

PERFORMANCE APPRAISAL SYSTEM DEVELOPMENT: THE CONSIDERATION
OF ATTITUDES TOWARD APPRAISAL, JOB OBJECTIVITY,
AND SUPERVISORY STYLE

by

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Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY
in
Psychology

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May, 1984
Blacksburg, Virginia

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(ABSTRACT)

For years, performance appraisal has posed serious problems for those in personnel-related fields; yet, most personnel professionals are unwilling to abandon the practice of formally evaluating job performance. Given this reluctance to discard performance appraisal, many organizations are faced with the task of choosing appraisal systems compatible with their idiosyncracies.

This paper presents a model for use in the development of appraisal systems. The model proposes that the effectiveness of a given appraisal system can be predicted from employee attitudes toward parameters of this system, job analysis information, and characteristics of supervisors within the organization. This proposal was tested using job analysis information and attitude data from employees of the Geological Survey of the U.S. Department of the Interior. The appraisal system evaluated, Work Planning and Progress Review (WP&PR), was based upon goal-setting principles.

Four studies explored the relationships described above. Study 1 examined the relationships between the quality of standards generated in WP&PR, attitudes toward parameters of this system, and the objectivity with which jobs could be measured. Study 2 questioned whether or not attitudes toward appraisal were the result of the existing appraisal system's effectiveness. Study 3 explored the relationship between attitudes toward appraisal and supervisory style as measured by the Leader Behavior Description Questionnaire (LBDQ), and Study 4 examined the relationship between supervisory style and the quality of performance standards generated in WP&PR.

The model for selecting appraisal parameters was only partially supported by the data. Attitudes toward WP&PR were not significantly related to standards' quality or job objectivity. Job objectivity was, however, predictive of the quality of performance standards. In addition, attitude change was unrelated to standards' quality. Supervisory style was found to be related to attitudes toward an immediate supervisor as the source of appraisal; however, it was not related to standards' quality.

Exploratory analyses using self-report measures of system effectiveness resulted in greater support of the model. Problems with criteria for measuring appraisal effectiveness and directions for future research are presented.

ACKNOWLEDGEMENTS

I would like to express my appreciation to the many people who have helped me during the course of this project. First, I would like to thank my committee chairman, Dr. David Bownas for his guidance and patience during the preparation of this dissertation. Dr. Haller Gilmer, Dr. Stephen Zaccaro, Dr. Dow Scott, and Dr. Joseph Sgro also deserve special thanks for serving on my dissertation committee. In addition, I would like to thank Dr. John Bernardin for his help in formulating the ideas presented here.

I am also very grateful to the U.S. Geological Survey for their cooperation in providing the data necessary to carry out this project. In particular, I would like to thank Mrs. Maxine C. Millard for granting permission to carry out the study and Mrs. Janis Nash for her help with the logistical aspects of data collection.

I am also genuinely indebted to those persons who gave so much of their valuable time to provide job element and performance standard ratings. I would like to extend my very sincere thanks to Jim Austin, Diane Beckwith, Dave Bownas, Michael Carlisle, Jamie Carlyle, Mark Davis, Joe Orban, Ruth Powell, Tom Powell, Warren Powell, Barry

Riegelhaupt, Mike Senderak, Barbara Smith, Stanley Smith, Franzouria Taylor, Pete Villanova, Kathy Welch, and Lori Willis. I am thankful for the help and friendship of each and every one of them. An extra special thanks is in order to Bill Plymale who assisted with the data analysis. Without his support and computer expertise, this project would never have gotten off the ground. I am also grateful for the help of Bernice Born in proofreading the final document.

Above all, I would like to thank my family. Throughout the entire course of my education, they have given me encouragement, guidance, and support, and I love them very much. Thus, this work is dedicated in honor of Mrs. William M. Taylor and Marshall Taylor and in memory of Mr. William M. Taylor and Christina Taylor.

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INTRODUCTION

Performance appraisal, the systematic description of strengths and weaknesses within and between employees, has been a challenge to psychologists for over 50 years (Cascio, 1982; Landy & Farr, 1980). Heneman (1975) has even gone so far as to label it the Achilles' heel of personnel administration. Obstacles to successful performance evaluation are numerous. For instance, apprehension concerning the use of appraisal information can give rise to political barriers within an organization (Patz, 1975). Similarly, reluctance of supervisors to make face-to-face appraisals can result in interpersonal barriers (Cascio, 1982). Even the more technical problems such as leniency, central tendency, and halo errors in performance rating have not yet been overcome. Despite these and other problems, human resource managers continue to use performance appraisals for a number of purposes: as input for administering formal organizational reward and punishment systems (Cummings, 1973), as predictors or criteria in personnel research, as a basis for establishing training program objectives, to provide concrete feedback to employees, or to help in organizational diagnosis and development (Cascio, 1982).

Virtually every person holding a job is faced with having his or her job performance evaluated; however, the process by which the appraisal is carried out is often seriously impaired. The fact that researchers have not yet been able to overcome many of the obstacles associated with performance appraisal has resulted in the mistrust of appraisal information by a large number of individuals, supervisors and subordinates alike. Yet, even with these shortcomings, most personnel practitioners are unwilling to abandon the procedure of formally evaluating job performance (Patz, 1975; Zawacki & Taylor, 1976).

Given this reluctance to discard formal performance evaluation, many personnel specialists are faced with the task of choosing appraisal systems compatible with the idiosyncracies of their particular organizations. The development of these appraisal systems is often an undertaking based on little more than random choice. Part of the problem is the wide variety of alternatives available to those selecting performance appraisal systems. The range of choice is well-illustrated by a programmatic model of performance appraisal proposed by Kane and Lawler (1979). These authors specify appraisal effectiveness as a function of several appraisal methodology variables and organizational characteristics. Methodology categories included in the

model are: (1) the measurement process (e.g., forced choice ratings, ranking, Likert-type or mixed-standard rating scales, or comparison of performance to standards), (2) measurement content (e.g., personality traits, behaviors, or outcomes), (3) source type (e.g., immediate supervisor, peers, or self), (4) object type (e.g., individuals, work groups, or departments), and (5) administrative characteristics (e.g., purpose of appraisal, nature of feedback, appraisal timing, procedures for appealing appraisal results, or employee participation in the appraisal process).

A given appraisal system can be defined in terms of these variables. Each system must specify a measurement process, measurement content, and a source and object of appraisal. Furthermore, administrative characteristics of the appraisal process must be clearly delineated. System developers must decide how appraisal information will be used, how often appraisals will be conducted, whether or not employees will be allowed to participate in the appraisal process, and how feedback will be administered. Provisions must also be made for the employees to appeal appraisals which they feel are unfair. Clearly, when the range of values that each of these variables can take is considered, the number of different appraisal systems that can be derived is quite substantial.

The human resource practitioner with the need to develop one or more performance appraisal systems would be well-advised to consider these variables in his or her organization. However, a systematic examination of all possible variations of these appraisal characteristics would be a prodigious undertaking. Furthermore, appraisal system development is an expensive process. Should a system fail to be effective once it is implemented, the cost to the organization could be substantial. For instance, the use of an inadequate appraisal system could result in mistakes related to important personnel decisions. Promotion of the wrong employees or removal of good workers could lead to financial loss by reducing productivity. Inaccurate decisions combined with employee dissatisfaction may bring about the need to implement new systems. Additional costs (e.g., for system development, for retraining appraisers, or for implementing the new process) may be incurred if a new system is instituted. Unfortunately, no systematic method exists for predicting how successful an appraisal system will be given the characteristics of a specific organization.

An analysis of different dimensions of the organizational situation would be extremely helpful in determining which combination of appraisal parameters will be most effective. Kane and Lawler (1979) propose that

characteristics of individuals within the organization, both raters and ratees, are important in determining appraisal effectiveness. Further, these authors suggest that appraisal effectiveness is influenced by job characteristics, the social environment, and organizational structure. When defined using these characteristics, it is quite safe to assume the uniqueness of every organization.

Thus, it seems the major problem facing those responsible for developing appraisal systems is that of efficiently matching the parameters of these systems with organizational characteristics. What follows is a model which seeks to demonstrate how job analysis data, information about employee attitudes toward performance appraisal, and knowledge of rater characteristics can be used to predict the effectiveness of a particular appraisal system. The benefits of using such information are twofold. Logistically, data of this type are easily obtainable at relatively low cost. An even greater benefit, however, is that the "trial and error" process in choosing appraisal parameters is reduced.

Figure 1 describes the proposed relationships between job analysis information, attitudinal data, appraiser characteristics, and the effectiveness of the appraisal system. Central to the model is the attitude factor. It is proposed that the effectiveness of an appraisal system can

be predicted from employee attitudes toward parameters of that system. As mentioned previously, Kane and Lawler (1979) have proposed a model which specifies appraisal effectiveness as a function of 14 appraisal parameters and all possible interactions between these variables. Such a model is appealing in theory; however, the personnel practitioner would have difficulty in its application (Bernardin & Beatty, 1983). As an alternative, the present model suggests the use of attitudinal data. In other words, what do the employees actually prefer with respect to parameters of the appraisal system which will be used to evaluate their job performance? Do they prefer their work to be rated using Likert scales, or would they rather have their performance compared against standards? Would they prefer performance to be appraised by an immediate supervisor or by some other source? Would group appraisals be preferable to individual evaluation? If information of this type is actually predictive of appraisal system effectiveness, then the human resource manager has only to survey the attitudes of employees in his or her organization and to implement one or more appraisal systems consistent with these attitudes.

As illustrated by Figure 1, a number of different factors are proposed to influence attitudes toward performance appraisal parameters. Perhaps it is the case that the

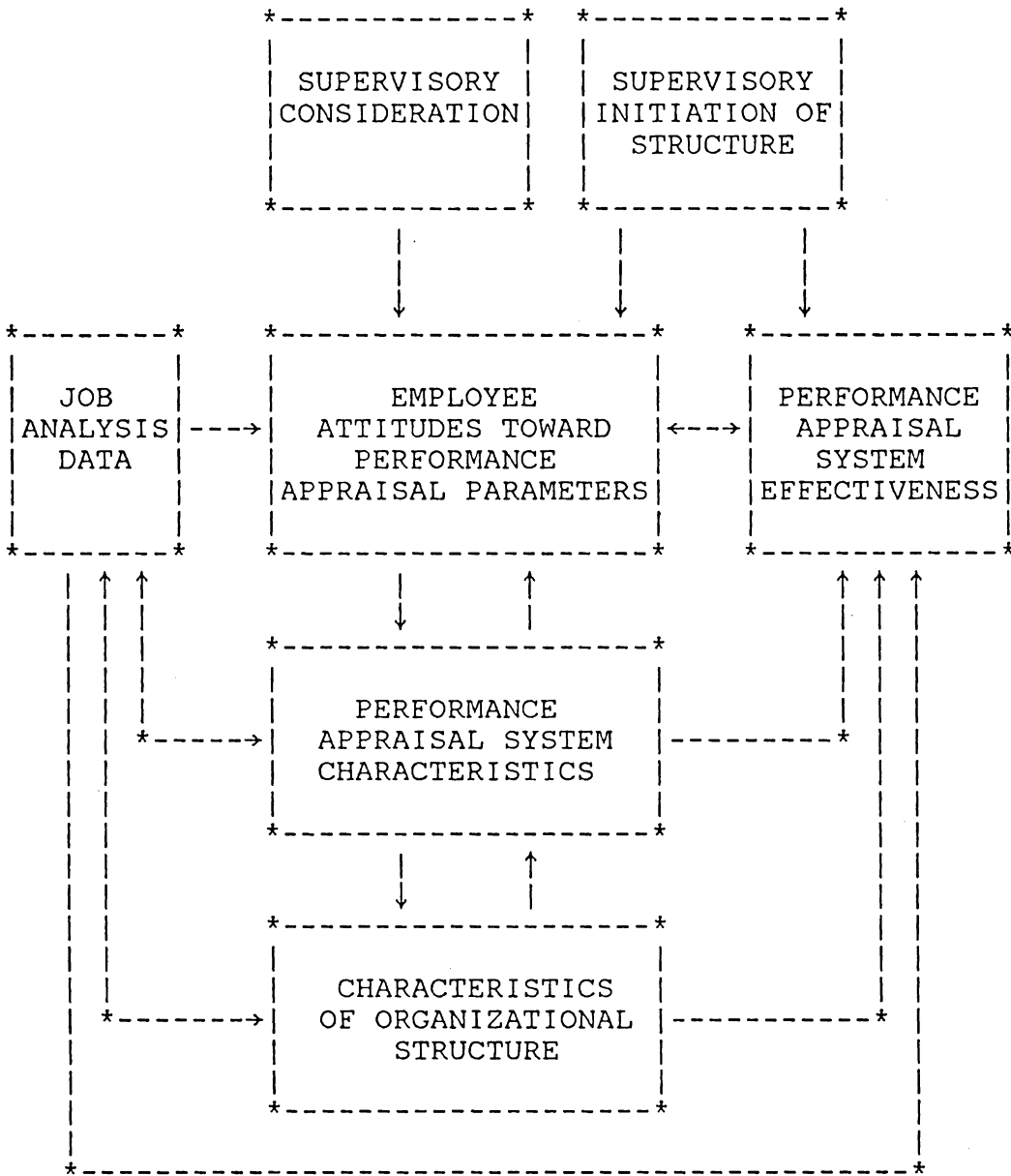


Figure 1: A Model for Predicting The Effectiveness of Performance Appraisal Systems

performance appraisal system already in place can influence employee attitudes. If such a system is effective, then positive attitudes toward parameters of this system are expected to result. On the other hand, if the system is not serving its purpose, then the influence on employee attitudes should be negative. Therefore, the model of appraisal effectiveness presented here specifies a bi-directional flow in which employee attitudes toward appraisal parameters and appraisal system effectiveness can influence one another.

In addition, perhaps it is the case that employee attitudes toward appraisal are determined, at least to some extent, by the types of jobs performed. An assembly-line worker and an executive occupy jobs on opposite ends of the spectrum. While it would be counter-productive to evaluate the assembly-line worker on his or her personality traits when more objective measures are available, these criteria might be appropriate for managerial personnel. It would probably be more efficient to base the assembly-line worker's appraisal on outcomes (e.g., number of items produced, number of faulty products, etc.). This would more than likely be reflected by an attitude measure asking his or her preference of evaluation criteria. Likewise, the nature of a managerial position might influence the incumbent's attitudes concerning the content of his or her appraisal.

Kane and Lawler (1979) report that there is good reason to believe that the effects of job characteristics on appraisal effectiveness are substantial. There is evidence that job certainty and specificity have a large influence over the accuracy of performance ratings. A number of studies have shown that when ambiguity about the task exists, invalid perceptions and source biases tend to influence performance ratings (Nieva, 1976 [cited in Kane & Lawler, 1979]; Senger, 1971; Shaw, 1972).

The model of appraisal system development presented here asserts that job analysis information can be used to determine the objectivity with which job performance can be measured. Further, it proposes that this objectivity information can be used to predict the effectiveness of a particular performance appraisal system. The objectivity with which job performance can be measured is proposed to directly influence appraisal effectiveness as well as to exert an indirect influence through an impact on attitudes toward appraisal.

A third factor proposed to influence attitudes toward performance appraisal is supervisor behavior. The leadership literature provides a definition of supervisory style. According to Weissenberg and Kavanagh (1972), effective leadership often requires the solution of a conflict which

may occur between filling the production goals of the organization and satisfying social or psychological needs of subordinates. When such a conflict occurs, the supervisor must find a way to balance the attention he or she must give to these two rather disparate goals. Extensive research at The Ohio State University has identified two dimensions, Initiating Structure and Consideration, which are of considerable importance in describing leader behavior. These two dimensions were based on factor analyses of subordinates' descriptions of their supervisors' behavior using the Leader Behavior Description Questionnaire (LBDQ) (Fleishman, 1953; Halpin & Winer, 1957). Fleishman and Peters (1962) have defined these two concepts as follows:

Structure (S): Reflects the extent to which an individual is likely to define and structure his own role and those of his subordinates toward goal attainment. A high score on this dimension characterizes individuals who play a more active role in directing group activities through planning, communicating information, scheduling, trying out new ideas, etc.

Consideration (C): Reflects the extent to which an individual is likely to have job relationships

characterized by mutual trust, respect for subordinates' ideas, and consideration of their feelings. A high score is indicative of a climate of good rapport and two-way communication. A low score indicates the supervisor is likely to be more impersonal in his relations with group members (p. 130).

The model of appraisal system development presented here approaches the concepts of leader Initiating Structure and Consideration from the standpoint of their influence on attitudes toward appraisal and the effectiveness of a given appraisal system. A number of studies have found leader Consideration to act as a moderator between Initiating Structure and various criteria (e.g., motivation, satisfaction, turnover, and overall performance) (Beer, 1966; Desler, 1972, 1973 [cited in Kerr et al., 1974]; Fleishman & Ko, 1962 [cited in Kerr et al., 1974]; Fleishman & Peters, 1962; Hunt & Hill, 1971; Misumi & Toshiaki, 1965). Fleishman and Harris (1962) were the first to report that under conditions of high Consideration, structuring behavior may be perceived by subordinates as helpful and supportive, while under low Consideration, structuring behavior may be interpreted as restrictive or threatening. Given these

findings, it is logically consistent to expect that employee attitudes toward performance appraisal would be influenced in a similar manner. This is to say that under conditions of high leader Consideration and high Initiating Structure, employees will indicate very positive attitudes toward appraisal. Conversely, conditions of low supervisor Consideration and high Initiating Structure will result in negative attitudes. This would be particularly true for appraisal parameters associated directly with a supervisory source (e.g., source of appraisal, measurement process, or appraisal feedback).

The relationship between supervisory style and appraisal effectiveness is not as clear. The definition of Initiating Structure suggests that a supervisor scoring high on this dimension would be quite concerned with defining the roles of his or her subordinates. As stated previously, evidence suggests that job specificity may have a strong positive impact on appraisal effectiveness (Kane & Lawler, 1979). On the other hand, a supervisor low in Structure would not be expected to delineate subordinate roles as effectively. This would be expected to result in decreased appraisal effectiveness. This approach differs from that taken in past studies in that the criterion is not actual performance or subordinate satisfaction but appraisal effectiveness.

Unlike Initiating Structure, the influence of Consideration on appraisal effectiveness is predicted to be minimal. A supervisory style characterized by a high degree of Consideration may result in a greater amount of subordinate participation in work planning or increased goal acceptance, but it cannot be expected to directly influence the quality of appraisal. Supervisory Consideration may however, exert influence over appraisal effectiveness indirectly through the effect on employee attitudes.

Thus, the model presented here specifies a method for choosing the parameters of a performance appraisal system. Personnel specialists in federal agencies were faced with this dilemma when the Civil Service Reform Act (CSRA) was passed in 1978 (chapter 43 of title 5, United States Code). This legislation modernized requirements for appraisal of performance in the Federal service. It required each affected agency to develop one or more performance appraisal systems which: (1) make provisions for the periodic appraisal of job performance of employees, (2) encourage employee participation in establishing performance standards, and (3) use performance appraisal results as a basis for decisions involving the training, rewarding, reassigning, promoting, reducing in grade, and removal of employees.

Chapter 43, section 4302 of title 5, United States Code specifies that, under regulations prescribed by the United States Office of Personnel Management, each performance appraisal system shall provide for:

- (1) establishing performance standards which will, to the maximum extent feasible, permit the accurate evaluation of job performance on the basis of objective criteria (which may include the extent of courtesy demonstrated to the public) related to the job in question for each employee or position under the system;
- (2) as soon as practicable, but not later than October 1, 1981, with respect to initial appraisal periods, and thereafter at the beginning of each following appraisal period, communicating to each employee the performance standards and the critical elements of the employee's position;
- (3) evaluating each employee during the appraisal period on such standards;
- (4) recognizing and rewarding employees whose performance so warrants;
- (5) assisting employees in improving unacceptable performance; and

(6) reassigning, reducing in grade, or removing employees who continue to have unacceptable performance but only after an opportunity to demonstrate acceptable performance.

The final result of the CSRA was the implementation of a single type of appraisal system (i.e., standard setting) across all government agencies. Little consideration was given to whether or not the organizations to be affected were particularly well-suited to this type of appraisal system. A prime example is Work Planning and Progress Review, an appraisal system developed by the Geological Survey of the United States Department of the Interior to comply with CSRA mandates. Under this system, performance standards for each employee are established based upon duties and responsibilities delineated in position descriptions. Performance is appraised against these standards at the end of an annual appraisal period, and results are used as a basis for such personnel decisions as promotion, training, raises, and termination.

The Geological Survey is a large organization employing individuals in a variety of occupations each consisting of a wide range of experience levels. By implementing this appraisal system agency-wide, this organization took a great

deal of financial risk. Perhaps it would have been more cost-effective to implement a different type of appraisal system or to design a number of different systems tailored to specific segments of the organization. Such financial risk could be diminished considerably if the effectiveness of the appraisal system could be predicted prior to its implementation as specified by the model above. What follows is a detailed description of Work Planning and Progress Review and an attempt to predict its effectiveness by using pre-implementation attitudes toward parameters of this system, job analysis information, and characteristics of the supervisors within the system.

PERFORMANCE APPRAISAL POLICIES AND PROCEDURES OF
THE U.S. GEOLOGICAL SURVEY

In order to comply with the CSRA, the Geological Survey (of the United States Department of the Interior) developed a performance appraisal system designed to meet all of the requirements listed in the previous section. The Geological Survey recognizes the importance of performance appraisal for effective personnel management in that it: (1) helps supervisors and managers to maintain control of work and to use their staff resources efficiently, (2) provides documentation and a supportable basis for making personnel decisions, (3) provides an opportunity for employees to become involved in setting the standards against which their performance will be appraised, and (4) provides a method for giving useful performance feedback (Geological Survey Manual, Part 370.430, Chapter 1).

The policy of the Geological Survey states that performance appraisal will involve continuing communication between supervisors and their employees concerning performance. Furthermore, this policy mandates that performance appraisal be a joint process involving both the supervisor and employee as active participants in identifying required and critical elements of a job, setting performance standards, assessing progress toward meeting

these standards, and developing plans for improvement of performance (Geological Survey Manual, Part 370.430, Chapter 1). Given this policy and the requirements of the CSRA, the Geological Survey implemented a systematic process, Work Planning and Progress Review, which involves identifying required and critical elements of work, writing performance standards, and appraising performance against these standards. The following is a step-by-step explanation of this system.

WORK PLANNING AND PROGRESS REVIEW

Work Planning and Progress Review is a process by which a rating official and his or her employee:

- (1) meet at the beginning of an appraisal period to develop a work plan containing required and critical elements and performance standards for the employee's job;
- (2) meet periodically during the appraisal period in progress review sessions to assess the employee's progress in meeting standards; and
- (3) meet at the end of the year in an appraisal interview to review the employee's performance over the entire appraisal period and discuss the employee's rating (Geological Survey Manual, Part 370.430, Chapter 2).

Constructing the Work Plan

Each rating official is required to conduct a planning session with every one of his or her employees at the beginning of an annual appraisal period. At this planning session, the rating official and the employee identify the required and critical elements of the employee's position and establish corresponding performance standards for each element. A required element is defined as "any component of the job that is important enough that an employee's performance of that component should be evaluated" (Geological Survey Manual, Part 370.430, Chapter 1). Likewise, a critical element is "a component of the job that is sufficiently important to overall success in the job that performance below the minimum standard established by management results in unacceptable overall performance and requires some remedial action" (Geological Survey Manual, Part 370.430, Chapter 1). Every employee's work plan is required to list a minimum of one and a maximum of five critical elements; however, there is no limit on the number of required elements which can be listed.

Task Identification

The first step in constructing the work plan involves identifying the tasks performed by the employee. A task is

"a set or series of steps in a job, all of which would be needed to produce an identifiable output which could be used, acted upon or advanced in production by an individual who may or may not be the performer" (Performance Standards Handbook, U.S. Department of the Interior, Geological Survey, p. 4). The output of a task may be a good or service, tangible or intangible, intermediary or final. All task statements are written in the present tense using an action orientation to describe what the employee does, why the work is done, and how the work is carried out. This is accomplished by using an action verb (describing what is done), an "in order to..." phrase (to indicate why it is done), and a "by..." phrase (to explain how it is done). The following is an example of a task statement presented in the Performance Standards Handbook:

Writes office budget for coming year in order to estimate fiscal resources needed to meet goals and objectives by reading prior year's budget for variances, projecting salary expenses, projecting supply and equipment needs, and conferring with others to obtain cost information (U.S. Department of the Interior, Geological Survey, p. 4).

Identification of Required Elements

After all the tasks of a given employee have been identified, the next step in constructing a work plan is to group tasks into required elements. Tasks may be grouped by function (e.g., typing, mail handling), unit objectives (e.g., to provide quality service to user divisions), projects (e.g., to develop a performance appraisal system), or other factors. While some tasks may be grouped to form required elements, others may stand alone (Performance Standards Handbook, U.S. Department of the Interior, Geological Survey).

Identification of Critical Elements

Once required elements have been designated, the supervisor and employee must decide which of these are critical elements. A critical element can be either an ongoing activity that will remain an essential job component, or a special project which will last only throughout the appraisal period at hand. The Performance Standards Handbook recommends that the following questions be asked in the determination of critical elements:

- (1) What percentage of the employee's time is spent performing the element? (A high percentage does not necessarily imply criticality,

but it can be a strong indicator of it. A very low percentage should raise doubts.)

- (2) If the element were performed inadequately, would there be a significant impact on the work unit's mission? Would other employees have to perform the activity in order to ensure that vital objectives are met?
 - (3) Is there a significant consequence of error? Could inadequate performance of the required element contribute to the injury or death of the employee or others, serious property damage, and/or loss of time and money?
 - (4) Are there legislative or regulatory requirements which would make adequate performance of the element critical? Would inadequate performance mean that the Geological Survey fails to meet statutory or regulatory standards or is engaged in prohibited practices?
- (p. 5)

Performance Standards Development

After all tasks have been grouped into required elements, and critical elements have been designated, performance standards are developed. A performance standard

describes "the level of performance an employee is expected to achieve for each required and critical element of the job" (Geological Survey Manual, Part 370.430, Chapter 1). Performance standards are written to describe fully satisfactory performance. The first step in developing standards is to identify the performance criteria for each task. The Geological Survey recognizes three types of criteria: quantity, quality, and timeliness. Quantitative criteria are concerned with how much is produced (e.g., number of square feet of area mapped). This type of criterion may be important for production-oriented jobs. Qualitative criteria address the issues of "how well" the work is performed and/or "how good or effective" the final product is (e.g., lines scribed to technical standards), and timeliness deals with "how quickly" or "by what date" a task is accomplished (e.g., reports submitted by a given deadline). While quantity and timeliness are objective in nature (i.e., numbers and dates are easily recorded), quality is more subjective and open to interpretation. Therefore, the Performance Standards Handbook stresses that performance standards written to assess quality should be described as precisely as possible.

As with task statements, performance standards are written in a specified format containing a description of

what is being assessed (i.e., worker action or output), the criteria on which it is being assessed (e.g., quality, quantity, and/or timeliness), and a description of how performance will be monitored and measured. An example of a performance standard written in this format is presented below:

Planning forms are completed accurately, in accordance with established procedures and requirements; forms are returned no more than X times for error corrections or additional information (Performance Standards Handbook, U.S. Department of the Interior, Geological Survey, p. 6).

The Geological Survey recommends the use of the Performance Standards Worksheet to aid in the writing of task statements and performance standards. A sample of this worksheet is presented in Appendix A.

After the required elements, critical elements, and performance standards have been established, they are recorded on the Employee Work Plan, which is the "working document" of the Work Planning and Progress Review process. In addition to the above information, the actual results achieved by the employee are also recorded on this form. A sample Employee Work Plan is contained in Appendix B.

Progress Review

The Work Planning and Progress Review process requires that the rating official and employee meet at least twice during the appraisal period for formal progress review sessions. These progress reviews provide the opportunity for the rating official and employee to review the employee's progress in meeting performance standards, to identify any problems, and to revise the Employee Work Plan if necessary.

During the review sessions, the employee reports on his or her accomplishments, the current status of the work, and any problems encountered in getting the job done. The rating official reports on changes in programs or priorities that will affect the employee's work and advises the employee as to the acceptability of his or her current job performance. The goal of the progress review is an understanding between the rating official and the employee as to where the employee presently stands; what is expected of the employee during the time remaining in the appraisal period; and any actions which will be initiated as a result of the employee's performance. It is the responsibility of the rating official to modify the work plan to reflect any changes agreed upon during the progress review (Geological Survey Manual, Part 370.430, Chapter 2).

Employee Performance Appraisal

At the end of the appraisal period, the rating official assesses the employee's performance and prepares a performance appraisal. The performance appraisal consists of four parts. First, in the third column of the Employee Work Plan, the rating official describes the employee's actual performance in relation to the performance standards set for required and critical elements (see Appendix B). In such instances where performance exceeds or fails to meet standards, the rating official is required to cite specific examples of the employee's performance. Additionally, the rating official assigns an element rating (i.e., exceeds standards, meets standards, or fails to meet standards) to describe the employee's performance on each required and critical element. Finally, each employee is given a summary rating based upon a procedure for totaling points allotted for individual element ratings. These summary ratings range from outstanding to unsatisfactory and are recorded on an Employee Performance Appraisal (see Appendix C). The final step in the Work Planning and Progress Review process involves the signing of the Employee Performance Appraisal by the employee, the rating official, and a reviewing official. For a summary of the Work Planning and Progress Review system used by the Geological Survey see Figure 2.

ACTION	DEADLINE
----- *Rating official and employ- ee meet to discuss required and critical elements and performance standards, reach agreement, and record on Employee Work Plan. (If rating official and employ- ee cannot reach agreement, rating official determines content of Work Plan.) *-----*	
----- *Rating official and employ- ee each sign and date Em- ployee Work Plan and submit to reviewing official for review and concurrence. *-----*	
----- *Reviewing official reviews Employee Work Plan, meets with rating official to discuss any areas of dis- agreement, and concurs in Work Plan. (If rating offi- cial and reviewing official cannot reach agreement, re- viewing official makes fi- nal decision.) *-----*	
----- *Reviewing official signs and dates Work Plan and submits to servicing per- sonnel office. Copies are retained by rating official and employee. *-----*	*-----* Employee Work Plan must be submitted to servicing personnel office within 60 days after beginning of appraisal period. *-----*

* Required Actions

ACTION	DEADLINE
----- Rating official and employ- ee meet periodically during appraisal period to discuss employee's progress and up- date elements and stan- dards, as necessary. *-----*	
----- *Rating official appraises employee performance over entire appraisal period and prepares Employee Perform- ance Appraisal at end of appraisal period. Rating official signs and dates appraisal. *-----*	
----- *Rating official submits Em- ployee Performance Apprais- al to reviewing official for review and concurrence. *-----*	*-----* For Non-Merit Pay, Non- Research Employees and Merit Pay Supervisors and Management Officials, Em- ployee Performance Ap- praisal must be submitted to reviewing official within 30 days following end of appraisal period. *-----*
----- *Reviewing official reviews Employee Performance Ap- praisal, meets with rating official to discuss any areas of disagreement, and concurs in Employee Per- formance Appaisal. (If rating and reviewing offi- cial cannot reach agree- ment, reviewing official makes final decision.) *-----*	

* Required Actions

ACTION	DEADLINE
----- *Reviewing official signs and dates Employee Perform- ance Appraisal (and adds dissenting opinion, if nec- essary). Reviewing offi- cial returns Employee Per- formance Appraisal to rat- ing official for discussion with employee. *-----*	
----- *Rating official meets with employee for appraisal in- terview to discuss rating. Rating official has employ- ee sign and date appraisal. (If employee refuses to sign appraisal, rating of- ficial documents that fact on the appraisal.) *-----*	
----- *Rating official submits a copy of signed Employee Performance Appraisal to servicing personnel office. *-----*	*-----* For Non-Merit Pay, Non- Research Employees and Merit Pay Supervisors and Management Officials, Em- ployee Performance Ap- praisal must be submitted to servicing personnel office within 60 days following end of apprais- al period. For Research Employees, Employee Performance Ap- praisal must be submitted to servicing personnel office within 90 days following end of apprais- al period. *-----*

* Required Actions

ACTION	DEADLINE
----- Employees who are dissatis- fied with their ratings are entitled to request a re- view in accordance with SM 370.430, Chapter 7. *-----*	*-----* Employee should request informal review within 7 days of receipt of ap- praisal which has been signed by rating and re- viewing officials. Em- ployee must request for- mal review within 15 days of receipt of appraisal which has been signed by rating and reviewing of- ficials. *-----*

* Required Actions

Geological Survey Manual, Part 370.430, Ch. 1, Appendix A

Figure 2: U.S. Geological Survey Performance Appraisal
 Process: A Summary

THE USE OF PRE-IMPLEMENTATION DATA TO PREDICT
THE EFFECTIVENESS OF WORK PLANNING AND PROGRESS
REVIEW

Figure 3 illustrates the proposed relationships between the quality of standards generated in Work Planning and Progress Review and information collected prior to the implementation of this system. Two of the factors mentioned in the original model, characteristics of organizational structure and performance appraisal system characteristics, were deleted from Figure 3. These components were eliminated from the model to be tested because data describing organizational structure were not available for the Geological Survey, and the characteristics of performance appraisal were constant throughout the agency.

Work Planning and Progress Review can be described in terms of the appraisal parameters outlined by Kane and Lawler (1979). The source of appraisal is always the immediate supervisor, while the appraisal object is the individual employee. Measurement content is based upon quantity, quality, and timeliness criteria, and the measurement process is one of comparing performance against standards. Further, actual performance appraisal is carried out annually, and feedback is administered in periodical progress reviews. The purpose of appraisal in the Geological Survey is

to serve as the basis for any type of personnel action or decision (e.g., promotion, recognition or reward, career development, reprimand, or removal).

The relationship between attitudes toward Work Planning and Progress Review and the effectiveness of this system will be explored using attitude data collected from employees of the Geological Survey along with an assessment of the quality of their performance standards. The assumption is made that performance standards generated in Work Planning and Progress Review are the foundation upon which this appraisal system is based. If the performance standards are of inferior quality, then it is unreasonable to expect the system to operate effectively.

Another issue to be explored is whether or not the quality of performance standards generated in Work Planning and Progress Review can predict change in attitudes toward appraisal. Prior to the implementation of Work Planning and Progress Review, Geological Survey employees were evaluated using a variety of different appraisal systems. It was during this time period that employee attitudes toward performance appraisal were assessed. In addition, employee attitudes toward performance appraisal were reassessed (i.e., after approximately three years of appraisal under the new system), in order to determine the effects of Work Planning and Progress Review.

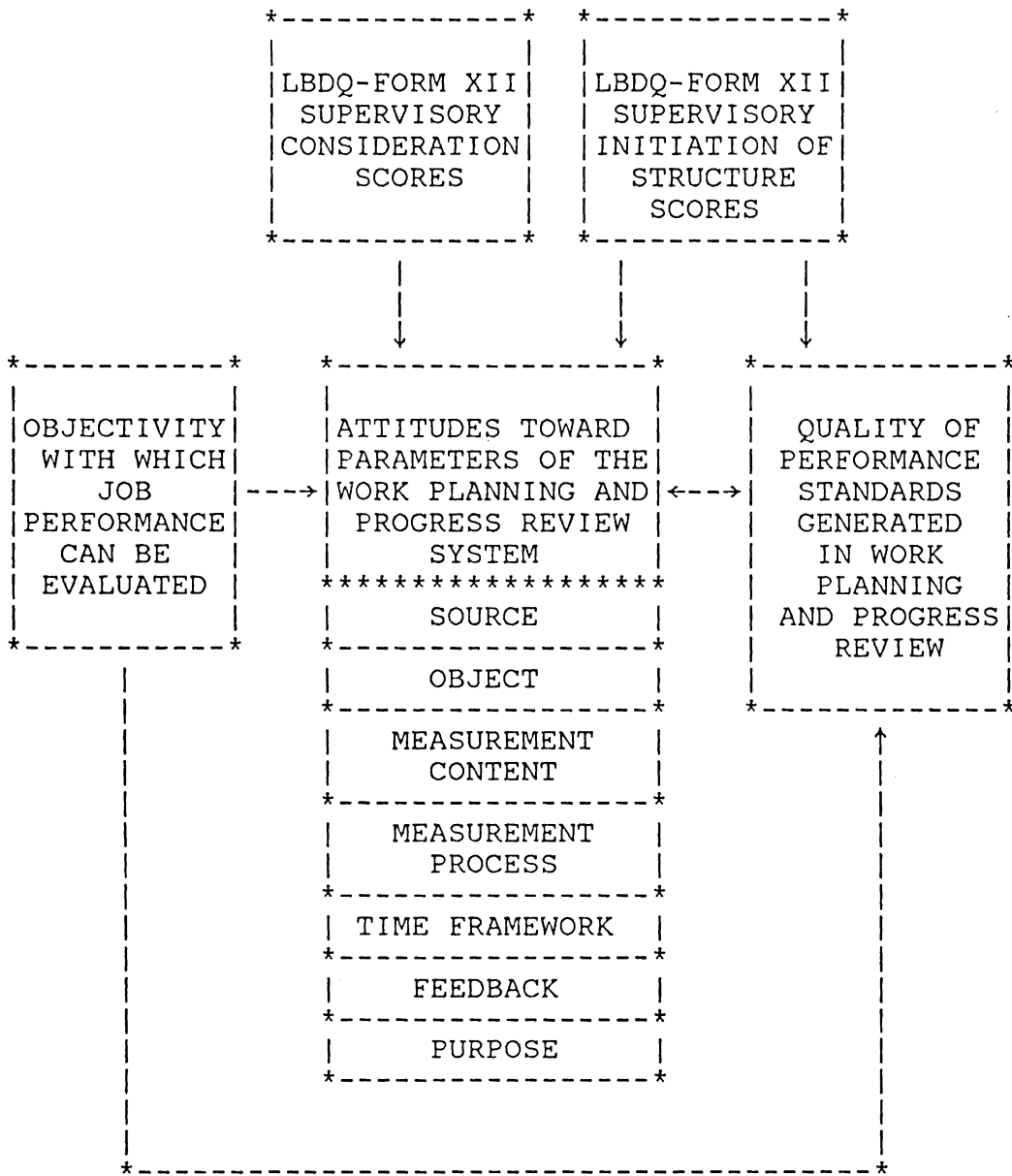


Figure 3: The Use of Pre-Implementation Data to Predict the Effectiveness of Work Planning and Progress Review

Attitudes of any given employee toward parameters of Work Planning and Progress Review can change either in a positive direction, a negative direction, or exhibit no change at all. Perhaps this change in attitude can be predicted by the quality of performance standards. Employees generating high quality standards in conjunction with their supervisors would be expected to show attitude change in a positive direction, while generation of poor quality standards should result in attitude change in a negative direction.

Further, if employee attitudes are determined, at least to some extent, by the types of jobs performed, then job analysis information should allow predictions to be made concerning how effective a particular appraisal system should be for a given type of job. For instance, the Work Planning and Progress Review system employed by the Geological Survey is one of several performance appraisal systems which employ goal setting principles.

Research in the area of goal setting has suggested that setting standards may be inappropriate for some types of jobs. Locke (1968) has proposed a theory of goal setting dealing with the relationship between conscious goals or intentions and task performance. The basic premise of this theory is that an individual's cognitions regulate his actions. A goal is defined as the object or aim of an action.

It is what the individual is trying to accomplish (Locke, Shaw, Saari, & Latham, 1981). According to Locke (1968): (1) hard goals produce a higher level of performance than do easy goals, (2) specific hard goals produce a higher level of output than "do your best" goals, and (3) behavioral intentions regulate choice behavior. Furthermore, the theory states that an individual's goals mediate how performance is affected by incentives, time limitations, performance feedback, participation in decision making, and competition. Goal acceptance plays another very important role in Locke's theory. Goals are thought to affect behavior only to the degree to which they are accepted by the person carrying out that behavior.

In the context of Work Planning and Progress Review, performance standards are intended to serve as the goals of the employee. Locke et al. (1981) maintain that the major dimensions of goal content are specificity (i.e., the degree of quantitative precision with which the aim is specified) and difficulty (i.e., the degree of proficiency or level of performance being sought). The proposed model is concerned with the concept of goal specificity.

A number of studies have investigated the effects of setting specific goals versus setting generalized goals or no goals at all. For instance, Blumenfeld and Leidy (1969)

found that soft drink salesmen and service personnel checked a greater number of vending machines when specific goals were set than they did when no goals were assigned. A series of studies conducted by Latham and his colleagues have also yielded support for the importance of specific goals. Ronan, Latham, and Kinne (1973) discovered that setting specific goals accompanied by the presence of supervision resulted in high productivity and a low number of on-the-job injuries in a group of pulpwood producers. This study was correlational in nature, thus inhibiting causal inference. Therefore, as a follow-up, Latham and Kinne (1974) trained ten pulpwood producers and their crews in goal setting techniques and used ten additional producers and their crews as a control condition. Results showed that trained crews had a significant increase in cords per man-hour produced and a decrease in absenteeism when compared with control crews. These authors attributed the success of trained crews to the setting of specific goals.

Another study by Latham and Baldes (1975) was designed to test the hypothesis that the effects of setting specific goals would appear in the form of an increase in the slope or level of a performance curve as compared with baseline. In this experiment, also conducted in a logging camp, truck drivers were assigned the goal of loading their vehicles to

94% truck net weight. The result was an immediate increase in average net weight from approximately 60% of the legal maximum to the goal of 94%.

In another study using logging crews, Latham and Yukl (1975a) found that, for uneducated workers, participative goal setting resulted in a higher number of trees cut than did assigning goals or just telling workers to "do your best." These results were not replicated using a sample of educated workers; however, the authors attributed this to lack of support by local management.

Kolb and Boyatzis (1971) examined the effects of setting specific goals in a setting quite different from those discussed above. In a T-group situation, each participant was required to establish a personal development goal relevant to his or her group behavior and to formulate a method for measuring his or her success in goal attainment. After 30 hours of T-group sessions, behavior change was reported by each participant, and he or she was rated by the group trainers. Results showed positive behavior change to be greater for dimensions related to the participant's goals than for dimensions not related to the goals.

Another study by Wexley and Nemeroff (1975) used hospital supervisors to evaluate the effect of goal setting and feedback when used together with role playing exercises for

supervisory training. When compared with a control group of supervisors who participated in role playing exercises, but who were not assigned goals or given feedback, supervisors assigned goals had less subordinate absenteeism and more improvement in leadership behavior (as measured by the LBDQ) when they returned to their jobs.

All of the studies described above successfully demonstrated that setting specific goals increased individual performance. Further, in these studies the established goals were all easily quantifiable. In the majority of cases, the criteria used to measure performance were quite objective in nature. For example, the studies conducted with logging crews used cords of wood cut per man-hour, number of injuries, number of absences, number of turnovers (Latham & Kinne, 1974; Ronan et al., 1973), net truck weight (Latham & Baldes, 1975), and cunits (100 cubic feet of wood) cut per week (Latham & Yukl, 1975a) as criteria. Similarly, Blumenfeld and Leidy (1969) counted serviced soft drink machines. Although Kolb and Boyatzis (1971) used somewhat more subjective criteria (i.e., ratings by self and group trainers), behavior change was still quantifiable. In fact, the subjects devised methods for measuring their own behavior change. Likewise, Wexley and Nemeroff (1975) used as criteria LBDQ ratings in conjunction with records of

subordinate absenteeism. Once again, these criteria were quantifiable.

Latham and Yukl (1975b) review several studies which have evaluated the effectiveness of setting specific and quantifiable goals in management-by-objective (MBO) programs in industry. In general, successful programs are those in which employees are able to set specific, quantifiable goals. For example, Raia (1965) found MBO increased productivity in 15 plants, as well as resulted in improvement in absenteeism, accidents, grievances, turnover, and customer service in plants that set goals for these criteria. In a follow up study using employees in the same plants, Raia (1966) found productivity to be stabilized at the higher level obtained during the earlier period. Attainment of budgetary goals also continued to improve.

The two studies cited above were supportive of goal setting techniques. Like the studies previously mentioned, the criteria employed were easily quantifiable. Several other studies evaluating MBO programs have not met with as much success. Shetty and Carlisle (1974) found no indication that an MBO program resulted in improved performance in university faculty members. In this instance, criterion measures were entirely subjective. Perhaps it is the case that setting specific goals for college professors is much

more complex a task than is setting quantifiable goals for logging crews or soft drink salesmen.

Ivancevich, Donnelly, and Lyon (1970) interviewed top level managers in two companies to obtain their reactions to an MBO program. Frequent complaints were centered around an excess of paper work and the difficulty of setting quantitative goals for all aspects of the job. It is this issue, the difficulty of setting specific goals for some types of jobs, that will be addressed in the present study.

Clearly, the literature reviewed above suggests that goal setting may not be appropriate for certain types of jobs. Though previous studies have dealt mainly with performance, it is reasonable to extend this argument to appraisal effectiveness. In other words, the relationship between the quality of goals (i.e., performance standards) set in the Work Planning and Progress Review process should be related to the ability to derive objective criteria against which to measure performance. When evaluating a performance appraisal system of this type, the first step is to examine the quality of the performance standards. If the standards are not an accurate portrayal of what the employee is expected to do on the job, and if these goals are not measurable, then it is reasonable to assume that the performance appraisal system is not serving the purpose for which it was intended.

The Geological Survey is an organization comprised of many different jobs and job levels, all of which are covered under the same performance appraisal system. Locke et al. (1981) assert that goal setting is appropriate for all types of tasks; however the mechanisms by which goals affect task performance (i.e., directing attention and action, mobilizing energy expenditure or effort, prolonging effort over time, and motivating the individual to develop relevant strategies for goal attainment) are differentially important in different tasks. It is the contention of this paper however, that some types of jobs are not as well suited as others to goal setting appraisal systems. More specifically, jobs for which performance is not easily measurable by objective criteria will result in the generation of poor performance standards by incumbents and their supervisors.

Finally, the relationship between supervisory style and the quality of standards generated in Work Planning and Progress Review will be examined. As mentioned previously, supervisory style can be defined using the LBDQ Initiating Structure and Consideration subscales. Employees with supervisors high in both Structure and Consideration would be expected to exhibit very positive attitudes toward Work Planning and Progress Review. Such structuring behavior, tempered by consideration would be viewed by subordinates as

helpful. On the other hand, employees having supervisors low in Consideration and high in Structure would be expected to exhibit negative attitudes towards Work Planning and Progress Review. Structure without consideration may be perceived as restrictive.

The relationship between supervisory style and the quality of standards generated in Work Planning and Progress Review will also be examined. The definition of Initiating Structure suggests that a supervisor scoring high on this dimension would be quite concerned with setting goals which well define the roles of his or her subordinates. Therefore, it would be expected that a leader high in Initiating Structure, in conjunction with his or her subordinates, would generate high quality performance standards. Conversely, a supervisor low in Structure would be expected to generate standards of somewhat inferior quality.

The four studies which follow attempt to test the model of performance appraisal development presented here by using pre-implementation information to predict the effectiveness of an actual performance appraisal system. Study 1 examines the relationship between the quality of standards generated in Work Planning and Progress Review, attitudes toward parameters of this appraisal system, and the objectivity with which job performance can be measured. Study 2 seeks to determine whether or not change in attitudes toward parameters

of Work Planning and Progress Review are significantly related to the quality of performance standards generated in this system. Studies 4 and 5 approach the issue of supervisory style and its relationship to attitudes toward appraisal and the quality of performance standards.

STUDY 1

HYPOTHESES

In the present study, the relationship between the quality of performance standards generated in Work Planning and Progress Review, attitudes toward parameters of this appraisal system, and job objectivity (i.e., the degree to which an individual's job performance can be measured by objective criteria) were assessed. The following hypotheses were proposed:

- (1) Quality of performance standards generated in Work Planning and Progress Review will be significantly related to attitudes toward several parameters of this appraisal system (i.e., source of appraisal, object of appraisal, measurement content, measurement process, time framework of appraisal, appraisal feedback, and purpose of appraisal) measured prior to its implementation.
- (2) Attitudes toward parameters of this appraisal system will be significantly related to the objectivity with which job performance can be measured.
- (3) The quality of an individual's performance standards will be significantly related to the objectivity with which his or her job can be measured.

METHOD

Subjects

In August of 1979, the Geological Survey conducted an organization-wide study intended to provide information for use in the development of a new performance appraisal system consistent with the mandates of the CSRA. This agency employs almost 15,000 individuals in over 200 different occupations. Various levels of expertise and experience are reflected in grade levels which range from one to the upper teens. A two part questionnaire was administered to a random sample of 2,500 employees with a return rate of approximately 65%. Subjects for the present study were employees who participated in the 1979 study, and who had Employee Work Plans on file in the main personnel office of the Geological Survey located in Reston, Virginia. The 126 subjects meeting these qualifications were administered another questionnaire in August of 1983. The return rate was approximately 89% (n=112).

Predictor Measures

Job Objectivity

The first part of the survey conducted prior to CSRA implementation consisted of the Job Analysis Questionnaire (JAQ), an instrument developed using the worker-oriented job

element method suggested by McCormick, Jeanneret, and Mecham (1972). This approach assumes that even though different jobs contain unique activities, there are common, underlying elements which may be used to describe these activities.

The first step in the development of the JAQ was the identification of specific categories or aspects of work. These job factors included dimensions such as "management and supervision," "personnel responsibilities," "written and oral communication," "clerical," etc. A number of sources which had previously identified common job factors were employed in defining the job factors to be used in the JAQ (Krzystofiak, Newman, & Anderson, 1979; Tornow & Pinto, 1976).

After all relevant job factors were identified, specific worker-oriented statements were developed for each factor. These statements, or job elements, were obtained from a number of sources including the Position Analysis Questionnaire (McCormick, Mecham, & Jeanneret, 1972), a questionnaire administered by Krzystofiak et al. (1979), elements developed by Primoff (1971), task statements identified by Hunt (1979), and from a review of Geological Survey Position Descriptions. This collection of job elements was then revised to represent a first approximation to the types of work performed by employees of the Geological Survey. A

scale of "Relative Importance" ranging from "1" representing "not at all important to the job" to "5" representing "essential part of the job" was developed for use with the questionnaire. This first iteration of the JAQ was then presented to a Geological Survey Task Force for a critique.

Following the suggestions made by the Task Force (e.g., removing items related to knowledge, skills, and abilities), the JAQ was modified. During the revision process, job factors were redefined, many of the original job elements were eliminated, and additional job elements were written in order to make the JAQ more explicit and broader in scope. This second iteration was then reviewed by the Task Force and revised further according to their recommendations. The final product was a questionnaire consisting of 231 job elements (see Appendix D).

Each employee completing the questionnaire indicated how well the individual job elements described his or her job by using the five-point scale mentioned previously. Thus, job analysis information was available for each of the subjects. These data were used to determine the degree to which each individual's job performance lends itself to measurement by objective criteria.

Sixty-three independent raters assigned a rating to each of the 231 JAQ items corresponding to how well it could

be objectively measured. These raters were volunteers from an introductory psychology subject pool who received credit for their participation. Items amenable to measurement by objective criteria received a rating of +1. Items which call for measurement using subjective criteria were given a rating of -1. Items falling on "middle ground" were given a rating of zero. Prior to assigning values to the job elements, the raters received a lecture differentiating between objective and subjective criteria. Afterwards, sample job elements were presented and discussed. Instructions for rating the job elements are presented in Appendix E.

Following evaluation of job elements, an index of objectivity was computed for each item by averaging across ratings. Each subject was assigned a "Job Objectivity Score" (JOS) based upon the above ratings and his or her responses to the 231 JAQ items. For each item, the corresponding average expert rating was multiplied by the subject's response (1, 2, 3, 4, or 5). This resulted in an index of job objectivity for each item, ranging from -5 (very subjective) to +5 (very objective). A total JOS was derived for each subject by summing across all items and dividing by the sum of the subject's original responses on the JAQ. This last step was carried out in order to eliminate the influence of activity level on the JOS. For a summary of these calculations, see Appendix F.

Attitudes Toward Performance Appraisal Parameters

A second section of the survey administered in August of 1979 was developed to assess employee attitudes toward a number of appraisal parameters (see Appendix G). The initial step in the development of the Performance Appraisal Attitudes Questionnaire was to identify one or more formats which would be appropriate for use with an instrument of this type. A single, uniform format was chosen as most acceptable because it would allow for comparisons between questions. For the sake of simplicity, a modified graphic scale was generated. Further, rules suggested by Edwards (1957) were followed in the writing of questionnaire items (see Appendix H).

Several reviews of the performance appraisal literature have suggested dimensions which need to be considered when developing performance appraisal systems (e.g., DeCotiis & Petit, 1978; Kane & Lawler, 1979). These sources were consulted, and a list of dimensions on which to base the questionnaire was generated. This list of dimensions and the applicable items on the final questionnaire are listed in Appendix I.

The list of dimensions generated was arbitrarily divided into three groups. Three individuals, each working independently with a separate list of dimensions, developed several questions for each of their assigned dimensions.

These persons then met and evaluated each question individually to determine: (1) if the questions satisfied Edwards' (1957) criteria for questionnaire items, (2) if the questions tapped the dimension exhaustively, and (3) if each question provided information that would be useful in the selection of a performance appraisal system. Questions which failed to satisfy these criteria were rewritten in the format selected for the questionnaire.

At subsequent meetings, the dimensions were evaluated to determine if the initial group would provide sufficient data to suggest various performance appraisal systems. It was decided that several additional dimensions should be added. Questions were written on each of these dimensions, judged according to Edwards' (1957) criteria, and rewritten in the appropriate format.

The generation of dimensions and questions yielded 35 dimensions and several hundred questions. Due to time constraints, the size of the questionnaire was reduced. Each item was re-evaluated, and only those which were judged to be most appropriate and informative were selected. The final group of questions was submitted to the Personnel Division of the Geological Survey and then to Task Force members representing each division. Questions were modified according to the comments received.

The questionnaire was divided into two sections: (1) questions to be answered by everyone, and (2) questions to be answered only by those who had previously been, or were at that time, raters of performance within the Geological Survey. Once again, the questionnaire was submitted to the Geological Survey for review, and changes were incorporated according to suggestions. The final product consisted of 212 questions, 192 of which were answered by everyone in the sample, and 20 that were answered by performance raters only.

It was from items on this questionnaire that measures of attitudes toward certain performance appraisal parameters were obtained. Those items which question the degree of preference for various parameters of the Work Planning and Progress Review system as it presently stands at the Geological Survey were identified. The following appraisal parameters, previously identified by Kane and Lawler (1979), were included: source of appraisal, object of appraisal, measurement content of the appraisal, the measurement process, the time framework of appraisal, appraisal feedback, and the purpose of appraisal.

The Work Planning and Progress Review process implemented by the Geological Survey can be described in terms of the above parameters. The source of the appraisal is always

the immediate supervisor, while the appraisal object is the individual employee. Measurement content is based upon quantity, quality, and/or timeliness criteria, and the measurement process is one of setting performance standards. Further, feedback is provided in periodical progress reviews, and performance appraisal occurs on an annual basis. The purpose of appraisal in the Geological Survey is to serve as the basis for any type of personnel action or decision (e.g., promotion, recognition or reward, career development, reprimand, or removal).

The questions on the Performance Appraisal Attitudes Questionnaire which tap each of these parameters were identified and grouped accordingly. For example, item number 32 on the questionnaire asked "To what extent do you believe that...your immediate supervisor...is most qualified to evaluate your performance in your present position?" This item was used to measure the employee's preference for the type of source used in Work Planning and Progress Review. Each subject received a score representing his or her preference for the immediate supervisor as the source of appraisal. Given the rating scale employed, a low score is indicative of low preference for an immediate supervisor as the source of appraisal, and a high score is indicative of a very positive attitude toward a supervisory source. This

process was repeated for each of the parameters listed above; thus, every subject had seven scores representing his or her attitudes toward the parameters. Additionally, each subject received a total score corresponding to his or her attitude toward the Work Planning and Progress Review system as a whole. This score was derived by averaging across the separate scores for each parameter. Given the rating scale employed, high scores indicate favorable attitudes, while low scores reflect unfavorable attitudes. See Appendix J for the items selected as attitude measures.

Criterion Measures

Attitudes Toward Performance Appraisal Parameters

Attitudes toward the parameters of performance appraisal were used as criteria as well as predictor variables. These indices of attitudes toward appraisal were calculated as described above.

Quality of Performance Standards

Each set of performance standards was rated by a number of judges on a five-point scale ranging from "very low quality" to "very high quality," with the midpoint being "average quality." The raters were trained in the following manner. The Performance Standards Handbook published by the Geological Survey contains 45 sample Employee Work Plans.

The performance standards found in this handbook were generated by employees of the Geological Survey and are representative of standards actually generated in the Work Planning and Progress Review process.

Each set of practice standards was evaluated by the raters on the following dimensions adapted from Kane (1980) and the Geological Survey Manual:

- (1) Uncertainty. None of the potential outcomes of carrying out a component is expected to inevitably occur on 90% or more of the occasions when the job component is carried out despite a performer's efforts or the lack of them.
- (2) Likelihood. Under the circumstances expected to prevail during forthcoming appraisal periods, it is expected to be feasible to exhibit each potential outcome on at least 10% of the occasions when the job component is carried out.
- (3) Observability. It is feasible for the rater (i.e., the supervisor) to observe or gain direct knowledge of the outcomes of carrying out the job component on at least a representative sample if not all of the occasions when the job component is carried out.

- (4) Non-contamination. The potential outcomes reflect only efforts of the performer to be appraised and not those of any other performers.
- (5) Exclusiveness. The potential outcomes only reflect the effectiveness with which the given job component and no other (at the same level of specificity) is carried out.
- (6) Verifiability. The occurrence of each potential outcome is verifiable through other observers, physical records, etc.
- (7) Practicality. The potential outcomes should be practical to measure in terms of cost, accuracy, and availability of data. Manner of presenting the standards should be as efficient as possible.
- (8) Meaningfulness. Standards should be important and relevant to the purpose of the job, to the achievement of objectives, and/or to the user/recipient of the product or service. Standards should not measure numbers simply for "the sake of using numbers."
- (9) Soundness of Rationale. Expectations of performance outcomes should be realistic and achievable.

(10) Technical Accuracy. The standards are in the prescribed format. In other words, the performance standard describes what is being assessed (e.g., worker action or output), the criteria on which it is being assessed (e.g., quality, quantity, and/or timeliness), and a description of how performance will be monitored and measured.

In addition, each set of standards was rated on a five-point scale ranging from "very low quality" to "very high quality." This exercise was intended to give the raters practice in evaluating performance standards as well as to provide a common frame of reference.

After completing the practice ratings, judges rated each of the 126 actual Employee Work Plans on the overall quality of standards. For rater instructions, see Appendix K.

Additional Indices of Appraisal Effectiveness

A post-CSRA implementation questionnaire was completed by 112 of the original 126 subjects in this study (see Appendix L). Several items on this questionnaire served as self-report measures of the effectiveness of Work Planning and Progress Review. These questions measured employee

perceptions of the fairness and accuracy of the system as well as overall satisfaction. Such indices of appraisal effectiveness should be regarded with caution due to the self-report nature of the data.

Procedure

For each subject, the following information was obtained from the survey administered in August of 1979: (1) JAQ responses and (2) responses from selected items on the Performance Appraisal Attitudes Questionnaire. Independent raters evaluated the JAQ items on their amenability to measurement by objective criteria. As described previously, this information was combined with JAQ responses to calculate a JOS for each subject. Finally, trained raters judged each set of performance standards on overall quality.

This procedure resulted in the collection of the following information for each individual: (1) a Job Objectivity Score, (2) an attitude score for each identified performance appraisal parameter, and (3) a score representing the overall quality of performance standards (averaged across raters). In addition, self-report measures of the effectiveness of Work Planning and Progress Review were collected from the subset of subjects who returned the follow-up questionnaire.

RESULTS

Table 1 presents means and standard deviations for measures of attitudes toward parameters of Work Planning and Progress Review as well as for Job Objectivity Scores and ratings of standards' quality. In general, pre-implementation attitudes were very favorable. The average attitude toward parameters of this system was 3.98 (SD=0.46). On the five-point scale, this reflects a "fairly large extent" of agreement with the parameters. The least favorable attitudes were expressed toward the time framework of appraisal, while the most favorable attitudes were those toward the immediate supervisor as an appraisal source.

The rating of standards' quality for each subject was computed by averaging across 11 raters. The average rating ranged from 2.73 to 4.55 with a mean of 3.56 (SD=0.37). Considering the range of the scale used by the raters (i.e., 1=very low quality to 5=very high quality), the performance standards generated in Work Planning and Progress Review were generally very good. The reliability of average ratings was then computed using a formula suggested by Ebel (1967). The resulting reliability of average ratings was .52.

Reapplying Ebel's (1967) formula to the ratings of job element objectivity yielded a reliability of average ratings

TABLE 1

Means and SD's for Pre-CSRA Attitudes Toward Parameters of
WP&PR, Job Objectivity, and the Quality of Standards

<u>VARIABLE</u>	<u>n</u>	<u>MEAN</u>	<u>SD</u>
Pre-CSRA Attitude Toward:			
Source of Appraisal	125	4.39	0.82
Object of Appraisal	125	4.27	1.05
Appraisal Content (Activities)	126	4.25	1.00
Appraisal Content (Quantity)	126	3.55	1.03
Appraisal Content (Quality)	126	4.24	0.94
Appraisal Process	126	3.89	1.17
Time Framework of Appraisal	126	3.43	1.42
Appraisal Feedback	126	3.81	1.14
Purpose of Appraisal	125	3.94	0.96
Average Attitude Toward WP&PR	123	3.98	0.46
Job Objectivity Score	126	0.15	0.06
Quality of Performance Standards	126	3.56	0.37

equaling .94. Scores measuring the objectivity with which job performance can be measured ranged from a minimum of .05 to a maximum of .27 with a mean of .15 (SD=.06). Thus, the job analysis information reflects a relatively small degree of variance in objectivity of jobs in the sample.

Hypothesis 1 was tested by correlating measures of pre-CSRA attitudes toward parameters of Work Planning and Progress Review with ratings of the quality of performance standards generated subsequent to the implementation of this system. The results are presented in Table 2. None of the attitude measures nor the average attitude toward the parameters was significantly related to the quality of performance standards.

Perhaps it is the case that the quality of performance standards is not an adequate measure of the effectiveness of Work Planning and Progress Review. In order to examine this possibility, data from the 112 subjects returning the post-implementation questionnaire were employed. Questions assessing the perceptions of fairness and accuracy of appraisal as well as evaluating satisfaction with Work Planning and Progress Review were examined. The means and standard deviations for these items are presented in Table 3. Respondents appeared to agree that the system is accurate and fair; however, their overall satisfaction was

TABLE 2

Correlation of Pre-CSRA Attitudes Toward Parameters of WP&PR
with the Quality of Performance Standards

<u>VARIABLE</u>	<u>n</u>	<u>Correlation with Quality of Standards</u>
Pre-CSRA Attitude Toward:		
Source of Appraisal	125	.03
Object of Appraisal	125	-.06
Appraisal Content (Activities)	126	-.03
Appraisal Content (Quantity)	126	.08
Appraisal Content (Quality)	126	.12
Appraisal Process	126	.02
Time Framework of Appraisal	126	-.11
Appraisal Feedback	126	-.09
Purpose of Appraisal	125	-.03
Average Attitude Toward WP&PR	123	-.04

Note. None of the correlations was statistically significant.

somewhat lower. Responses for each of these items were correlated with the attitude measures. The results are presented in Table 4. Self-report evaluations of Work Planning and Progress Review do not appear to be related to pre-implementation attitudes. The only attitude significantly related to indices of system effectiveness was that toward a supervisory source; however, these correlations accounted for only 4% to 9% of effectiveness variance.

It should be noted that measures of standards' quality were not correlated with self-report measures of accuracy and fairness. There was, however, a significant relationship between the quality of performance standards and satisfaction with the system ($r=.25$, $p<.01$).

Hypothesis 2 was tested by computing the correlations between each of the pre-CSRA attitudes and job objectivity. The results are presented in Table 5. The only significant correlation was that between average attitude and objectivity; however, this correlation accounted for only 4% of the variance in the attitude measure.

A test of Hypothesis 3 yielded a statistically significant correlation between the JOS's and ratings of the quality of performance standards ($r=.43$, $p<.0001$). Therefore, there is some evidence that the quality of an individual's performance standards is influenced to a degree

TABLE 3

Means and SD's for Self-Report Measures of the Effectiveness
of WP&PR

<u>SELF-REPORT MEASURE</u>	<u>n</u>	<u>MEAN</u>	<u>SD</u>
To what extent has your job performance been accurately evaluated?	111	3.58	0.95
To what extent has your job performance been fairly evaluated?	111	3.64	0.97
To what extent are you satisfied with the present performance appraisal system?	112	2.70	0.99

TABLE 4

Correlation of Pre-CSRA Attitudes Toward Appraisal with
Self-Report Measures of the Effectiveness of WP&PR

<u>VARIABLE</u>	<u>SELF-REPORT EFFECTIVENESS MEASURE</u>		
	<u>Accuracy</u>	<u>Fairness</u>	<u>Satisfaction</u>
Pre-CSRA Attitude Toward:			
Source of Appraisal	.29**	.27**	.20*
Object of Appraisal	.04	.02	-.10
Appraisal Content (Activities)	.10	.12	-.06
Appraisal Content (Quantity)	.01	.01	.09
Appraisal Content (Quality)	-.02	-.03	.01
Appraisal Process	-.08	-.09	-.11
Time Framework of Appraisal	.07	.10	-.02
Appraisal Feedback	-.02	.01	-.03
Purpose of Appraisal	.08	.02	.05
Average Attitude Toward WP&PR	.11	.10	-.02

Note. n's range from 108 to 112.

* $p < .05$

** $p < .01$

TABLE 5

Correlation of Pre-CSRA Attitudes Toward WP&PR with Job Objectivity Scores

<u>VARIABLE</u>	<u>n</u>	<u>Correlation with Job Objectivity Score</u>
Pre-CSRA Attitude Toward:		
Source of Appraisal	125	-.01
Object of Appraisal	125	-.17
Appraisal Content (Activities)	126	.00
Appraisal Content (Quantity)	126	-.04
Appraisal Content (Quality)	126	.01
Appraisal Process	126	-.09
Time Framework of Appraisal	126	-.16
Appraisal Feedback	126	-.14
Purpose of Appraisal	125	-.11
Average Attitude Toward WP&PR	123	-.20*

* $p < .05$

by the objectivity with which job performance can be measured.

In order to study this possibility further, standards' quality was regressed on both JOS and the average attitude measure. The summary tables presenting both sequential sums of squares and partial sums of squares are presented in Table 6. The resulting R^2 was .21. JOS was the only variable to add significantly to prediction.

Job objectivity was correlated with each of the post-implementation questions measuring appraisal effectiveness (i.e., accuracy, fairness, and satisfaction). The only correlation to reach significance was that between job objectivity and the fair evaluation of job performance ($r=-.22$, $p<.05$). Though this correlation is rather low, it is still contrary to predictions. As a job becomes more objective, employees believe that evaluation becomes less fair.

DISCUSSION

The hypothesis that pre-CSRA attitudes would be significantly related to the quality of performance standards was not supported by the data. Furthermore, attitudes were not found to predict self-report measures of the effectiveness of Work Planning and Progress Review. At this point, it appears that attitudinal data would not be useful in choosing parameters of an appraisal system.

TABLE 6

Summary Tables for Regression of the Quality of Standards on
Job Objectivity and Average Attitude

$R^2 = .206310$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
JOS (Job Objectivity)	1	3.299	3.299	30.80****
AVGAT (Average Attitude)	1	0.042	0.042	0.39
ERROR	120	12.851		
TOTAL	122	16.191		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
JOS (Job Objectivity)	1	3.316	3.316	30.97****
AVGAT (Average Attitude)	1	0.042	0.042	0.39
ERROR	120	12.851		
TOTAL	122			
**** $p < .0001$				

One issue which should be addressed here is the failure to obtain significant correlations between one index of appraisal system effectiveness (i.e., quality of performance standards) and other indices (i.e., evaluations of accuracy, fairness, and satisfaction). Several explanations are possible. First, performance standards of good quality are necessary, but not sufficient for appraisal system effectiveness. If the standards are not effective, then the system cannot be effective. If the standards are effective, there are still a number of problems which may arise. For example, supervisors may fail to accurately assess performance against the standards, or office politics may contribute to unfair ratings. The quality of performance standards does not insure that the system will be used correctly.

Self-report measures are also problematic. Employees may not be objective about the system's accuracy. Self-report measures of accuracy were significantly correlated with the employees' most recent performance ratings ($r=.28$, $p<.01$). Similarly, the measure of appraisal fairness was significantly related to self-report measures of last performance rating ($r=.36$, $p<.0001$). Thus it appears that employees' perceptions of the quality of Work Planning and Progress Review may be contaminated by the ratings they receive.

In the case of Work Planning and Progress Review, the optimal measure of appraisal system effectiveness would be objective evaluations of the Employee Performance Appraisals. Unfortunately, this information was not available due to privacy considerations. Future research should be directed toward finding more adequate criteria on which to assess appraisal effectiveness.

The hypothesis that attitudes toward appraisal would be related to the objectivity with which job performance could be measured was not supported. Job objectivity was, however, significantly related to the quality of performance standards. This finding is not surprising, given that it is much easier to write standards for objective jobs than for more subjective work. It was unusual however, that employees perceived Work Planning and Progress Review to be less fair as jobs became more objective.

In conclusion, attitudes did not seem to be influenced by job objectivity, nor did they appear to influence appraisal effectiveness as predicted by the model. On the other hand, job objectivity did seem to exert mild influence upon standards' quality, although not on self-reported accuracy of appraisal. It is possible that appraisal effectiveness influences attitudes toward appraisal. If this is true, then a plausible explanation for pre-CSRA attitudes

would be the influence of appraisal systems in place prior to Work Planning and Progress Review. It is not possible to test this statement due to lack of information about previous appraisal systems; however, Study 2 will examine this possibility by determining whether or not Work Planning and Progress Review has influenced post-implementation attitudes.

STUDY 2

HYPOTHESIS

Changes in attitude toward parameters of Work Planning and Progress Review will be significantly related to the quality of performance standards generated in this appraisal system.

METHOD

Subjects

Subjects for this study were employees of the Geological Survey who participated in the original survey and who had Employee Work Plans on file in the main personnel office in Reston, Virginia. These are essentially the same subjects employed in Study 1; however, this study involved voluntary completion and return of the post-implementation questionnaire. Therefore, only those subjects returning the additional survey were retained (n=112).

Predictor Measures

Quality of Performance Standards

Ratings of the quality of performance standards collected in Study 1 as criteria were used here as predictors.

Criterion Measures

Change in Attitudes Toward Performance Appraisal Parameters

The items from the Performance Appraisal Attitudes Questionnaire used to measure attitudes toward appraisal parameters in Study 1 were used here as well. These data, collected prior to CSRA implementation, were used to reflect pre-CSRA attitudes. In addition, the post-implementation questionnaire readministered these same items to the subjects four years later. This allowed a change score to be calculated for each parameter by subtracting the pre-CSRA implementation score from the score obtained after the institution of the CSRA. These change scores served as criterion measures in this study.

Procedure

The following information was obtained for each subject: (1) a measure of standards quality averaged across judges and (2) an attitude change score for each of the identified parameters of Work Planning and Progress Review.

RESULTS

Changes in attitudes toward parameters of Work Planning and Progress Review were computed by subtracting pre-CSRA attitudes from post-implementation attitudes. Means and standard deviations for these scores as well as for the measure of standards' quality are presented in Table 7. On the average, results reflected positive change in attitudes toward the object of appraisal, time framework of appraisal, and appraisal feedback. Attitude change in a negative direction was demonstrated toward the source of appraisal, the three aspects of appraisal content, the appraisal process, and the purpose of appraisal. Average attitude change was also negative.

In order to test the hypothesis that attitude change is related to standards' quality, the quality ratings were correlated with each of the attitude change scores. The results are presented in Table 8. As in Study 1, none of the correlations was significant.

The attitude change scores were next correlated with self-report measures of the accuracy and fairness of job performance ratings as well as with an overall satisfaction measure. The results are presented in Table 9. Average attitude change was significantly related to all three self-report measures. Also significantly related to these three

TABLE 7

Means and SD's for Attitude Change Scores and for the
Quality of Performance Standards

<u>VARIABLE</u>	<u>n</u>	<u>MEAN</u>	<u>SD</u>	<u>t</u>
Change in Attitude Toward:				
Source of Appraisal	111	-0.70	1.26	-5.87****
Object of Appraisal	110	0.09	1.08	0.88
Appraisal Content (Activities)	112	-0.64	1.39	-4.90****
Appraisal Content (Quantity)	111	-0.10	1.29	-0.81
Appraisal Content (Quality)	110	-0.11	1.06	-1.08
Appraisal Process	110	-0.67	1.79	-3.95****
Time Framework of Appraisal	112	0.45	1.41	3.34***
Appraisal Feedback	112	0.21	1.27	1.71
Purpose of Appraisal	111	-0.18	1.08	-1.76
Average Attitude Toward WP&PR	105	-0.18	0.57	-3.20**
Quality of Performance Standards	112	3.55	0.35	----

** $p < .01$

*** $p < .001$

**** $p < .0001$

TABLE 8

Correlation of Attitude Change Toward WP&PR with the Quality
of Performance Standards

<u>VARIABLE</u>	<u>n</u>	<u>Correlation with Quality of Standards</u>
Change in Attitude Toward:		
Source of Appraisal	111	.01
Object of Appraisal	110	.12
Appraisal Content (Activities)	112	.08
Appraisal Content (Quantity)	111	-.08
Appraisal Content (Quality)	110	-.13
Appraisal Process	110	-.06
Time Framework of Appraisal	112	.13
Appraisal Feedback	112	-.04
Purpose of Appraisal	111	.06
Average Attitude Change Toward Parameters of WP&PR	105	.00

Note. None of the correlations was statistically significant.

TABLE 9

Correlation of Changes in Attitude Toward Parameters of
WP&PR with Self-Report Effectiveness Measures

<u>VARIABLE</u>	<u>SELF-REPORT EFFECTIVENESS MEASURE</u>		
	<u>Accuracy</u>	<u>Fairness</u>	<u>Satisfaction</u>
Change in Attitude Toward:			
Source of Appraisal	.28**	.31***	.24**
Object of Appraisal	.09	.06	.18
Appraisal Content (Activities)	.16	.11	.23**
Appraisal Content (Quantity)	.07	.07	.06
Appraisal Content (Quality)	.05	.06	.08
Appraisal Process	.38****	.40****	.31***
Time Framework of Appraisal	.06	.07	-.01
Appraisal Feedback	.01	-.01	.05
Purpose of Appraisal	.13	.22*	.20*
Average Attitude Toward WP&PR	.33***	.34***	.39****

Note. n's range from 104 to 112.

* $p < .05$

** $p < .01$

*** $p < .001$

**** $p < .0001$

measures were changes in attitude toward both the source and object of appraisal.

DISCUSSION

The hypothesis that changes in attitude toward parameters of Work Planning and Progress Review would be significantly related to the quality of standards generated in this system was not supported by the data. There was however, some evidence that attitude change may be related to the effectiveness of the appraisal system. Average attitude change was significantly related to employee perceptions of system fairness and accuracy as well as to satisfaction with the system.

Changes in attitude toward source of appraisal and the appraisal process were also related to all three self-report measures of effectiveness. This finding is important because of the nature of Work Planning and Progress Review. The essence of this system is a process whereby the employee and his or her supervisor set performance standards together. The more accurate and fair the employee perceives the system, the greater is the change in attitudes toward these two components. The role of the supervisory source in appraisal effectiveness will be explored in Studies 3 and 4.

STUDY 3

HYPOTHESES

- (1) Attitudes toward performance appraisal will be significantly related to supervisor Initiating Structure.
- (2) The relationship between attitudes toward appraisal and supervisory Initiating Structure will be moderated by leader Consideration.

METHOD

Subjects

Subjects for this study were all employees of the Geological Survey who completed the original questionnaires in August of 1979 (n=1,614).

Predictor Measures

Supervisory Style

The Performance Appraisal Attitudes Questionnaire administered in 1979 included the Initiating Structure and Consideration subscales of the Leader Behavior Description Questionnaire (LBDQ)-Form XII (Stogdill, 1963). Each subscale consists of ten items, each describing a leader behavior. Subjects were required to indicate how frequently

their supervisor engaged in each of these behaviors by using a five-point scale ranging from "always" to "never."

For the purposes of the Performance Appraisal Attitudes Questionnaire, the LBDQ-Form XII items were modified slightly so that the sex of the supervisor was not specified. For example, the original item, "He lets group members know what is expected of them," was changed to read "Lets group members know what is expected of them." Individual scores on the LBDQ-Form XII subscales measuring supervisor Initiating Structure and Consideration were used as predictors (see Appendix M).

Criterion Measures

Attitudes Toward Performance Appraisal Parameters

The attitudes toward parameters of Work Planning and Progress Review for each individual were assessed using the method described in Study 1.

Procedure

For each subject, attitude measures and LBDQ-Form XII responses were extracted from the questionnaire administered in 1979. The final result for each employee was (1) an index of his or her immediate supervisor's Initiating Structure, (2) an indicator of this supervisor's Consideration,

and (3) scores for favorability of attitudes toward each identified dimension of performance appraisal.

RESULTS

Means and standard deviations for measures of attitudes toward parameters of Work Planning and Progress Review and indices of supervisory style are presented in Table 10. As with the smaller sample presented in Study 1, the pre-CSRA attitudes were very favorable. The average attitude was 3.93 (SD=0.45). This figure approaches "fairly large extent" of agreement on the attitude scale.

Hypothesis 1 was tested by computing the correlation between supervisor Initiating Structure and each attitude indicator. Results are presented in Table 11. All of the correlations were significantly different from zero with the exception of the correlation between attitude toward time framework of appraisal and Initiating Structure. The greatest degree of relationship was found between attitude toward source of appraisal and supervisor Initiating Structure. The next highest correlation found was between average attitude toward appraisal and supervisor Initiating Structure. The remainder of the correlations were too low to be of any practical significance.

TABLE 10

Means and SD's for Pre-CSRA Attitudes Toward WP&PR and for
Indices of Supervisory Style

<u>VARIABLE</u>	<u>n</u>	<u>MEAN</u>	<u>SD</u>
Pre-CSRA Attitude Toward:			
Source of Appraisal	1609	4.37	0.88
Object of Appraisal	1608	4.35	0.99
Appraisal Content (Activities)	1612	4.27	0.93
Appraisal Content (Quantity)	1611	3.42	1.10
Appraisal Content (Quality)	1612	4.30	0.90
Appraisal Process	1612	3.90	1.07
Time Framework of Appraisal	1612	3.20	1.45
Appraisal Feedback	1609	3.54	1.23
Purpose of Appraisal	1610	3.99	0.92
Average Attitude Toward WP&PR	1593	3.93	0.45
LBDQ-Form XII Initiating Structure Score	1577	35.41	7.08
LBDQ-Form XII Consideration Score	1543	35.22	7.43

TABLE 11

Correlation of Pre-CSRA Attitudes Toward WP&PR with
Supervisor Initiating Structure

<u>VARIABLE</u>	<u>n</u>	<u>Correlation with Initiating Structure</u>
Pre-CSRA Attitude Toward:		
Source of Appraisal	1572	.37****
Object of Appraisal	1574	.07**
Appraisal Content (Activities)	1575	.09***
Appraisal Content (Quantity)	1574	.13****
Appraisal Content (Quality)	1575	.11****
Appraisal Process	1576	.05*
Time Framework of Appraisal	1576	.04
Appraisal Feedback	1574	.07**
Purpose of Appraisal	1574	.11****
Average Attitude Toward WP&PR	1561	.25****

* $p < .05$

** $p < .01$

*** $p < .001$

**** $p < .0001$

Hypothesis 2 was tested by regressing each attitude indicator on Initiating Structure, Consideration, and their interaction. The interaction term was entered into the regression equation first in order to test the hypothesis that leader Consideration moderates the relationship between attitudes toward appraisal and Initiating Structure. The results are presented in Tables 12 through 21.

The Initiating Structure X Consideration interaction was significant for all of the pre-CSRA attitudes toward Work Planning and Progress Review as well as for the average attitude toward parameters of this system. Thus, the hypothesis that supervisor Consideration moderates the effect of Initiating Structure was supported. An examination of b-weights revealed that the relationship between Initiating Structure and Consideration was not consistent across the attitude measures. The relationships between Initiating Structure and attitudes toward the source of appraisal and the appraisal process were found to be most positive at low levels of Consideration. In addition, Initiating Structure and pre-CSRA attitudes toward the object of appraisal were found to be positively related at low levels of Consideration and negatively related at high levels of Consideration. The relationships between Initiating Structure and attitudes toward the three aspects of appraisal content, appraisal

TABLE 12

Summary Tables for Regression of Attitude Toward Source of
Appraisal on Indices of Supervisory Style

$R^2 = .185640$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	194.651	194.651	303.23****
LBDQS (Initiating Structure)	1	0.287	0.287	0.45
LBDQC (Consideration)	1	28.070	28.070	43.73****
ERROR	1524	978.288		
TOTAL	1527	1201.296		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	10.729	10.729	16.71****
LBDQS (Initiating Structure)	1	21.406	21.406	33.35****
LBDQC (Consideration)	1	28.070	28.070	43.73****
ERROR	1524	978.288		
TOTAL	1527			
**** $p < .0001$				

TABLE 13

Summary Tables for Regression of Attitude Toward Object of
Appraisal on Indices of Supervisory Style

$R^2 = .009069$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	9.640	9.640	9.87**
LBDQS (Initiating Structure)	1	0.002	0.002	0.00
LBDQC (Consideration)	1	3.997	3.997	4.09*
ERROR	1526	1490.357		
TOTAL	1529	1503.997		
* $p < .05$				
** $p < .01$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	2.127	2.127	2.18
LBDQS (Initiating Structure)	1	2.567	2.567	2.63
LBDQC (Consideration)	1	3.997	3.997	4.09*
ERROR	1526	1490.357		
TOTAL	1529			
* $p < .05$				

TABLE 14

Summary Tables for Regression of Attitude Toward Appraisal
Content (Activities) on Indices of Supervisory Style

$R^2 = .011263$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	11.360	11.360	13.39***
LBDQS (Initiating Structure)	1	0.900	0.900	1.06
LBDQC (Consideration)	1	2.493	2.493	2.94
ERROR	1527	1295.123		
TOTAL	1530	1309.876		
*** $p < .001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	2.827	2.827	3.33
LBDQS (Initiating Structure)	1	0.545	0.545	0.64
LBDQC (Consideration)	1	2.493	2.493	2.94
ERROR	1527	1295.123		
TOTAL	1530			

TABLE 15

Summary Tables for Regression of Attitude Toward Appraisal
Content (Quantity) on Indices of Supervisory Style

$R^2 = .026542$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	26.291	26.291	22.55****
LBDQS (Initiating Structure)	1	4.763	4.763	4.09*
LBDQC (Consideration)	1	17.456	17.456	14.97****
ERROR	1526	1779.114		
TOTAL	1529	1827.624		
* $p < .05$				
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	16.239	16.239	13.93***
LBDQS (Initiating Structure)	1	4.622	4.622	3.96*
LBDQC (Consideration)	1	17.456	17.456	14.97****
ERROR	1526	1779.114		
TOTAL	1529			
* $p < .05$				
*** $p < .001$				
**** $p < .0001$				

TABLE 16

Summary Tables for Regression of Attitude Toward Appraisal
Content (Quality) on Indices of Supervisory Style

$R^2 = .015119$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	16.721	16.721	21.07****
LBDQS (Initiating Structure)	1	0.211	0.211	0.27
LBDQC (Consideration)	1	1.666	1.666	2.10
ERROR	1527	1211.562		
<hr/>				
TOTAL	1530	1230.161		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	2.714	2.714	3.42
LBDQS (Initiating Structure)	1	0.622	0.622	0.78
LBDQC (Consideration)	1	1.666	1.666	2.10
ERROR	1527	1211.562		
<hr/>				
TOTAL	1530			

TABLE 17

Summary Tables for Regression of Attitude Toward Appraisal
Process on Indices of Supervisory Style

$R^2 = .003314$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	5.647	5.647	4.91*
LBDQS (Initiating Structure)	1	0.003	0.003	0.00
LBDQC (Consideration)	1	0.187	0.187	0.16
ERROR	1527	1755.064		
TOTAL	1530	1760.900		
* $p < .05$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	0.005	0.005	0.00
LBDQS (Initiating Structure)	1	0.103	0.103	0.09
LBDQC (Consideration)	1	0.187	0.187	0.16
ERROR	1527	1755.064		
TOTAL	1530			

TABLE 18

Summary Tables for Regression of Attitude Toward Time Framework of Appraisal on Indices of Supervisory Style

$R^2 = .006997$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	11.175	11.175	5.40*
LBDQS (Initiating Structure)	1	8.014	8.014	3.87*
LBDQC (Consideration)	1	3.070	3.070	1.48
ERROR	1527	3158.972		
TOTAL	1530	3181.231		
* $p < .05$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	0.151	0.151	0.07
LBDQS (Initiating Structure)	1	0.044	0.044	0.02
LBDQC (Consideration)	1	3.070	3.070	1.48
ERROR	1527	3158.972		
TOTAL	1530			

TABLE 19

Summary Tables for Regression of Attitude Toward Appraisal
Feedback on Indices of Supervisory Style

$R^2 = .007903$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	6.278	6.278	4.17*
LBDQS (Initiating Structure)	1	7.491	7.491	4.97*
LBDQC (Consideration)	1	4.543	4.543	3.02
ERROR	1526	2298.893		
<hr/>				
TOTAL	1529	2317.205		
* $p < .05$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	2.470	2.470	1.64
LBDQS (Initiating Structure)	1	0.024	0.024	0.02
LBDQC (Consideration)	1	4.543	4.543	3.02
ERROR	1526	2298.893		
<hr/>				
TOTAL	1529			

TABLE 20

Summary Tables for Regression of Attitude Toward Purpose of
Appraisal on Indices of Supervisory Style

$R^2 = .018120$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	22.135	22.135	26.48****
LBDQS (Initiating Structure)	1	0.836	0.836	1.00
LBDQC (Consideration)	1	0.565	0.565	0.68
ERROR	1526	1275.385		
TOTAL	1529	1298.921		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	2.613	2.613	3.13
LBDQS (Initiating Structure)	1	1.305	1.305	1.56
LBDQC (Consideration)	1	0.565	0.565	0.68
ERROR	1526	1275.385		
TOTAL	1529			

TABLE 21

Summary Tables for Regression of Average Attitude Toward
WP&PR on Indices of Supervisory Style

$R^2 = .071688$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	22.352	22.352	119.49****
LBDQS (Initiating Structure)	1	0.109	0.109	0.57
LBDQC (Consideration)	1	0.003	0.003	0.01
ERROR	1516	290.899		
TOTAL	1519	313.364		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	0.355	0.355	1.85
LBDQS (Initiating Structure)	1	0.022	0.022	0.12
LBDQC (Consideration)	1	0.003	0.003	0.01
ERROR	1516	290.899		
TOTAL	1519			

feedback, appraisal purpose, and average attitudes toward Work Planning and Progress Review were all more pronounced at high levels of Consideration. These relationships were all in a positive direction. The relationship between Initiating Structure and the attitude toward time framework of appraisal was also greater at high levels of Consideration; however, this relationship was negative.

Initiating Structure was the second variable entered into the regression equation. After the variance due to the interaction was taken into account, the main effect for Initiating Structure was significant for only three of the attitude measures (i.e., attitude toward quantity as an appraisal criterion, attitude toward time framework of appraisal, and attitude toward feedback). An examination of the b-weights revealed a consistent pattern across all three attitude measures. As Initiating Structure increased, these attitudes became more negative.

The final variable entered into the regression equation was supervisor Consideration. The main effect for this variable was significant for pre-implementation attitudes associated with the appraisal source, the object of appraisal, and quantitative criteria. An examination of b-weights revealed that the relationship with Consideration was not consistent across these attitudes. As supervisor

Consideration increased, attitudes toward having a supervisory source and the individual as the appraisal object became more positive. The attitude toward quantity as appraisal content became more negative as Consideration increased.

Due to a large degree of correlation between measures of Initiating Structure and Consideration ($r=.69$, $p<.0001$), partial sums of squares were computed to determine the unique variance accounted for by Initiating Structure, Consideration, and their interaction. All three of these effects explained unique variance in measures of attitudes toward source of appraisal and quantitative criteria. In addition, Consideration explained a significant amount of unique variance in measures of attitude toward the object of appraisal.

Although the results are supportive of the hypothesis that Consideration moderates the effect of Initiating Structure in influencing attitudes, an examination of R^2 's is less encouraging. The percentage of attitude variance accounted for by supervisory style was less than 3% for all of the attitude indices except for those measuring the attitudes toward appraisal source ($R^2=.19$) and the average attitude toward Work Planning and Progress Review ($R^2=.07$).

DISCUSSION

The hypothesis that attitudes toward performance appraisal would be significantly related to supervisor Initiating Structure was supported by the data. All of the attitudes toward parameters of Work Planning and Progress Review, with the exception of the attitude toward time framework of appraisal, were significantly related to Initiating Structure.

Most of the correlations were very low; however, the correlation between attitude toward source of appraisal and supervisor Initiating Structure was fairly high. The correlation between Initiating Structure and average attitude toward the parameters was also substantial. Initiating Structure was expected to have a greater influence on those variables directly associated with the immediate supervisor. This was true for the attitude toward source of appraisal. It should follow that Initiating Structure would influence attitudes toward a process where the employee sets standards together with his or her supervisor as well as where feedback is received from an immediate supervisor. This was not the case. The relationships between Initiating Structure and attitudes toward the appraisal process and feedback barely reached significance.

The hypothesis that the relationship between attitudes toward appraisal and Initiating Structure would be moderated by Consideration was supported for all the the pre-CSRA attitudes. It is interesting to note that the influence of Consideration was not consistent across all of the attitude measures. The relationships between Initiating Structure and pre-CSRA attitudes toward the majority of appraisal parameters were greater at high levels of Consideration. The exceptions involved attitudes toward the source, object, and process of appraisal.

Even though this hypothesis was supported by the data, the only R^2 to be of any magnitude was that associated with attitude toward appraisal source. Thus, the role of supervisory style in influencing attitudes toward appraisal seems to be minimal. The exception to this is with regard to attitudes toward having an immediate supervisor as the source of performance ratings. If the employee has had experience with a supervisor who is highly structured in his or her approach to management, then that employee's attitude toward a supervisory source will tend to be favorable. If Consideration is lacking, then supervisor Initiating Structure becomes important in influencing attitudes toward a supervisory source. All other attitudes remain, at least in a practical sense, more or less unaffected by supervisory

style. Study 4 will examine the importance of supervisory style for appraisal effectiveness.

STUDY 4

HYPOTHESES

Supervisor Initiating Structure will be significantly related to the quality of performance standards generated in Work Planning and Progress Review.

METHOD

Subjects

Subjects for this study were 112 employees of the Geological Survey who had performance standards on file in the main personnel office in Reston, Virginia. In addition, these subjects completed the post-CSRA implementation questionnaire discussed in Study 2.

Predictor Measures

Supervisory Style

The Initiating Structure and Consideration subscales of the LBDQ-Form XII were readministered along with selected items from the Performance Appraisal Attitudes Questionnaire. This resulted in the generation of two scores for each subject (i.e., leader Initiating Structure and Consideration).

Criterion Measures

Quality of Performance Standards

Ratings of the quality of performance standards collected in Study 1 were used here as well.

Procedure

The following information was collected for each subject: (1) scores on the LBDQ-Form XII evaluating Initiating Structure and Consideration for his or her current supervisor and (2) an overall rating of standards quality (averaged across the judges).

RESULTS

Means and standards deviations for measures of supervisor Initiating Structure and Consideration as well as for measures of appraisal effectiveness are presented in Table 22. The correlation matrix composed of the intercorrelations of these variables is presented in Table 23. The hypothesis that supervisor Initiating Structure would be significantly related to standards' quality was not supported by the data. Furthermore, there was not a significant relationship between standards' quality and supervisor Consideration.

TABLE 22

Means and SD's for Indices of Supervisory Style and Measures
of Appraisal Effectiveness

<u>VARIABLE</u>	<u>n</u>	<u>MEAN</u>	<u>SD</u>
Measures of Supervisory Style:			
Supervisor Initiating Structure	109	34.68	6.92
Supervisor Consideration	111	34.14	8.31
Measures of Appraisal Effectiveness:			
Quality of Performance Standards	112	3.55	0.35
Accuracy of Performance Evaluation	111	3.58	0.95
Fairness of Performance Evaluation	111	3.64	0.97
Satisfaction with WP&PR	112	2.70	0.99

TABLE 23

Intercorrelation of Indices of Supervisory Style and
Measures of Appraisal Effectiveness

	(2)	(3)	(4)	(5)	(6)	(7)
(1)	.04	.01	.02	.25**	-.05	.02
(2)	1.00	.68****	.89****	.36****	.51****	.47****
(3)	-	1.00	.92****	.43****	.61****	.56****
(4)	-	-	1.00	.43****	.60****	.55****
(5)	-	-	-	1.00	.49****	.50****
(6)	-	-	-	-	1.00	.83****
(7)	-	-	-	-	-	1.00

Note. n's range from 109 to 112.

** $p < .01$

**** $p < .0001$

- (1) Quality of Performance Standards
- (2) Supervisor Initiating Structure
- (3) Supervisor Consideration
- (4) Initiating Structure X Consideration Interaction
- (5) Self-Report Measure of Satisfaction with WP&PR
- (6) Self-Report Measure of Fairness of Evaluation
- (7) Self-Report Measure of Accuracy of Evaluation

When self-report measures of appraisal system effectiveness were employed, the results were quite different. Supervisor Initiating Structure was significantly correlated with perceived accuracy and fairness of job evaluation as well as with satisfaction with the system. In addition, supervisor Consideration was even more highly correlated with these indices of appraisal effectiveness.

In order to study these findings further, each of these self-report measures was regressed on both indices of supervisory style and their interaction. The results are presented in Tables 24 through 26. Supervisor Initiating Structure, Consideration, and the interaction of these two indices accounted for 42% of the variance in employee perceptions of the fairness of evaluation. The interaction term was entered into the regression equation first, resulting in a significant effect. The b-weights indicated that the relationship between Initiating Structure and employee perceptions of evaluation fairness was more pronounced at low levels of Consideration. The partial sums of squares were calculated to assess the unique predictive contributions of Initiating Structure, Consideration, and their interaction. All three sources contributed significantly to prediction.

TABLE 24

Summary Tables for Regression of Self-Report Measure of
Appraisal Fairness on Indices of Supervisory Style

$R^2 = .422771$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	36.069	36.069	64.04****
LBDQS (Initiating Structure)	1	0.189	0.189	0.34
LBDQC (Consideration)	1	6.232	6.232	11.06***
ERROR	103	58.014		
<hr/>				
TOTAL	106	100.505		
*** $p < .001$				
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
<hr/>				
LBDQS*LBDQC	1	2.247	2.247	3.99*
LBDQS (Initiating Structure)	1	3.428	3.428	6.09*
LBDQC (Consideration)	1	6.232	6.232	11.06***
ERROR	103	58.014		
<hr/>				
TOTAL	106			
* $p < .05$				
*** $p < .001$				

TABLE 25

Summary Tables for Regression of Self-Report Measure of
Appraisal Accuracy on Indices of Supervisory Style

$R^2 = .356236$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	30.213	30.213	49.21****
LBDQS (Initiating Structure)	1	0.152	0.152	0.25
LBDQC (Consideration)	1	4.626	4.626	7.54**
ERROR	103	63.233		
TOTAL	106	98.224		
** $p < .01$				
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	1.552	1.552	2.53
LBDQS (Initiating Structure)	1	2.520	2.520	4.10*
LBDQC (Consideration)	1	4.626	4.626	7.54**
ERROR	103	63.233		
TOTAL	106			
* $p < .05$				
** $p < .01$				

TABLE 26

Summary Tables for Regression of Self-Report Measure of Satisfaction with WP&PR on Indices of Supervisory Style

$R^2 = .195657$				
Sequential Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	19.825	19.825	24.43****
LBDQS (Initiating Structure)	1	0.006	0.006	0.01
LBDQC (Consideration)	1	0.697	0.697	0.86
ERROR	104	84.389		
TOTAL	107	104.917		
**** $p < .0001$				
Partial Sums of Squares				
SOURCE	df	SS	MS	F
LBDQS*LBDQC	1	0.039	0.039	0.05
LBDQS (Initiating Structure)	1	0.425	0.425	0.52
LBDQC (Consideration)	1	0.697	0.697	0.86
ERROR	104	84.389		
TOTAL	107			

Further, Initiating Structure, Consideration, and their interaction accounted for 36% of the variance in employee perceptions of the accuracy of evaluation. The pattern was the same as for the perception of fairness. An examination of b-weights revealed that the relationship between Initiating Structure and employee perceptions of appraisal accuracy was greater at low levels of Consideration. As with measures of fairness, both Initiating Structure and Consideration contributed uniquely to the prediction of self-perceived accuracy. Partial sums of squares showed that the interaction did not contribute uniquely to prediction.

Supervisory style accounted for 20% of the variance in the measure of satisfaction with Work Planning and Progress Review. Once again, the Initiating Structure X Consideration interaction was significant when entered into the regression equation first. As with the other self-report measures, the relationship between Initiating Structure and satisfaction with Work Planning and Progress Review was greater under conditions of low Consideration. Partial sums of squares showed that none of the effects contributed uniquely to prediction.

DISCUSSION

The hypothesis that supervisor Initiating Structure would be significantly related to the quality of performance standards was not supported by the data. There was however, strong evidence that both Initiating Structure and Consideration were related to employee perceptions of appraisal effectiveness. Employees who described their supervisors as high in Initiating Structure perceived Work Planning and Progress Review to be more accurate and fair than did employees describing their supervisors as low in Initiating Structure. The relationships between Initiating Structure and perceptions of both fairness and accuracy were more pronounced when Consideration was low.

These findings are somewhat suspect due to the problems associated with self-report measures. It is not possible to determine whether these perceptions are accurate. This perceptual information is still important however, in that employee satisfaction with a performance appraisal system is an important factor in the overall success of the system. The accuracy with which personnel decisions are made is also important, but an accurate system without employee acceptance is still a failure. Thus, the finding that supervisory style influences employee perceptions of performance appraisal quality is significant.

GENERAL DISCUSSION

The model for selecting performance appraisal parameters was only partially supported by the four studies presented here. Attitudes toward parameters of Work Planning and Progress Review were not found to be predictive of the quality of performance standards or of self-report measures of the system's effectiveness. The one exception to this finding was with respect to attitudes toward the source of performance ratings. Although pre-implementation attitudes toward a supervisory source of performance evaluation were not predictive of standards' quality, they were weakly related to self-report measures of the system's fairness and accuracy.

Furthermore, the objectivity with which job performance could be measured was not related to attitudes toward performance appraisal parameters. The model predicted that job characteristics would indirectly influence appraisal effectiveness through their influence on attitudes. This was not the case. The influence of job objectivity on the quality of performance standards was direct in nature. The more objectively job performance could be measured, the greater the quality of the standards. Job objectivity was not however, positively related to the self-report measures

of effectiveness. In fact, job objectivity was slightly negatively correlated with employee perceptions of fairness.

Contrary to predictions made by the model, measures of attitudes toward appraisal do not appear to be useful in selecting the parameters of a performance evaluation system. Yet, attitude measurement may still be an important means of determining the degree to which employees accept an existing system. The model approached the issue of whether or not the existing appraisal system influences attitudes toward appraisal parameters. Perhaps systems in place prior to Work Planning and Progress Review were responsible for pre-implementation attitudes. When the quality of performance standards was used as the criterion for appraisal effectiveness, the hypothesis that system effectiveness influences attitudes toward appraisal was not supported. On the other hand, employee perceptions of fairness and accuracy were positively related to changes in attitude.

It is probable that attitudes toward parameters of appraisal systems are the product of the employee's experience with performance evaluation in the past. This could mean experience with one performance appraisal system or multiple systems. Individuals will most likely prefer appraisal systems which allow them the greatest benefits. If a supervisory source and a goal-setting system has afforded them

rewards in the past, then their attitudes will reflect this. This would explain the degree of relationship between the most recent performance rating and perceptions of fairness and accuracy. It appears that employees will not necessarily choose the most accurate system, but will opt for that system which makes them appear most favorable.

An example of how past experience affects attitudes can be seen within the model. Supervisory style was found to be related to pre-implementation attitudes toward an immediate supervisor as the performance evaluator. High Initiating Structure was found to result in more positive attitudes toward a supervisory source. The relationship between Initiating Structure and attitude toward source was greater at low levels of Consideration.

In addition, supervisor Initiating Structure and Consideration explained a large proportion of variance in self-report measures of appraisal effectiveness. Once again, the objective measure of effectiveness, standards' quality, was unrelated to either index of supervisory style.

The major problem in evaluating the model presented here is the lack of an adequate measure of appraisal system effectiveness. When the quality of performance standards generated in Work Planning and Progress Review is used as the criterion, the model receives very little support. Yet,

when employee perceptions of effectiveness are employed, most of the hypotheses are upheld. Unfortunately, these criteria are suspect due to problems with self-report measures.

Future research should focus on a number of different aspects of the model presented here. The first and most important step is to obtain an adequate criterion for measuring appraisal system effectiveness. This will aid in discovering the nature of the relationship between supervisory style and appraisal effectiveness. If supervisory style is found to be predictive of a more reliable measure of appraisal effectiveness, then supervisor training may be an option for improving appraisal systems.

In addition, an attempt should be made to determine exactly what factors influence attitudes toward performance appraisal parameters. Even if attitudes are not predictive of appraisal effectiveness, they are still important if the system is to be accepted by those whose performance is being evaluated. It seems that a fertile area for study is past experience with performance appraisal.

Finally, future studies should focus on the relationship between job analysis information and appraisal effectiveness. This aspect of the model seems to be the most promising for choosing appraisal system parameters. Efforts

should be concentrated upon identifying aspects of the job, other than job objectivity, which are predictive of effectiveness.

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Appendix A

PERFORMANCE STANDARDS DEVELOPMENT WORKSHEET

PERFORMANCE STANDARDS DEVELOPMENT WORKSHEET

CLASSIFICATION TITLE AND SERIES: Supervisor

FUNCTIONAL AREA (IF APPLICABLE): _____

REQUIRED ELEMENT NO. 1

TITLE/DESCRIPTION: Planning and Organizing the Work

TASK STATEMENT				CRITERIA (quality, quantity, timeliness)	PERFORMANCE STANDARD (What is being assessed, specific criteria, how performance will be measured/monitored)
Action Verb	Object of Verb	Purpose ("in order to")	How? ("by ...")		
a. Formulates	unit objectives for the coming year	In order to outline goals, activities, special projects, etc. which are consistent with overall Survey objectives	by drawing on knowledge of Division/Survey objectives; discussing plans with staff members; rendering relevant records and reports from previous year; completing planning forms and establishing tentative target dates for completion.	QUALITY	<ul style="list-style-type: none"> • Planning forms are completed accurately and in accordance with established procedures and requirements; e.g., no more than <u>X</u> forms are returned for error corrections or additional information. • Planning process and forms are completed in a timely manner, e.g., by <u>X</u> date. • Plans are realistic; e.g., by the end of the year, <u>X%</u> of objectives have been met and/or modified to meet changing needs.
				TIMELINESS	
				QUANTITY	
b. Writes	unit's budget/financial plan for the coming year	In order to estimate fiscal resources needed to meet objectives	by reviewing prior year's budget and coming year's objectives; consulting with staff members, higher level management, and administrative officer, as necessary; projecting salary expenses based on planned increases, promotions, and staff additions/deletions; projecting space, supply, and equipment needs.	QUALITY	<ul style="list-style-type: none"> • Budget/financial plan is written in accordance with established procedures and requirements; e.g. budget/financial plan is returned no more than <u>X</u> times for error correction or additional information. • Budget/financial plan is submitted in a timely manner, e.g., in accordance with established time deadlines. • Budget/financial plan is realistic, e.g., actual obligations/expenditures do not exceed estimated amounts by more than <u>X%</u>.
				TIMELINESS	
				QUANTITY	

Appendix B

U.S. GEOLOGICAL SURVEY EMPLOYEE WORK PLAN

U.S. GEOLOGICAL SURVEY

EMPLOYEE WORK PLAN

REQUIRED ELEMENTS AND PERFORMANCE STANDARDS

Page 1 of 2

Research ()
 Supervisory ()
 Non-supervisory ()
 Merit Pay ()

Name _____ Division _____
 Title/Series/Grade Supervisor Duty Station _____

REQUIRED ELEMENTS
 (Mark with * critical elements)

PERFORMANCE STANDARDS

PROGRESS REVIEW RESULTS/
 COMMENTS/RECOMMENDATIONS

<p>1. <u>Planning and Organizing the Work</u></p> <p>a. Formulates unit objectives for the coming year in order to outline goals, activities, special projects, etc., which are consistent with overall Survey objectives, drawing on knowledge of Division/Survey objectives; discussing plans with staff members; and reading relevant records and reports from previous year. Completes planning forms and establishes tentative target dates for completion.</p> <p>b. Writes unit's budget/financial plan for coming year in order to estimate fiscal resources needed to meet objectives by reviewing prior year's budget and coming year's objectives; consulting with staff members, higher level management</p> <p align="center">(continued)</p>	<ul style="list-style-type: none"> ● Planning forms are completed accurately and in accordance with established procedures and requirements; e.g., no more than <u>X</u> forms are returned for error corrections or additional information. ● Planning process and forms are completed in a timely manner, e.g., by <u>X</u> date. ● Plans are realistic; e.g., by the end of the year, <u>X</u>% of objectives have been met and/or modified to meet changing needs. ● Budget/financial plan is written in accordance with established procedures and requirements; e.g., budget/financial plan is returned no more than <u>X</u> times for error correction or additional information. 	
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Employee's Signature _____ Date _____
 Rating Official's Signature _____ Date _____
 Reviewing Official's Signature _____ Date _____

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U.S. GEOLOGICAL SURVEY

EMPLOYEE WORK PLAN

REQUIRED ELEMENTS AND PERFORMANCE STANDARDS

Page 2 of 2

Name _____ Division _____
Title/Series/Grade Supervisor _____ Duty Station _____

Research ()
Supervisory ()
Non-supervisory ()
Merit Pay ()

REQUIRED ELEMENTS
(Mark with * critical elements)

PERFORMANCE STANDARDS

PROGRESS REVIEW RESULTS/
COMMENTS/RECOMMENDATIONS

1. Planning and Organizing the Work
(continued)
b. administrative officer, as necessary;
projecting salary expenses based on
planned increases, promotions, and
staff additions/deletions; and project-
ing space, supply and equipment
needs.
c. Organizes work of the unit in order
to ensure efficient workflow and
maximum use of staff resources,
drawing on personal observation of
work processes and outputs, problems
encountered in daily work operations,
employee input, and knowledge gained
from prior work experience and/or
training. Writes memoranda to
notify staff members, higher level
management and other offices of
organization of the work unit and
revises internal office procedures
to reflect this organization.

• Budget/financial plan is submitted in
a timely manner, e.g., in accordance
with established time deadlines.
• Budget/financial plan is realistic;
e.g., actual obligations/expenditures
do not exceed estimated amounts by
more than X%.
• Internal office operating policies
accurately reflect organization of
work unit; e.g., policies are updated
within X period of time to reflect
changes in organization.
• All appropriate offices and individ-
uals are notified in writing of
changes in organization of the unit
in a timely manner, e.g., within X
period of time following the change.

[Empty space for Progress Review Results/Comments/Recommendations]

Employee's Signature _____ Date _____
Rating Official's Signature _____ Date _____
Reviewing Official's Signature _____ Date _____

Appendix C

U.S. GEOLOGICAL SURVEY EMPLOYEE PERFORMANCE
APPRAISAL

U.S. GEOLOGICAL SURVEY
EMPLOYEE PERFORMANCE APPRAISAL

RATING PERIOD: () Non-merit pay, Non-research
 FROM: _____ () Merit pay
 TO: _____ () Research

NAME _____ DIVISION _____

TITLE/SERIES/GRADE _____ DUTY STATION _____

SOCIAL SECURITY NO. _____ MERIT PAY POOL _____

Part I. NARRATIVE. In Column 3 of Employee Work Plan describe employee's actual performance in relation to the performance standard for each element. Where performance exceeds or fails to meet standards, cite specific examples of employee's performance.

Part II. ELEMENT RATINGS. Assign an element rating to each element using the element rating definitions on the back of this form. Enter element ratings on the worksheet on the back of this form.

Part III. SUMMARY RATING. Convert element ratings to an adjective summary rating using the instructions on the back of this form. (Exception: If the employee failed in a critical element, the summary rating must be Unsatisfactory. Check the Unsatisfactory block and proceed to Part IV.)

- () Outstanding
- () Excellent
- () Fully Satisfactory
- () Minimally Satisfactory
- () Unsatisfactory

Part IV. SIGNATURES. Attach a copy of the Employee Work Plan to this form. Sign and date this form and send to reviewing official. After reviewing official has signed and dated, meet with employee to discuss the rating and have employee sign and date. Send this form (with Work Plan attached) to the servicing personnel office. Retain a copy and give a copy to employee.

RATING OFFICIAL _____ DATE _____

REVIEWING OFFICIAL _____ DATE _____

I certify that this performance appraisal has been discussed with me and that I have been given a copy.

EMPLOYEE _____ DATE _____

EMPLOYEE COMMENTS: Attach a separate sheet.

***** PRIVACY ACT NOTICE *****

Submission of information on this form is mandatory (5 U.S.C. 4302). Failure to provide the information will prohibit the calculation of merit pay increases and the data collection and analysis required by OPM and GAO.

ELEMENT RATINGS/POINT VALUES

- Exceeds
(4 points) - Performance on an element that consistently exceeds the performance standard.
- Meets
(2 points) - Performance on an element that consistently meets the performance standard.
- Fails
(0 points) - Performance on an element that consistently fails to meet the performance standard.

SUMMARY RATING WORKSHEET

- List each element and enter each element rating (Meets, Exceeds or Fails) in Column A.
- Enter appropriate point value for each element rating in Column B. (Use only whole numbers--either 4, 2, or 0. Point values of 3 and 1 may not be used.)
- Give each critical element an importance weight of 2. Give each required element an importance weight of 1. Enter in Column C.
- For each element, multiply the point value in Column B by the importance weight in Column C to determine performance points for each element. Enter performance points in Column D.
- Add the importance weights in Column C to determine Total Importance Weights.
- Add the performance points in Column D to determine Total Performance Points.
- Divide Total Performance Points by Total Importance Weights to determine summary rating points.
- Convert summary rating points to the appropriate summary rating using the summary rating conversion scale below. Check the appropriate adjective summary rating in Part III on the front of this form.

	Column A	Column B	Column C	Column D
Element No.	Adjective Element Rating	Point Value	X Importance Weight	= Performance Points

Total Performance Points : Total Importance Weights = Summary Rating Points

- SUMMARY RATING CONVERSION SCALE:
- 3.75 - 4.00 - Outstanding
 - 3.00 - 3.74 - Excellent
 - 1.75 - 2.99 - Fully Satisfactory
 - 0.50 - 1.74 - Minimally Satisfactory
 - 0.00 - 0.49 - Unsatisfactory

Appendix D

COVER LETTER AND JOB ANALYSIS QUESTIONNAIRE
(JAQ)

UNITED STATES GOVERNMENT

memorandum

DATE: AUG 24 1979

REPLY TO
ATTN OF: Personnel Officer

SUBJECT: Performance Appraisal Questionnaire

TO: Employees Identified for Participation in Performance Appraisal Questionnaire

As you may know, the Civil Service Reform Act requires that agencies develop one or more performance appraisal systems that permit evaluation of employee performance based on objective standards tailored to the specific job in question. For the Survey to meet this requirement, we must examine our work force and determine the number and types of appraisal systems that will most effectively meet the appraisal needs of our diverse occupational groups. With the assistance of Dr. H. John Bernardin of Virginia Polytechnic Institute and State University, we have developed a questionnaire to elicit basic information to be used to make these determinations. You are one of approximately 2,500 employees who have been randomly selected to assist in this important endeavor, by completing the enclosed questionnaire. The questionnaire consists of two parts: one part that is designed to determine the most important aspects of an employee's job, and another that is designed to determine employees' opinions on performance appraisal systems. By completing and returning this questionnaire, you will be making an important contribution to the design of performance appraisal systems used in the Survey.

Although the questionnaire may seem lengthy, all questions asked have been carefully considered and the information collected will be critical to the planning of performance appraisal systems for the Geological Survey. The time you take now to fill out the questionnaire will pay off in the long run, because the end result will be performance appraisal systems that are relevant and useful for those using them. You will be helping to design a performance appraisal system you may one day be using.

This packet contains a questionnaire, two answer sheets, and a return envelope. You may notice that some information has already been written on your answer sheets. This information is not for identification purposes (the questionnaire is completely confidential) but is only demographic information to be used in determining major trends in responses across occupational series and geographic locations. One answer sheet is to be used for each part of the questionnaire. The questionnaire should be completed at work. Please put the completed answer sheets in the return envelope and return them no later than September 25.

If you have any questions concerning the performance appraisal questionnaire, please contact the Performance Appraisal Task Force member representing your Division. The members are listed below.



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

Thank you for your help.

Maxine C. Millard

Enclosures

Task Force Members

FTS phone number (Reston)

Director's Office--Peg McCafferty	928-7479
Administrative Division--George Hargrove	928-7204
Publications Division--Virginia Miles	928-7186
Water Resources Division--Ray Abrams/Skip Schmidt	928-6945
Topographic Division--Larry Amos/Ellen Antholis	928-6222
Conservation Division--Ken Petty	928-7591
Land Information and Analysis Office--Archie Ansell	928-6855
Computer Center Division--Ron Nelson	928-7103
Geologic Division--Penny Hanshaw	928-7429

INSTRUCTIONS FOR PART I--JOB ANALYSIS QUESTIONNAIRE

Purpose

This Job Analysis Questionnaire is a means to describe the basic tasks of your position and identify similarities and differences among positions. When completing this questionnaire, please carefully consider and respond to all items.

Instructions

There are 231 items in this part of the questionnaire. You should read each task statement and then rate that task in terms of RELATIVE IMPORTANCE that task has for accomplishing your job. The scale you should use for rating the relative importance of each task is as follows:

- A = not at all important to the job or does not apply to the job
- B = of minor importance to the job
- C = of moderate importance to the job
- D = of major importance to the job
- E = essential part of the job

For convenience, please tear off this instruction sheet so you may refer to the scale while completing the items in Part I.

Your responses to this questionnaire will be read by an optical mark reader. Record your rating for each item on the accompanying answer sheet marked "JA" in the upper left corner of side one. Note that there are items on both sides of the answer sheet. Please follow these instructions when completing the questionnaire:

- Use a black No. 2 pencil; do not use pen
- Make heavy black marks that fill the circle in completely
- Erase cleanly any answer that you wish to change
- Make no stray markings of any kind
- Make sure the answer sheet you use for Part I has "JA" written in the upper left corner of side one, and that the item you are answering corresponds to the item you are filling in on the answer sheet. Be sure to begin with item No. 1 on the answer sheet.

Example

If item 12 "assign and/or direct the work of subordinates" is an essential part of your job, you should blacken the letter "E" next to item 12 on the answer sheet.

MY JOB REQUIRES THAT I:

1. Determine or assist in developing programs, goals, or objectives for the Survey or divisions within the Survey
2. Monitor projects', programs', or contracts' progress towards objective and adjust activities as necessary
3. Implement controlling policy and procedures for programs, projects, or contracts
4. Make decisions which are seldom reviewed by higher management
5. Coordinate program or project efforts with other internal (Survey) activities or with other agencies
6. Assess the impact on Divisional programs or projects of activities in other Divisions of the Survey, in other governmental agencies, or in the private sector
7. Determine resource needs (e.g., personnel, financial, material, space, equipment) and make decisions on acquisitions of resources
8. Allocate and account for the efficient use of resources
9. Develop monitor and/or advise on the effectiveness of management functions such as work methods, work-flow, manpower utilization, etc.
10. Advise and/or negotiate contracts, agreements, and cooperative arrangements with other organizations/agencies
11. Define and/or delegate responsibility and authority to subordinates
12. Assign and/or direct the work of subordinates
13. Set priorities on work performed by subordinates
14. Set performance standards for subordinates
15. Evaluate the work performance of subordinates for compliance with standards and specifications
16. Give subordinates feedback on work performance

MY JOB REQUIRES THAT I:

17. Guide, counsel, or help subordinates on work-related problems
18. Manage lower level supervisors
19. Supervise the work of external consultants or contractors performing work for the Survey
20. Select firms or individuals to receive contracts
21. Manage office operations
22. Act on requests for deviations from established operational procedures
23. Develop procedures for obtaining information from employees, records, or observations
24. Study and advise on environmental impact of Survey activities
25. Develop and/or administer a regulatory compliance program
26. Act as a buffer between employees and management within my Division
27. Assist in processing of personnel actions such as appointments or separations
28. Evaluate actions (e.g., contracts, operations) for their appropriateness, compliance with regulations, etc.
29. Collect, review, and/or make recommendations on personnel cases
30. Review and/or interview prospective employees
31. Recruit prospective employees
32. Provide classification service, classify positions, etc.
33. Establish and/or maintain classification standards, plans, guides, etc.

MY JOB REQUIRES THAT I:

34. Plan the teaching, training, and/or orientation of employees within my Division
35. Conduct the teaching, training, and/or orientation of employees within my Division
36. Identify training and development needs of employees
37. Recognize performance and conduct problems and take appropriate action
38. Recommend employees for awards
39. Counsel employees on personal problems that affect work performance
40. Handle employee grievances, arguments, and/or complaints within the Division for which I am responsible
41. Assist in negotiation, implementation, and compliance with labor agreements
42. Take action to meet equal employment opportunity goals
43. Enforce administrative or operational policies and procedures
44. Perform accounting functions such as auditing, classifying, maintaining, reconciling, or closing accounts
45. Analyze accounting data and accounting information
46. Prescribe accounting requirements
47. Provide accounting assistance or advise on accounting problems
48. Examine and/or approve cash supporting documents such as vouchers, checks, expense accounts, etc.
49. Perform budgetary work, reprogramming of budget, etc.
50. Maintain cash books or cash records
51. Collect or disburse funds
52. Monitor the collection or disbursement of funds

MY JOB REQUIRES THAT I:

53. Forecast financial needs, expenditures, or trends
54. Prepare or review cost estimates (for operations, contracts, equipment purchases, etc.)
55. Collect and analyze financial data (e.g., perform cost-benefit analysis)
56. Set cost-reduction objectives
57. Plan and/or direct methods for cost-control or cost-reduction programs
58. Maintain informational material about USGS operations for distribution to the public
59. Act as a liaison with the public, other governmental agencies, or the private sector
60. Explain Survey policy and procedures to non-Survey people
61. Initiate and/or maintain contact with other governmental agencies or the private sector
62. Give explicit directions/instructions to employees within my Division
63. Speak persuasively to groups
64. Present technical reports to a knowledgeable audience
65. Present technical information to audiences that have limited technical knowledge
66. Present arguments to higher level management
67. Inform higher management of Division activities, events, or changes
68. Interact with technical/scientific personnel
69. Interact with office personnel
70. Represent or testify on the Survey's behalf at commission, agency, or similar hearings

MY JOB REQUIRES THAT I:

71. Write evaluation summaries of research projects and/or programs
72. Write articles for scientific journals
73. Write policies or procedures for work in my Division
74. Prepare responses to Congressional correspondence
75. Prepare response to inquiries from public
76. Write map captions
77. Write instructions for reading maps
78. Write specifications
79. Develop standards for printing
80. Suggest or determine printing methods, styles, etc. for Survey publications
81. Prepare detailed notes of field/laboratory work
82. Write letters on behalf of other Survey personnel
83. Write documents for internal use (e.g., position descriptions, etc.)
84. Write instructions for performing mathematical/statistical computations
85. Prepare contract solicitation documents
86. Consolidate and summarize data or information from many sources
87. Write speeches
88. Write articles for Survey publications
89. Perform technical editing (i.e., determine if material is technically and/or scientifically appropriate)
90. Write new material from technical sources for readers with limited technical knowledge

MY JOB REQUIRES THAT I:

91. Prepare new technical material using other source material
92. Proofread
93. Check technical reports for conformance with given principles of style and format
94. Rearrange technical materials in conformity with style and format
95. Prepare technical material by selecting and rewording material that has been prepared for other purposes
96. Apply principles of attractive layout for printing
97. Do editorial checking for grammar, punctuation, and spelling
98. Prepare correspondence to explain materials being sent in answering requests
99. Write explanations or interpretations of policy
100. Prepare research proposals
101. Prepare charts, graphs, figures, etc. for presentation of data or facts
102. Prepare reports on regulatory compliance directives or instructions
103. Conduct field surveys
104. Arrange and manipulate field survey equipment/instruments (e.g., hold rod or range poles)
105. Produce scaled representations from rough sketches, verbal descriptions, etc.
106. Prepare graphic representations of equipment/instruments
107. Prepare graphic representations of physical structures
108. Prepare graphic representations of topography
109. Copy drawings either by tracing or freehand

MY JOB REQUIRES THAT I:

110. Apply coloring to drawings
111. Perform lettering
112. Illustrate objects not yet observable
113. Determine manner of representation (i.e., realistic vs. artist's conception)
114. Produce drafting output related to general, electrical, mechanical, or civil drafting
115. Perform compilation work
116. Review design and redesign work
117. Position features on maps
118. Use existing computer programs or systems
119. Meet with computer personnel to discuss possible new systems or enhancements to existing programs
120. Analyze computer specifications and determine programs needed to produce output
121. Locate and correct unexpected problems in computer output
122. Conduct computer feasibility studies
123. Perform design, analysis, and documentation of computer programs
124. Convert detailed computer programs into specific machine steps, instructions, and codes
125. Monitor and control operations during computer processing
126. Maintain files of computer records, cards, tapes, programs, etc.
127. Assess proposals of operational activities (e.g., oil company's proposal)
128. Plan, originate, and conduct research studies

MY JOB REQUIRES THAT I:

129. Develop new tools and methods used in evaluating resources
130. Appraise resources (e.g., land, water, minerals) by conducting field investigations
131. Determine depletion and depreciation of resources
132. Make indirect measures of resources (e.g., flood flows)
133. Contribute research papers, articles, etc. on a regular basis
134. Attend workshops, symposia, or conferences
135. Identify or assist in identifying research objectives
136. Develop analytic tests or advance concepts from accumulated data that furthers knowledge and understanding
137. Analyze or evaluate research programs or projects
138. Operate or maintain data collection stations
139. Collect or compile data
140. Determine procedures for data collection
141. Measure or weigh materials, specimens, samples, etc.
142. Read and record data from equipment or observations
143. Compute data using mathematical operations
144. Apply standard statistical operations to research data
145. Devise new calculation methods/formulae for research data
146. Collect samples for scientific analysis (e.g., water, soil, rocks, oil)
147. Prepare slides or specimens
148. Perform standard laboratory tests of analysis (e.g., assay potency, purity)
149. Perform nonstandardized analytical laboratory tests

MY JOB REQUIRES THAT I:

150. Perform environmental impact analyses
151. Develop and implement new methods of specimen analysis
152. Prepare estimations and forecasts of events (e.g., earthquakes, floods, etc.)
153. Interpret special data and information (e.g., infrared photographs, aerial photographs, exhibits, charts, etc.)
154. Read blueprints, mechanical drawings, or schematics
155. Search and review published scientific literature
156. Review applications for discovery, development, and production of resources (e.g., oil, gas, minerals, water, land)
157. Arrange, catalogue, and maintain collections and specimens in order
158. Study proposed or enacted legislation to determine its effect on Survey operations
159. Maintain contact with regulatory agencies
160. Collect and prepare evidence for support in court cases
161. Interpret legal contracts
162. Represent the Survey in court
163. Advise other personnel regarding legal claims or rights
164. Type
165. Type from verbal sources such as dictaphone
166. Type from shorthand
167. Take dictation with shorthand
168. Handle and route mail
169. Operate office machines such as photocopier, magnetic card reader, etc.

MY JOB REQUIRES THAT I:

170. Operate keyboard-controlled machines to transcribe data such as card punch, paper tape reader, etc.
171. Operate telephone switchboard equipment
172. Provide information to telephone callers
173. Serve as a receptionist
174. Arrange appointments and meetings
175. Make travel arrangements
176. Maintain records, inventories, directories, guides, etc.
177. File
178. Help others find things in files
179. Select books, periodicals, and other materials for library
180. Establish policies for reference materials
181. Perform library literature searches for others
182. Assist others in locating reference materials
183. Code information from schedules, reports, and other written sources
184. Work rapidly and accurately with names, numbers, codes, and symbols
185. Interpret or decipher codes, symbols , or operating signals
186. Count and sort rapidly and accurately
187. Prepare material by applying a routine form for a specific purpose
188. Process work requests
189. Collate material by hand or machine

MY JOB REQUIRES THAT I:

190. Make recommendations to other divisions regarding what type of supplies or equipment to purchase
191. Determine amount and types of needed materials or supplies
192. Prepare contract bid specifications
193. Interview vendors to obtain information on product price and availability
194. Make certain that crews have sufficient supplies
195. Review bids and negotiate contracts for products or services
196. Maintain current vendor catalogues
197. Monitor delivery schedules of incoming materials
198. Purchase or requisition equipment or supplies
199. File claims for lost or damaged equipment
200. Check rates on materials shipped to and from the Survey
201. Plan, establish, and coordinate quality control programs designed to ensure control over equipment, materials, production, and operations
202. Plan and determine inspection and testing procedures
203. Establish equipment, products, and material quality standards
204. Make certain that materials and products comply with standards
205. Make on-site inspections of operations
206. Prepare plans, specifications, and cost estimates for systems (e.g., heating, electrical, and plumbing)
207. Develop or design research equipment/instruments
208. Make equipment/instruments/devices

MY JOB REQUIRES THAT I:

209. Test or calibrate research equipment/instruments/devices
210. Handle delicate laboratory equipment/instruments/devices
211. Select and/or determine standards for equipment/instruments/devices
212. Schedule maintenance work on equipment/instruments/devices
213. Perform maintenance work on equipment/instruments/devices
214. Solve / troubleshoot equipment / instruments / device malfunctions
215. Repair or replace defective equipment/instruments/devices
216. Conduct functional and operational tests on equipment/instruments/ devices and components
217. Install equipment/instruments/devices
218. Operate precision instruments and equipment (e.g., radio, duplicating machine, airbrush, printing press, photograph equipment, navigational equipment)
219. Operate heavy equipment (e.g., forklift, tractor)
220. Use hand tools
221. Use power tools
222. Mix and apply chemicals, solutions, or ingredients
223. Handle heavy objects
224. Clean facilities, grounds, rooms, etc.
225. Wax and/or polish surfaces
226. Select or propose sites for the construction of physical structures
227. Develop photographs

MY JOB REQUIRES THAT I:

228. Pilot aircraft

229. Pilot sea-faring vessels

230. Assist in processing incoming orders for Survey publications

231. Assist in preparing exhibits depicting various technical and scientific aspects of the Survey

Appendix E
INSTRUCTIONS FOR RATING JOB ELEMENTS

Instructions for Rating Job Elements

A job element is the smallest unit into which work can be divided without analyzing separate motions, movements, and mental processes involved. For example, removing a saw from a tool chest prior to sawing wood for a project is a job element.

Certain job elements are more amenable to measurement by objective criteria than are other elements. For example, the job element "Clean work area of all flammable material," can easily be measured objectively by the performance appraiser. On the other hand, the element "Provide direction for lower level workers" must be measured by more subjective criteria.

Enclosed is a list of 231 job elements. Please assign each job element a rating corresponding to how well it can be objectively measured. If you believe that an element can be measured by objective, observable criteria, give it a rating of +1. If you think that an element would probably be appraised using subjective criteria, then assign it a rating of -1. If you are unsure about an element, or you feel that it falls on "middle ground," then give it a rating of 0.

Record your rating of each element in the corresponding response area on your OPSCAN form.

Appendix F

CALCULATION OF THE JOB OBJECTIVITY SCORE (JOS)

EXAMPLE JOS COMPUTATIONS FOR TWO SUBJECTS

<u>JAQ Items</u>			<u>Mean Job Element Rating (JER)</u>	<u>Product (JAQ_i * JER)</u>	
	<u>Subject A</u>	<u>Subject B</u>		<u>Subject A</u>	<u>Subject B</u>
JAQ1	1	5	-0.365	-0.365	-1.825
JAQ2	1	5	0.143	0.143	0.715
JAQ3	1	5	0.175	0.175	0.875
.
.
.
JAQ231	1	1	-0.322	-0.322	-0.322
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>		<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	$\Sigma\text{JAQ}_A = 490$	$\Sigma\text{JAQ}_B = 343$		$\Sigma\text{Product}_A =$	$\Sigma\text{Product}_B =$
				57.4496	28.5912

$$\begin{aligned}
 \text{JOS}_A &= \frac{\Sigma\text{Product}_A}{\Sigma\text{JAQ}_A} \\
 &= \frac{57.4496}{490} = .11724408
 \end{aligned}$$

$$\begin{aligned}
 \text{JOS}_B &= \frac{\Sigma\text{Product}_B}{\Sigma\text{JAQ}_B} \\
 &= \frac{28.5912}{343} = .08335620
 \end{aligned}$$

Appendix G

PERFORMANCE APPRAISAL ATTITUDES QUESTIONNAIRE

INSTRUCTIONS FOR PART II--PERFORMANCE APPRAISAL ATTITUDES
QUESTIONNAIREPurpose

This part of the questionnaire is designed to assess employee attitudes on performance appraisal. It includes questions that both supervisory and nonsupervisory employees are to answer (Questions 1-192) as well as questions that only supervisory employees are to answer (Questions 193-212). Although some of the items may cover sensitive material, you can be assured that all answers will be held in strictest confidence and no attempt will be made to identify individual respondents (only group data will be analyzed).

Instructions

Please read and respond to each item carefully. Each question should be answered by using the following scale:

- A = not at all
- B = to a slight extent
- C = to a moderate extent
- D = to a fairly large extent
- E = to a very great extent

For a few of the questions, a slightly different scale will be used, and when this is the case, the scale will be provided within the questionnaire. For convenience, please tear off this instruction sheet so you may refer to the scale while completing the items in Part II.

Please record your rating for each item on the accompanying answer sheet (the one you have not yet used). Notice that the answer sheet has items on both sides. Please follow these instructions when completing this questionnaire:

- Use a black No. 2 lead pencil; do not use pen
- Make heavy black marks that fill the circle in completely
- Erase cleanly any answer you wish to change
- Make no stray marks of any kind
- Make sure that the item you are answering corresponds to the item you are filling in on the answer sheet. Be sure to begin with item No. 1 on the answer sheet.

Example

When answering Question 37, if you believe to a very great extent that a worker who is dissatisfied with his/her performance rating should be permitted to appeal the rating, you should blacken the letter "E" next to item 37 on the answer sheet.

To what extent would you prefer each of the following people to be primarily responsible for your performance appraisal?

1. your co-workers (workers who have jobs similar to yours)
2. your immediate supervisor
3. your subordinates
4. one or more managers above the level of your immediate supervisor
5. the people for whom you provide service

To what extent do you believe that a performance appraisal system based on each of the following would yield a fair appraisal of your job performance?

6. the activities you perform on your job
7. the quantity of your output (e.g., number of maps produced)
8. the quality of your work (e.g., the number of errors on maps produced)

To what extent would you trust each of the following to fairly assess your performance on the job?

9. your co-workers
10. your immediate supervisor
11. your subordinates
12. one or more managers above the level of your immediate supervisor
13. the people for whom you provide service

14. To what extent do you believe that rewards (pay raises, promotions, etc.) should be dependent upon your performance appraisal?
15. To what extent are you satisfied with the amount of information that your supervisor gives you about how well you are performing your job?
16. To what extent are you satisfied with the manner in which your supervisor provides you with information about how well you are performing your job (e.g., after the completion of each assignment, once a year, etc.)?

To what extent would you like to receive feedback on your performance in each of the following ways?

- 17. in an interview with the supervisor
 - 18. in informal conversations on the job with the supervisor
 - 19. in a memorandum
 - 20. no formal feedback--have access to performance appraisal on file
21. To what extent do you have a clear idea of what is expected of you on your job?

To what extent do you believe that a performance appraisal system based on each of the following would allow assessment of performance in relation to standards for the critical elements of your job?

- 22. the activities you perform on your job
- 23. the quantity of your output (e.g., number of maps produced)
- 24. the quality of your output (e.g., number of errors on maps produced)

To what extent do you believe that each of the following could use any performance appraisal system to accurately predict your performance at the next higher grade level?

- 25. your co-workers
- 26. your immediate supervisor
- 27. your subordinates
- 28. one or more managers above the level of your immediate supervisor
- 29. yourself
- 30. the people for whom you provide service

To what extent do you believe that each of the following is most qualified to evaluate your performance in your present position?

- 31. your co-workers
- 32. your immediate supervisor
- 33. your subordinates
- 34. one or more managers above the level of your immediate supervisor
- 35. yourself
- 36. the people for whom you provide service

37. To what extent do you believe that a worker who is dissatisfied with his/her performance rating should be permitted to appeal the rating?
38. To what extent does your job afford you the opportunity to perform at a higher level than that at which you are presently performing?
39. When you are being rated, to what extent do you believe that your performance rating is based on total job performance and not only a few aspects of your job?

To what extent do you feel that each of the following should have access to your performance ratings?

40. your co-workers
41. your immediate supervisor
42. your subordinates
43. one or more managers above the level of your immediate supervisor
44. people for whom you provide service

To what extent do you believe that a performance appraisal system based on each of the following can be used to accurately differentiate the levels of employee performance?

45. the activities you perform on your job
 46. the quantity of your output (e.g., number of maps)
 47. the quality of your output (e.g., number of errors on maps produced)
48. To what extent do you believe that a performance appraisal system should allow raters to consider extenuating circumstances (personal/family problems, illnesses, etc.) that can affect workers' performance on the job?
 49. To what extent do you believe that using a formal performance appraisal system will increase the overall performance of your Division?

To what extent do you believe that performance ratings should be used for each of the following?

- 50. promotions
 - 51. pay raises
 - 52. guidance for performance improvement
 - 53. demotion or separation
 - 54. training
 - 55. awards
56. To what extent do factors beyond your control adversely affect your performance?
57. To what extent would you like a rating system based on performance standards that both you and your supervisor decide together?
58. To what extent would you like a performance appraisal system in which you would be rated at least two or more times a year rather than on an annual basis?
59. To what extent would you like a performance appraisal system in which you would receive informal performance feedback at least two or more times a year rather than on an annual basis?
60. To what extent would you prefer to be rated on factors specifically related to the job, rather than on general factors relevant to most jobs?

To what extent do you believe that supervisors in general would rate their subordinates higher than they deserve for the following reasons?

- 61. so that the subordinates could obtain more rewards (awards, promotions, etc.)
- 62. in order to gain approval for themselves
- 63. in order to avoid damaging their relationship with subordinates

To what extent do you believe that supervisors in general would rate their subordinates higher than they deserve for the following reasons?

- 64. because they think that a poor performance evaluation suggests that they are ineffective as supervisors
- 65. because they feel other supervisors are rating leniently

66. To what extent do you feel the present performance appraisal system in your Division yields an accurate assessment of your performance?
67. To what extent do you feel the present performance appraisal system could be used as a basis for making important personnel decisions (e.g., merit pay, promotions, demotions, etc.)?
68. To what extent does the present performance appraisal system take into account all of the aspects of your job and not just a select few?
69. To what extent are you satisfied with the present performance appraisal system?
70. To what extent would you prefer a different performance appraisal system than that which is presently in use in your Division?
71. To what extent is there a tendency to distort ratings in the present performance appraisal system?

To what extent are each of the following realistic in their expectations of your performance?

72. co-workers (workers who perform similar jobs)
 73. your immediate supervisor
 74. your subordinates
 75. one or more people above the level of your immediate supervisor
76. To what extent do you believe that the person who determines your performance ratings should be held accountable for his/her ratings?
 77. To what extent do you feel that your performance ratings should be held in confidence by your supervisor?

To what extent would the ratings you get on a performance appraisal from each of the following raters affect the way you feel about your job?

78. co-workers (workers who perform similar jobs)
79. your immediate supervisor
80. your subordinates
81. one or more people above the level of your immediate supervisor

To what extent do you believe that each of the following would take extenuating circumstances into consideration when giving performance ratings?

- 82. co-workers (workers who perform similar jobs)
 - 83. your immediate supervisor
 - 84. your subordinates
 - 85. one or more people above the level of your immediate supervisor
86. To what extent do you believe that performance appraisal systems can yield an accurate evaluation of your performance?
87. To what extent do you believe that supervisors give their subordinates higher ratings that are deserved for the performance level of their subordinates?

Rate the extent to which each of the following factors adversely affect your job performance:

- 88. shortage of supplies
 - 89. poor performance at another level in the Survey
 - 90. poor performance at the same level in the Survey
 - 91. variable work load
 - 92. poorly defined task assignments
 - 93. lack of clearly defined performance standards
 - 94. excessive work loads
 - 95. inadequate rewards for good performance
 - 96. confusing or inconsistent organizational policy
 - 97. lack of proper equipment and supplies
 - 98. inadequate communications systems
 - 99. environmental constraints
 - 100. technological shortcomings
 - 101. peer pressure
 - 102. inadequate training
103. Given the present organization of your Division, to what extent do you believe that it would be better to evaluate groups of employees rather than to evaluate employees separately?
104. To what extent do you believe that the overall goals of your Division are related to the specific goals of your job?

105. To what extent are the specific goals of your job linked to the general goals of the Survey?

To what extent do you believe each of the following are kept from performing at his/her highest potential because peers pressure him/her not to do so?

- 106. co-workers (workers who perform similar jobs)
- 107. your immediate supervisor
- 108. your subordinates
- 109. one or more people above the level of your immediate supervisor

110. To what extent are you kept from performing your job at your highest level because of peer pressure?

To what extent do you believe that each of the following shows consideration and understanding when working with others?

- 111. co-workers
- 112. subordinates
- 113. immediate supervisor
- 114. managers above the level of your immediate supervisor

To what extent do you believe that each of the following uses rewards (e.g., awards, letters of appreciation, praise, etc.) to motivate others?

- 115. your immediate supervisor
- 116. one or more people above the level of your immediate supervisor

To what extent do you believe that each of the following encourages you to be innovative in your work?

- 117. co-workers (workers who perform similar jobs)
- 118. your immediate supervisor
- 119. your subordinates
- 120. one or more people above the level of your immediate supervisor

To what extent do you believe that each of the following use punishment (e.g., threat of disciplinary action, warning letters, suspensions, etc.) to motivate others?

121. your immediate supervisor

122. one or more people above the level of your immediate supervisor

123. To what extent do you feel free to be innovative in your work?

To what extent do you have close working relationships with each of the following?

124. co-workers (workers who perform similar jobs)

125. your immediate supervisor

126. your subordinates

127. one or more people above the level of your immediate supervisor

To what extent do you believe that a performance appraisal system that is based on each of the following should be used for promotion?

128. the activities you perform on your job

129. the quantity of your output

130. the quality of your output

To what extent do you believe that a performance appraisal system based on each of the following should be used for determining pay increases?

131. the activities you perform on your job

132. the quantity of your output

133. the quality of your output

To what extent do you believe that a performance appraisal system based on each of the following should be used to provide guidance for improvement in performance?

134. the activities you perform on your job

135. the quantity of your output

136. the quality of your output

To what extent do you believe that a performance appraisal system based on each of the following should be used as a basis for promotion or separation?

- 137. the activities you perform on your job
- 138. the quantity of your output
- 139. the quality of your output

To what extent do you believe that a performance appraisal system based on each of the following should be used as a basis for admission to training programs?

- 140. the activities you perform on your job
- 141. the quantity of your output
- 142. the quality of your output

- 143. To what extent do you believe that if you do all the things your rater expects of you, you will get a high performance rating?
- 144. To what extent should more than one rater (e.g., immediate supervisor and co-workers) appraise the performance of the different aspects of your job?
- 145. To what extent do you believe that an increase in your performance on the job would lead to an increase in your performance rating?
- 146. To what extent do you believe that supervisors who give subordinates a low rating on one aspect of the job try to "balance it off" by rating the subordinate higher on another aspect of the job?

To what extent are each of the following in agreement about what constitutes good and bad performance on your job?

- 147. co-workers (workers who perform similar jobs)
- 148. your immediate supervisor
- 149. your subordinates
- 150. one or more people above the level of your immediate supervisor
- 151. To what extent do you believe that if you do all the things your supervisor expects of you, you will have conflict with your co-workers and/or subordinates?
- 152. To what extent do you believe that if you do all the things your co-workers expect of you, you will have conflict with your subordinates and/or supervisor?

153. To what extent do you believe that if you do all the things your subordinates expect of you, you will have conflict with your co-workers and/or supervisor?
154. To what extent do you have your own unique ways of performing the tasks that your job calls for?
155. To what extent is there one best way of performing your job?
156. To what extent are your performance ratings consistent with what your supervisor leads you to believe he/she thinks of your performance on a day-to-day basis?
157. To what extent does your supervisor indicate how well you are doing on a day-to-day basis?
158. To what extent do you believe that if you perform the most important aspects of your job well, you will be rated highly on the less important aspects, regardless of how well you do them?
159. To what extent do you believe that a formal performance appraisal system will increase the overall performance of the Survey?
160. To what extent does union membership affect employees' performance?
161. To what extent does union membership have an effect on the type of feedback employees receive on their performance?
162. To what extent do you feel that training on performance appraisal would improve the overall effectiveness of the appraisal process?
163. To what extent do you believe that workers at the Survey are paid in accordance with what they contribute?
164. To what extent do you feel pressure because of scheduling, deadlines, etc.?

To what extent do you believe that managers at the Survey:

- 165. act on the suggestions and complaints of employees
- 166. are doing everything possible to give employees good working conditions
- 167. see to it that employees are properly trained for their jobs
- 168. are technically competent
- 169. attempt to inform you of what is "going on" at the Survey
- 170. have a clearly organized chain of command
- 171. attempt to explain why policies are made or action taken
- 172. make it clear who has the authority to make a decision

Consider your immediate supervisor's behavior and decide how frequently s/he engages in the behavior described by the items below. Please respond using one of five numbers according to the following format:

A = Never

B = Seldom

C = Occasionally

D = Often

E = Always

- 173. Lets group members know what is expected of them
- 174. Is friendly and approachable
- 175. Encourages the use of uniform procedures
- 176. does little things to make it pleasant to be a member of the group
- 177. Tries out ideas in the group
- 178. Puts suggestions made by the group into operation
- 179. Makes his/her attitudes clear to the group
- 180. Treats all group members as equals
- 181. Decides what shall be done and how it shall be done
- 182. Gives advance notice of changes
- 183. Assigns group members to particular tasks
- 184. Keeps to himself/herself
- 185. Makes sure that his/her part in the group is understood by the group
- 186. Looks out for the personal welfare of the group members
- 187. Schedules the work to be done

- 188. Is willing to make changes
- 189. Maintains definite standards of performance
- 190. Refuses to explain his/her actions
- 191. Asks that group members follow standard rules and regulations
- 192. Acts without consulting the group

ONLY THOSE WHO ARE PERFORMANCE APPRAISAL RATERS NOW (OR HAVE BEEN IN THE PAST) SHOULD ANSWER QUESTIONS 193-212. PLEASE USE THE SAME SCALE USED THROUGHOUT THIS PART OF THE QUESTIONNAIRE (I.E., A = NOT AT ALL, ETC.) UNLESS OTHERWISE INDICATED.

193. To what extent do you have a clear idea of what is expected of your subordinates on the job?

194. To what extent do you believe that the performance evaluations you give your subordinates should determine the rewards (awards, letters of recommendation, etc.) they receive?

To what extent do you believe that other supervisors

195. are motivated to give fair and accurate ratings of job performance

196. are qualified to give accurate ratings

197. are objective in their performance ratings

198. allow their personal feelings to influence their ratings

199. What is the amount of time you believe it should take to complete a performance appraisal for one subordinate? (select one)

A. less than 1 hour

B. 1 hour

C. 2 hours

D. 3 hours

E. 4 or more hours

200. To what extent do you feel that you have enough time on your job to adequately evaluate the performance of your subordinates?

201. How many subordinates do you supervise? (select one)

A. none

B. 1-5

C. 6-10

D. 11-20

E. 21 or more

202. To what extent do you believe that the Civil Service Reform Act will improve the overall performance of your Division?

203. To what extent does your supervisor consider your appraisal of your subordinates to be a critical element of your job?
204. To what extent do you feel you are able to do an accurate performance appraisal on your subordinates?
205. What percentage of your immediate subordinates would you rate at the highest one or two levels of performance? (select one)
- A. 20% or less
 - B. 21-40%
 - C. 41-60%
 - D. 61-80%
 - E. 81-100%
206. To what extent do you believe that the typical supervisor would give lenient ratings in order to avoid confrontations with his/her subordinates?
207. What percentage of your immediate subordinates would you rate at the lowest one or two levels of performance? (select one)
- A. 20% or less
 - B. 21-40%
 - C. 41-60%
 - D. 61-80%
 - E. 81-100%
208. How often do you feel it is necessary to do a formal performance appraisal? (select one)
- A. once a month
 - B. quarterly
 - C. biannually
 - D. annually
 - E. never

How would you prefer to give an employee performance feedback?

- 209. in a written letter/memo
- 210. in an interview
- 211. on the job at prescheduled times
- 212. not at all--keep records in files to which employees have access

Appendix H

INFORMAL CRITERIA FOR ATTITUDE STATEMENTS

Informal Criteria for Attitude Statements*

1. Avoid statements that refer to the past rather than to the present.
2. Avoid statements that are factual or capable of being interpreted as factual.
3. Avoid statements that may be interpreted in more than one way.
4. Avoid statements that are irrelevant to the psychological object under consideration.
5. Avoid statements that are likely to be endorsed by almost everyone or by almost no one.
6. Select statements that are believed to cover the entire range of the affective scale of interest.
7. Keep the language of the statements simple, clear, and direct.
8. Statements should be short, rarely exceeding 20 words.
9. Each statement should contain only one complete thought.
10. Statements containing universals such as all, always, none, and never often introduce ambiguity and should be avoided.
11. Words such as only, just, merely, and others of a similar nature should be used with care and moderation in writing statements.
12. Whenever possible, statements should be in the form of simple sentences rather than in the form of compound or complex sentences.
13. Avoid the use of words that may not be understood by those who are to be given the completed scale.
14. Avoid the use of double negatives.

* In Edwards, 1957, p. 13-14.

Appendix I

DIMENSIONS AND CORRESPONDING ITEMS ON THE
PERFORMANCE APPRAISAL ATTITUDES QUESTIONNAIRE

Overall Appraisal (1, 2, 3, 4, 5, 49)
Fairness (6, 7, 8, 71)
Trust (9, 10, 11, 12, 13)
Appraisal-Reward Contingency (14, 115, 116, 121,
122, 143, 163, 194)
Appraisal-Feedback Outcomes (15)
Appraisal-Feedback Process (16, 156, 157)
Type of Feedback Desired (17, 18, 19, 20)
Performance-Appraisal Contingency (22, 23, 24,
145)
Performance Standards (21, 57, 72, 73, 74, 75,
147, 148, 149, 150, 193)
Promotional Validity (25, 26, 27, 28, 29, 30)
Sources of Appraisal (31, 32, 33, 34, 35, 36, 128,
129, 130)
Source Manipulability (87)
Appraisal Adjudicability (37, 76)
Appraisal Timing (58, 59, 199, 200, 208)
Performance-Criteria Contamination (38, 60, 154,
155)
Performance-Criteria Sufficiency (39, 158)
Confidentiality (40, 41, 42, 43, 44, 77)
Appraisal of the Present System (68, 69, 70)

Preferred Method of Giving Feedback (209, 210, 211, 212)

Effects of Union Membership on Performance Appraisal (160, 161)

Preferred Form of Performance Appraisal (103, 144)

Perceived Effects of Performance Appraisal (159)

Occupational Self Esteem (78, 79, 80, 81)

Freedom from Bias (195, 196, 197, 198)

Discriminability (45, 46, 47)

Accuracy (66, 86, 204)

Responsiveness to Extenuating Circumstances (48, 82, 83, 84, 85)

Equity (61, 62, 63, 64, 65, 146, 206)

Constraints on Performance (56, 88-102, 164)

Organizational Structure (201, 205, 207)

Organizational Goals (104, 105)

Peer Effects (106, 107, 108, 109, 110, 151, 152, 153)

Uses of Performance Ratings (50, 51, 52, 53, 54, 55, 67, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142)

Appraisal Consistency (156)

Managerial Support of Performance Appraisal (203)

Performance Appraisal Training (162)

Appendix J

ITEMS MEASURING ATTITUDES TOWARD WORK PLANNING
AND PROGRESS REVIEW

Source of Appraisal

To what extent do you believe that...your immediate supervisor...is most qualified to evaluate your performance in your present position?

Object of Appraisal

Given the present organization of your Division, to what extent do you believe that it would be better to evaluate groups of employees rather than to evaluate employees separately? (reverse scoring)

Measurement Content

To what extent do you believe that a performance appraisal system based on each of the following would yield a fair appraisal of your job performance:

- * the activities you perform on your job
- * the quantity of your output (e.g., number of maps produced)
- * the quality of your work (e.g., the number of errors on maps produced)

Measurement Process

To what extent would you like a rating system based on performance standards that both you and your supervisor decide together? (item on original Performance Appraisal Attitudes Questionnaire)

To what extent does the present appraisal system allow you to participate in the standard setting procedure together with your supervisor? (item on Post-CSRA Implementation Performance Appraisal Attitudes Questionnaire)

Time Framework of Appraisal

To what extent would you like a performance appraisal system in which you would be rated at least two or more times a year rather than on an annual basis? (reverse scoring)

Appraisal Feedback

To what extent would you like to receive feedback on your performance in an interview with the supervisor?

Purpose of Appraisal

To what extent do you believe that rewards (pay raises, promotions, etc.) should be dependent upon your performance appraisal?

Appendix K

INSTRUCTIONS FOR RATING PERFORMANCE STANDARDS

INSTRUCTIONS FOR RATING PERFORMANCE STANDARDS

Please read through all instructions before beginning the rating tasks.

The following items are included in your packet:

- (1) A description of Work Planning and Progress Review (i.e., the performance appraisal system used by the U.S. Geological Survey)
- (2) A group of Employee Work Plans labeled Set 1
- (3) An OPSCAN form corresponding to each of the Employee Work Plans in Set 1
- (4) A group of Employee Work Plans labeled Set 2
- (5) An OPSCAN form corresponding to each of the Employee Work Plans in Set 2

Please read the description of Work Planning and Progress Review provided in your packet. This will explain how the performance standards of USGS employees are generated. Your task will consist of two parts. First, you will rate the performance standards on each Employee Work Plan in Set 1 on a number of dimensions. After this is completed, you will rate the Employee Work Plans in Set 2 in a slightly different manner. Read through the following list in order to gain an understanding of each of the dimensions that you will be using to make your ratings. Following every dimension in the list, a performance standard judged to be a "good" example of that dimension will be provided along with an explanation for this classification.

RATING DIMENSIONS

- (1) Uncertainty. None of the potential outcomes of carrying out a component is expected to inevitably occur on 90% or more of the occasions when the job component is carried out despite a performer's efforts or the lack of them.

Example: Messages are recorded accurately, legibly, and completely. Recipient needs further information or clarification no more than X times per time period.

Explanation: This standard reflects an outcome totally dependent upon the incumbent's effort. Lack of effort will almost certainly result in failure to meet this standard.

- (2) Likelihood. Under the circumstances expected to prevail during forthcoming appraisal periods, it is expected to be feasible to exhibit each potential outcome on at least 10% of the occasions when the job component is carried out.

Example: Referrals are made to the appropriate staff members whenever possible. Fewer than X number of improper referrals per time period.

Explanation: This performance standard is for a secretary whose major task is answering the telephone. During the course of a normal day, the phone can be expected to ring numerous times; thus, the employee has ample opportunity to exhibit referral behavior.

- (3) Observability. It is feasible for the rater (i.e., the supervisor) to observe or gain direct knowledge of the outcomes of carrying out the job component on at least a representative sample if not all of the occasions when the job component is carried out.

Example: Telephone is answered and messages are taken in a courteous and helpful manner. No more than X valid complaints received per week/month.

Explanation: This performance standard is also written for a secretary whose task it is to answer the supervisor's telephone. The proximity of the employee to the supervisor would indicate that there is at least some (if not continuous) opportunity for direct observation of performance.

- (4) Non-contamination. The potential outcomes reflect only efforts of the performer to be appraised and not those of any other performers.

Example: Typing is neat and accurate. No more than X corrections per page.

Explanation: The nature of typing is such that it is impossible for more than one person to perform at any given time. Therefore, an assessment of the outcome of typing reflects the efforts of only one performer.

- (5) Exclusiveness. The potential outcomes only reflect the effectiveness with which the given job component and no other (at the same level of specificity) is carried out.

Example: Supplies are stocked in supply cabinet within X hours/days after receipt.

Explanation: This performance standard reflects only one activity (i.e., stocking the supply cabinet). The words "after receipt" indicate that there is no dependence upon the availability of supplies. Further, no mention is made of records being updated, vouchers being submitted, etc.

- (6) Verifiability. The occurrence of each potential outcome is verifiable through other observers, physical records, etc.

Example: No more than X read/write errors shall be introduced by procedural errors.

Explanation: This performance standard was written for a computer operator. The computer itself automatically provides observable records of errors made by the operator.

- (7) Practicality. The potential outcomes should be practical to measure in terms of cost, accuracy, and availability of data. Manner of presenting the standards should be as efficient as possible.

Example: Execute batch jobs within allotted schedule, introducing no more than X procedural errors.

Explanation: Once again, this performance standard is for a computer operator. The computer routinely records and produces listings of errors very inexpensively.

- (8) Meaningfulness. Standards should be important and relevant to the purpose of the job, to the achievement of objectives, and/or to the user/recipient of the product or service. Standards should not measure numbers simply for "the sake of using numbers."

Example: The borehole instruments are to be calibrated and operational by (date). Calibration values for (unit of measurement) are to be within (units).

Explanation: This performance standard gives very strict specifications for performance. Numbers are used for a reasonable purpose. Ratings of this dimension will require "common sense" judgments on your part.

- (9) Soundness of Rationale. Expectations of performance outcomes should be realistic and achievable.

Example: Messages are recorded accurately, legibly, and completely. Recipient needs further information or clarification no more than X times per time period.

Explanation: Ratings of this dimension will also require a common sensical judgment. The above performance standard specifies reasonable outcomes. If this standard had read "Recipient never needs further clarification," then there would be some reason to doubt this rationale. After all, at times the recipient could be the source of the problem.

- (10) Technical Accuracy. The standards are in the prescribed format. In other words, the performance standard describes what is being assessed (e.g., worker action or output), the criteria on which it is being assessed (e.g., quality, quantity, and/or timeliness), and a description of how performance will be monitored and measured.

Example: Planning forms are completed accurately, in accordance with established procedures and requirements; forms are returned no more than X times for error corrections or additional information.

Explanation: This standard meets all three format specifications described above.

Ratings for Performance Standards in Set 1

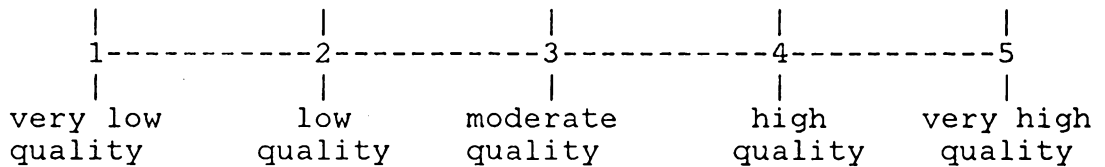
After you feel familiar with the dimensions listed above, you may begin your ratings. Remember, you are not rating any single performance standard, but the entire set of performance standards on a given Employee Work Plan. Before you begin your actual ratings, glance through a few of your Employee Work Plans in order to get an idea of the relative quality of standards in your sample. It may be helpful to skim the column labeled Required Elements, but you are to rate only the performance standards. You will notice an identification number written on the top of each Employee Work Plan. Code your ratings of a given Work Plan on the OPSCAN sheet with the corresponding number written in the identification field. Each set of performance standards should be rated using the following scale.

1-----	2-----	3-----	4-----	5
very low	low	moderate	high	very high
degree of	degree of	degree of	degree of	degree of
compliance	compliance	compliance	compliance	compliance
with	with	with	with	with
dimension	dimension	dimension	dimension	dimension

Please code ratings of dimensions 1-10 for a given Employee Work Plan in response areas 1-10 on the corresponding OPSCAN sheet.

- | | |
|-----------------------|----------------------------|
| (1) Uncertainty | (6) Verifiability |
| (2) Likelihood | (7) Practicality |
| (3) Observability | (8) Meaningfulness |
| (4) Non-contamination | (9) Soundness of Rationale |
| (5) Exclusiveness | (10) Technical Accuracy |

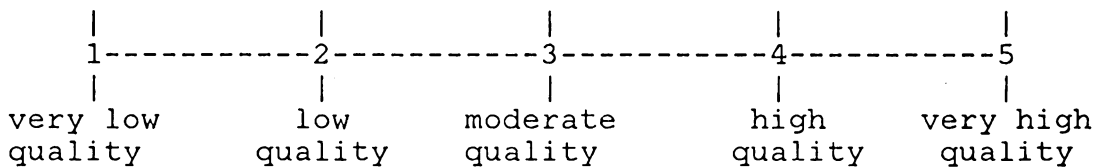
Additionally, in response area 11 on your OPSCAN sheet, please rate the overall quality of each set of performance standards using the following scale.



After you have rated the performance standards on the first Employee Work Plan, please go to the next Work Plan. Due to the time-consuming nature of this task, do not attempt to rate all of your Employee Work Plans in a single sitting. Instead, rate approximately ten sets of standards in any given session. Please complete all of your ratings for Set 1 within a three day period. Additionally, refresh your memory at the beginning of each rating session by reading over the dimension descriptions.

Ratings for Performance Standards in Set 2

After you have completed your ratings of the performance standards in Set 1, please proceed to Set 2. As with Set 1, glance through a few of your Employee Work Plans to get an idea of the relative quality of the performance standards in your sample. Similarly, you will notice an identification number written on the top of each Employee Work Plan. Code your rating of a given Work Plan on the OPSCAN sheet with the corresponding number written in the identification field. Each set of standards should be rated using the following scale.



Code your ratings of the overall quality of performance standards in response area 1 on the corresponding OPSCAN form. Although you are not required to explicitly rate the Work Plans using the ten dimensions previously described, these dimensions are to be taken into account when you are making your ratings of the overall quality of each set of performance standards. Please do not attempt to rate all Employee Work Plans in a single sitting. Instead, rate approximately ten sets of standards in any given session. Refresh your memory of the quality dimensions as often as you feel it is necessary. Please complete all ratings of Employee Work Plans in Set 2 within a five day period.

Appendix L

COVER LETTER AND POST-CSRA IMPLEMENTATION
PERFORMANCE APPRAISAL ATTITUDES QUESTIONNAIRE



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

Memorandum

JUN 29 1983

To:

From: Personnel Officer

Subject: Performance Appraisal Questionnaire

In September 1979 you completed a questionnaire designed to assess your attitudes toward various aspects of performance appraisal. The purpose of this survey was to collect information for use in developing a performance appraisal system for the Survey that would meet the requirements of the Civil Service Reform Act (CSRA). Responses to this questionnaire were analyzed by Dr. H. John Bernardin of Virginia Polytechnic Institute and State University (VPI & SU) and used by the Survey in designing the performance appraisal system that was implemented in October 1980.

We have now completed almost three appraisal cycles under the new performance appraisal system. The Office of Personnel Management and the Department of the Interior require that we evaluate our appraisal system after it has been in operation for several years to determine whether it is meeting the objectives for which it was designed. We are now beginning an evaluation of our system, and we are asking that you take part in the first phase of this evaluation by completing the attached questionnaire.

You and approximately 125 other employees have been selected to complete the questionnaire because you took part in the 1979 survey. This questionnaire is similar to the 1979 questionnaire (though considerably shorter) in that it is designed to assess attitudes toward performance appraisal. Employee responses to the 1983 questionnaire will be compared to employee responses to the 1979 questionnaire to determine whether the new appraisal system has met employee needs and expectations. Questionnaire responses will be tabulated and analyzed by a doctoral student at VPI & SU and results furnished to the Survey. The results will be reviewed by the Survey's Performance Appraisal Task Force to determine whether changes in the appraisal system should be recommended.

The attached packet contains the questionnaire, an instruction sheet, and a return envelope. You will note that there is a number on the top of the questionnaire. This number is not for identification purposes but is for use in matching employee responses on this questionnaire with responses on the 1979 survey. Responses will be matched by number only; no attempt will be made to identify employees individually by name. Only group data will be analyzed, and only group results will be presented. Questionnaire responses will be kept completely confidential.

The questionnaire may be completed at work during duty time. Please read the instruction sheet carefully before beginning to complete the questionnaire. Then answer each question in the space provided on the questionnaire, using the scale on the instruction sheet. After completing the questionnaire, please return it in the envelope provided not later than August 19, 1983. If you have any questions concerning the questionnaire, please contact Janis Nash of my staff at 860-6146 (FTS 928-6146).

We appreciate your cooperation in completing the questionnaire and assisting us in our evaluation effort.

Maxine C. Millard

Attachments

INSTRUCTIONS FOR PERFORMANCE APPRAISAL ATTITUDES
QUESTIONNAIRE

Purpose

This questionnaire is designed to assess employee attitudes toward performance appraisal. It includes questions that both supervisory and nonsupervisory employees are to answer (Questions 1-102) as well as questions that only supervisory employees are to answer (Questions 103-122). Although some of the items may cover sensitive material, you can be assured that no attempt will be made to identify individual respondents (only group data will be analyzed).

Instruction

Please read and respond to each item carefully. Each question should be answered by using the following scale:

- 1 = not at all
- 2 = to a slight extent
- 3 = to a moderate extent
- 4 = to a fairly large extent
- 5 = to a very great extent

For a few of the questions, a slightly different scale will be used. When this is the case, the scale will be provided within the questionnaire. For convenience, please retain this instruction sheet so you may refer to the scale when completing the questionnaire items.

Record your rating for each item in the corresponding blank on the questionnaire.

Example

When answering Question 9, if you believe to a very great extent that you have a clear idea of what is expected of you on your job, then you should write the number "5" in the blank next to this question.

Performance Appraisal Attitudes Questionnaire

To what extent do you believe that a performance appraisal system based on each of the following would yield a fair appraisal of your job performance?

- _____ 1. the timeliness of your work (e.g., whether or not deadlines are met)
- _____ 2. the quantity of your output (e.g., number of maps produced)
- _____ 3. the quality of your work (e.g., the number of errors on maps produced)

- _____ 4. To what extent do you trust your immediate supervisor to fairly assess your performance on the job?
- _____ 5. To what extent do you believe that rewards (pay raises, promotions, etc.) should be dependent upon your performance appraisal?
- _____ 6. To what extent are you satisfied with the amount of information that your supervisor gives you about how well you are performing your job?
- _____ 7. To what extent are you satisfied with how often your supervisor provides you with information about how well you are performing your job (e.g., after the completion of each assignment, once a year, etc.)?
- _____ 8. To what extent do you like to receive feedback on your performance in an interview with your supervisor?
- _____ 9. To what extent do you have a clear idea of what is expected of you on your job?
- _____ 10. To what extent do you believe that your immediate supervisor is most qualified to evaluate your performance in your present position?
- _____ 11. When you are being rated, to what extent do you believe that your performance rating is based on total job performance and not only a few aspects of your job?
- _____ 12. To what extent do factors beyond your control adversely affect your performance?

- _____ 13. To what extent does the present appraisal system allow you to participate in the standard setting procedure together with your supervisor?
- _____ 14. To what extent would you like a performance appraisal system in which you would be rated at least two or more times a year rather than on an annual basis?

To what extent do you believe that supervisors in general rate their subordinates higher than they deserve for the following reasons?

- _____ 15. so that the subordinates could obtain more rewards (awards, promotions, merit pay increases, etc.)
- _____ 16. in order to gain approval for themselves
- _____ 17. in order to avoid damaging their relationship with subordinates
- _____ 18. because they think that a poor performance evaluation suggests that they are ineffective as supervisors
- _____ 19. because they feel other supervisors are rating leniently
- _____ 20. To what extent do you feel the present performance appraisal system in the Geological Survey yields an accurate assessment of your performance?
- _____ 21. To what extent do you feel the present performance appraisal system should be used as a basis for making important personnel decisions (e.g., merit pay increases, promotions, demotions, etc.)?
- _____ 22. To what extent does the present performance appraisal system take into account all of the aspects of your job and not just a select few?
- _____ 23. To what extent are you satisfied with the present performance appraisal system?
- _____ 24. To what extent would you prefer a different performance appraisal system than that which is presently in use? Please explain below.

- _____ 25. To what extent is there a tendency to distort ratings in the present performance appraisal system?
- _____ 26. To what extent is your immediate supervisor realistic in his or her expectations of your performance?
- _____ 27. To what extent do you believe that supervisors give their subordinates higher ratings than are deserved for their performance level?

Rate the extent to which each of the following factors adversely affect your job performance:

- _____ 28. shortage of supplies
- _____ 29. poor performance at another level in the Survey
- _____ 30. poor performance at the same level in the Survey
- _____ 31. variable work load
- _____ 32. poorly defined task assignments
- _____ 33. lack of clearly defined performance standards
- _____ 34. excessive work loads
- _____ 35. inadequate rewards for good performance
- _____ 36. confusing or inconsistent organizational policy
- _____ 37. lack of proper equipment and supplies
- _____ 38. inadequate communications systems
- _____ 39. environmental constraints
- _____ 40. technological shortcomings
- _____ 41. peer pressure
- _____ 42. inadequate training
- _____ 43. Given the present organization of your Division, to what extent do you believe that it would be better to evaluate groups of employees rather than to evaluate employees separately?
- _____ 44. To what extent are the specific goals of your job linked to the general goals of the Survey?
- _____ 45. To what extent do you believe that if you do all the things your rater expects of you, you will get a high performance rating?
- _____ 46. To what extent should more than one rater (e.g., immediate supervisor and co-workers) appraise the performance of the different aspects of your job?

- _____ 47. To what extent do you believe that an increase in your performance on the job would lead to an increase in your performance rating?
- _____ 48. To what extent do you believe that supervisors who give subordinates a low rating on one aspect of the job try to "balance it off" by rating the subordinate higher on another aspect of the job?
- _____ 49. To what extent are your performance ratings consistent with what your supervisor leads you to believe he/she thinks of your performance on a day-to-day basis?

To what extent do you believe that managers at the Survey:

- _____ 50. act on the suggestions and complaints of employees?
- _____ 51. are doing everything possible to give employees good working conditions?
- _____ 52. see to it that employees are properly trained for their jobs?
- _____ 53. are technically competent?
- _____ 54. attempt to inform you of what is "going on" at the Survey?
- _____ 55. have a clearly organized chain of command?
- _____ 56. attempt to explain why policies are made or action taken?
- _____ 57. make it clear who has the authority to make a decision?
- _____ 58. To what extent has your job performance been fairly evaluated?
- _____ 59. To what extent has your job performance been accurately evaluated?
- _____ 60. To what extent are you and your supervisor in agreement with regard to your performance standards?
- _____ 61. To what extent have recent administrative changes within the USGS (aside from CSRA changes) interfered with your functioning on the job?
- _____ 62. To what extent have recent administrative changes within the USGS (aside from CSRA changes) improved your functioning on the job?

To what extent does the typical supervisor/rater in your Division:

63. avoid rating people low because that would be admitting personal deficiencies as a supervisor?
 64. feel personally responsible for the training of his/her subordinates?
 65. feel personally responsible for the performance of his/her work group?
 66. seem reluctant to give negative evaluations to subordinates?
 67. seek mostly to just "keep the peace" with his/her employees regarding performance ratings?
 68. feel uncomfortable giving performance ratings?
 69. purposely inflate ratings?
 70. look at "average" performance ratings as a "damning with faint praise"?
 71. believe almost every subordinate works at the same high level of proficiency?
 72. find it necessary to approve of others in order to gain approval for himself/herself?
 73. rate fairly and honestly?
 74. rate higher because he/she feels other raters are inflating their ratings?
 75. stick fairly close to the "bell curve" in his/her ratings?
 76. distort ratings to get a better deal for his/her subordinates?
 77. inflate ratings so his/her work group will be happy?
78. On a yearly basis, how much time do you spend carrying out Work Planning and Progress Review functions in a subordinate's capacity? (check one)
- 1-5 hours
 6-10 hours
 11-15 hours
 16-20 hours
 over 20 hours (give estimate) _____

79. On a yearly basis, how much time did you spend carrying out performance appraisal functions in a subordinate's capacity prior to the implementation of Work Planning and Progress Review? (check one)

- 1-5 hours
 6-10 hours
 11-15 hours
 16-20 hours
 over 20 hours (give estimate) _____

80. Of those employees evaluated by your supervisor for the last appraisal period, _____ (how many) of _____ (total number appraised) exceeded their performance standards on the majority of their critical elements?

81. During the last appraisal period, what was your summary rating? (check one)

- unsatisfactory
 minimally satisfactory
 fully satisfactory
 excellent
 outstanding

82. During the last appraisal period, what summary rating did you feel you deserved? (check one)

- unsatisfactory
 minimally satisfactory
 fully satisfactory
 excellent
 outstanding

Consider your immediate supervisor's behavior and decide how frequently he/she engages in the behavior described by the items below. Please respond using one of five numbers according to the following format:

1 = Never

2 = Seldom

3 = Occasionally

4 = Often

5 = Always

- _____ 83. Lets group members know what is expected of them
- _____ 84. Is friendly and approachable
- _____ 85. Encourages the use of uniform procedures
- _____ 86. Does little things to make it pleasant to be a member of the group
- _____ 87. Tries out ideas in the group
- _____ 88. Puts suggestions made by the group into operation
- _____ 89. Makes his/her attitudes clear to the group
- _____ 90. Treats all group members as equals
- _____ 91. Decides what shall be done and how it shall be done
- _____ 92. Gives advance notice of changes
- _____ 93. Assigns group members to particular tasks
- _____ 94. Keeps to himself/herself
- _____ 95. Makes sure that his/her part in the group is understood by the group members
- _____ 96. Looks out for the personal welfare of the group members
- _____ 97. Schedules the work to be done
- _____ 98. Is willing to make changes
- _____ 99. Maintains definite standards of performance
- _____ 100. Refuses to explain his/her actions
- _____ 101. Asks that group members follow standard rules and regulations
- _____ 102. Acts without consulting the group

ONLY THOSE WHO ARE PERFORMANCE APPRAISAL RATERS NOW (OR HAVE BEEN IN THE PAST) SHOULD ANSWER QUESTIONS 103-122. PLEASE USE THE SCALE ON THE INSTRUCTION SHEET (I.E., 1=NOT AT ALL, ETC.) UNLESS OTHERWISE INDICATED.

_____ 103. To what extent do you have a clear idea of what is expected of your subordinates on the job?

_____ 104. To what extent do you believe that the performance evaluations you give your subordinates should determine the rewards (awards, letters of recommendation, etc.) they receive?

To what extent do you believe that other supervisors

_____ 105. are motivated to give fair and accurate ratings of job performance:

_____ 106. are qualified to give accurate ratings?

_____ 107. are objective in their performance ratings?

_____ 108. allow their personal feelings to influence their ratings?

_____ 109. To what extent do you feel that you have enough time on your job to adequately evaluate the performance of your subordinates?

_____ 110. To what extent do you believe that the Civil Service Reform Act has improved the overall performance of your Division?

_____ 111. To what extent does your supervisor consider your appraisal of subordinates to be a critical element of your job?

_____ 112. To what extent do you feel you are able to do an accurate performance appraisal on your subordinates?

_____ 113. To what extent do you believe that the typical supervisor would give lenient ratings in order to avoid confrontations with his/her subordinates?

114. How often do you feel it is necessary to do a formal performance appraisal? (select one and check)

1. once a month
 2. quarterly
 3. biannually
 4. annually
 5. never

To what extent do you prefer each of the following methods for giving performance feedback to an employee:

115. in a written letter/memo?
 116. in an interview?
 117. on the job at prescheduled times?
 118. not at all--keep records in files to which employees have access?

119. How many subordinates do you supervise?

_____ subordinates

120. Under the Work Planning and Progress Review system, estimate the total number of hours that you spend appraising your employees each year (e.g., meeting and discussing standards, writing standards, conducting progress reviews, etc.).

_____ hours

121. Estimate the total hours spent each year appraising your subordinates prior to Work Planning and Progress Review implementation.

_____ hours

122. Of those employees you evaluated for the last appraisal period, _____ (how many) of _____ (total number appraised) exceeded their performance standards on the majority of their critical elements?

Appendix M

MODIFIED LEADER BEHAVIOR DESCRIPTION
QUESTIONNAIRE-FORM XII

Initiating Structure Subscale

Consideration Subscale

Initiating Structure Subscale. Leader clearly defines own role, and lets followers know what is expected.

- Lets group members know what is expected of them
- Encourages the use of uniform procedures
- Tries out ideas in the group
- Makes his/her attitudes clear to the group
- Decides what shall be done and how it shall be done
- Assigns group members to particular tasks
- Makes sure that his/her part in the group is understood by the group members
- Schedules the work to be done
- Maintains definite standards of performance
- Asks that group members follow standard rules and regulations

Consideration. Leader regards the comfort, well being, status, and contributions of followers.

- Is friendly and approachable
- Does little things to make it pleasant to be a member of the group
- Puts suggestions made by the group into operation
- Treats all group members as equals
- Gives advance notice of changes
- Keeps to himself/herself (Reversed scoring)
- Looks out for the personal welfare of the group members
- Is willing to make changes
- Refuses to explain his/her actions (Reversed scoring)
- Acts without consulting group members (Reversed scoring)

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