturists were more satisfied with their job security than other staff. Again, this may be due to the fact that agriculturists benefited from full-time employment in only one county while home economics and 4-H youth programs had fewer staff resources. Historically, the Cooperative Extension Service had a primary mission related to education in agriculture and Iowa has been a leading agricultural production state. These factors were perhaps reflected in the greater degree of job security satisfaction for Extension agriculturists.

There are a number of possible interpretations for the finding that agriculturists were significantly less satisfied with salary than home economists. The salary documentation of the Iowa Cooperative Extension Service showed a higher mean salary level for agriculturists than for other positions, largely because the average tenure for agriculturists

was substantially longer than either home economists or 4-H youth leaders. Reference groups for the agriculturists in private industry frequently had higher salary levels than did home economics reference groups. Perhaps when Extension staff compared their earnings with those groups, the discrepancy in agriculture lead to less satisfaction.

On the general satisfaction measure, 4-H youth leaders were significantly less satisfied with their work than either the home economists or agriculturists. This finding is deductively consistent with the previous findings: 4-H youth positions were rated lower on one of the core job characteristics; 4-H youth leaders perceived significantly less team building leadership from area Extension directors; and they also perceived less peer support than their colleagues in county positions. Although several of the prior studies involving Extension staff reported no differences in satisfaction by type of position or subject matter assignment, the Louisiana research (Fugler, 1974) also reported 4-H youth staff were significantly less satisfied than other county staff. It was concluded that the 4-H youth position was significantly less satisfying to incumbents, with other lower ratings on job characteristics, teamwork, and leadership. As noted in the recommendations, these findings supported a critical review of the 4-H youth position by organizational administrators.

Differences in satisfaction were also analyzed across the areas. Hypothesis 12 stated: there are no differences among staff in the twelve geographic areas on the job satisfaction variables. Mean scores on two of the six satisfaction measures differed significantly. Specifically,

there were differences between areas with highest and lowest growth satisfaction. Since the developing leadership variable was defined as supervisory coaching, counseling, or otherwise assisting staff to grow and develop, areas expressing higher and lower satisfaction with growth were examined for degree of perceived supervisory developing behavior. Results were mixed. One of the high satisfaction areas also perceived a higher degree of developing leadership, but the other high satisfaction area had a mean rating on this variable which ranked in the lower third of the distribution. For the two areas expressing less satisfaction with growth opportunities, the same pattern was true for leadership ratings: one perceived a high enough level of developing behavior that it was ranked in the top third while the other was in the bottom third. The supervisory behavior in encouraging staff growth and development may account for some of the variance in growth satisfaction, but there are obviously other explanations as well.

Satisfaction with supervision also showed some area differences. The highest and lowest mean ratings on this variable were great enough that they were not attributed to chance. One might expect the areas with greatest satisfaction to perceive their area Extension directors engaging in a greater degree of the thirteen leadership activities. When the variables were compared, the pattern was consistent. The areas expressing significantly greater satisfaction with supervision were all ranked in the top third of the distribution while the areas expressing less satisfaction were all nearer the bottom of the rank orders on leadership variables.

Differences in job satisfaction for staff with varying lengths of experience were also reported, refuting Hypothesis 13. Staff with longest experience consistently reported the greatest satisfaction on all six measures, while those with 3 to 5 or 5 to 10 years expressed the least satisfaction. The differences in mean ratings on the specific satisfaction measures were not great enough to approach significance levels. However, the general satisfaction measure showed significant differences across the levels of experience. The group with greatest general satisfaction and longest tenure was significantly different from all other groups, while those with least satisfaction and 5 to 10 years experience were also significantly different from all others. This finding was consistent with prior studies which found a significant relationship between tenure and satisfaction (Graham, 1983; Manthe, 1976). Staff who invested 20 or more years in an Extension position may truly have been more satisfied with their work or, in terms of discrepancy theory (Locke, 1976), they adjusted their attitudes to be consistent with their behavior. The least satisfied employees were those with 5 to 10 years, who may have been at points in their careers where they fully understood the nature of the job and the opportunities within the organization. An assessment process of matching their perceived knowledge, skill, and ability with future opportunities may have contributed to the lower satisfaction, although the mean score was still above the midpoint of the response scale. These staff were not dissatisfied; they were just less satisfied than other groups with varying lengths of experience.

5. Relationships among research variables

a. Job characteristics, teamwork, and job satisfaction

The final research hypotheses for this study assessed relationships between variables. Likert's (1961, 1967) conceptual framework suggested relationships among causal, intervening, and end-result variables. Hypothesis 14 was: there is no relationship between job characteristics and teamwork as perceived by county Extension staff. The correlation coefficient showed a weak, but significant association between the motivating potential score for job characteristics and a composite teamwork measure. It is conceivable that changes in job design in Extension could affect the level of teamwork among county staff. Some of the area Extension directors commented to the researcher that changes in the organizational staffing pattern some fifteen years ago shifted the emphasis away from county teamwork to cooperation and coordination within programs (agriculture, home economics, 4-H youth, community development) on an area geographic basis. Morrow (1978) labeled the county-area coordination "vertical integration" and found a significant relationship between this system variable and achievement of purpose. The current study indicated that the relationship between job characteristics and teamwork was substantial enough that it could not be attributed just to chance or error; a causal relationship, however, cannot be inferred without additional research.

The job characteristic-job satisfaction relationship has been researched extensively, although no other studies in higher education organizations were identified. The null hypothesis was: there is no

relationship between job characteristics and job satisfaction, as perceived by county Extension staff. The data refuted the hypothesis. Moderate levels of association were observed between the motivating potential score for job characteristics and all six job satisfaction variables. The strongest relationship was between the motivating potential score and growth satisfaction at .55. Both general satisfaction and social satisfaction also showed stronger relationships with the job characteristics summary measure; the correlation coefficient was .41.

Correlation coefficients between teamwork and the job satisfaction variables refuted the hypothesis of no relationship between the two. Although the relationships were generally not as strong as the job characteristic-job satisfaction association, the correlations between teamwork and the six satisfaction measures were statistically significant. Smith (1980) found that group interaction predicted job satisfaction among Maryland Extension staff better than six other organizational variables. But, whether teamwork affected job satisfaction, or the reverse, cannot be determined from this data.

A partial correlation between the motivating potential score and the job satisfaction measures controlled for the teamwork variable. The relationships between the variables were only slightly affected by partialing out the teamwork variance. The moderating effect of teamwork on the relationship between job characteristics and job satisfaction appeared to be minimal, although other statistical tests might examine this relationship further.

In terms of Likert's model, the relationships between the causal variable, job characteristics, and the end-result variables, job satisfaction, were stronger than the relationships between the intervening variable, teamwork, and the satisfaction measures. Prior research suggested that the direction of causality could not be determined from cross-sectionally collected self-report data. The effect of job characteristic changes on teamwork and ultimately on job satisfaction can only be measured with more controlled or time-ordered studies which move beyond the exploratory nature and purpose of this study.

b. Leadership, teamwork, and job satisfaction The relationship between leadership and teamwork was tested with Hypothesis 15: there is no relationship between supervisory leadership and teamwork, as perceived by county Extension staff. Multiple regression revealed that only one of the leadership variables made a significant contribution to the teamwork variance. Problem solving behavior was perceived to have a small, but positive relationship with the level of teamwork among county staff. The data suggested that teamwork is associated to a small degree with a type of supervisory leadership. Moore (1983) determined from case study data that administrative support influenced the nature of teamwork among county staff teams.

Problem solving leadership behavior, together with team building, were the least perceived activities of area Extension directors. One questions whether a team building intervention, with area Extension directors facilitating some problem solving activities would affect both

the perceived leadership behavior of supervisors and the level of teamwork among staff.

The final hypothesis in this study concerned the relationship between leadership and job satisfaction. Stated in the null form, the hypothesis was: there is no relationship between supervisory leadership and job satisfaction, as perceived by county Extension staff. Multiple regression analysis revealed that selected leadership activities were associated with the different satisfaction variables, so the hypothesis was rejected. With five of the six job satisfaction variables, the regression analysis indicated that only one leadership variable was significantly associated with the dependent variable.

Job security satisfaction was predicted from area Extension directors' leadership in clarifying roles, from the perceptions of county staff. The relationship was modest (R = .27) so only a small portion of the variance in job security satisfaction was explained by the leadership variable. Logically, the relationship between area Extension directors' engaging in this type of leadership, defined as establishing a clear understanding of job responsibilities, task objectives, and performance expectations with staff, seemed feasible and appropriate.

Pay satisfaction was predicted from motivating leadership behavior. Again, the relationship was small, but statistically significant. This category of leadership behavior was defined as using personal influence to generate enthusiasm for the work, commitment to task objectives, and compliance with orders and requests. Perhaps the personal attention and influence suggested by this type of leadership behavior accounted for a

small portion of the variance in pay satisfaction. When county Extension staff perceived their area directors using a personal influence process with them, they may have believed that they had been rewarded with salary increases to the extent that funds were available; thus the discrepancy between what they felt they deserved and what they actually received was lower.

Growth satisfaction was predicted best from the clarifying roles behavior of area Extension directors. A modest relationship was found, so only a small portion of the variance in growth satisfaction was accounted for by the leadership variable. A causal relationship cannot be inferred; yet, logically, it would appear that area directors who clarified responsibilites and expectations, as suggested by this variable, helped staff develop their competencies for present and future job roles.

Social satisfaction had a small relationship with problem solving leadership behavior. There were stronger correlations between social satisfaction and teamwork, as well as job characteristics, than was found for the leadership variable. However, the problem solving variable specifically identified personnel problems as one area of responsibility. Apparently, when area Extension directors were perceived as engaging in more problem solving behavior, there was a greater satisfaction among county staff with their peers and co-workers.

Problem solving was also the single factor that best predicted general satisfaction. Again, the relationship was modest and only a small portion of the variance was explained by leadership activity. The

type of behavior which was related to general satisfaction in this study was consistent with several other studies. Specifically, leadership and participative management were related to satisfaction of Extension staff in North Carolina, Maryland, and Oregon (Oester, 1973; Prosise, 1983; Smith, 1980).

Satisfaction with supervision was predicted from several of the leadership variables. A stepwise multiple regression equation revealed that recognizing behavior had the greatest association with supervision satisfaction, but developing, supporting, problem solving, and consulting all made significant contributions to the prediction equation. These variables accounted for 64 percent of the variance in supervision satisfaction. The descriptors of these leadership variables all suggested a participatory leadership style, which reinforced the Extension studies cited, as well as Likert's (1977) review of research on "system 4" in higher education.

c. Summary The final purpose of this research was to explore relationships between causal, intervening, and end-result variables, defined here as job characteristics, leadership, teamwork, and job satisfaction. Likert's conceptual framework (1961, 1967) clearly suggested a causal path among the variable relationships. However, some of the research cited, particularly from experimental studies (Adler et al., 1985; Mitchell et al., 1977; Staw, 1975) illustrated that caution must be applied in interpreting causality from correlational studies. Further, the reviews of job characteristics and job satisfaction relationships (Caldwell & O'Reilly, 1982; Pierce & Dunham, 1976; Roberts

& Glick, 1981) emphasized problems with common method variance in cross-sectional survey data. The data from this exploratory study of job characteristics, leadership, teamwork, and job satisfaction in the Cooperative Extension Service showed modest relationships among the variables. The direction of causality and the extent of error in measuring those relationships are potential areas for future research.

C. Recommendations

The conclusions drawn from these data, as well as the theory and research on which the study was based, resulted in a number of recommendations. These recommendations are directed to several constituencies who may logically have interests in the findings.

1. Extension administrators

The job characteristics perceived to be least robust for county Extension positions were task identity and feedback. As job design changes are planned, administrators should consider ways to enhance the opportunities for staff to see the results of their work and receive feedback from a variety of sources. The 4-H youth leader position specifically needs examination to be sure that jobs are designed to fully utilize the cadre of skills, talents, and abilities of personnel, whether they are employed full-time or part-time.

Criteria for effectiveness of area Extension directors should be described. This study identified the perceived leadership behaviors of area Extension directors, but measurable indicators of mid-management effectiveness are necessary to select the more important leadership

behaviors from the taxonomy of possibilities.

Anonymity of individual subjects and their area assignments was carefully guarded in this study. However, Extension administrators should support evaluative research to identify specifically where problems in supervisory leadership, teamwork, or job satisfaction exist. Staff development or other interventions can be directed to problem solving when the target areas are identified.

If interdisciplinary coordination and teamwork are necessary for effective Extension programming, Extension administration needs to communicate those values through written, verbal, and behavior means. A philosophy of teamwork among county Extension staff should be clarified.

The 4-H youth position in the Cooperative Extension Service should be reviewed in light of the results of this study. 4-H youth leader perceptions of less skill variety in the job design, less team building from supervisors, less peer support, and less general satisfaction were all significant findings of this study.

2. Extension mid-managers

In Iowa, area Extension directors are a vital link between state and county Extension offices. As supervisors of county staff, the mid-managers are highly influential in communicating philosophy, values, and directions of the organization. Mid-managers also have more opportunity than others in the organization to directly influence the methods and processes used by county Extension staff to accomplish individual and organizational goals.

County Extension staff did not think they received a great degree of feedback about their work, either from their supervisors, colleagues, or the job itself. Mid-managers need to emphasize feedback, serving as a role model and encouraging staff to support each other through observation and discussion of their work effectiveness.

With respect to the leadership behaviors, mid-managers should assess their own competencies in the categories of leadership activity which showed significant relationships with desirable outcomes, such as teamwork and job satisfaction. If competencies need to be further developed, mid-managers need to model a process of staff development planning to enhance skills and abilities relevant to the job.

Leadership activity was not perceived any differently by newer staff than by those with lengthy service in Extension. Yet, Extension mid-managers typically have an important role in orienting and training newer staff members. The orientation process for new staff should be reviewed to assure adequate clarification of roles, developing, supporting, and monitoring of staff during the initial employment period.

In the area of teamwork, mid-managers should recognize that staff groups with more than four individuals will likely need special support to function effectively as a team. The teamwork expectations and roles should be clarified with all staff supervised by the mid-manager. Likewise, rewards should reflect the value of teamwork. The literature suggested that team building interventions based on task-relevant group work may be most effective in creating positive aspects of cohesion among team members. Extension mid-managers might review the program leadership

process and consider methods of designing tasks to support development of teamwork.

3. Extension staff development leaders

Several staff development implications can be drawn from this study and the earlier recommendations. Those who give leadership to Extension staff development programs can influence the developmental opportunities available for county Extension staff, as well as mid-managers and other administrators.

Orientation and in-service education programs should reflect the values of giving and receiving feedback about job performance, as well as teamwork among colleagues. Content and methodology should be designed to help staff learn to give helpful feedback to colleagues and work well as team members. Also, helping staff develop evaluation skills may lead to improved programs, as well as a stronger task identity job characteristic.

Staff development opportunities should be made available to mid-managers to enable them to develop competencies which are related to desirable outcomes, including teamwork and satisfaction as defined in this study. Mid-managers need to understand models of team building intervention. Orientation programs for newer staff need to incorporate the role of the mid-manager, as well as the influence of the immediate work group.

Staff development initiatives may also be helpful to county Extension staff with 5 to 10 years experience who express significantly less satisfaction with their jobs than any other group in the

organization. Perhaps in-service education programs can help these staff assess their skills, goals, and future opportunities either in the Extension organization or in other work places.

4. Other researchers

This study provided a data base to study selected organizational variables in a higher education setting. To date, this data base was only selectively used to accomplish the objectives of the present study; many questions remain unanswered. Using the existing data, future researchers could examine (1) the moderating effects of "growth need strength" on job characteristics; (2) other structural differences of jobs, such as supervision of paraprofessionals; (3) internal motivation outcomes; (4) significance of differences among job characteristics for the population; (5) significance of the relationship between staff size and teamwork; and (6) the specific job satisfaction variables which are most predictive of general satisfaction.

Objective task analysis of Extension jobs could help determine if the differences in job characteristics perceived by staff with varying lengths of experience are actual differences or a perceptual bias. Job characteristics were studied only for county Extension staff, so the study could be extended to area and state specialists, as well as paraprofessionals, clerical staff, and administrators.

Objective measures are also needed for leadership behavior of the mid-managers. The present study used perceptual data from staff supervised by the mid-managers, which may not reflect the actual leadership activities of area Extension directors. Predictive studies

are needed to determine which types of leadership behavior meet specified effectiveness criteria.

Several of the leadership studies in previous literature reviwed used the dimensions of "consideration" and "initiating structure" or Likert's "system 4" classifications to describe behavior and relate it to other varibles (Oester, 1973; Prosise, 1983; Smith, 1980). A more extensive taxonomy of leadership behaviors was used in this study. While some comparisons were made between the taxonomy and the broader dimensions in the discussion of this study, research to document the comparability of the leadership measures would aid interpretation of past research with the taxonomy. Further, agreement on standard leadership measures among Extension Services regionally or nationally would lead to greater understanding and comparability of research in different states.

In the area of teamwork, more valid, discriminating measures are needed to define the factors or components most predictive of teamwork in existing work groups. Studies are needed to verify if greater teamwork is actually related to desirable individual and organizational outcomes. Within the Cooperative Extension Service, investigation of the program area teamwork, as compared to county staff teamwork, could provide insight into other organizational characteristics. Assessing results of team building interventions, utilizing both the goal setting and interpersonal models, would strengthen the knowledge base for mid-managers.

There are numerous methodological areas for future research, many of which have been described in reviews of related literature. Future

studies with the same focus as the present one could strengthen understanding of these variables in the Cooperative Extension Service and the effects of various interventions through the time intervals between studies. Major changes in the structure of the Iowa Cooperative Extension Service began to occur shortly after the data for this study were collected. Therefore, this study provides a baseline against which future studies could be compared. Research which documents objective differences among variables and compares these with survey data are important to assure that results from studies like this one are interpreted accurately in the future.

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VII. ACKNOWLEDGEMENTS

Completion of this dissertation has been an important goal in my life. Many people have contributed to the achievement of this goal and I want to express my sincere gratitude and thanks to those individuals.

My major professor, Dr. James L. Ratcliff, was a valued advisor and friend throughout my graduate study at Iowa State University. His counsel in the development of this study and writing of the dissertation itself was always helpful and encouraging.

Dr. J. Stanley Ahmann offered considerable assistance in the design and implementation stages of the research. Dr. Paul Muchinsky frequently lent encouragement, advice, and many resources from his personal library. Dr. Clifford Smith and Dr. James Sweeney also served as committee members and contributed a number of helpful suggestions. Dr. Roger L. Lawrence, Dr. Richard Warren, and Dr. George Kizer graciously agreed to assist with critiques, reviews, and examinations.

Financial support for this research was provided by the Iowa State University Cooperative Extension Service. I am especially grateful to Dr. Robert L. Crom for providing the opportunity to survey county Extension staff and to Dr. Ronald C. Powers for his counsel and encouragement. Thanks are also due to the county Extension staff who provided the data for this study.

My colleagues at Iowa State University in teaching, research, and Extension have had a very positive influence in my personal and

professional development. To each, I express my appreciation.

Family and friends have provided immeasurable support in the completion of the dissertation. My parents, Eugene and Lucille Gunkel, encouraged me when I needed it most. Mrs. Slaten, who lovingly labeled the dissertation "The Thing," sent notes and letters weekly. My brother and sister-in-law, Charles and Carol Gunkel, also called to offer encouragement.

Special friends helped in different ways, from teaching workshops for me to supplying chocolate. Cindy, Sharon, Rae, Janet, Carol, Karen, Noreen, and Margi were thoughtful, caring friends and I shall always be grateful to them. Special appreciation is extended to Janet for her typing and retyping of this dissertation. It would not have been possible to complete my graduate study on time without her unselfish assistance.

Finally, I want to acknowledge the support provided by my fiance, Harold Peyton, and his family and friends. Their concern and assistance during the past year have been a source of strength to me. Harold unselfishly lent his positive attitude, his sense of humor, and his computer at times when they were sorely needed.

The advice, encouragement, and support extended to me by Iowa State University faculty, Extension staff, friends, and family were invaluable to me. I gratefully acknowledge the important contributions they made to the completion of this dissertation.

VIII. APPENDIX A: VERIFICATION OF INSTRUMENT DEVELOPMENT

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011

Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 28, 1985

Dr. J. Richard Hackman
56 Hillhouse Avenue
Yale University
New Haven, Connecticut 06520

Dear Dr. Hackman:

I am working on the research for my PhD dissertation, part of which is based on your work with the Job Diagnostic Survey. I am interested in incorporating a number of items from the JDS in my survey of professional staff employed by the Cooperative Extension Service. I am enclosing a draft copy of my survey booklet for your review. Please note sections 1 and 4 which are based on your instrument. I have modified the language slightly to make it fit the organizational setting for my research.

With your permission, the survey booklet will be printed and distributed only to the 230 subjects for the research: county level staff employed by the Cooperative Extension Service of Iowa State University. (A paragraph about the purpose of the study is include on the permission form.) In the written dissertation, the source of the items in the survey booklet will be documented. The survey booklet will be used only for my doctoral research, and not for any consulting or contract research projects. If you'd like, I'd be happy to share a summary of the results with you.

Please indicate your permission to use the material noted above by returning the permission form in the stamped envelope. I'd appreciate a response at your earliest convenience. If I have not received your form by November 8, I'll assume it is permissible for me to proceed.

If possible, I'd also appreciate receiving a copy of the JDS instrument from you. I have not seen a printed instrument, but have learned about the items and scales from secondary literature. I am assuming that you hold a copyright on the instrument; hence my request for permission to use portions of it. Please send me a copy with the permission form if possible. I'm most interested in any improvements or modifications you might have made in items, directions, or scoring since the date of publication for my reference (The Experience of Work. Cook, Hepworth, Wall and Warr, Academic Press, 1981).

Thank you for your cooperation.

Sincerely,

Sue Kruse
Leader, Staff Development
and Training

Permission is granted to use portions of the Job Diagnostic Survey related to job dimensions, internal work motivation, growth need strength, general and specific satisfactions for the doctoral research project described below.

> This study will seek to develop a data base concerning several aspects of the Cooperative Extension Service of Iowa State University. Descriptive information about the job characteristics of the three major positions at the county level will be collected. The research will assess what types of leadership behaviors are perceived by the county staff as Area Extension Directors attempt influence at the county level. The extent of teamwork will be examined for each subunit of the organization. Job satisfaction of incumbents in county level positions will also be measured. The study will explore relationships among the variables. A conceptual framework which hypothesizes effects of causal variables (job characteristics and leadership) on intervening variables (teamwork), with ultimate impact on end-result variables (job satisfaction) will be tested.

23 Dec 65

Dr. J. Richard Hackman, signature (date)

Research results requested _____ Yes _____ No

Return to: Sue Kruse
108 Curtiss Hall
Iowa State University
Ames, Iowa 50011

Return envelope attached

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011

Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 28, 1985

Mr. Raymond C. Seghers
Rensis Likert Associates, Inc.
Suite 401 Wolverine Tower
3001 S. State Street
Ann Arbor, MI 48104

Dear Mr. Seghers:

Several months ago, I contacted you by phone for a sample copy of the Survey of Organizations and inquired about the possibility of obtaining permission to use a portion of the survey in my doctoral research. I am now writing to formally request permission to use items 60-89 from the Survey of Organizations in my research and am enclosing a draft copy of my instrument for you to review. Please note Section 3 of the questionnaire which is taken from your survey. Only a couple of minor wording changes have been made to tailor the items to the organizational setting for my research.

With your permission, the survey booklet will be printed and distributed only to the 230 subjects for the research: county level staff employed by the Cooperative Extension Service of Iowa State University. (A paragraph about the purpose of the study is include on the permission form.) In the written dissertation, the source of the items in the survey booklet will be documented. The survey booklet will be used only for my doctoral research, and not for any consulting or contract research projects. If you'd like, I'd be happy to share a summary of the results with you.

Please indicate your permission to use the material noted above by returning the permission form in the stamped envelope. I'd appreciate a response at your earliest convenience. If I have not received your form by November 8, I'll assume it is permissible for me to proceed.

Thank you for your cooperation.

Sincerely,

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

Permission is granted to use items 60-89 from the Survey of Organizations for the doctoral research project described below.

This study will seek to develop a data base concerning several aspects of the Cooperative Extension Service of Iowa State University. Descriptive information about the job characteristics of the three major positions at the county level will be collected. The research will assess what types of leadership behaviors are perceived by the county staff as Area Extension Directors attempt influence at the county level. The extent of teamwork will be examined for each subunit of the organization. Job satisfaction of incumbents in county level positions will also be measured. The study will explore relationships among the variables. A conceptual framework which hypothesizes effects of causal variables (job characteristics and leadership) on intervening variables (teamwork), with ultimate impact on end-result variables (job satisfaction) will be tested.

Rensis Likert
ASSOCIATE
(signature)

10/30/85
(date)

for: Rensis Likert Associates, Inc.

Research results requested X Yes ____ No

Return to: Sue Kruse
108 Curtiss Hall
Iowa State University
Ames, Iowa 50011

Return envelope attached

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011

Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 28, 1985

Professor Gary Yukl
School of Business
State University of New York at Albany
1400 Washington Avenue
Albany, New York 12222

Dear Dr. Yukl:

I am working on the research for my PhD dissertation. I'm interested in incorporating some items in my survey which use your managerial behavior taxonomy, with the 13 categories and definitions and a 5-point Likert scale for response. I am enclosing a draft copy of my survey booklet for your review. Note section 2 which is based on your taxonomy. I have modified the language slightly to make it fit the organizational setting for my research.

With your permission, the survey booklet will be printed and distributed only to the 230 subjects for the research: county level staff employed by the Cooperative Extension Service of Iowa State University. (A paragraph about the purpose of the study is include on the permission form.) In the written dissertation, the source of the items in the survey booklet will be documented. The survey booklet will be used only for my doctoral research, and not for any consulting or contract research projects. If you'd like, I'd be happy to share a summary of the results with you.

Please indicate your permission to use the material noted above by returning the permission form in the stamped envelope. I'd appreciate a response at your earliest convenience. If I have not received your form by November 8, I'll assume it is permissible for me to proceed.

Thank you for your cooperation.

Sincerely,

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

Permission is granted to use the taxonomy of managerial behavior (13 categories and definitions) for the doctoral research described below.

> This study will seek to develop a data base concerning several aspects of the Cooperative Extension Service of Iowa State University. Descriptive information about the job characteristics of the three major positions at the county level will be collected. The research will assess what types of leadership behaviors are perceived by the county staff as Area Extension Directors attempt influence at the county level. The extent of teamwork will be examined for each subunit of the organization. Job satisfaction of incumbents in county level positions will also be measured. The study will explore relationships among the variables. A conceptual framework which hypothesizes effects of causal variables (job characteristics and leadership) on intervening variables (teamwork), with ultimate impact on end-result variables (job satisfaction) will be tested.

_____ _____

Dr. Gary Yukl, signature (date)

Research results requested ____ Yes ____ No

Return to: Sue Kruse
108 Curtiss Hall
Iowa State University
Ames, Iowa 50011

Return envelope attached

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011
Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 23, 1985

TO: Selected Extension Staff:
Program Leaders
Area Extension Directors
Robert Crom
W. John Johnson

As you know, I have been working on the research which will complete my PhD in Higher Education Administration. I've shared my research interests and plans with you previously.

I would appreciate your critique of the enclosed survey booklet and cover letters. Please review them for clarity, accuracy, and completeness. Editorial suggestions (style, format, wording, etc.) are welcome. I am especially eager for suggestions about the questions themselves. Please note areas where you perceive confusion, ambiguity, or problems which would have a substantive impact on the responses from staff. I'd appreciate your writing any comments or suggestions you have directly on the letter or booklet and returning them to me by November 1.

I plan to mail this survey to the county Extension staff the first week in November, with a return date before Thanksgiving. Several days prior to that mailing, Dr. Powers has agreed to send a letter indicating administrative support for this research.

Thank you for your cooperation. If you have questions, please call me.

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011

Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 24, 1985

TO: North Central Region
Staff Development Leaders
Terry Gibson
Violet Malone
Gail Gunderson
Kathy Dalgaard
Floyd Branson
Murray Hardesty
Keith Smith
Dan Wheeler

Most of you know that I've been working on my PhD in Higher Education Administration. My research interests relate to the job characteristics of our county Extension positions, leadership activities performed by Area Extension Directors as they supervise county staff, and teamwork among county staff. I'm using a survey design, with items from previously developed and validated questionnaires (i.e., Job Diagnostic Survey, Survey of Organizations). I'd like to include a group of my peers in staff development as part of the jury to review the draft of the instrument I plan to use.

I would appreciate your critique of the enclosed survey booklet and cover letters. Please review them for clarity, accuracy, and completeness. Editorial suggestions (style, format, wording, etc.) are welcome. I am especially eager for suggestions about the questions themselves. Please note areas where you perceive confusion, ambiguity, or problems which would have a substantive impact on the responses from staff. I'd appreciate your writing any comments or suggestions you have directly on the letter or booklet and returning them to me by November 1.

Thank you so much for your cooperation and assistance.

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011

Administrative Offices
Curtiss Hall
Telephone 515-294-4512

October 24, 1985

TO: Selected County Extension Staff
Jim Johnson
LaVon Eblen
Carla Brinkman
Peggy Haafke

As you may know, I've been working on the research which will complete my PhD in Higher Education Administration. My research interests relate to the job characteristics of our county Extension positions, leadership activities performed by Area Extension Directors as they supervise county staff, and teamwork among county staff. The research design calls for a survey, which will be mailed to all county staff.

I'm asking a special favor of the four of you. I'd like you to review the enclosed survey booklet and cover letter very critically. Please review them for clarity, accuracy, and completeness. Editorial suggestions (style, format, wording, etc.) are welcome. I am especially eager for suggestions about the questions or directions. Please note areas where you perceive confusion, ambiguity, or problems which would have a substantive impact on the responses from staff. You do not need to answer the questions at this time, but please write any comments or suggestions you have directly on the letter or booklet and return them to me by November 1.

I plan to mail this survey to county Extension staff the first week in November, with a return date before Thanksgiving. Dr. Ron Powers has agreed to send a letter just prior to that mailing indicating administrative support for this research. When we do the mailing of the final survey, we will ask you four, as well as all the other county Extension staff to complete it.

Thank you for your assistance in critiquing this material. I know your comments will help me develop an improved research instrument. If you have questions, please call me at (515) 294-4512.

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

IX. APPENDIX B: LETTERS TO RESEARCH SUBJECTS

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011
Administrative Offices
Curtiss Hall
Telephone 515-294-4512

November 5, 1985

TO: County ISU Extension Staff

In the next few days, you will be receiving a letter from Sue Kruse, Leader of Staff Development and Training, requesting your assistance in completing a survey. This survey relates to characteristics of our county Extension positions, leadership activities of Area Extension Directors, and teamwork at the county level.

Extension administration is supporting this study, which is a part of Sue's PhD research. While we recognize that you receive a number of requests for information, we encourage you to complete this survey. We believe the data will have a number of organizational uses. All responses from staff will be completely confidential. Neither Sue nor any other administrator will be able to identify responses with individuals.

This study is not associated in any way with the Future Directions Task Force recommendations. The data it provides may be useful as we consider potential implementation of some recommendations, but it was not designed with that specific purpose in mind.

Thank you for your cooperation. If you have questions when you receive this material, I'm sure Sue Kruse will be happy to answer them for you.

Ronald C. Powers
Associate Dean and Director

jrg

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011
Administrative Offices
Curtiss Hall
Telephone 515-294-4512

November 8, 1985

TO: ISU County Extension Professional Staff

The quality of our programs and our organization is heavily dependent on our human resources. About 85-90 percent of the budget for ISU Extension is allocated for staff. As we search for ways to keep our organization vital and healthy in the future, we need to know more about your perceptions of the characteristics of your work life. Your input is vital to the purpose of this study.

As you know from Dr. Ronald Powers' letter of November 5, we are asking all the county Extension professional staff to share their views about their jobs. So that the results will truly represent all the different areas and staff groups, it's important that each of you complete and return the enclosed booklet. The survey should take about 15 minutes of your time. A stamped envelope is provided for you. Please return the booklet by November 27, 1985.

The information you provide will never be associated with you as an individual. You are assured of complete confidentiality. The survey has an identification code for mailing and follow-up purposes only. Your name will never be placed on the survey, nor will any Extension staff member ever know which identification codes are associated with individual staff, counties, or areas.

The results of this study will be shared with ISU Extension administration and other interested individuals and groups. If you would like to receive a copy of the results, request a summary from my office.

If you have questions, please call me at (515) 294-4512. Thank you very much for your cooperation in returning this booklet by November 27.

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

Iowa State University of Science and Technology
Cooperative Extension Service
Ames, Iowa 50011
Administrative Offices
Curtiss Hall
Telephone 515-294-4512

December 3, 1985

TO: Selected County ISU Extension Professional Staff

About three weeks ago, I asked for your assistance in completing a survey regarding characteristics of your work life. As of today, we have not yet received your completed survey.

We believe this study is important in helping us understand how county Extension staff perceive their jobs, team relationships with co-workers, and leadership of the Area Extension Director.

I am writing to you again because each county staff member's input into this study is important. We would like to have the geographic and program areas fully represented. Your response makes an important contribution to the study.

As I mentioned in my last letter, you are assured of complete confidentiality as you respond to this survey. Identification codes have been used only to allow this type of follow-up request. No Extension staff member will be able to identify your responses with you as an individual.

In case your survey has been misplaced, a replacement is enclosed along with another stamped envelope. Please return the survey as quickly as possible.

Thank you very much for your cooperation.

Sue Kruse
Leader, Staff Development
and Training

jrg
enc.

X. APPENDIX C: SURVEY INSTRUMENT WITH RAW DATA

We are interested in what you think about your Extension position . . .

Job Characteristics
Leadership
Teamwork
Satisfaction

A study supported by
Iowa State University Extension

Section 1: Job Characteristics

We would like information about how you perceive your job as Extension Home Economist, 4-H and Youth Leader, or Extension Agriculturist. If you are the County Extension Director, consider this aspect of your job as well when you respond to the following items. Circle one number for each item.

Very Little 1
Moderate 4
Very Much 7

	1	2	3	4	5	6	7	M[a]	$\bar{X}$[b]
1. To what extent does your job require you to work closely with other people, either clients or staff?	(1)	(0)	(0)	(2)	(9)	(47)	(163)	(0)	(6.6)
2. To what extent does your job permit you to decide on your own how to plan and implement the work?	(1)	(2)	(5)	(30)	(65)	(92)	(27)	(0)	(5.4)
3. To what extent does your job involve doing a "whole" piece of work, with an identifiable beginning and end?	(1)	(10)	(19)	(42)	(45)	(78)	(27)	(0)	(5.1)
4. To what extent does the job require you to do many different things, using a variety of your skills and talents?	(1)	(0)	(0)	(3)	(17)	(79)	(122)	(0)	(6.4)
5. To what extent are the results of your job likely to affect the lives or well-being of other people?	(1)	(0)	(2)	(14)	(52)	(85)	(67)	(1)	(5.9)
6. To what extent do co-workers let you know how well you are doing on your job?	(13)	(24)	(37)	(76)	(52)	(17)	(2)	(1)	(3.9)
7. To what extent does the Area Director let you know how well you are doing on the job?	(20)	(20)	(27)	(51)	(54)	(33)	(17)	(0)	(4.2)
8. To what extent does doing the job itself provide clues about how well you are doing, aside from any feedback others provide?	(3)	(9)	(21)	(59)	(72)	(49)	(7)	(2)	(4.6)

Circle the number which best describes how accurate the following statements are for your job.

Very Inaccurate 1
Mostly Inaccurate 2
Slightly Inaccurate . . . 3
Uncertain 4
Slightly Accurate 5
Mostly Accurate 6
Very Accurate 7

	1	2	3	4	5	6	7	M	$\bar{X}$
9. The job requires me to use a number of complex or high-level skills	(0)	(1)	(7)	(9)	(44)	(116)	(44)	(1)	(5.8)
10. The job requires a lot of cooperative work with other people	(0)	(0)	(0)	(2)	(8)	(83)	(129)	(0)	(6.5)
11. The job is such that I do not have the chance to do an entire piece of work from beginning to end	(3)	(27)	(57)	(22)	(36)	(60)	(15)	(2)	(4.4)
12. Just doing the work required by the job provides many chances for me to figure out how well I am doing	(3)	(15)	(39)	(40)	(59)	(62)	(4)	(0)	(4.5)
13. The job is quite simple and repetitive	(1)	(8)	(5)	(7)	(15)	(81)	(105)	(0)	(6.1)

[a]Missing data.

[b]Mean score.

Very Inaccurate 1
Mostly Inaccurate 2
Slightly Inaccurate . . . 3
Uncertain 4
Slightly Accurate 5
Mostly Accurate 6
Very Accurate 7

	1	2	3	4	5	6	7	M	$\bar{X}$
14. The job can be done adequately by a person working alone--without talking or checking with other people	(1)	(0)	(9)	(1)	(18)	(84)	(109)	(0)	(6.3)
15. The co-workers on this job almost never give me any "feedback" about how well I am doing in my job	(5)	(30)	(44)	(13)	(58)	(53)	(17)	(2)	(4.4)
16. The job is one where a lot of other people can be affected by how well the work gets done	(0)	(1)	(4)	(10)	(36)	(109)	(61)	(1)	(6.0)
17. The job denies me any chance to use my personal initiative or judgment in carrying out the work	(0)	(5)	(6)	(5)	(23)	(96)	(86)	(1)	(6.1)
18. The Area Director often lets me know how well he/she thinks I am performing the job	(24)	(37)	(36)	(16)	(50)	(43)	(16)	(0)	(4.0)
19. The job provides me the chance to completely finish the work I begin	(2)	(20)	(48)	(19)	(53)	(70)	(10)	(0)	(4.6)
20. The job itself provides very few clues about whether or not I am performing well	(2)	(16)	(40)	(25)	(52)	(79)	(6)	(2)	(4.7)
21. The job gives me considerable opportunity for independence and freedom in how I do the work	(1)	(2)	(13)	(4)	(42)	(121)	(39)	(0)	(5.7)
22. The job itself is not very significant or important in the broader scheme of things	(2)	(5)	(8)	(11)	(19)	(81)	(96)	(0)	(6.0)

Circle the number which best describes how much of each characteristic you'd <u>like</u> to have present in your job.

Not Very Much . . . 1
Much 4
Very Much 7

	1	2	3	4	5	6	7	M	$\bar{X}$
23. Stimulating and challenging work	(2)	(0)	(4)	(4)	(11)	(90)	(111)	(0)	(6.3)
24. Chances to exercise independent thought and action in my job	(0)	(3)	(1)	(8)	(23)	(99)	(87)	(1)	(6.2)
25. Opportunities to learn new things from my work	(1)	(1)	(0)	(4)	(13)	(67)	(136)	(0)	(6.5)
26. Opportunities to be creative and imaginative in my work	(1)	(1)	(2)	(10)	(23)	(77)	(108)	(0)	(6.2)
27. Opportunities for personal growth and development in my job	(1)	(2)	(2)	(4)	(9)	(78)	(126)	(0)	(6.4)
28. A sense of worthwhile accomplishment in my work	(1)	(1)	(2)	(4)	(10)	(52)	(151)	(1)	(6.5)

Think of your own criteria for when you do your job well, and circle the number which describes how much you disagree or agree with these statements.

Disagree Strongly 1
Disagree Moderately . . . 2
Disagree Slightly 3
Neutral 4
Agree Slightly 5
Agree Moderately 6
Agree Strongly 7

	1	2	3	4	5	6	7	M	$\bar{X}$
29. My opinion of myself goes up when I do this job well	(0)	(0)	(2)	(4)	(16)	(80)	(120)	(0)	(6.4)
30. I feel a great sense of personal satisfaction when I do this job well	(0)	(0)	(0)	(3)	(12)	(73)	(134)	(0)	(6.5)
31. I feel bad or unhappy when I discover that I performed poorly in this job	(3)	(6)	(9)	(14)	(28)	(84)	(78)	(0)	(5.8)
32. My own feelings generally are <u>not</u> affected much one way or the other by how well I do in this job	(0)	(5)	(3)	(7)	(20)	(70)	(115)	(2)	(6.2)
33. I think most people in this job feel a great sense of personal satisfation when they do the job well	(0)	(2)	(6)	(14)	(23)	(108)	(69)	(0)	(6.0)
34. I think most people in this job feel bad or unhappy when they find they have performed the work poorly	(4)	(26)	(19)	(23)	(41)	(72)	(36)	(1)	(5.0)

35. Comments about characteristics of your job.

<u>Section 2: Leadership</u>

We'd like to know to what degree you perceive your Area Extension Director doing each of the leadership activities defined below, based on experience in your area. Circle only one choice per item.

Not at All 1
To a Small Degree 2
To Some Degree 3
To a Great Degree 4
To a Very Great Degree . . . 5
<u>Don't Know . . . . . ?</u>

	1	2	3	4	5	?	M	$\bar{X}$
36. INFORMING: disseminating relevant information to staff and informing them about decisions, plans, and events that affect their work	(0)	(6)	(34)	(112)	(70)	(0)	(0)	(4.1)
37. CONSULTING AND DELEGATING: encouraging staff to participate in making decisions, and delegating authority and responsibility to individual staff members	(4)	(21)	(70)	(73)	(50)	(4)	(0)	(3.7)
38. PLANNING AND ORGANIZING: determining county/area program objectives and strategies, and determining how to use personnel and resources efficiently to accomplish objectives	(9)	(38)	(71)	(65)	(34)	(5)	(0)	(3.4)
39. PROBLEM-SOLVING AND CRISIS MANAGEMENT: identifying serious work-related problems (including personnel problems), quickly but systematically analyzing the cause, then acting decisively to deal with the problem or crisis	(25)	(46)	(70)	(48)	(24)	(8)	(1)	(3.0)

Not at All 1
To a Small Degree 2
To Some Degree 3
To a Great Degree 4
To a Very Great Degree . . . 5
Don't Know . . . . . ?

	1	2	3	4	5	?	M	$\bar{X}$
40. CLARIFYING ROLES AND OBJECTIVES: establishing a clear understanding of job responsibilities, task objectives, and performance expectations with staff	(14)	(38)	(75)	(32)	(2)	(2)	(0)	(3.3)
41. MONITORING OPERATIONS: gathering information about the Extension programs in the area, and checking on the progress and quality of the work	(7)	(51)	(72)	(59)	(24)	(8)	(1)	(3.2)
42. MOTIVATING TASK COMMITMENT: using personal influence to generate enthusiasm for the work, commitment to task objectives, and compliance with orders and requests	(12)	(33)	(78)	(66)	(29)	(4)	(0)	(3.3)
43. RECOGNIZING AND REWARDING: praising effective performance by staff, showing appreciation for special contributions and achievements, and rewarding effective performance with tangible benefits	(17)	(40)	(67)	(52)	(40)	(6)	(0)	(3.3)
44. SUPPORTING: acting friendly and supportive, being patient and helpful, and showing consideration for a person's needs and feelings	(0)	(30)	(34)	(70)	(86)	(2)	(0)	(4.0)
45. DEVELOPING: counseling a staff member about skill deficiencies or inadequate performance; providing coaching or arranging for skill training to be provided, and providing advice and assistance in a staff member's professional growth and career development	(17)	(37)	(64)	(56)	(32)	(16)	(0)	(3.2)
46. HARMONIZING AND TEAM BUILDING: developing teamwork, cooperation, and identification among county and area staff, and facilitating the constructive resolution of conflicts and disagreements	(25)	(49)	(66)	(50)	(25)	(5)	(2)	(3.0)
47. REPRESENTING: acquiring necessary resources and support for the area and county, and promoting and defending its interests while serving as a spokesperson, negotiator, lobbyist, or recruiter for it	(4)	(20)	(60)	(59)	(58)	(20)	(1)	(3.7)
48. INTERFACING: developing contacts and interacting with Program Leaders and others to gather information, improve coordination, and discover how the area and county can better adapt to a changing environment	(3)	(29)	(61)	(74)	(41)	(11)	(3)	(3.6)

49. Comments about the leadership activities of the Area Extension Director.

Section 3: Teamwork

Please respond to the following questions about the teamwork among the professional Extension staff in your county office. If you work in more than one county, consider only your headquarters. Circle only one number per item.

To a Very Little Extent . . . 1
To a Little Extent 2
To Some Extent 3
To a Great Extent 4
To a Very Great Extent . . . 5

	1	2	3	4	5	M	$\bar{X}$
50. To what extent are the persons in your county office friendly and easy to approach?	(4)	(5)	(49)	(92)	(72)	(0)	(4.0)
51. When you talk with co-workers, to what extent do they pay attention to what you are saying?	(2)	(10)	(49)	(105)	(56)	(0)	(3.9)
52. To what extent are co-workers willing to listen to your problems?	(8)	(9)	(64)	(92)	(47)	(2)	(3.7)
53. How much do co-workers encourage each other to work as a team?	(17)	(32)	(86)	(68)	(18)	(1)	(3.2)
54. How much do co-workers emphasize a team goal?	(24)	(45)	(99)	(44)	(9)	(1)	(2.9)
55. To what extent do co-workers exchange opinions and ideas?	(5)	(21)	(66)	(91)	(39)	(0)	(3.6)
56. How much do co-workers encourage each other to give their best efforts?	(20)	(33)	(87)	(64)	(18)	(0)	(3.1)
57. To what extent do co-workers maintain high standards of performance?	(4)	(13)	(43)	(127)	(35)	(0)	(3.8)
58. To what extent do co-workers help you find ways to do a better job?	(25)	(43)	(93)	(53)	(8)	(0)	(2.9)
59. To what extent do co-workers provide information or help you need so that you can plan work ahead of time?	(14)	(28)	(80)	(87)	(11)	(2)	(3.2)
60. To what extent do co-workers offer each other new ideas for solving job-related problems?	(10)	(31)	(87)	(77)	(17)	(0)	(3.3)
61. To what extent does your county staff plan together and coordinate its efforts?	(17)	(25)	(94)	(63)	(23)	(0)	(3.2)
62. To what extent does your county staff make good decisions and solve problems well?	(9)	(20)	(66)	(101)	(24)	(2)	(3.5)
63. To what extent is information about important events and situations shared within your county staff?	(8)	(17)	(58)	(91)	(48)	(0)	(3.7)
64. To what extent does your county staff feel responsible for meeting its objectives successfully?	(2)	(12)	(63)	(103)	(41)	(1)	(3.8)
65. To what extent is your county staff able to respond to unusual work demands placed on it?	(1)	(13)	(49)	(113)	(46)	(0)	(3.9)

To a Very Little Extent . . . 1
To a Little Extent 2
To Some Extent 3
To a Great Extent 4
To a Very Great Extent . . . 5

	1	2	3	4	5	M	$\bar{X}$
66. To what extent do you have confidence and trust in your co-workers?	(7)	(16)	(37)	(84)	(78)	(0)	(4.0)
67. If unusual problems or crises arise, to what extent does your county staff try to find new ways to deal with them?	(9)	(9)	(59)	(97)	(48)	(0)	(3.8)
68. In general, how much say or influence do you have on what goes on in <u>your county staff</u>?	(15)	(26)	(71)	(79)	(31)	(0)	(3.4)
69. To what extent does the level of teamwork vary with the different co-workers in your county office?	(10)	(46)	(63)	(52)	(49)	(2)	(3.4)

70. Comments about teamwork among your county staff. (If you work in more than one county, please comment about how similar/dissimilar your responses might be for the other county.)

<u>Section 4: Job Satisfaction</u>

Please respond to the following items about how satisfied you are with your job by circling one number in each item.

Extremely Dissatisfied . . . 1
Moderately Dissatisfied . . . 2
Slightly Dissatisfied 3
Neutral 4
Slightly Satisfied 5
Moderately Satisfied 6
Extremely Satisfied 7

	1	2	3	4	5	6	7	M	$\bar{X}$
71. The amount of job security I have	(0)	(5)	(10)	(21)	(18)	(121)	(47)	(0)	(5.7)
72. The amount of pay and fringe benefits I receive	(6)	(39)	(28)	(11)	(37)	(81)	(19)	(1)	(4.6)
73. The opportunity for personal growth and development	(1)	(5)	(16)	(11)	(44)	(88)	(56)	(1)	(5.6)
74. The people I talk to and work with on my job	(0)	(1)	(5)	(9)	(26)	(105)	(75)	(1)	(6.0)
75. The degree of respect and fair treatment I receive from my Area Director	(6)	(8)	(18)	(15)	(28)	(82)	(65)	(0)	(5.5)
76. The amount of support and guidance I receive from my Area Director	(11)	(17)	(16)	(18)	(38)	(76)	(46)	(0)	(5.1)
77. The feeling of worthwhile accomplishment I get from doing my job	(0)	(1)	(6)	(6)	(45)	(107)	(57)	(0)	(5.9)
78. The chance to get to know other people while on the job	(0)	(1)	(1)	(5)	(21)	(101)	(92)	(1)	(6.2)
79. The degree to which I am fairly paid for what I contribute to Extension	(10)	(40)	(41)	(15)	(35)	(66)	(15)	(0)	(4.3)
80. The amount of independent thought and action I can exercise in my job	(0)	(2)	(5)	(4)	(34)	(105)	(71)	(1)	(6.0)
81. How secure things look for me in the future in Extension	(4)	(15)	(21)	(29)	(42)	(93)	(17)	(1)	(5.0)

Extremely Dissatisfied . . . 1
Moderately Dissatisfied . . . 2
Slightly Dissatisfied 3
Neutral 4
Slightly Satisfied 5
Moderately Satisfied 6
Extremely Satisfied 7

	1	2	3	4	5	6	7	M	$\bar{X}$
82. The chance to help other people through my work	(0)	(0)	(0)	(3)	(20)	(96)	(102)	(1)	(6.3)
83. The amount of challenge in my job	(0)	(0)	(1)	(8)	(24)	(89)	(100)	(0)	(6.3)
84. The overall quality of the supervision I receive in my work	(6)	(11)	(23)	(22)	(40)	(85)	(35)	(0)	(5.1)

Indicate how much you agree with the following items by circling one number in each item.

Disagree Strongly 1
Disagree Moderately . . . 2
Disagree Slightly 3
Neutral 4
Agree Slightly 5
Agree Moderately 6
Agree Strongly 7

	1	2	3	4	5	6	7	M	$\bar{X}$
85. Generally speaking, I am very satisfied with this job	(0)	(4)	(14)	(5)	(34)	(108)	(57)	(0)	(5.8)
86. I frequently think of quitting this job	(8)	(12)	(40)	(19)	(24)	(51)	(67)	(1)	(5.1)
87. I am generally satisfied with the kind of work I do in this job	(0)	(3)	(3)	(2)	(34)	(136)	(44)	(0)	(5.9)
88. I think most other Iowa staff in this job are very satisfied with the job	(5)	(9)	(22)	(43)	(63)	(73)	(7)	(0)	(4.8)
89. I think people in this job often think of quitting	(10)	(18)	(53)	(50)	(24)	(49)	(18)	(0)	(4.3)

90. Comments about your job satisfaction.

Section 5

Please answer the following questions about yourself. Circle the number beside the appropriate response.

91. Type of Position

(73) 1 Extension Home Economist
(51) 2 4-H and Youth Leader
(98) 3 Agriculturist

92. Are you the County Extension Director?

(98) 1 Yes
(124) 2 No

93. Do you supervise paraprofessional staff in your job?

(85) 1 Yes
(136) 2 No
(1) M

94. Are you paid for full-time or part-time work?

(192)	1	Full-time
(30)	2	Part-time

95. Sex

(111)	1	Female
(111)	2	Male

96. Length of Experience in Extension

(42)	1	Less than 3 years
(21)	2	3 years, but less than 5 years
(36)	3	5 years, but less than 10 years
(68)	4	10 years, but less than 20 years
(55)	5	20 years or more

97. Geographic Responsibility

(168)	1	One-county position
(54)	2	More than one county position

Please return this booklet in the stamped envelope provided. Thank you for your cooperation.