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THE RELATIONSHIP OF TASK
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SATISFACTION AND PERFORMANCE
IN A STATE AGENCY

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ABSTRACT

THE RELATIONSHIP OF TASK AND ROLE
CHARACTERISTICS TO SATISFACTION
AND PERFORMANCE IN A STATE AGENCY

BY

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The extent to which task characteristics affect the satisfaction and performance of employees is the focus of this study. It is directed at understanding how various task characteristics influence the relationship between an individual's efforts on the job and the outcomes he experiences. An integral part of this attempt is the consideration of various individual characteristics which moderate the relationships.

A model of the relationship of tasks to outcomes is developed in the research by integrating task and role theory. Three stages are identified in the model:

Stage One - is referred to as the task redefinition stage because of the individual's tendency to perceptually redefine the task according to his own individual characteristics.

Stage Two - is called the task-role linkage stage. At this stage task variables were hypothesized to be more related to ambiguity than to conflict.

Stage Three - deals with the relationship of task and role variables to the outcomes of performance and satisfaction. It was therefore called the task outcome stage.

The results generally support the relationships hypothesized in the model. Summarized briefly, the results of the present study show that:

Stage I Task Redefinition:

- (a) Perceptions of tasks were greatly affected by how involved individuals were in their jobs.
- (b) Those individuals high on self esteem who were performing poorly had the highest level of disagreement with superiors about their level of performance. They consistently saw themselves as higher performers than their bosses and reported dissatisfaction with their superiors.

Stage II Task-Role Linkage:

- (a) Task variables were found to be positively related to role ambiguity.
- (b) Role conflict was related to job level and not to task variables.
- (c) Individuals with an internal locus of control perceived less ambiguity and fewer conflicts in their role than did individuals with an external locus of control.

Stage III Task Outcomes:

- (a) For external and field dependent individuals, both of whom are oriented towards the social aspects of the situation, dissatisfaction was related to role conflict.
- (b) For internal individuals who are oriented towards task accomplishment, dissatisfaction was related to role ambiguity.
- (c) Performance was related to satisfaction only on tasks which were low on the task dimensions.

In general the results suggest that there are two aspects of a job, the task itself and the interpersonal relations of roles present on the job. It was found that individuals not only perceive these two aspects differently but respond in different manners to their perception. It was also found that on jobs high in the task dimensions satisfaction and

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performance were not related but for jobs low in the task dimensions they were related. These results are interpreted as suggesting that everyone enjoyed a more stimulating job but this did not necessarily lead to higher performance. These results are discussed in terms of their implications for job redesign.

THE RELATIONSHIP OF TASK AND ROLE
CHARACTERISTICS TO SATISFACTION
AND PERFORMANCE IN A STATE AGENCY

By

Lloyd S. Baird

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1974

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CHAPTER I

THE MODEL AND HYPOTHESES

Introduction

The extent to which task characteristics affect the satisfaction and performance of employees at work is becoming increasingly recognized by researchers and managers alike. From its initial focus on work simplification, (Taylor, 1911), research on task characteristics has moved to studies of job enrichment and the differential responses of employees to job characteristics. Hackman and Lawler (1971) for example have recently studied the moderating effect of higher-order need strength on the relationship between job characteristics and employee response. Turner and Lawrence (1965) and Blood and Hulin (1967) also analyzed the relationship between job characteristics and employee responses but considered cultural differences as the moderating variables. Although these studies are generally indicative of the complex relationship of task characteristics to individual attitudes and behavior, there yet remains the question of how and why such relationships exist. A theoretical framework which focuses on these questions will be developed in this section. The model will be derived from both empirical research and theory and contains three

general stages: task redefinition, task role linkage, and task output. The total model is presented in Figure 1 and should be referred to throughout the development of each stage. After development of the model the specific hypotheses which are to be tested in the research will be stated.

Stage I: Task Redefinition

There is considerable fragmentation and inconclusiveness in research studying the impact of tasks on individuals. Much of the confusion is a result of the difference between "objective " vs "perceptual" assessment of task characteristics. Objective measures typically consider the task as something external to the individual which provides stimuli for his activity. They are usually assessed by either measurement of the actual physical characteristics or observer ratings. Perceptual measures, on the other hand, are defined by the individual and use ratings by the job holder as measures of task characteristics.

Sells (1963) and Thibaut and Kelley (1959) suggest that neither of these approaches is adequate. They argue that any attempt to identify the impact of task variables on individuals needs to consider the characteristics of both the objective task and the individual. In their view, measures based solely on perceptions are not adequate because perceptions tend to confound the characteristics of the individual and the task.

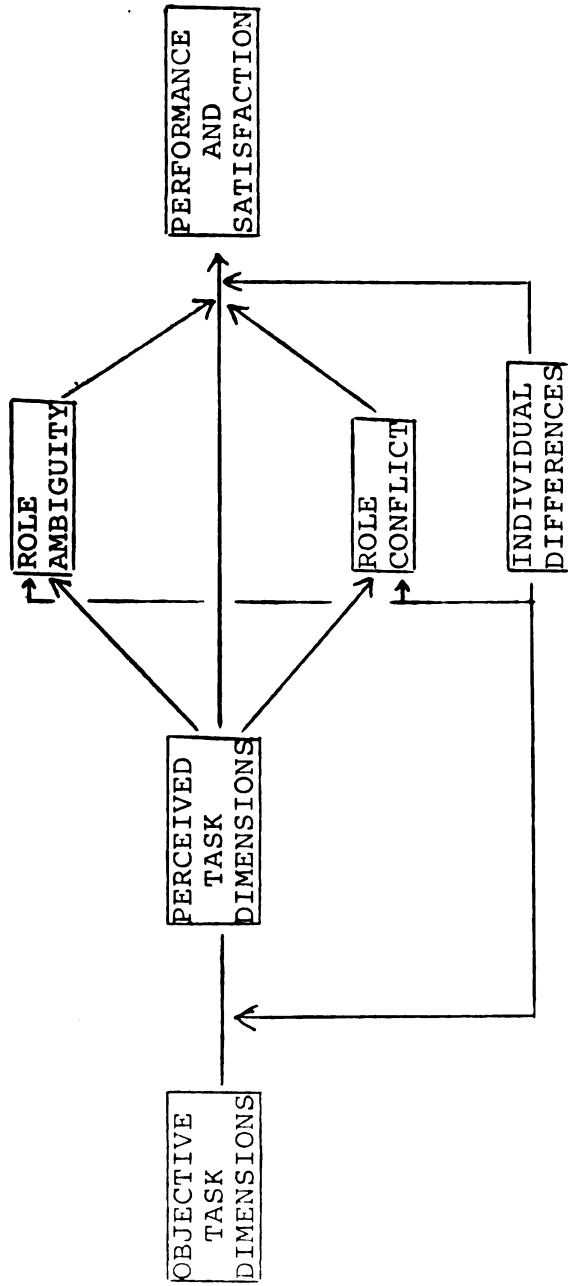


FIGURE 1

A MODEL OF TASKS AS STIMULI FOR WORK PERFORMANCE

Considering these differences Hackman (1971) has developed a model which recognizes the difference between objective and perceived tasks. In this model, objective task characteristics are stimuli for action only as they are perceived by the individual. These perceived tasks then lead the individual to formulate hypotheses about what actions are necessary to successfully complete the task. Based on these expected requirements the individual enters into activities (processes) which lead to results (trial outcomes). The results are then evaluated and appropriately rewarded by the organization (final outcome).

Based on this previous theory, the model developed for the present project enters objective tasks as being causally prior to perceived tasks. Perceived tasks then become the direct antecedents of behavior and attitudes.

Using this sequence it becomes critical to understand how individual differences are related to the redefinition process which occurs between the time the performer perceives the task and the time he responds. Individual differences are thus entered in the model as moderators of the relationship between objective and perceived task dimensions. Also because of this characteristic redefinition of task variables, the first stage will be referred to as the task redefinition stage.

Stage II: Task Role Linkage

A second major theoretical focus which attempts to explain the impact of task variables on organization behavior is role theory. Especially related is the work of Kahn et al. (1964) on organization stress. They suggest that organizational factors such as task characteristics affect the expectations which other individuals (role senders) have of the worker. As these expectations from various sources are received by the worker they are combined and interpreted in terms of pressures for actions. To the extent that the expectations are not consistent, role conflict will result. When there exists a lack of clear expectations role ambiguity will exist. In their research Kahn et al. (1964) found that both forms of role stress were related to increased tensions and decreased satisfaction.

Consistent with Kahn's formulations, role variables are included in the model developed for the present study as moderators of the relationships between perceived tasks and the outcome variables. Because of these relationships the second stage of the model will be referred to as the task role linkage stage.

Other research has found that the level of role stress felt by the individual is a function of not only the environment but is also related to the individual's own characteristics (Organ and Greene, 1974). Individual differences are therefore also entered in the model as direct antecedents of role ambiguity and role conflict.

Stage III: Task Output

There are commonly two types of outcomes of interest in organizations. The individual is assumed to be interested in his own satisfaction. The organization on the other hand is interested in the contributions the individual can make to the organization's output. The present research project will therefore focus on the relationship of the task dimensions to both performance and satisfaction in the organization. Tasks are related to these outcomes two ways in the model. First, consistent with Hackman (1969) there is a direct relationship of perceived tasks to outcomes. Also as suggested by Kahn et al. tasks are related to outcomes through their relationship to the level of role stress present in organizations.

An integral part of explaining performance and satisfaction in organizations is an understanding of how different individuals respond to tasks. Thus individual differences are included in the model as moderators of the relationship between organization characteristics (roles and tasks) and outcomes.

The Dimensions and Hypotheses of the Model

In this section the specific dimensions of the variables in the model and the hypotheses relating to the three stages will be developed.

The Task Dimensions

There has been considerable controversy in past research over which task dimensions should be used to classify and analyze tasks. Various review articles have discussed the numerous approaches used (Hackman, 1969; McGrath and Altman, 1966; Altman, 1966). One popular method has been to classify tasks according to independently measured objective characteristics and then relate these characteristics to behavior. Steiner's work (1972) is representative of this approach. In his research on group processes tasks are defined in terms of the extent to which they can be divided and then combined. There are however inherent limitations in such an approach when attempting to analyze behavior. Unless there exists a theoretical guide from which the relevant dimensions can be suggested, there is no limit to the ones which can be considered, many of them irrelevant to the behaviors of interest.

McGrath and Altman (1966) suggest an alternate approach. They argue that behavioral research is interested in tasks only in terms of their behavioral implications, not as tasks per se. An understanding of task characteristics is therefore meaningless unless it relates specifically to the responses of interest. They suggest that tasks should be described only in terms of the responses the subject should emit "given the stimulus situation to achieve some criterion of success." Much of small group research adopts this philosophy by using behaviors as the method of classifying

and analyzing task characteristics. Roby and Lanzetta's (1958) focus on the "critical demands" of the task and Altman's (1966) use of the kinds of necessary interactions as the method of classifying are representative of these approaches. Shaw's (1963) use of the cooperative requirements demanded by the task and the complexity of the reasoning process necessary for successful task completion among his criterion are perhaps the most often used behavioral dimensions in small group research.

Drawing from Altman (1966), a third strategy can perhaps be suggested. An initial step could be to identify those outcomes of interest. Then from this, past theory and research could be used to suggest those task characteristics which might be most significantly related to the outcomes. These relationships could then be tested in the empirical research. This approach would seem to be the most useful for the present project and is developed below.

Two classes of outcomes are being considered in the present study, satisfaction and performance. Most of the research relating to tasks has focused on satisfaction. Related to individual satisfaction, however Maslow (1954) and Alderfer (1969) suggests that lower level needs "can be easily satisfied on a continuing basis" in contemporary society. As a result individuals will be primarily motivated to perform when they expect that satisfaction of esteem and growth needs will be the results of performance. Tasks will be motivational only to the extent that they provide these

outcomes. The logical question which follows is what task characteristics will cause individuals to expect that effort devoted to the task will lead to these outcomes.

Argyris (1964) has suggested that individuals will experience satisfaction of growth, esteem, and ego-involve-ment needs when they learn that as a result of their efforts they have accomplished something they believe to be worth-while. In terms of task dimensions, Lawler (1969) hypoth-esizes that these conditions will be met to the extent that tasks provide an opportunity to do a meaningful and identi-fiable portion of the work, result in outcomes which are intrinsically meaningful or otherwise experienced as worth-while by the individual, and provide feedback about what is accomplished. On a job high on these characteristics it is hypothesized that the more effort an individual devotes to the job the more he will experience need-satisfaction. Operationalizing these characteristics, Hackman and Lawler (1971) suggest that when tasks are high on autonomy, task identity, feedback, and test the individual's valued skills, individuals will be satisfied when they perform well.

Based on the work of Lawler (1969) Hackman and Lawler (1971) and Hackman and Oldham (1974) five dimensions are used in the present research study. They are:

- (1) Autonomy - The extent to which the worker is allowed to determine the scheduling and the nature of the work which he does.
- (2) Feedback - The extent to which knowledge of what is accomplished is provided to the worker.

- (3) Variety - The extent to which the task requires the use of a number of different skills by the employee. Hackman and Lawler suggest that for a worker to see organizational outcomes as meaningful they must require the use of skills which he values. One way for a task to conceivably do this is for a variety of task demands to challenge the worker.
- (4) Task Identity - Another way in which tasks can become meaningful is for the individual to be involved in a significant part of the task. He does a "sufficiently whole piece of work" that he can identify the outcome as a product of his efforts.
- (5) Significance - This is a measure of the impact the job has on the work of other people, whether in the immediate organization or in the external environment.

Individual Differences

Various researchers, using these or comparable task dimensions, have found that the relationship between the nature of the task and satisfaction depends on the characteristics of the individual doing the job. Turner and Lawrence (1965) for example, after an extensive review of the relevant literature, hypothesized that employees would exhibit lower absenteeism and higher job satisfaction if their jobs were high on (1) autonomy, (2) required interaction, (3) optional interaction, (4) knowledge and skill requirements, (5) responsibility. In their subsequent test of this hypothesis the relationship held only for those workers from factories located in small towns. They concluded that the relationships

between task characteristics and satisfaction were moderated by cultural background. The work of Blood and Hulin (1967) and Hulin and Blood (1968) provide supporting evidence of the importance of cultural differences in responding to task characteristics.

Hackman and Lawler (1971) also focused on the differential impact of task variables but used individual rather than cultural factors as moderators. They found that individuals desiring to fulfill growth and esteem needs responded most positively to jobs high on the task dimensions.

The present research will attempt to extend these findings by considering other individual difference variables which might moderate the relationship between tasks and outcomes. Individual differences enter into the model developed for this project at three points: as moderators between objective and perceived tasks, as antecedents to role stress, and as determinants of the response of individuals to perceived task dimensions. In reviewing the literature the attempt was made to identify those individual differences which theoretically would be most likely to moderate the effect of tasks at each of these points. Five individual difference variables were identified: field independence, locus of control, self esteem, job involvement, and intrinsic motivation. Their theoretical background and potential impact on the relationships in the model will be presented in the discussion which follows.

Field Dependence

Directly related to the variations in perceptions of task dimensions is Witkin's formulation of field dependence/field independence (Witkin et al. 1962). He defines a field independent as one having the ability to 1) perceive parts of the perceptual field as independent of the background or context within which they exist and 2) to structure these parts in meaningful relationships. Field dependent individuals, on the other hand, lack these abilities.

Witkin et al. (1962) found that field dependent individuals tended to accept the perceptual field "as it was" rather than attempting to impose a structure on it. Thus for the field dependent individual, when the perceptual field was structured it had a tendency to cause the field as a whole to be perceived as structured and composed of discrete parts. When the field lacked structure, perceptions tended to be global, and diffused. At the other end of the continuum was the field independent individual for whom perceptions were delineated and structured regardless of the nature of the perceptual field. Goodenough and Karp (1961), testing these assumptions, found that field independent individuals not only perceived situations as more structured but also tended to report that there was more relevant information available. This was evidently a function of their ability to locate and "disembed" relevant information.

The finding that individuals who are field independent tend to structure and organize their own environment regardless of the situation is suggestive of how perceptions might vary. For individuals who are field independent, perceived task dimensions should be independent of the situation and more related to their own tendency to search out relevant information and structure their own environment. Individuals who are field dependent, on the other hand, are more influenced by their situation and should vary their perceptions according to the nature of the situation rather than any attempt on their own part to organize and define the environment.

- H1. There will consistently be a higher correlation between perceived and objective measures of task dimensions for individuals who are field dependent than for individuals who are field independent.

Locus of Control

Rotter's (1966) conceptualization of internal vs. external locus of control deals with similar concepts as field dependence/field independence, but deals more specifically with the individual's belief about his control over the reward contingencies that exist. The external person believes that rewards are independent of his actions and are controlled instead by luck, chance or powerful others. The internal person believes that rewards are controlled by himself. Seeman and Evans (1962) and Seeman (1963) using Rotter's scales found that internals, evidently because of their

belief of contingent rewards, maintain an active search for information relevant to their situation and thus tend to be more informed about their circumstances. This supports Rotter's hypothesis that individuals who believe they control their own fate are more likely to be alert to those aspects which provide useful information for future behavior.

Supporting this hypothesis, Organ and Greene (1974) found that internals consistently reported lower levels of ambiguity than externals. They concluded that internals, believing that they control their own rewards tend to seek out information of an instrumental nature to aid them in directing and structuring their activities. These studies tend to indicate that internals, perhaps because of their active search for information, will consistently report that there is more task relevant feedback. Also because of their active interest in controlling their own fate they most likely structure their situation so it is high on all of the dimensions. Thus they should report higher levels of all the task dimensions.

H2. Internals will consistently perceive higher levels of task dimensions than externals.

Job Involvement

Another personal characteristic which might be related to variations in perceptions of tasks is job involvement. In its original formulation, Lodahl and Kejner (1965) viewed job involvement as a basic value orientation towards work

which is acquired in the early socialization process and remains relatively unaffected by changes in the environment. Supporting this view they cite the results of a longitudinal study in which job involvement was the most stable of twenty-one attitude variables over a twenty month period. Hall and Mansfield (1971) also found no change in job involvement over a twenty month period during which profound job stresses occurred. They found a test-retest correlation for job involvement over this period of .70. This would tend to suggest that job involvement is a fairly stable individual dimension.

White and Ruh (1973) also consider job involvement as an individual difference and suggest that it probably influences self-report evaluations of organizational and task characteristics. In their study they found a significant positive correlation between involvement in the organization and self-report measures of participation. Offering an interpretation of these findings they suggest that the correlation found between the job characteristics of participation and job involvement might be a function of the differences in the perceptions of involved vs. non-involved workers. This is opposite the usual explanation which is given to positive correlations between job characteristics and job attitudes such as job involvement (Likert, 1961; Argyris, 1964). It is however consistent with the view of job involvement as a relatively stable individual characteristic which would have a significant impact on perceptions.

Assuming job involvement is a relatively stable individual characteristic, it can be hypothesized that perceptions of task characteristics will be related not only to the actual characteristics of the task but also to the level of job involvement of the individual.

- H3. Perceived task characteristics will vary in relation to both the objective task characteristics and the job involvement of the individual.

Self-Esteem

Findings from several studies suggest that there are differences between a person's actual performance and how he sees himself performing, and that these differences might be accounted for in part by an individual's self-esteem. In these studies, self-esteem has been defined as the person's self-concept and his estimation of his problem solving abilities.

Silverman (1964) found that high self-esteem subjects remembered more information about a task on which they had succeeded as compared to one on which they had failed. Shruger and Rosenberg (1970) found that there was greater change in subsequent performance when there was a congruence between feedback given and the level of self-esteem.

They interpreted their results as indicating that individuals give less attention or credence to situations that are not congruent with their own self-esteem. Thus past research tends to suggest that only in those situations where performance is congruent with the individuals' expectations will

feedback be recognized or accepted. In situations where it is not congruent the individual will tend to suppress or disregard evaluations of his performance.

- H4. Individuals will tend to be accurate in their evaluations of their own performance only when their level of performance is congruent with their self-esteem.

Role Dimensions

The second stage of the model deals with the antecedents of role stress in organizations. There have been two lines of research which are relevant to the causes of role stress. One focuses on the individual and the other on the organization.

House and Rizzo (1972) are representative of the latter approach. In their research they found that role ambiguity was a significant moderator of the relationship between formalization (defined as the increased structuring and specification on the job) and the output variables of satisfaction and perceived organizational effectiveness. They interpreted these results as indicating that the major impact on the dependent variables of increasing the prescriptiveness of the role requirements and reducing autonomy was through their reduction of ambiguity. They found on the other hand that the variance in role conflict was significantly related to supportive leadership and organization practices rather than formalization and that role conflict accounted for none of the variance between formalization practices and output variables.

Child (1973) also attempts to relate organization characteristics to organization stress variables. Using path analysis he found that standardization (the degree to which procedures were established) was negatively correlated with conflict (the extent to which a person perceives others as not agreeing on four aspects of problem solving). However, formalization (the extent to which activities were determined by written documents) was positively correlated with conflict. Child interprets these results as suggesting that procedures were generally established to reduce conflict but when problems erupted formalized written documents were used as reference points to justify positions and thus became sources of conflict. Thus, the relationship between structuring and conflict depended not only on the degree to which roles were formalized but also on the extent to which the individual used this formalization in his strategic and conflict resolving activities in organization. Formalized documents became sources of conflict only when interpersonal relations reached such a position that they needed written documents as justification. Thus both lines of research tend to suggest that the two sources of stress in organizations, conflict and ambiguity, are related to different aspects of the situation within which the individual operates. Role ambiguity apparently relates to the availability of information about tasks. As jobs become more stimulating, the individual receives more feedback from the job and is allowed more power to control and define his own job. Thus ambiguity should be reduced.

Role conflict, on the other hand, is the existence of two or more conflicting demands from other individuals. Research suggests that such demands arise from the interpersonal relations which exist in the organization and not particularly from the task itself.

- H5. Role ambiguity will correlate more highly with task variables than will role conflict.

A second body of research suggests that individual differences are also related to the magnitude of role stress which is felt in organizations. Rotter (1966) suggests that internal individuals, perhaps because they believe that they control their rewards, will tend to seek out information of an instrumental nature. Apparently because of this characteristic Organ and Green (1974) found that internals consistently reported lower levels of ambiguity than externals. This same result should be found in the present sample.

- H6. Internals will consistently report lower levels of ambiguity than externals.

Outcomes

The third stage of the model concerns the relationship of the perceived task characteristics and role dimensions to the responses of individuals. The obvious conclusion from past research is that individual differences moderate these relationships.

The first two stages of the model focus on how individual and organizational differences affect the way situations are perceived. The third stage will deal with how individual

differences affect the relationship between these perceptions and the responses of individuals. The hypotheses related to this stage are developed below.

The Relationship of Role Variables to Outcomes

Role theory suggests that both role conflict and role ambiguity will be related to the outcomes of performance and satisfaction. The empirical research is supportive of this position. Kahn et al. (1964) for example, found that role ambiguity was negatively related to satisfaction and positively related to increased emotional tension. Other studies have yielded comparable results. Rizzo, House, and Lirtzman (1970) found that role ambiguity correlated significantly with low satisfaction. Cohen (1959) found that ambiguous task situations resulted in an increase in anxiety and a decrease in productivity. Mandel (1956) found that those superiors who were rated low in performance were also low in the extent to which they gave clear information to their subordinates. In contrast to these studies, Tosi (1971) found no relationship between satisfaction and role ambiguity.

In other studies role conflict has been found to be related negatively to individual attitudes. Kahn et al. (1964) found that high levels of conflict were negatively related to job satisfaction and confidence in the organization and positively related to job related tension. Gross, Mason, and McEachern (1958) found a positive relation between perceived role conflict and measures of job satisfaction.

Tosi (1971) found that role conflict related positively to anxiety and job threat and negatively to job satisfaction.

Hamner and Tosi (1974) suggest that both role conflict and role ambiguity are most likely related to negative outcomes, just at different levels in the organization. They suggest that role ambiguity is related to satisfaction in high level jobs and conflict becomes the important determinate of satisfaction in low level jobs.

Other research suggests that perhaps the negative impact of role stress will vary depending on the characteristics of the individual. For example Konstant and Forman (1965) found that field dependent individuals, perhaps because of their inability to organize and structure their environment, were more concerned about the impressions they made on other people. Other researchers have found that they are, as a consequence of these concerns, more attentive to the social aspects of any situation (Crutchfield, Woodworth and Albrecht, 1958; Eagle, Goldberger and Breitman, 1969). From these results it can be hypothesized that role conflict will be more related to satisfaction than role ambiguity for field dependents. This follows from the theory previously reviewed which suggests that role conflict is a negative aspect of interpersonal relationships while role ambiguity appears to be more related to the characteristics of the tasks.

Other research suggests that the field independent individual is more concerned with the "mastery of his physical environment or with the task he is performing" (Gruenfeld

and Abruthnot, 1965; Witkin et al., 1962). Based on these results it can be hypothesized that field independent individuals will exert more effort than field dependent individuals towards formalizing their situation. Because of this orientation, order and formalization will be important to them and when ambiguous situations exist it will have a negative impact on them. Role conflict, on the other hand, involves the individual's relations with other people and should have little effect on field independents because their orientation is not towards pleasing other people.

H7A. Dissatisfaction will be more associated with role conflict than role ambiguity for field dependent individuals.

H7B. Dissatisfaction will be more associated with role ambiguity than role conflict for field independent individuals.

The Differential Impact of Role vs. Task Variables

In terms of the individual's response to role variables, past research suggests that the internal/external dichotomy will offer comparable predictions to the field dependent/field independent split. For example, as a consequence of their belief that they control the outcomes of their efforts, internals are more oriented towards task accomplishment and thus the nature of the task should be more critical to their feelings of satisfaction (Seeman, 1962).

Externals, on the other hand, evidently believe the most effective means of exercising control over reinforcements is by meeting the expectations of the person whom they believe

controls their rewards. Because of this orientation they are more oriented towards pleasing other individuals and meeting their expectations (MacDonald and Hall, 1969; 1971; Ritchie and Phares, 1969). It can be hypothesized that when they are unable to meet these expectations because they are conflicting or ambiguous, lower levels of satisfaction and performance should result for them than internals in the same situation.

- H8A. Satisfaction with work will be more highly correlated with the task dimensions for internal than external individuals.
- H8B. Satisfaction with work will be more highly correlated with role variables for external than internal individuals.

The Relationship of the Task Dimensions to Outcomes

The task dimensions used in the present research project are hypothesized to lead to increased performance because they cause employees to believe that effort devoted to the task will lead to fulfillment of personal needs (Lawler, 1969). Korman (1970) however suggests that the relationship between satisfaction and performance will exist only for those individuals who, as a result of being high on self-esteem view themselves as competent and need satisfying.

Using balance theory, Korman's model of work behavior suggests that if an individual sees himself as competent and need-satisfying (high on self-esteem), he will expect that task effort will result in the required performance and the subsequent rewards. The high self-esteem individual derives

satisfaction when performance is high, because it validates his perceived competence. The low self-esteem individual, on the other hand, does not conceive of himself as a competent, need-satisfying individual. Thus, Korman argues, he sees no possibility for accomplishing the task because of his lack of ability and consequently receives no satisfaction from performance. Need fulfillment through task accomplishment is not a balanced situation for those low on self-esteem and hence opportunities for need-satisfaction can not serve as incentives for increased effort.

In partial support of these hypothesized relationships, Korman (1970) found that for low self-esteem individuals, neither their likes nor choices of situations were correlated with their self-report need levels whereas those for high self-esteem were. Self-perceived competence on a task seemed to facilitate performance, particularly if there existed feedback on the individual's distance from the goal. Based on Korman's findings, it can be suggested that the relationship between satisfaction and performance which is theoretically present in stimulating jobs will be present only for individuals high on self-esteem.

- H9. Satisfaction will be related to performance only in jobs high on task stimulation and only for people high on self-esteem. For tasks low in stimulation there will be no relationship between satisfaction and performance.

Lawler (1969) takes basically this same approach by suggesting that only for those individuals high on intrinsic motivation is satisfaction obtained by working towards and

reaching organizational goals. Lawler and Hall (1970) in a validation study of intrinsic motivation found that it was factorially independent of the psychological importance of work (job involvement) and they suggest that it is a fairly stable individual characteristic.

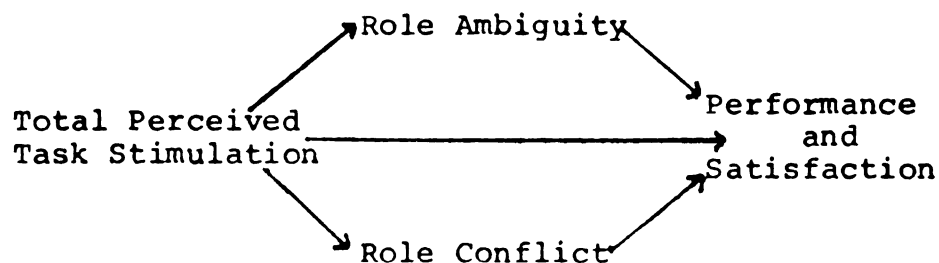
From the theoretical work on intrinsic motivation, it can be suggested that because it is an individual difference variable, performance will be related to satisfaction of needs only for those high on intrinsic motivation. Those low on intrinsic motivation see no such relationship and cannot be motivated by more stimulating jobs.

- H10. Satisfaction will be related to performance only in jobs high on task stimulation and only for people high on intrinsic motivation.

The Linkages in the Model

In the model which has been developed there have been various linkages proposed. A portion of these linkages will be tested using path analysis. It can be hypothesized that the variables will be linked together in the following manner.

H11.



CHAPTER II

METHODOLOGY, SAMPLE, AND RESEARCH DESIGN

This chapter will describe the data collection and analysis processes which were undertaken to test the hypotheses developed in chapter I. The purpose of the discussion presented will be to describe the operationalization of the variables identified in the model and the methodology used in analyzing their interactions.

The Research Site and Sample Characteristics

The research was conducted in a large midwestern State Agency. The majority of the Agency's work is administering State and Federal Government programs. Because of the nature of these programs the Agency is forced to deal extensively with both private and public organizations. As a result they are subject to considerable political, union, and corporate pressure. Perhaps as a function of these pressures and the necessity to meet Federal requirements the organization has very diverse job types. They range from a fairly routine technical operation to the complex political positions responsible for coordinating public activities.

The Agency has 260 employees who are departmentalized according to function in four different hierarchal levels. The central staff which employs 114 of the 260 workers is physically housed in the two major cities of the State. The remainder of the employees do field work and are scattered throughout the State in districts which have been established roughly according to population density. An organization chart is presented in Figure 2. The eight different job classifications in the organization are described briefly below. The distribution of employees among these jobs and the distribution of the eventual participants in the study are given in Table 1.

1. Administrative Personnel-division and departmental chiefs, located at the top two levels, general executive and administrative units.
2. Field Supervisors - supervising actual field work of Agency, located at third level, scattered throughout the State, each unit is specialized according to function.
3. Office Supervisor - supervise clerical and secretarial work of divisions, responsible for data collection and report preparation.
4. Analysis Staff - staff work to the Chief Executive of the organization, service other divisions, work assignments deal mostly with systems analysis, procedure establishment, etc.
5. Clerical - filing, key punch, coding, survey collection, located on fourth level of organization.
6. Secretarial - personal secretaries to division and field administrators.
7. Field Workers - perform actual client services, located on fourth level, grouped into six different specializations.

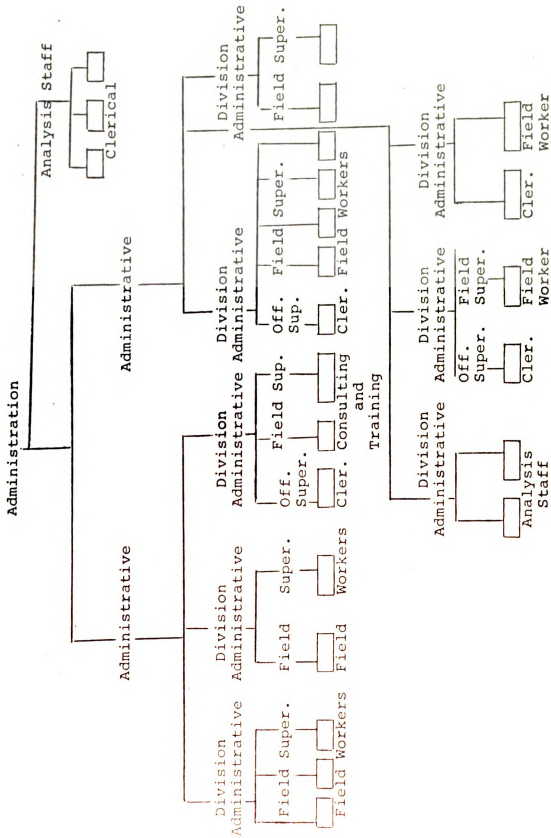


FIGURE 2

ORGANIZATION CHART FOR RESEARCH SAMPLE

TABLE 1
DISTRIBUTION OF ALL EMPLOYEES AND ACTUAL
PARTICIPANTS AMONG JOBS

Job Type	Number in Organization	Subjects Participating in Study	Percent of Participation
Administrative	13	9	69%
Field Supervisors	17	12	71%
Office Supervisors	10	7	70%
Analysis Staff	10	9	80%
Clerical	64	45	90%
Secretarial	17	17	100%
Field Workers	120	102	85%
Consulting and Training	18	13	72%
TOTAL	269	214	79%

8. Consulting and Training - coordinate training and information programs with clients, grouped together according to function, located on fourth level.

Development of the Project

During the developmental stages the project was discussed only in broad general terms with the chief executive. This was done to leave as much latitude as possible in the development of the specific research design, while at the same time gaining the commitment of the organization. In the early stages of the project, a meeting with the executive group, which consisted of the division chiefs, was arranged by the chief executive. At this meeting the project was described in terms of the general problem of how job characteristics affect employees. The attempt was made to explain how the theory relating to tasks could be relevant to their particular problems. After the acceptance by the Division Chiefs present, the project was approved and an understanding was reached that after the research design was established the executive group and the researcher would again meet to discuss more specifically administration procedures for the instruments.

Throughout the development of the project, it was stressed that employees at all levels in the organization should participate. This was necessary to get an accurate picture of the organization. It was also stressed that as part of the research procedures, the summary information should be made available to all participants. It was felt

that this would increase the acceptance of the project by the lower level employees in the organization. They would be more likely to see the research as a valid survey and not a management tool which would be used in punitive action against them individually.

The Instruments

The various scales used in the questionnaire, along with their statistical properties, will be presented in this section. For each scale the sample items and the internal reliabilities of the scale are given. The complete scales as they were used along with the means and standard deviations for each item are included in Appendix B. The scoring procedures are also included in Appendix B. The intercorrelations of the scales are presented in Appendix C. Appendix D presents in summary form the reliabilities and validities for each of the scales.

Job Diagnostic Survey (JDS)

The Job Diagnostic Survey (JDS), developed by Hackman and Oldham (1974), is designed to measure several job dimensions. Each dimension is obtained by averaging the responses on a 1 to 7 Likert scale of from three to five items. The theoretical definition of the scales, examples of items composing them, and their internal reliabilities in the present study are listed below.

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

($\alpha = .73$)

How much variety is there in the job? That is, to what extent does a person have to do many different things on the job, using a variety of his skills and talents?

The job requires use of a number of sophisticated or complex skills by the person who performs it.

2. Task Identity - The degree to which the job requires completion of a "whole" and identifiable piece of work--i.e., doing a job from beginning to end with a visible outcome. ($\alpha = .73$)

To what extent does the job involve doing a "whole" and identifiable piece of work? That is, does a person do a complete piece of work that has an obvious beginning and end? Or does he only do a small part of a job, which is completed by other people or by automatic machines?

Other people or machines do a very substantial portion of the work; the person on the job makes only a minor contribution to the final product or service.

3. Task Significance - The degree to which the job has a substantial impact on the lives or work of other people--whether in the immediate organization or in the external environment. ($\alpha = .70$)

In general, how significant or important is the job? That is, are the results of work on the job likely to significantly affect the lives or well-being of other people?

The work done on the job is of little consequence; it just doesn't make much of a difference to anybody.

4. Autonomy - The degree to which the job provides substantial freedom, independence, and discretion of the employee in scheduling the work and in determining the procedures to be used in carrying it out. ($\alpha = .69$)

How much autonomy is there in the job? That is, to what extent does a person decide on his own how to go about doing the job?

The job provides a person with very little latitude in deciding how the work is to be done.

5. Feedback from the Job Itself - The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance. ($\alpha = .69$)

To what extent does doing the job itself provide a person with information about his work performance? This is, does the actual work itself provide clues about how well a person is doing--aside from any "feedback" obtained from co-workers or supervisors?

Just doing the work required by the job provides many opportunities for a person to figure out how well he is doing.

Two other dimensions are also included which relate to these task dimensions and have been helpful in understanding reactions to jobs.

6. Feedback from Agents - The degree to which the employee receives clear information about his or her performance from supervisors or from co-workers. ($\alpha = .77$)

To what extent do managers or co-workers tell a person how well he is doing the job?

The co-workers and supervisors on the job almost never give a person any "feedback" about how well he is doing his work.

7. Dealing with Others - The degree to which the job requires the employee to work closely with other people in carrying out the work activities (including dealings with other organization members and with external organizational "clients".) ($\alpha = .41$)

To what extent does a person on the job work closely with other people (either "clients" or people in related jobs in the same organization)?

The job requires a lot of cooperative work with other people.

The median off-diagonal correlations between items are presented along with the scale reliabilities in Table 2 for the research of Hackman and Oldham (1974) and the present study. The median off-diagonal correlation is the median correlation of the items score on a given scale with all the items score on different scales. It is thus one measure of the discriminate validity of the scales. The higher average correlation of the off-diagonal elements for the present study suggest that although the scales are perhaps conceptually different they are significantly correlated. It is anticipated therefore that the task dimensions will yield comparable results when used as independent or moderator variables in the analysis.

TABLE 2
INTERNAL CONSISTENCY RELIABILITY OF
TASK SCALES IN HACKMAN & OLDHAM (1974) & PRESENT PROJECT

Job Dimensions	Internal Consistency Reliability		Median Off-Diagonal Correlation	
	Hackman & Oldham	Baird	Hackman & Oldham	Baird
Variety	.71	.73	.19	.41
Task Identity	.59	.73	.12	.34
Significance	.66	.70	.14	.30
Autonomy	.66	.69	.19	.27
Feedback from the Job	.71	.69	.19	.26
Dealing with Others	.59	.41	.15	.25
Feedback from Agents	.78	.77	.15	.35

In order to test the significance of the overall relationships in the model it will be necessary to construct a total task score by summing the five task dimensions plus the dimension referred to as "dealing with others." The rationale for including "dealing with others" in the summation is based on the nature of the organization.

Fifty-eight percent of the sample work in the field where their main function involves client groups. Much of the variety of their work involves working with an array of people. In answering the questions about variety on the questionnaire, the employees evidently responded in terms of the extent to which their job provided dealings with a variety of people. This interpretation is supported by the high correlation ($r = .53$, $p \leq .0001$) between the perceived levels of dealing with others and variety. It was felt that in order to be representative of the jobs in this particular organization, it would be necessary to include dealing with others in the total task score. The scale constructed had an alpha coefficient of .75 indicating an acceptable reliability. According to the theory jobs high on the task dimensions are assumed to be more challenging and require a higher degree of involvement by the individual. Because of these characteristics, jobs which are perceived as high on the total task score will be referred to as being high on perceived job stimulation. Those low on the total task score will be considered low on perceived job stimulation.

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Observer Task Ratings

Jenkins, et al. (1974) criticize the excessive reliance in organizational research on self-report job characteristics because of the problems of bias inherent in these methodologies. They suggest on-site observation of job characteristics by trained observers as a feasible alternative. Such an approach is particularly crucial in the present project because of the necessity of testing hypotheses which deal with variations in perceptions. It becomes necessary to have external ratings from which to measure variances in perception as they relate to individual differences.

In order to obtain the observer ratings, four observers rated each of the eight jobs by using the Job Description Survey. Two of the observers had worked with the organization on a consulting basis establishing a Management Information System. They were, as a result, familiar with the job descriptions and organization procedures of each job as they were formally established. A third observer was the administrative assistant to the Chief Executive. The fourth observer had no other contact with the organization other than the research project. Each of the observers spent approximately one day observing the jobs, reviewing the reporting and budgeting process and becoming familiar with the job descriptions. Before filling out the JDS the observers reviewed the theoretical definitions of the task dimensions and the form which was to be used. Each of the observers then, over the next week, independently observed and filled out the

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forms for each of the eight job classifications. The attempt with this procedure was to maintain agreement on theoretical definitions while establishing independence in the actual rating process.

The average intercorrelation was computed on all the job dimensions. This was done first for all of the observers and second, in order to see if there were any differences between external and internal raters. The average intercorrelations were computed excluding the administrative assistant to the Chief Executive. These intercorrelations are presented in Table 3.

TABLE 3
INTERCORRELATIONS OF OBSERVER RATINGS
ON THE TASK DIMENSIONS

Job Dimensions	Average Intercorrelation for all Four Observers	Average Intercorrelation for the Three Observers Excluding Administrative Assistant
Dealing with Others	.88	.87
Autonomy	.73	.83
Variety	.72	.72
Identity	.25	.60
Significance	.44	.57
Feedback from Job	.58	.74

Overall, the average correlations were lower when the administrative assistant was included. This is perhaps partially explainable because of his involvement in administering the work of the Agency and his actual responsibility for formulating policy. Because of these findings and the desire to remain consistent with the use of external observers, it was decided to use the average of the three external raters as the objective measures. Thus the scores of the administrative assistant to the Chief Executive were not included in the subsequent analyses. The scores for each dimension for all jobs was obtained by summing the ratings of the remaining three observers and dividing by three. As with the perceived task dimensions, the rater observed dimensions were summed to get a total task dimension score. Jobs high on the summed score will be referred to as being high in job stimulation. In order to obtain the high and low groups the scores of the jobs on job stimulation were rank ordered and the top four defined as high on stimulation and the bottom four as low on stimulation. Figure 3 presents the scores of the jobs on the separate task dimensions for each of the jobs. Table 4 presents the scores for the jobs on task stimulation. The data supporting the tables is included in Appendix A.

To partially validate the observer task ratings they were correlated with the means of the employees ratings of their own jobs on the task dimensions. Table 5 presents these correlations.

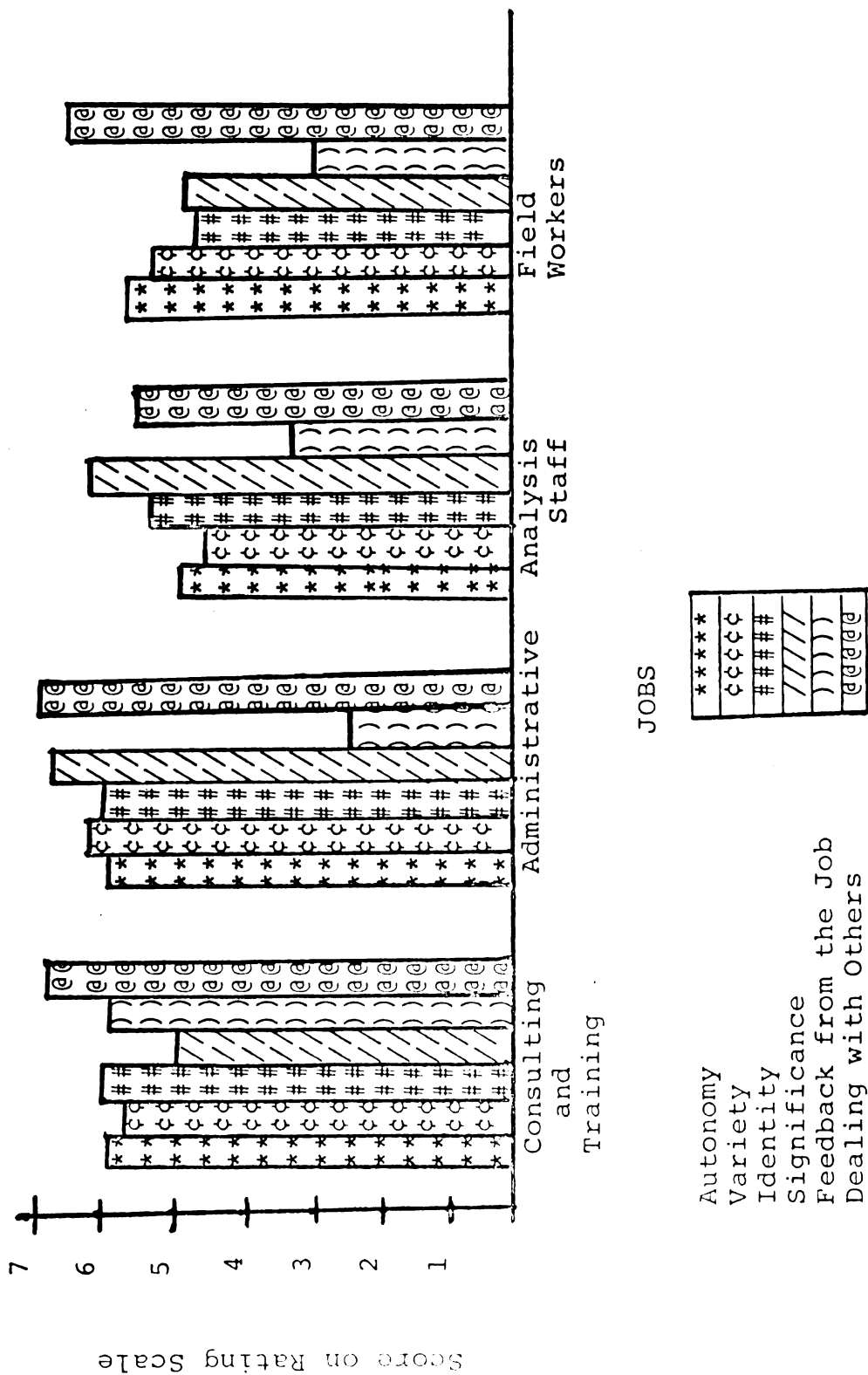


FIGURE 3
SCORES ON THE RATER OBSERVED TASK DIMENSIONS FOR EACH JOB

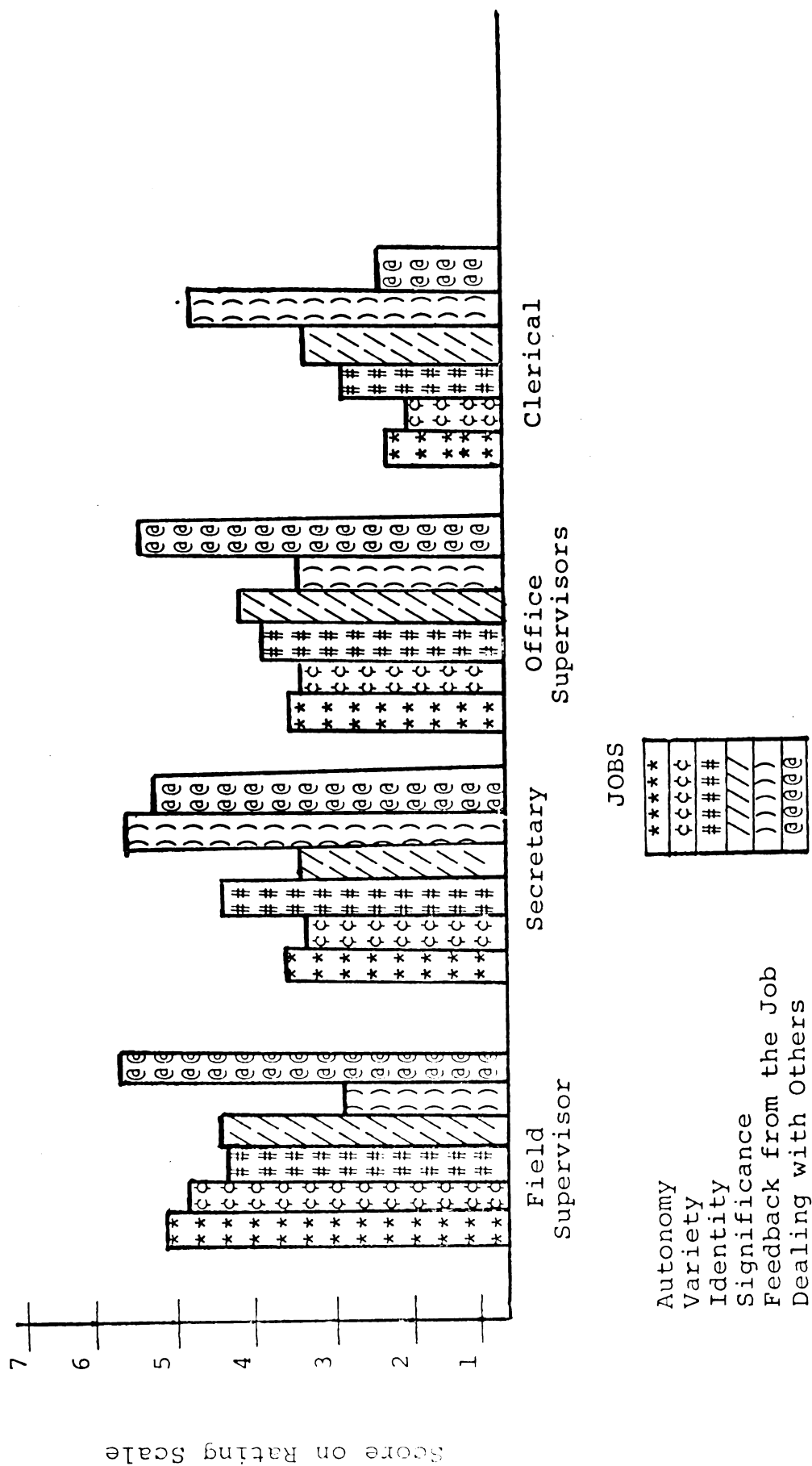


FIGURE 3 (Cont'd)

SCORES ON THE RATER OBSERVED TASK DIMENSIONS FOR EACH JOB

Table 4
 SCORES OF JOBS ON OBSERVER RATED
 TOTAL TASK STIMULATION

Jobs	Observer Rated Total Task Stimulation
High Job Stimulation	
Consulting and Training	34.57
Administrative	33.13
Analysis Staff	29.33
Field Workers	29.11
Low Job Stimulation	
Field Supervisors	29.04
Secretarial	25.89
Office Supervisors	24.45
Clerical	17.04

TABLE 5

Correlation of the Means of the Perceived Task Dimensions
With the Observer Rated Task Dimensions

Task Dimension	Correlation with Observer Rated Task Dimensions
Dealing with Others	.98
Autonomy	.86
Identity	.88
Variety	.98
Significance	.83
Feedback from Job	-.17
Total Task Stimulation	.98

There was substantial agreement between the observers and the respondents on five of the six task dimensions. The sixth, feedback from the job, is significantly negatively correlated with the mean perceived task dimensions. In attempting to explain these differences post hoc, it appears as if the observers were responding to the questions regarding feedback from the job in terms of the time span and concreteness of the feedback. Those jobs which had small task units and immediate feedback such as secretaries and clerical workers were rated higher by the observers. The administrative and data analysis jobs which are characterized by large task units and long feedback cycles tended to receive lower ratings by the observers.

The respondents on the other hand tended to reverse these ratings. Systems Analysts and Administrators reported high feedback from the job and secretaries and clerks low

feedback. The respondents seem to be relating the amount of feedback from the job itself to the extent to which they knew what their impact on the overall goals of the organization were. Those heavily involved in planning and controlling the direction of the Agency who would have a greater knowledge of their own importance tended to perceive themselves as receiving greater feedback from the job itself. Those with lesser jobs perceived themselves as receiving little feedback. Table 6 lists the comparative ratings of the observers and the employees for these jobs.

TABLE 6

RATINGS ON THE TASK DIMENSION FEEDBACK BY
OBSERVERS AND RESPONDENTS

Job Types	Ratings by Observer	Ratings by Respondent
Secretarial	6.00	4.58
Clerical	5.11	4.70
Administrative	2.22	5.28
Systems Analyst	3.78	6.38

The perceived feedback from the job in the study most likely refers to the amount of information available to the respondent about his impact on the total work of the organization. The rater observed feedback on the other hand refers to the concreteness of the feedback available about task performance.

Role Conflict and Role Ambiguity

These are scales developed by Rizzo, House, and Lirtzman (1971) from the theoretical work on stress by Kahn et al. (1964). Role conflict refers to the "incompatibilities or incongruities arising out of perceptions or performance of role requirements." Role ambiguity refers to the lack of complete information or the lack of clarity of behavioral requirements.

The scales were developed using factor analysis on a larger set of items by House, and Rizzo (1969). In a study by House and Rizzo (1969) the role conflict scale had an alpha coefficient of .86 and role ambiguity an alpha coefficient .80. The items in the scales and their internal reliabilities in the present study are listed below.

Role Ambiguity ($\alpha = .71$)

I know exactly what is expected of me.
 Explanation is clear of what has to be done.
 There are clear, planned goals and objectives for my job.
 I feel certain about how much authority I have.
 I know that I have divided my time properly.
 I know what my responsibilities are.

Role Conflict ($\alpha = .70$)

I receive incompatible requests from two or more people.
 I work with two or more groups who operate quite differently.
 I have to do things that should be done differently.
 I do things that are apt to be accepted by one person and not accepted by others.
 I have to buck a rule or policy in order to carry out an assignment.
 I receive an assignment without adequate resources and materials.
 I receive an assignment without the manpower to complete it.

Job Involvement

Lodahl and Kejner (1965), based on the results of previous studies, developed a twenty item job involvement scale to measure the psychological importance of work. Correlated split half reliability estimates for this scale were reported as .72 for a nursing sample and .80 for an engineering sample. The shorter scale of six items was constructed from these twenty items by selecting those items loading highest on the first principle component in the engineering and nursing samples of Lodahl and Kejner. This six item scale was used in the present study. The specific items are listed below.

Job Involvement ($\alpha = .77$)

The major satisfaction in my life comes from my job.
 I live, eat, and breathe my job.
 I am very much involved personally in my work.
 Most things in life are more important than work.
 The most important things that happen to me involve my job.
 I'm really a perfectionist about my work.

Intrinsic Motivation

Lawler and Hall (1970), drawing from previous job involvement and motivation literature, hypothesized the independence of job involvement and intrinsic motivation. They defined job involvement as the psychological importance of work and intrinsic motivation as the extent to which the individual believes that satisfaction of his higher order needs is dependent upon performance in the work situation. They

found all items designed to measure intrinsic motivation loaded above .60 on a common factor and that they were independent of the job involvement items. From the analysis they concluded that intrinsic motivation could be statistically and theoretically distinguished from job involvement.

The scale used in the present study consisted of the four items which loaded above .60 in the Lawler and Hall study and one item suggested by Hall during the development of the present study. The items in the scale are presented below.

Intrinsic Motivation ($\alpha = .88$)

When I perform my job well, it contributes to my personal growth and development.
 Doing my job well increases my feeling of self-esteem.
 A job well done is a good feeling.
 I feel a great sense of personal satisfaction when I do my job well.
 When I do my work well, it gives me a feeling of accomplishment.

Internal vs. External Locus of Control

Rotter's Internal/External Locus of Control Scale (1966) assessing the extent to which the individual believes his outcomes are a function of his own behavior rather than powerful others or luck was used in the study. Rotter reported internal reliabilities of consistently greater than .70 (Rotter, 1966) in numerous studies using the scale. The items in the scale are presented in a forced choice format. A few items are listed below as examples of the scale; the total scale is included in the questionnaire (See Appendix B).

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Internal/External ($\alpha = .70$)

- a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.

- a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.

- a. Unfortunately, the individual's worth often passes unrecognized no matter how hard he tries.
- b. In the long run people get the respect they deserve in the world.

- a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.

Self-Esteem

The scale used to measure self-esteem was developed by factor analyzing a larger set of items developed by Coopersmith (1967).¹ The Coopersmith 56 item self-esteem questionnaire was modified to be applicable to an adult population and administered to 48 students in an undergraduate class at Michigan State University. The final self-esteem scale used was constructed from these responses considering three criteria:

- 1) A factor analysis was done using a principle component analysis. The first factor after rotation accounted for 62% of the variance. Those items with factor loadings of .40 and over on this factor were considered for inclusion in the instrument used in the present study.

¹The Ghiselli Self-Assurance Scale (Ghiselli, 1971) is the commonly used measure of self-esteem in organizational research. However because of the low reliabilities obtained in past research (.56 in Ghiselli's original study) it was decided to develop another measure of self-esteem.

- 2) Biserial correlation coefficients between each item and the total score was computed. Those items with correlations of .50 or over were analyzed for possible inclusion.
- 3) The theoretical meaning of each item was considered.

Using these three criteria, ten items were selected for inclusion in the self-esteem scale. In the research project the instrument had an internal reliability estimated by KR-20 of .76.

Self-esteem ($\alpha = .76$)

Like Me Unlike Me

_____	_____	I'm pretty sure of myself.
_____	_____	I never worry about anything.
_____	_____	I'm pretty happy.
_____	_____	I have a low opinion of myself.
_____	_____	I don't like to be with other people.
_____	_____	I often feel ashamed of myself.
_____	_____	If I have something to say I usually say it.
_____	_____	People very often pick on me.
_____	_____	I don't care what happens to me.
_____	_____	I'm a failure.
_____	_____	Most people are better liked than I am.
_____	_____	I can't be depended on.

Job Descriptive Index

The Job Descriptive Index (Smith, Kendall, and Hulin, 1969) consists of five scales measuring satisfaction with work itself, pay, opportunities for promotion, supervision, and people on the job. It was developed during the "Cornell Studies on Satisfaction" and has been extensively used in organizational research. Several studies reported by Smith, Kendall, and Hulin (1969) support the independence of the job

factors used in the instrument. Smith, et al. (1969) conclude from their research that job attitudes "result from discriminable responses to specific aspects of job conditions."

A total satisfaction scale was constructed by summing the scores on the five satisfaction items. This was done to obtain a general overall measure of the employees satisfaction with his work situation. The formula used for summation was:

Total Satisfaction = Satisfaction with work + 2 x satisfaction with promotions + 2 x satisfaction with pay + satisfaction with people + satisfaction with supervision.

The multiplications were necessary because in the scales for satisfaction with promotions and pay there were 18 possible points compared to 36 on the other scales. The satisfaction with work scale is presented below as an example of the format of the scales. All of the scales are present in the questionnaire in Appendix A.

Think of your present work. What is it like most of the time? In the blank beside each work given below, write

Y for "Yes" if it describes your work.
N for "No" if it does NOT describe it.
? if you cannot decide.

WORK ON PRESENT JOB

<u> </u> Fascinating <u> </u> Routine <u> </u> Satisfying <u> </u> Boring <u> </u> Good <u> </u> Creative <u> </u> Respected <u> </u> Hot	<u> </u> Useful <u> </u> Tiresome <u> </u> Healthful <u> </u> Challenging <u> </u> On your feet <u> </u> Frustrating <u> </u> Simple <u> </u> Endless
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Social Desirability

Since a large portion of the data to be collected in the study will be self report it will be necessary to control for the "halo effect." One scale which has been suggested (Wiggins, 1968) is the Crowne and Marlow social desirability scale. This scale attempts to measure the respondent's tendency to answer in the positive direction independent of his actual position or attitudes.

In an attempt to shorten the 33 item Crowne/Marlow instrument the original scale was administered to 48 undergraduate management students at Michigan State University. The responses were factor analyzed using principal components analysis. The first factor accounted for .66 percent of the variance. The same criteria used for selecting items included in the self-esteem scale were used to develop the social desirability scale. The scale constructed had ten items and an internal reliability of .50. The items in the scale are listed below.

Social Desirability ($\alpha = .50$)

Like Me	Unlike Me
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_____	_____	It is sometimes hard for me to go on with my work if I am not encouraged.
_____	_____	I have never intensely disliked anyone.
_____	_____	If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.
_____	_____	I am sometimes irritated by people who ask favors.
_____	_____	No matter who I'm talking to, I'm always a good listener.

_____	_____	I sometimes try to get even, rather than forgive and forget.
_____	_____	There have been occasions when I felt like smashing things.
_____	_____	There have been times when I was quite jealous of the good fortune of others.
_____	_____	I have never deliberately said something that hurt someone's feelings.
_____	_____	I sometimes think when people have a misfortune they only got what they deserved.

Field dependence/Field independence

Because of the group administration procedures which were used in the present study the Group Embedded Figures Test (GEFT) developed by Oltman, Rasking, and Witkin (1970) was used to measure field dependence/field independence. This test was developed to be a measure of perceptual functioning in group administrations. An analysis using the GEFT Oltman et al. (1970) obtained a .82 first half-second half reliability.

Performance Ratings

The instrument used to measure performance was an a priori scale developed for the present research to measure overall performance on the job. It consisted of two sections:

Section I - was an absolute rating comparing the ratee to workers in general on five different dimensions; ability, effort, quality of work, quantity of work, and overall performance. The response mode was a Likert format with five choices ranging from "excellent" to "poor".

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Section II - was a comparative rating evaluating the individual relative to other employees who reported to the same supervisor. The response mode for this section was a six point percentile ranking of the subordinate in each of the five categories used in Section I.

This format was adopted in an attempt to eliminate some of the central tendency and leniency commonly associated with a Likert type response scale. The intent was to allow the raters to respond first in a global positive manner and then ask them to make a specific comparison of the ratee with immediate subordinates or peers. It was felt that this would allow the raters to be very positive about the group (in Section I) and at the same time rank people within the group (in Section II). The intent was then to score only the second section as the evaluation.

After collecting the performance ratings from the superiors they were standardized within the groups which reported to one superior. This was done in an attempt to eliminate response bias of the superior. The assumption made with this approach was that performance varied within and not particularly between groups. Each group thus had high and low rated individuals on the standardized scores. The scales as they appeared in the questionnaire are included below. These forms were filled out by all superiors for each subordinate reporting directly to them. The superior rating form is included in Appendix E.

Administration of the Instruments

It was decided after consulting with the Division Chiefs that the best procedure would be to administer the instruments in groups of ten to twenty. This would allow the researchers to be available to answer questions and control the administration.

The instruments were administered to the office staffs at each of the two main office locations of the Agency. It was administered to the field workers at training sessions which were scheduled within each division. At each administration the procedure was for the researchers to meet the administrator in charge of a particular work section at the appointed time. The administrator would call the workers in his unit together in a central area and introduce the researchers as coming from Michigan State University to conduct a "Job Characteristics Study". The researchers would then explain the project as a study of jobs and give a general idea of its purpose. Questions pertaining to the study were then answered. The attempt was made, in responding, not to give specific information regarding the scales or anticipated outcomes.

There were four divisions where it was impossible because of geographic dispersion and the time involved for the field staffs to meet for group administrations. It was therefore necessary to contact these field workers by mail. In the mailing, the chief executive included a letter supporting the project and authorizing administrative time to

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be taken to complete the instruments. The researchers sent to each respondent 1) an introductory letter and set of instructions regarding the instruments and 2) a pre-addressed stamped envelope for the respondent to return the instruments to Michigan State University. Copies of these documents are included in Appendix F. Sixty-four field workers and supervisors were involved in this mailing of which forty-nine were returned for a response rate of 77%.

Methodology

Prior to actually testing the hypotheses, several initial analyses were conducted in an attempt to reduce the data to its most valid form. These analyses and their results are detailed below.

Social Desirability

The research design specified that social desirability be held constant to partially correct for response bias. In order to evaluate the effectiveness of this approach the Pearson correlation coefficients of the scales with each other were compared to their corresponding first-order partial correlations holding social desirability constant. Although social desirability was significantly correlated with most of the other scales (See Table 7) there was no significant differences between the Pearson and partial correlations (See Table 8). It was concluded that for the present study social desirability, as measured, was not

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Table 7
CORRELATION OF SOCIAL DESIRABILITY TO THE
OTHER SCALES IN THE STUDY

Scales	Correlations
Total Perceived Task Dimension	-.17**
Total Satisfaction	-.20**
Role Ambiguity	.03
Role Conflict	.09
Self-Esteem	.07
Job Involvement	-.20***
Psychological Differentiation	.10
Intrinsic Motivation	-.10
Internal/External	-.10

Note N=214

*p < .05
**p < .01
***p < .001

TABLE 8

COMPARISON OF THE CORRELATIONS AND PARTIAL CORRELATIONS
HOLDING SOCIAL DESIRABILITY CONSTANT¹

	Total Perceived Task Dimensions	Total Satisfaction	Role Ambiguity	Role Conflict	Self-Esteem	Job Involvement	Field Dependence	Internal/External	Intrinsic Motivation
Total Perceived Task Dimensions	1								
Total Satisfaction	.39 .37	1							
Role Ambiguity	-.23 -.23	-.30 -.30	1						
Role Conflict	-.04 -.02	-.30 -.29	.38 .38	1					
Self-Esteem	+.16 +.15	+.17 +.16	-.16 -.15	-.14 -.13	1				
Job Involvement	.37 .34	.26 .23	-.27 -.27	.04 .06	.15	1			
Field Dependence	-.16 -.14	.10 .12	.15 .15	.19 .19	+.06 .05	.07 -.05	1		
Internal/External	.19 .17	.28 .27	-.24 -.24	-.17 -.16	-.10 -.09	.23 .21	-.05 -.05	1	
Intrinsic Motivation	.35 .34	.18 .16	-.34 -.34	-.04 -.03	-.09 -.08	.54 .54	-.16 -.15	.16 .15	1

note if R > .21, p < .001

if R > .17, p < .01

if R > .11, p < .05

¹Top-Pearson Correlation

Bottom-Partial Correlation holding social desirability constant

influencing responses to the questionnaire. There was therefore no need to partial out social desirability in the analysis.

Job Level

Another covariate commonly associated with attitudes and behaviors in organizations which may have affected questionnaire responses is job level. (See Porter and Lawler, 1968, and Hamner and Tosi, 1974). This possibility is supported by the correlations from the present study between satisfaction items and job level (See Table 9). In view of the findings it was decided to hold job level constant throughout the analysis.

Missing Data on Field Dependence

A second area where it was anticipated that the validity of the data could be increased was with the field dependence scores. The test itself is a timed exercise which demands researcher control. Because of the necessity to contact sixty-one of the employees by mail, it was impossible to maintain the proper degree of control over the administration of the test. The test booklets were, however, included in the mailings with appropriate instructions. The average score on the forty-nine responses received from the field staff by mail far exceeded the mean score for those field staff personnel to whom the test was administered personally (See Table 10). Due to this substantial difference, which is most likely attributable to lack of researcher control, it was decided not to include the mailed responses

TABLE 9

CORRELATION BETWEEN SATISFACTION ITEMS AND JOB LEVEL¹

Satisfaction with	Correlations
Work	.27***
Promotions	.18**
Pay	.27***
People	.12*
Supervision	.20**
Total Satisfaction	.32***

Note N=214

*p < .05
 **p < .01
 ***p < .001

¹ jobs have been assigned to job levels according to the following classification:

Level 1	Administration
Level 2	Analysis Staff
Level 3	Field Supervisors
Level 4	Office Supervisors
Level 5	Field Inspectors, consulting and training
Level 6	Clerical, Secretarial

in analyses which dealt with field dependence. The results for the forty-nine mailed respondents were therefore treated as missing data on the field dependent scales.

TABLE 10
ANALYSIS OF VARIANCE FOR FIELD DEPENDENCE

Source of Variation	df	MS	F
Field Dependence	1	505.05	19.01***
Error	111	26.57	

***p < .001

Statistical Techniques

Many of the hypotheses deal with the differences in perceptions and responses of individuals who are low on various individual difference dimensions compared to those who are high on these same dimensions. When such comparisons are necessary the high and low groups will be defined by a median split on the individual difference of interest. The two groups will then be treated as independent populations for the correlational and covariance analysis. In cases where interactions are hypothesized, each of the independent variables will be split at the median to create the subgroups on which an analysis of covariance was done. As a result

of the preliminary findings of the effect of job level, analysis of covariance and partial correlation analysis were the main statistical techniques used. In both statistical techniques, job level was held constant. When the analysis of covariance indicated that there were significant differences, a Scheffe test was conducted to analyze the differences in the adjusted cell means. Because of the high intercorrelations among both the perceived task dimensions and the satisfaction scales, each analysis of covariance involving these measures as dependent variables included a multivariate analysis of covariance. This methodology adjusts for the scale intercorrelations and considers all of the dependent variables simultaneously. This makes it possible to draw inferences about the impact of the independent measures on the global concepts of satisfaction and perceived task stimulation.

The Path Analysis

After each of the hypotheses was tested using the appropriate statistical technique, the significance of the linkages in the model was tested using path analysis. Path analysis is an attempt to build a set of recursive multiple regression equations based on how the theories suggest the variables should be related to each other (Duncan 1966 and Land 1969). The general restriction on the use of path analysis is that it be used when the variables are assumed to be related in a linear, additive, and asymmetric (causal)

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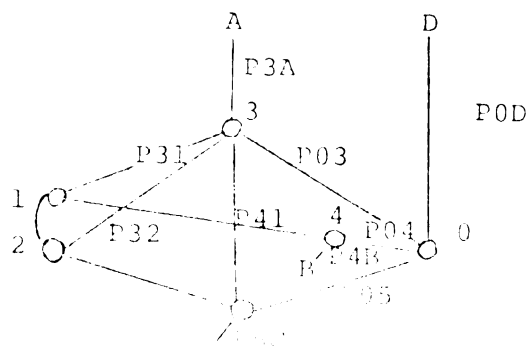
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fashion. One of the differences of path analysis and normal multiple regression procedures is that each of the dependent variables is regarded as completely determined by the variables in the system. Where the variation of a particular dependent variable is not fully accounted for by the other variables in the system, a residual variable is added. This residual variable is assumed to account for the remaining unexplained variance. Land (1969) has demonstrated in his review of path analysis that the residual path coefficient "represents the proportion of the standard deviation, and its square represents the proportion of the variance, of the endogenous (a variable which is dependent on others in the system) variable that is caused by all (unmeasured) variables outside of the set under consideration in the path model". Mathematically the path coefficients of the residual is equal to $\sqrt{1-R^2}$ where R^2 is the squared multiple correlation coefficient obtained from the multiple correlation of the independent on the dependent variable.

As an example of the principles discussed above, a path diagram is included below and the set of recursive equations which it represents listed. In the diagram A,B,C,D represent the residuals.



The equations for this diagram are:

$$Z_3 = P_{31}Z_1 + P_{32}Z_2 + P_{3A}Z_A$$

$$Z_4 = P_{41} + P_{4B}Z_B$$

$$Z_5 = P_{53} + P_{52}Z_2 + P_{5C}Z_C$$

$$Z_0 = P_{03}Z_3 + P_{04}Z_4 + P_{05}Z_5 + P_{0D}Z_D$$

Developing the path coefficients is a multiple regression process (see Goldberg, 1970). Initially all possible paths among the variables in the system to be tested are identified. Then a standardized multiple regression is computed for each of the variables in the system with each of the variables further back in the system acting as the independent variables. Thus for the diagram present above the standardized multiple regressions would be done for:

Z_0 on Z_5 , Z_4 , Z_3 , Z_2 , and Z_1

Z_5 on Z_4 , Z_3 , Z_2 , and Z_1

Z_4 on Z_3 , Z_2 , and Z_1

Z_3 on Z_2 and Z_1

After this is done, the next step is to do a significance test on each of these regression coefficients and eliminate the insignificant ones. This then makes it necessary to run a new regression without the insignificant paths because they most likely will change. An alternative to this method is to do a step-wise multiple regression and terminate the addition of new variables when their significance falls below a certain significance level. This would

present the same resulting regression equation and also suggest how the addition of each variable affected the system. This will be the method used in the present study.

As Goldberg (1970) suggests, path analysis does not order the variables in their causal sequence for the researcher but instead provides a test to determine whether the established order is internally consistent and statistically significant. Thus path analysis as it will be applied to the present model should provide a way of testing the significance of the relationships and eliminating the insignificant ones.

CHAPTER III

RESULTS

Chapter Three will report the results of the test of hypotheses developed in Chapter Two. First the hypotheses will be restated. Then the results of the appropriate statistical analyses will be reported. Where there are significant results a brief statement will be included describing them. The results will be presented in four sections; task redefinition, task role linkage, task output, and the results of the path analysis.

Hypotheses From Stage I: Task Redefinition

- Hypothesis 1. There will consistently be a higher correlation between perceived and objective measures of task dimensions for individuals who are field independent than for individuals who are field dependent.

The results in Table 11 below show that field dependence/field independence did not significantly moderate the relationship between rater observed task dimensions and employee perceived task dimensions. These data do however suggest an agreement between observers and employees on their descriptions of all task dimensions except feedback from the job.

TABLE 11
PARTIAL CORRELATIONS¹ OF RATER TASK DIMENSIONS WITH
EMPLOYEE PERCEIVED TASK DIMENSIONS

Task Dimension	Total Sample	Partial Correlation		Significance of Difference
		Field Dependent	Field Independent	
Autonomy	.29***	-.02	.20*	ns
Variety	.56***	.38***	.58***	ns
Identity	.29***	.11	.21*	ns
Significance	.31***	.16	.43***	ns
Feedback from Job	-.06	-.11	.10	ns
Dealing with Others	.39***	.33**	.39***	ns
Total Task Stimulation	.52***	.28**	.46***	ns

NOTE, Field dependent n=72
Field independent n=72
Total sample n=214

¹ Job level has been partialled

² Respondents with mailed questionnaires were defined as missing data and are not included in this analysis

***p < .001

**p < .01

*p < .05

Hypothesis 1. Internals will consistently perceive higher levels of the task characteristics than externals.

This hypothesis was tested using a one way analysis of covariance. A median split on locus of control was used to create the two subgroups for which the dependent variables of perceived task dimensions were analyzed. The results presented in Table 12 show that on variety and identity the univariate F was significant at the .05 level, with the mean difference in the predicted direction. All other dimensions were not significant at this level. This in part accounts for the insignificant multivariate F ($F=1.39$, $P<.22$ with 6 and 206 DF).

Hypothesis 3. Perceived task characteristics will vary in relation to both the objective task characteristics and the job involvement of the individual.

In order to test the hypothesized relationship of both objective task characteristics and job involvement to perceived tasks, a two-way split of the sample was necessary. The subjects were first divided into those who worked on jobs high on job stimulation and those on jobs which were low on job stimulation, according to the observers ratings of their jobs. (See Table 4 for the actual split of the jobs). These two subgroups were then divided again into those who were low and high on job involvement.

The analysis of covariance supports Hypothesis 3. All of the task dimensions exhibited significant interactions (See Tables 13 to 18). Further analyses were conducted

TABLE 12
ADJUSTED MEANS FOR PERCEIVED TASK
DIMENSIONS

Perceived Task Dimensions	Locus of Control	
	External	Internal
Autonomy	4.97	5.29
Variety	5.07	5.48
Identity	5.19	5.57
Significance	6.12	6.31
Feedback from Job	4.99	5.34
Dealing with Others	5.46	5.55

Note: Externals n=107
Internals n=107

ANALYSIS OF COVARIANCE FOR PERCEIVED TASK
DIMENSIONS

Source of Variation	df	MS	F
Dealing with Others	1	.44	.30
Autonomy	1	5.04	3.05
Variety	1	8.49	5.53*
Identity	1	7.37	3.92*
Significance	1	1.87	1.87
Feedback from Job	1	6.40	3.52
Error	211		

*p < .05

Multivariate F=1.39 with 6 and 206 df, p .22, ns

TABLE 13

ADJUSTED CELL MEANS FOR
PERCEIVED AUTONOMY

Job Involvement	Job Stimulation	
	Low	High
Low	1 4.34	3 5.44
High	2 5.23	4 5.25

Comparison of Adjusted Cell Means $1 < 2 = 3 = 4$

ANALYSIS OF COVARIANCE FOR
PERCEIVED AUTONOMY

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	14.68	9.49**
Job Involvement(B)	1	2.71	1.75
A x B	1	14.35	9.28**
Error	209	1.55	

***p<.001

**p<.01

*p<.05

TABLE 14
ADJUSTED CELL MEANS FOR
PERCEIVED VARIETY

Job Involvement	Job Stimulation	
	Low	High
Low	1 3.85	3 5.55
High	2 5.18	4 5.94

Comparison of Adjusted Cell Means $1 < 2 = 3 = 4$

ANALYSIS OF COVARIANCE FOR
PERCEIVED VARIETY

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	69.28	63.18***
Job Involvement(B)	1	29.52	26.92***
A x B	1	11.01	10.05**
Error	209	1.10	

***p<.001

**p<.01

*p<.05

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TABLE 15
ADJUSTED CELL MEANS FOR
PERCEIVED IDENTITY

Job Involvement	Job Stimulation	
	Low	High
Low	1 4.75	3 5.81
High	2 5.16	4 5.47
Comparison of Adjusted Cell Means $1=2<3=4$		

ANALYSIS OF COVARIANCE FOR
PERCEIVED IDENTITY

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	21.74	12.10***
Job Involvement(B)	1	.18	.10
A x B	1	7.22	4.02*
Error	209	1.80	

*** $p < .001$

** $p < .01$

* $p < .05$

TABLE 16
ADJUSTED CELL MEANS FOR
PERCEIVED SIGNIFICANCE

Job Involvement	Job Stimulation	
	Low	High
Low	1 5.40	3 6.40
High	2 6.18	4 6.55

Comparison of Adjusted Cell Means 1<2=3=4

ANALYSIS OF COVARIANCE FOR
PERCEIVED SIGNIFICANCE

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	21.42	23.45***
Job Involvement(B)	1	7.90	8.65**
A x B	1	5.13	5.61**
Error	209	.91	

***p<.001

**p<.01

*p<.05

TABLE 17
ADJUSTED CELL MEANS FOR
PERCEIVED FEEDBACK FROM THE JOB

Job Involvement	Job Stimulation	
	Low	High
Low	1 4.26	3 5.39
High	2 5.24	4 5.43

Comparison of Adjusted Cell Means $1 < 2 = 3 = 4$

ANALYSIS OF COVARIANCE FOR
PERCEIVED FEEDBACK FROM THE JOB

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	20.03	11.84**
Job Involvement(B)	1	8.07	4.77*
A x B	1	11.13	6.58**
Error	209	1.69	

***p<.001

**p<.01

*p<.05

TABLE 18

ADJUSTED CELL MEANS FOR
PERCEIVED DEALING WITH OTHERS

Job Involvement	Job Stimulation	
	Low	High
Low	1 4.63	3 5.61
High	2 5.82	4 5.74

Comparison of Adjusted Cell Means $1 < 2 = 3 = 4$

ANALYSIS OF COVARIANCE FOR
PERCEIVED DEALING WITH OTHERS

Source of Variation	df	MS	F
Total Job Stimulation(A)	1	9.08	6.91**
Job Involvement(B)	1	15.09	11.50***
A x B	1	14.80	11.27***
Error	209	1.31	

***p <.001

**p <.01

*p <.05

using the Scheffe test for planned comparison of the adjusted cell means. These analyses demonstrated that individuals low on job involvement in non-stimulating tasks perceive their jobs as significantly lower than all other respondents on four of the task dimensions; significance, autonomy, dealing with others, and feedback from the job. For task identity those low on job involvement reported lower task identity in jobs both low and high on job stimulation. These results would tend to indicate that the effects of task stimulation are greatest for people who are least involved in their jobs.

Hypothesis 4. Individuals will tend to be accurate in their evaluations of their own performance only when their level of performance is congruent with their self-esteem.

To test Hypothesis 4, the total sample was first split at the integer closest to the median on the self-esteem scale. This created subgroups of 64 high self-esteem individuals and 103 low self-esteem individuals. These two subgroups were then split at the median on superior ratings of performance. This created a 2 x 2 design with high and low self-esteem and high and low performance. To develop the dependent variable employees own ratings of their performance were first standardized for the whole sample. This was done to put the subordinates own performance ratings on the same scale as the superior performance ratings. A difference score was then computed as a measure of the agreement between superior and subordinate on ratings of performance.

This was computed by subtracting the subordinate's performance ratings from the superior's performance ratings. Thus a negative difference score indicates that the subordinate rated himself higher than the superior and a positive difference score indicates that the superior was higher. The results of the analysis are presented in Table 19.

The hypothesis was supported for those high on self-esteem but was not supported for those low on self-esteem. High self-esteem individuals who were performing poorly rated their performance significantly higher than did their superiors. Also in high performing situations they rated themselves lower than their superiors. The mean difference scores for low self-esteem individuals were not statistically different in the low and high performance subgroups.

Hypotheses from Stage II: Task Role Linkages

The second stage of the model deals with the relationship of task to role outcomes. Two hypotheses were suggested for this stage, one deals with the variations in perceived role dimensions as a function of individual differences and the other deals with the antecedents of role dimensions. The results of the analysis for these hypotheses are presented below.

TABLE 19
MEANS FOR DIFFERENCE SCORES

Superior Performance Rating	Self Esteem	
	Low	High
Low	1 -.17	3 -.74
High	2 .21	4 .64

NOTE, cell 1 n=51
 cell 2 n=52
 cell 3 n=32
 cell 4 n=32

Comparison of Means 1=2
 3<4

ANALYSIS OF VARIANCE FOR
DIFFERENCE SCORES

Source of Variation	df	MS	F
Self Esteem(A)	1	.22	.16
Superior Rated Performance(B)	1	24.04	16.97***
A x B	1	9.85	6.95**
Error	163	1.42	

***p<.001

**p<.01

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The Antecedents of Role Dimensions

Hypothesis 5. Role ambiguity will correlate more highly with task variables than will role conflict.

Hypothesis 5 regarding tasks as the antecedents of role ambiguity and not role conflict is partially supported (See Table 20). The Employee Perceived Task Dimensions of variety, significance, feedback from the job and total perceived tasks stimulation were significantly more correlated with role ambiguity than role conflict, supporting the hypothesis. Dealing with Others, although not statistically significant, also had partial correlations in the expected direction. Two of the perceived task dimensions (autonomy and identity) exhibited no statistical or directional differences in their correlations with role conflict and role ambiguity.

TABLE 20
PARTIAL CORRELATIONS¹ OF ROLE AND TASK DIMENSIONS

Task	Role Dimensions		Significance of Difference of Partial-Correlation
	Conflict	Ambiguity	
Dealing with Others	.03	-.09	NS
Autonomy	-.18**	-.14*	NS
Variety	.06	-.13*	.01
Identity	-.08	-.08	NS
Significance	-.03	-.22***	.01
Feedback from the Job	-.10	-.28***	.01
Total Task	-.08	-.24***	.01

NOTE, N = 211

¹ job level has been partialled

***p<.001

**p<.01

*p<.05

Perception of Role Dimensions

Hypothesis 6. Internals will consistently report lower levels of role ambiguity than externals.

Table 21 shows the results of the analysis of covariance testing Hypothesis 6. The results strongly support the Hypothesis. Internals consistently reported less ambiguity than externals ($P < .007$). Although no specific Hypothesis was formulated regarding role conflict it was also found that internal individuals consistently report lower levels of conflict (See Table 22).

TABLE 21

ADJUSTED CELL MEANS FOR ROLE AMBIGUITY

	External	Internal
Role Ambiguity	2.621	2.27

ANALYSIS OF COVARIANCE FOR ROLE AMBIGUITY

Source of Variation	df	MS	F
Role Ambiguity	1	6.36	7.43**
Within	211	.86	

** $p < .01$

TABLE 22

ADJUSTED CELL MEANS FOR ROLE CONFLICT

	External	Internal
Role Conflict	3.19	2.86

ANALYSIS OF COVARIANCE FOR ROLE CONFLICT

Source of Variation	df	MS	F
Role Conflict	1	5.60	4.84*
Within	211	1.16	

** $p < .05$

Hypotheses from Stage III - Task Output

The third stage of the model deals with the relationship of the previous organizational and individual variables to satisfaction and performance. The hypotheses formulated deal with the way in which individual differences moderate the input of the task variables.

Field Dependence/Field Independence

Hypothesis 7a. Dissatisfaction will be more associated with role conflict than role ambiguity for field dependent individuals.

7b. Dissatisfaction will be more associated with role ambiguity than role conflict for field independent individuals.

Using the original two way split of the sample into field dependent and field independent, there were no significant differences in the correlations between satisfaction and the role stress variables. It was decided to try a three way split and use the top and bottom thirds as the subgroups. Using this split the hypothesized differences are partially supported for field dependent individuals (See Table 23). Their reports of satisfaction with promotions, supervision, and total satisfaction were significantly more correlated with role conflict than role ambiguity. For satisfaction with work, pay and people, there were no significant differences in

the partial correlations for field dependent individuals. For field independent individuals none of the partial correlations were different.

TABLE 23
PARTIAL CORRELATION¹ OF SATISFACTION
ITEMS WITH THE ROLE DIMENSIONS

	Satisfaction Items	Role Stress		Significance of Difference
		Perceived Role Conflict	Perceived Role Ambiguity	
Field Dependent	Work	-.02	-.15	NS
	Promotions	-.26*	.10	.05
	Pay	-.22	-.06	NS
	People	-.22	-.14	NS
	Supervision	-.34**	.01	.05
	Total	-.41**	-.10	.05
Field Independent	Work	-.35**	-.35**	NS
	Promotions	-.37**	-.19	NS
	Pay	-.09	.04	NS
	People	-.24*	-.40**	NS
	Supervision	-.31*	-.36**	NS
	Total	-.42**	-.35**	NS

NOTE, The analysis was done using the top and bottom third in the three way split. Therefore, Field Dependent N = 50, Field Independent N = 50.

¹job level has been partialled

***p<.001

**p<.01

*p<.05

Hypothesis 8a. Satisfaction with work will be more highly correlated with the task dimensions for Internal than External individuals.

As predicted by Hypothesis 8a, individuals who have an internal locus of control seem to be more oriented towards task accomplishment than individuals with an external locus of control. This is evidenced by the significantly higher correlation between satisfaction with work and all of the task dimensions except dealing with others and identity (See Table 24).

Hypothesis 8b. Satisfaction with work will be more highly correlated with role stress variables for external than internal individuals.

Hypothesis 8b dealing with the relationship between satisfaction with work and the role dimensions for internal vs. externals was only partially supported (See Table 25). Reports of satisfaction with work for Externals were significantly more correlated with role conflict than for Internals. There were no differences in the correlations of role ambiguity with work satisfaction for Internals vs. Externals.

Hypothesis 9. Satisfaction will be related to performance only in jobs high on task stimulation and only for people high on self-esteem. For tasks low in stimulation there will be no relationship between satisfaction and performance.

Hypothesis 9 was tested using an analysis of covariance. To create the 2 x 2 x 2 design, jobs were initially split into stimulating and nonstimulating. These two subgroups were then split on self-esteem by using the numerical value on the self-esteem scale closest to the

PARTIAL CORRELATION¹ OF WORK SATISFACTION
WITH PERCEIVED TASK DIMENSIONS

Perceived Task Dimensions	Groups			Significance of Difference
	Total Sample	Externals	Internals	
Dealing with Others	.39***	.35***	.38***	NS
Autonomy	.37***	.18*	.48***	.05
Variety	.55***	.39***	.63***	.05
Identity	.20***	.07	.17**	NS
Significance	.42***	.17**	.54***	.01
Feedback from the job	.22***	.25**	.54***	.05
Total Task	.55***	.36***	.67***	.01

NOTE, Total sample N=214
Externals N=104
Internals N=104

¹job level has been partialled

***p .001
**p .01
*p .05

TABLE 25

PARTIAL CORRELATION¹ OF WORK SATISFACTION
WITH PERCEIVED ROLE DIMENSIONS

Perceived Role Dimensions	Total Sample	External	Internal	Significance of Difference
Conflicte	-.13	-.30***	-.05	.05
Ambiguity	-.19	-.25**	-.20*	NS

NOTE, Total Sample N=214
Externals N=104
Internals N=104

¹job level has been partialled

***p .001
**p .01
*p .05

median as the dividing point and also on performance by using a median split. The dependent measures were the five satisfaction scales. In order to support the hypothesis, it would be necessary for satisfaction to be highest in the condition of high performance, high self-esteem, and high job stimulation.

This hypothesized interaction did not receive strong support. However, two significant interactions relevant to the present study were found. One interaction was between self-esteem and performance for the dependent variable of satisfaction with supervision. The multiple F considering all of the satisfaction scales simultaneously was significant at the .08 level. This is high enough to allow conservative interpretation of the significant univariate F. Analysis of the cell means using the Scheffe test on self-esteem shows that individuals high on self-esteem who were performing poorly reported lower satisfaction with supervision than high performing individuals who were high on self-esteem. There were no other differences in the cell means (See Table 26).

On the second interaction, although the univariate F was significant ($F=4.14$, $P .04$) for satisfaction with work, the multivariate F is not significant. Thus these results may be suggestive of possible relationships but by themselves are not strong enough for valid interpretation.

Hypothesis 10. Satisfaction will be related to performance only in jobs high on task stimulation and only for people high on intrinsic motivation.

TABLE 26

ADJUSTED CELL MEANS FOR
SATISFACTION WITH SUPERVISION

Self-Esteem	Performance	
	Low	High
Low	41.60 ¹	41.91 ³
High	38.01 ²	46.06 ⁴

Comparison of Adjusted Cell
Means 2<4

ANALYSIS OF COVARIANCE FOR
SATISFACTION WITH SUPERVISION

Source of Variation	df	MS	F
Task Stimulation	1	7.99	.07
Self-Esteem	1	18.81	.16
Performance	1	881.59	7.47**
Task Stimulation X Self-Esteem	1	139.06	1.18
Task Stimulation X Performance	1	5.17	.04
Self-Esteem X Performance	1	649.35	5.50*
Task Stimulation X Self-Esteem X Performance	1	.26	0
Error		117.96	

***p<.001

**p<.01

*p<.05

To test Hypothesis 10 a 2 x 2 x 2 analysis of covariance was used. The factorial design was created by first splitting the sample into jobs low and high on job stimulation. Each subgroup was then divided successively at the median on intrinsic motivation and superior rated performance. The satisfaction scales were the dependent variables.

The hypothesized interaction was not found. There was only one significant interaction and the multiple F considering all of the dependent variables simultaneously was not significant. This would suggest caution in interpreting the significant univariate F. The fact that these same findings were present in the analysis for Hypothesis 7, which involved different splits of the data, adds significance to the results and suggests that interpretation is possible.

In both analyses the significant interaction involved the factors of job stimulation and performance. Low performers working on nonstimulating jobs reported significantly lower satisfaction with their work than all other subgroups (see Table 27).

The Results of the Path Analysis

Step-wise multiple regression equations were developed to define the relationships in stages II and III of the model. Stage I was not included because the observer task

TABLE 27
ADJUSTED MEANS FOR SATISFACTION
WITH WORK

Performance	Task Stimulation	
	Low	High
Low	1 31.03	3 38.98
High	2 37.65	4 40.21

Comparison of Adjusted Cell Means $1 < 2 = 3 = 4$

ANALYSIS OF COVARIANCE FOR SATISFACTION WITH WORK

Source of Variation	df	MS	F
Task Stimulation(A)	1	620.69	8.23**
Intrinsic Motivation(B)	1	1198.53	15.90***
Performance(C)	1	386.65	5.13*
B x C	1	52.94	.70
A x C	1	342.19	4.54*
A x B	1	67.11	.89
A x B x C	1	42.88	.57
Error	158	75.39	

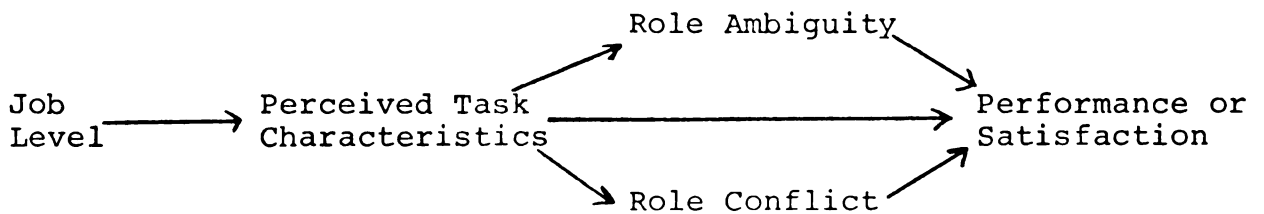
***p<.001

**p<.01

*p<.05

ratings were done based on the job classifications, creating a sample size of only eight (N=8). The rest of the variables were based on a sample size of 214. The multiple regression analysis used could not account for this difference in sample size in the analysis.

In an attempt to remain consistent with the rest of the analysis it was also decided to include job level as a variable in the system. Consistent with its use in the rest of the analysis, job level was considered in the model as a structural variable which would most likely have an impact on the nature of the relationships among the other variables in the system. It was thus entered as prior to perceived task dimensions. The model for which the analysis was done is presented below.

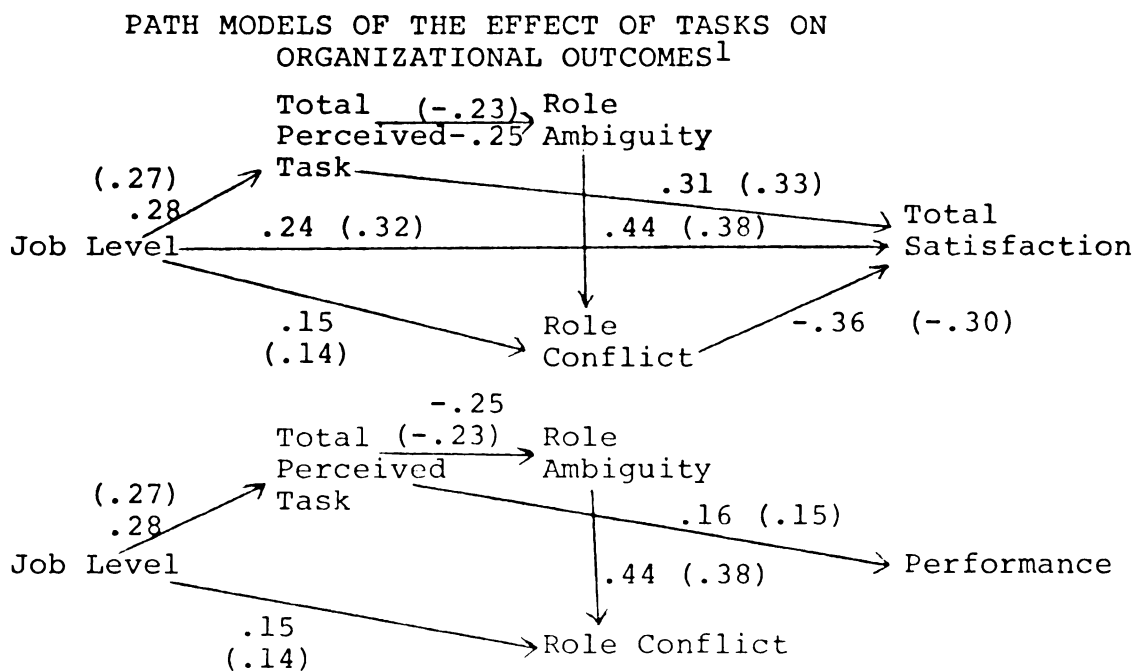


The step-wise regression process was continued until the significance of the contribution which the variable not entered into the equation would have made if entered was less than .05. This method makes it possible to develop the path coefficients without the necessity of removing the insignificant relationships. The model developed from the path analysis and the supporting multiple regression equations are presented below in Table 28 and Figure 4. In

TABLE 28
MULTIPLE REGRESSION EQUATIONS FOR THE
PATH MODEL

Dependent Variable	Standardized Regression Coefficient	Independent Variable
Total Satisfaction	.31	Total Perceived Task Stimulation
	.36	Role Conflict
	.24	Job Level
Standardized Performance	.16	Total Perceived Task Stimulation
Role Conflict	.44	Role Ambiguity
	.15	Job Level
Role Ambiguity	-.25	Total Perceived Task Stimulation
Total Perceived Task Stimulation	.28	Job Level

FIGURE 4



¹Parenthesis refer to Pearson correlations.

general, the path analysis supports the linkages in the model. The two changes deal with modifications to the antecedents and outcomes of the role dimensions.

There is, as hypothesized, a positive relationship between role ambiguity and total perceived task stimulation. Role conflict, however, was not related to perceived job stimulation but instead to job level. Thus the analysis suggests that the perceived task variables are antecedent to role ambiguity and job level is antecedent to role conflict.

In terms of outputs, there is a significant path coefficient between role conflict and satisfaction but not related to the variables in the model. It is significantly related only to total perceived task stimulation.

[illegible]

CHAPTER IV

CONCLUSIONS AND IMPLICATIONS

The results of the analysis have numerous implications for the understanding of how tasks affect satisfaction and performance in organizations. This chapter will suggest the specific conclusions which can be drawn from the study. The attempt will be made in the conclusions to suggest specific areas for future research. In referring to the conclusions, it must be remembered that the research was a static analysis. The results of changes can be inferred from these data, but the interpretations are speculative and subject to validation in future research. The discussion will be presented attempting to answer five questions.

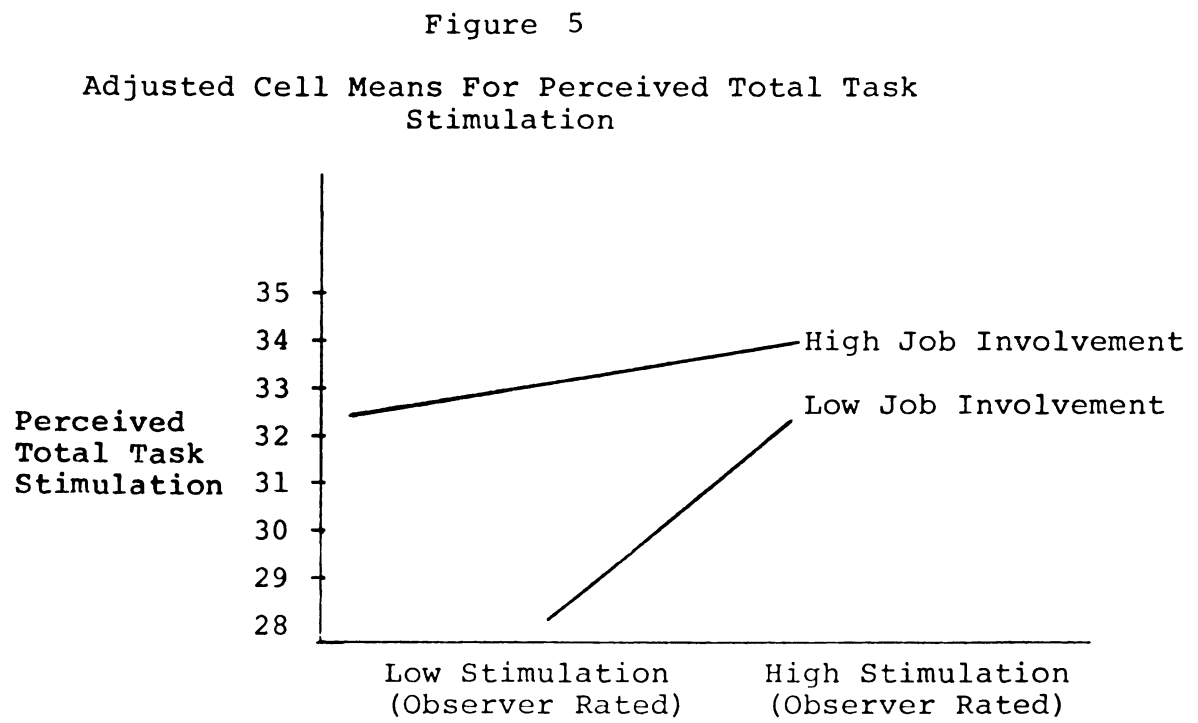
- (1) Are variations in perceptions of task related to individual differences?
- (2) What effects the extent to which role stress is perceived as being present in organizations?
- (3) Why do individuals respond differently to perceived task and role variables?
- (4) How do tasks relate to outcomes in organizations?
- (5) Is the relationship between performance and satisfaction different in stimulating than non-stimulating jobs?

Included in the discussion of these questions will be a review of the practical and theoretical implications of the findings. After discussing these questions, a general summary of the results will be presented. The limitations of the present study and directions for future research will then be suggested.

Are Variations in Perceptions of Tasks Related to Individual Differences?

The results of the research suggest that job involvement is related to variations in perceptions. Individuals who were involved in their work tended to report high task stimulation regardless of how the observers had rated their jobs. Job involved workers seemed to have the perceptual ability to redefine any job to be stimulating. Non-involved individuals, on the other hand, varied their perceptions according to the actual nature of the job. When they were working on jobs low on the task dimensions they reported low stimulation. On tasks high on the dimensions, non-involved workers reported high stimulation (see Figure 5).

Analyzing these results there appears to be a compensatory relationship between job involvement and task stimulation. Either having a job which was high on the task dimensions or being involved in the work were both related to the workers' feelings that they had a stimulating job. However, when one of these conditions was met the simultaneous presence of the other appears not



to have been related to further increments in perceived job stimulation. Thus it can be hypothesized that job redesign efforts will have little effect on a person who is involved in his work and already sees his job as stimulating. The results suggest that increasing job stimulation should have the greatest positive result on the perceptions and satisfaction of workers who are not yet involved in their jobs. If these interpretations are correct they have implications for managers who are interested in using these task dimensions to create motivational tasks for their subordinates. The individual workers' perceptions are evidently not an accurate basis on which to evaluate the current overall state of a job. Each worker will tend to evaluate the job differently depending on his own involvement in that job. Probably the best strategy to obtain an assessment of the current state of the job would be to use the mean of all the workers on the job or independent observation as the rating of the job. By comparing these ratings with the perceived ratings it would be possible to suggest the appropriate job changes and predict the workers responses to them. For example, the job involved workers will most probably not see increased job stimulation as much of a change. They are already working on what they see as stimulating jobs.

None of the other individual differences included in the study were related to variations in perceptions of

task dimensions. The results of the analysis of locus of control is, however, suggestive of possible future areas of research.

In the analysis of covariance there were no differences in perceived task dimensions between externals and internals. These results are partially explainable by the significance of job level as a covariate. In the research sample the variation of both locus of control and the task dimensions was related to the job level of the individual. When an analysis of variance was computed without holding job level constant all of the perceived task dimensions were significantly higher for internals than externals.

Several factors may account for these results. Drawing from Kelley (1967), it can be suggested that individuals in the higher positions would tend to attribute their success to their own abilities (an internal orientation). Those who have not achieved the status of the higher position would tend to blame their failure on environmental factors (an external orientation). Using this interpretation the level of success which the individual experiences (as measured by job level) will determine whether he adopts an internal or external orientation.

Another possibility is that over a period of time the stimulating characteristics of the jobs at higher levels in the organization create an internal orientation

in individuals. Based on their experiences in these jobs which are high on the task dimensions, individuals come to believe that rewards are dependent upon their performance. This is what the theory on which this research is based suggests should happen. Jobs high on the task dimensions should offer the individual more control over his rewards and make intrinsic rewards contingent upon performance.

The concepts of reinforcement theory (Sherman, 1973) can be used to suggest how this change in locus of control might take place. Drawing from Sherman (1973) it can be suggested that the positive linkage between intrinsic rewards and performance on the task may be generalized to other situations. Perhaps eventually this generalizing affects the individual's general orientation as measured by the global concepts of internal vs. external locus of control. If this interpretation is correct it adds further importance to the proper design of tasks. Job design becomes important because of its effect on the relationship between effort devoted to the task and the intrinsic rewards the individual receives. This in turn evidently affects the person's outlook on the job and his reasons for performing on it.

What Affects the Extent to which Role Stress is Present in Organizations?

The analysis suggests that both organizational characteristics and individual differences are related to

role stress in organizations.

Looking first at organization characteristics it is apparent that as jobs are perceived as more stimulating, role ambiguity decreases. This would appear to be opposite to predictions made by role theory. Kahn et al., (1964), for example, suggest that increasing organizational complexity is a direct antecedent of higher levels of ambiguity. However, organizational complexity may be a different concept than task stimulation. The theory on which this research is based would suggest that the reason tasks are structured with increasingly positive task dimensions is to give the job holder a feeling that he has more control over the work process and has more knowledge about his performance. For example, the dimensions of autonomy and task identity were developed to measure the extent to which the individual worker is responsible for an identifiable product. The dimensions of feedback and dealing with others deal with the extent to which the worker can find out how well he is doing. These dimensions should logically relate to decreasing ambiguity.

Role ambiguity was also related to locus of control. Internals, even when the effects of job level were held constant, tended to report lower levels of ambiguity than externals (see Organ and Greene, 1974 and Rotter, 1966 for comparable results). Apparently their belief about controlling rewards causes them to search more actively for information. As a consequence, they gain more knowledge

about the expectations others have of them. This reduces the uncertainty they might have about their role in the organization.

Role conflict was also related to both organizational and individual factors. Conflict was positively related to job level. Evidently, as individuals occupy successively higher jobs in the organization, interpersonal relations become more critical (Argyris, 1964) and provide more of a basis from which role conflict can emerge.

Conflict was also related to locus of control. Internals reported lower levels of role conflict than externals. This is most likely a function of their much greater involvement in the task than externals. They would tend to get their directions from the job itself rather than other people. Conflicting demands from outside sources are probably still there but just disregarded by internals.

Based on these results, it can be suggested that the external individual will experience the most stress in organizations. This is a result of the fact that perceived role stress is related to both individual and organizational characteristics. In terms of their own individual characteristics, externals evidently lack the ability to effectively cope with stress. In terms of the organization, stress will always be present in some form. In jobs at higher levels of the organization hierarchy where interpersonal relations become critical, conflict will

tend to be present. In jobs at the bottom of the hierarchy where task stimulation is reduced, control over the employees work will be put into others' hands and feedback reduced. This would have a tendency to increase the individual's ambiguity about what should be done. It is evident that organization changes aimed at alleviating stress must consider the characteristics of both the individual and the organization.

Why do Individuals Respond Differently to Perceived Task and Role Variables?

One of the main purposes of the present study was to examine the relationship of the task dimensions to satisfaction and performance. Past work relating to tasks has dealt mainly with the increased motivational potential of jobs high on the task dimensions (Lawler, 1969 and Hackman and Oldham, 1974). Various researchers have suggested, however, that only certain individuals will find stimulating jobs motivational. Hackman and Lawler (1971) found a stronger relationship between the task dimensions and satisfaction for those who desired higher order need fulfillment. Schwab and Cummings (1973) suggest that the strength of the relationship will depend on the extent to which workers value intrinsic outcomes.

The present project has extended these results by suggesting other individual differences which help explain the way in which individuals respond to different types of tasks. In general, the findings suggest that there are two aspects of the work situation toward which individuals

are differentially oriented. The first is the nature of the interpersonal relationships inherent in the organizational role which the individual fills. The analysis suggests that different individuals are oriented towards these two aspects in different manners. For example, satisfaction for internals was most related to variations in the characteristics of their jobs. These results suggest that internals would tend to report higher satisfaction when jobs were high on the task dimensions. Perhaps this results from the fact that these types of tasks would be most likely to allow the internal individual to have control over the work process and see job outcomes as products of his own efforts. This would fit the internal's interest in task accomplishment as a method of gaining rewards (Seeman, 1963) and tend to raise his level of satisfaction with the job.

For external individuals, on the other hand, satisfaction was related to role conflict. This is consistent with the external's orientation towards pleasing others as a method of gaining rewards (MacDonald and Hall, 1969; and Ritchie and Phares, 1969). These results would suggest that externals would find most dissatisfying situations where conflicting demands make it impossible to meet the expectations of those who they believed controlled their rewards.

When field dependence/field independence was considered comparable results were obtained. Satisfaction for field

dependent individuals was most related to role conflict. This was probably because field dependent individuals are similar to externals in their orientation towards the social aspects of the situation rather than towards the task (Konstadt and Forman, 1965). Role conflict, therefore, would be dissatisfying to them.

These results are indicative of different ways in which the task might affect individuals. Evidently, there is one group of employees who will feel more or less satisfied depending on the nature of the job which they have. This is the group who believes that by working hard and applying themselves, the job can be accomplished and they will be properly rewarded. For this group, increasing job stimulation should have a direct positive result.

There are, however, other employees whose reports of satisfaction are most related to the role conflict which they experience on the job. This group believes that others determine what rewards they get. So when they perceive the expectations which others have of them as conflicting, they are confused and dissatisfied. Job design will affect this group indirectly by helping to determine the nature of the expectations which others have of the job holder. For them, the task characteristics will have a positive impact if they reduce the stress which is perceived to be present in the organizational roles.

Based on these results, it can be suggested that when an attempt is made to analyze the effect which tasks have

on employees two general areas must be carefully considered. The first, as discussed above, is the different orientations of workers towards the task and the role. Second, because of this different orientation of workers, it is necessary to understand both the direct and indirect relationship of tasks to outcomes. These relationships of the task to outcomes are discussed below.

How do Tasks Relate to Outcomes in the Organization?

It was hypothesized that tasks would be related to outcomes in two ways. First, there was a direct linkage where the task acted as stimuli for behavior. Second, there was an indirect effect where tasks helped determine the nature of the interpersonal relationships present in the roles. The linkages as originally hypothesized are presented in Figure 6.

In general, the analysis supports the proposed linkages in the model with minor changes. A revised model based on the results of the path analysis and the previous findings is presented in Figure 7. In the revised model, task variables are related to ambiguity in such a manner that increasing the task dimensions reduces ambiguity. Role conflict, on the other hand, was not related to the task but to the job level. These differences become particularly important when the relationship of role stress variables to outcomes is considered. Although role conflict and role ambiguity were highly correlated, role ambiguity was related to dissatisfaction and role conflict was not.

FIGURE 6

ORIGINAL MODEL OF THE RELATIONSHIP OF
TASKS TO SATISFACTION AND PERFORMANCE

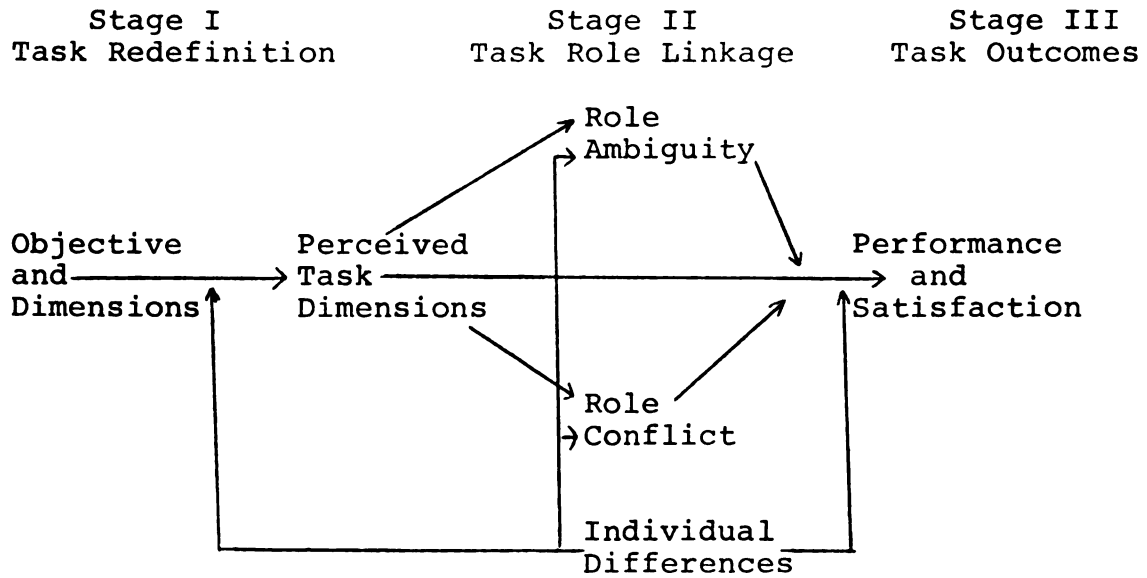
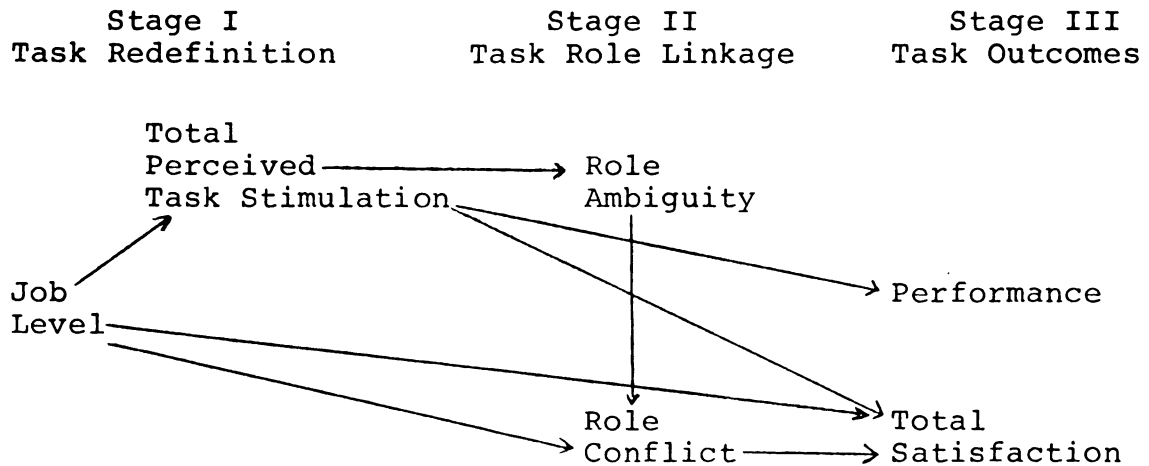


FIGURE 7

REVISED MODEL OF THE RELATIONSHIP OF
TASKS TO SATISFACTION AND PERFORMANCE



These results would tend to suggest that ambiguity will be related to dissatisfaction only when it also is related to conflicting demands being placed on the individual. When ambiguity is high but the demands for action are not conflicting, employees should remain fairly satisfied. Thus, the indirect effect of task variables on satisfaction is apparently dependent upon the extent to which the role ambiguity which they create is also a source of conflict.

This overriding importance of conflict on satisfaction is also consistent with the suggestions of Hamner and Tosi (1974), who concluded after a review of the literature that role conflict is more related to dissatisfaction at lower levels in the organization and role ambiguity is more related at the higher levels.

Two thirds of the sample occupy lower level positions. It is likely that their jobs are fairly well defined and ambiguity is not a problem. They very probably face conflicting role demands which higher level employees would not experience. This form of stress would therefore be logically more related to their satisfaction.

There also exists the direct effect of perceived tasks on satisfaction and performance. Employees working on tasks which they perceive as stimulating report high levels of satisfaction and perform well. Those who perceive themselves as working on non-stimulating tasks are dissatisfied and have low performance.

It is evident that higher perceived job stimulation can have a positive influence in two ways. First, it has a direct effect because most people enjoy working on a job which they perceived as stimulating. Second, it may also have a positive effect if the reduced ambiguity leads to lower levels of conflict being present.

These results become particularly important when considering the different task vs. interpersonal orientations of individuals previously discussed. Job design will be important to employees no matter what their orientation towards these two aspects of their jobs. To those oriented towards the task it is important because it directly affects the stimulating characteristics of the task. To those oriented more towards the social aspects of the situation, job design will be important because of its relationship to the nature of the role which the employee is expected to fill.

Is the Relationship between Performance and Satisfaction Different in Stimulating and Non-Stimulating Jobs?

As suggested by Lawler (1969), the theoretical reason for increasing task stimulation is to enable the job holder to experience satisfaction of his higher order needs when he performs well. Therefore, in stimulating jobs, high performers should experience higher satisfaction than low performers. This result was not obtained in the analysis. There was no difference in satisfaction between high and low performers on stimulating jobs.

The differences that did exist were between low and high performers on non-stimulating jobs. Performance seemed to be most related to satisfaction when job stimulation was low.

On the other hand, job stimulation seemed to be most related to satisfaction when performance was low. There were no differences in satisfaction between high performers on stimulating and non-stimulating jobs. There were, however, differences in satisfaction of the low performers.

These results are different from what the theory on which this project is based would predict. Why wasn't performance related to satisfaction as the theory suggests it should have been? There are several possible explanations. One explanation relates to the sources of satisfaction on the job. In the analysis, for example, satisfaction was higher when performance was high. This relationship was not affected by the individual's level of self-esteem or intrinsic motivation. Apparently, contrary to Korman (1970), everyone enjoyed doing well and/or receiving the rewards available for performance. The second source of satisfaction appears to be the job itself. Satisfaction was higher on stimulating than non-stimulating jobs. Again, individual differences did not affect this relationship. Everyone enjoyed a stimulating job.

There also seems to be a compensatory relationship between these two sources of satisfaction. Either source was related to increased satisfaction. As a consequence, the only time that satisfaction was low was when performance was low and jobs were non-stimulating. However, their impact on satisfaction was apparently not additive. When both high performance and task stimulation were present, employees were not significantly more satisfied than when just one was present.

These results create an interesting dilemma for the proponents of task redesign, if they choose to use these dimensions as the basis of their changes. On non-stimulating jobs, where performance is the only source of satisfaction, employees evidently vary their satisfaction in relation to how well they are doing on the job. However, when the alternate source of satisfaction, task stimulation, is available, employees no longer have to depend totally on performance as the source of satisfaction. They find enjoyment just in having a stimulating job. As a result, raising the levels of the task dimensions may well increase satisfaction but have little effect on performance. A look at the task dimensions as they were measured in the present project suggests why this might be possible.

Autonomy is a measure of the freedom the employee had to control his job. He may have used this freedom to do other things than perform. The variety on the job may have afforded him the opportunity to use skills other

than those required to produce. A significant job may well be enjoyable simply because of the status which accompanies it. Doing a whole piece of work (identity) decreases the worker's dependence on others at each stage in the production process. He may use this reduced dependence to obtain satisfaction in other ways than performing.

It is quite possible that certain aspects of stimulating jobs rather than linking satisfaction to performance, on the contrary, simply offer an increased opportunity for the employee to obtain satisfaction in ways other than performing. If this is the case, increasing job stimulation may have little effect on performance. Thus the challenge in motivating employees through task design, at least using these dimensions, is to create variety which taps performance skills. It is to create freedom which will be used to better production and significance which can be obtained by doing well.

Of the dimensions used in this study, the one which seems to have the most potential to link performance to satisfaction is feedback. It may well be that the extent to which the other task dimensions affect the relationship between performance and satisfaction depends on the proper use of feedback. Without it, employees may enjoy stimulating tasks but for the wrong reasons. If the employees knows how well he is doing and is rewarded accordingly, he is probably likely to increase performance

(Cherrington, et al., 1971). A key to be remembered, however, is that on stimulating jobs, feedback from the job itself is increased. Not only must the superior give feedback on performance, he must structure the task such that the feedback the individual gets from the job itself is an accurate gauge of his performance.

This leads to perhaps a second reason the theory was not supported. Researchers in past studies, using task

dimensions in any given sample, they may not even vary together. For example, the low level of feedback characteristic of the jobs in the present sample may have resulted in low performance while the high level aspects of the other task dimensions may have resulted in high satisfaction.

These interpretations are of course speculative. They are attempts to explain results which are not consistent with the theory from which the hypotheses were developed. It is, of course, also quite possible that this analysis was not an adequate test of the theory. It may be that the general measure of satisfaction used in the study was not an accurate measure of satisfaction of higher order needs. It is also quite possible that the measures of task stimulation which were used are not measuring the motivational potential of jobs. As suggested by Hackman and Lawler (1971), performance on tasks will lead to satisfaction when:

- 1) The job allows a worker to feel personally responsible for a meaningful portion of his work.
- 2) The job must provide outcomes which are intrinsically meaningful or otherwise experienced as worthwhile.
- 3) The job must provide feedback about what is accomplished.

Perhaps the task dimensions need to be refined to measure more specifically the extent to which performance will provide satisfying outcomes. For example, in the

theory, variety is important only if it provides an employee the opportunity to use skills and abilities which he personally values when performing. Doing a whole piece of work is important only if the results of the work are visible and a noticeable transformation of the product is accomplished. Autonomy is important only if the worker is made to feel responsible for his work production. It is quite possible that the measures of job stimulation do not measure these characteristics accurately. A refined instrument measuring the specific motivational aspects of tasks may have yielded different results.

General Summary

In summarizing the research, it was found that the model developed was a logical way to conceptualize the relationship between tasks and an individual's satisfaction and performance in organizations. In general, it was found that tasks as perceived by the individual, were related to the outcomes experienced in two ways.

First, higher levels of the perceived task dimensions seem to be related to higher levels of satisfaction and performance. This is most likely a function of the individuals feeling that they work on a more stimulating job and have more information about performance. Second, the tasks have an effect on the organizational "role" which the individual sees himself filling. Increases in the perceived task dimensions reduce the ambiguity the

job holder experiences. Ambiguity, however, does not seem to be related to satisfaction; conflict is. Apparently, reduced ambiguity is satisfying only if it also leads to a reduction in the conflicting demands which employees feel.

To this point, the implications of the findings seem straightforward. The manager must simply increase perceived task stimulation. This will reduce role ambiguity and increase satisfaction and performance. Apparently, the only thing which needs to be done beyond these changes in the perceived task variables is to make sure that the reduction in ambiguity also leads to a reduced level of conflict.

There are, however, findings in this project which indicate that these suggestions are overly simplistic. The critical thing to remember in the above discussion is that each of the relationships mentioned refers to employees' perceptions, not necessarily how the observer saw the situation. Although the present research suggests that tasks are important determinants of perceptions, it also suggests that individuals will vary their perceptions of both tasks and roles according to their own individual characteristics. For example, job involved individuals tend to see all tasks as being high on the task dimensions. Internals tended to see all roles as low on role stress. Thus, the positive aspects of stimulating tasks may be available even when tasks are low on the task dimensions.

It is, of course, also quite possible that the process works in the reverse direction; i.e., the negative aspects of non-stimulating jobs may be present even though the tasks are high on the task dimensions.

From these results, it can be suggested that changes in the objective job characteristics may not be related to satisfaction and performance as anticipated. The key is understanding how the tasks are perceived.

There is a second general finding which adds complexity to the understanding of how individuals will respond to task characteristics. Not only do individuals perceive things differently, but evidently they are oriented towards different aspects of the situation. Some employees seem to draw satisfaction from the task itself and the work involved. Others apparently are more concerned with the social aspects of the situation inherent in the role they fill. Task characteristics are evidently important to the first group because they affect the actual nature of the work. They are important to the second group because of their relation to the role. Thus, in attempting to analyze the relationship between tasks and the outcomes an employee experiences, it appears as if it is necessary to understand first how the objective tasks are related to perceptions of tasks and roles. Then it is necessary to understand how employees are oriented towards these two aspects of the work situation.

The theory on which this project was based suggests that the reason for increasing the task dimensions is so

that performance on the job will lead to satisfaction of higher order needs. Thus, it is not enough to simply understand the relationship between the tasks and the outcomes. The attempt should be to understand how the various outcomes are related. The results of the present research suggest that although increasing the objective task dimensions appears to increase satisfaction, this increased satisfaction is not necessarily related to increased performance. There appears to be two sources of satisfaction on the job. One is performance. The other is the stimulating characteristics of the job. Having either seems to be a satisfying experience. The challenge to be faced in future research and applications using these task dimensions is to understand how work situations can be created in which performance leads to satisfaction.

Limitation of the Present Study and Directions for Future Research

There are several limitations inherent in the present project which future research should try to overcome. One major limitation was the method used to construct the performance scales. The standardization process used defines high and low performers within each supervisory group. This would tend to assign individuals who share common task and role experiences evenly into the high and low performance categories. Such a process would automatically tend to eliminate any between group variance which could be related to the role and task dimensions. The fact that performance was generally unrelated to the other variables

in the model may be a function of this methodology rather than any actual relationships. An alternate method would be to use behavioral measures for assessing performance. This would allow comparison of the differences between high and low groups of performers.

There is a second obvious limitation of the present study. The research was done in one organization with a particular configuration of the job types in the public sector of the economy. The results may be generalizeable only to organizations with similar job configurations in similar environments. Future research should be oriented towards validating these results in other organizational types.

Given these limitations, the results still have implications for future research. The findings suggest that individuals are oriented towards different aspects of their work situation. Some are oriented towards the job itself, others are oriented more towards the role they fill. As a consequence, future research needs to consider carefully not only the direct effect of tasks on outcomes, but also the indirect effect by which tasks affect outcomes through their relationship to roles in the organization.

There is one general area about which this project, because of the nature of the data, has been able only to speculate. That is the dynamics involved in task design. Future research should be oriented towards longitudinal studies which assess the affect of job changes on performance

and satisfaction. The implications which have been drawn from the present static analysis should be tested in studies which extend over a period of time to see if the relationships predicted do in fact exist. Part of this research should be directed towards determining if there is some optimal combination of the job dimensions which is necessary to create motivational jobs. Perhaps the dimensions have compensatory relationships such that if technology constrains the level of one dimension others can be increased to compensate.

As Lawler (1970) has suggested, a chief concern of managers is increasing production by motivating employees to perform. Task design has been one approach suggested to achieve this goal. However, as noted throughout this project, the relationships between tasks and outcomes are much more complex than might be imagined. Much more research is needed to enable us to effectively structure jobs to realize the dual goals of increasing both satisfaction and performance.

APPENDIX A

TABLE 29

OBSERVER RATED SCORES FOR THE TASK

DIMENSIONS BY JOB

	Dealing with Others	Autonomy	Variety	Identity	Significance	Feedback from the Job
Consulting and Training	6.67	5.83	5.60	5.75	4.83	5.89
Administrative	6.67	5.75	6.07	5.83	6.58	2.22
Analysis Staff	5.33	5.42	5.80	4.17	4.83	3.78
Field Workers	5.44	4.75	4.47	5.25	6.08	3.11
Field Supervisors	6.33	5.50	5.20	4.50	4.58	2.89
Secretary	5.56	3.08	3.33	4.58	3.33	6.00
Office Supervisors	5.78	3.50	3.40	4.00	4.33	3.44
Clerical	2.11	2.00	1.73	2.75	3.33	5.11

APPENDIX B

APPENDIX B

JOB CHARACTERISTICS STUDY

This questionnaire is part of a Michigan State University study of jobs and how people react to them. The aim of the study is to learn how people respond to different kinds of jobs, and how jobs can be better designed.

Feel free to ask any questions you need to while filling out the questionnaire. Most of the questionnaire can be answered with a check(✓) or by circling (○) one of the answers. If you do not find the answer that fits your case exactly, choose the one that comes closest to it. If you have any explanations or comments about your answers feel free to write them in the margin or on the back of the questionnaire.

May we assure you that your answers are completely confidential and will remain anonymous. The questionnaires will be taken immediately to Michigan State where they will be coded and then destroyed. No one in or out of the organization will have access under any circumstances to your answers. The analysis and the results will be available only in summary form. A report of the findings of the study including statistical averages for the organization will be made available to all participants.

If you have no questions please begin. We are interested in your first impressions only, so it should be possible for you to work fairly quickly through the questionnaire.

In advance, we wish to thank you for your participation in this study.

Douglas T. Hall
Professor
Department of Management
Michigan State University

Lloyd S. Baird
Doctoral Candidate
Department of Management
Michigan State University

TASK DIMENSIONS

Instructions:

Please use the scales below to describe the objective characteristics of your job. Do not use the scales to show how much you like or dislike your job. Questions about that will come later. Instead, please make your descriptions of the job as objective and factually correct as possible. For each numbered item, enter a check mark in the blank which best describes the job.

1. To what extent does a person on the job work closely with other people (either "clients" or people in related jobs in the same organization)?
 :: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Very little;
dealing with
other people
is not at all
necessary in
doing the job.

Moderately;
some dealing
with other
people is
necessary in
doing the job.

Very much;
dealing with
other people is
an absolutely
essential and
crucial part of
doing the job.

Mean = 6.00 S.D. = 1.65

2. How much autonomy is there in the job? That is, to what extent does a person decide on his own how to go about doing the job?
 :: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Very little;
the person has
almost no
personal "say"
about how and
when the work
is done.

Moderate autonomy;
the person can make
some decisions about
how the work is done,
but many things are
standardized and not
under his control.

Very much; the
person has almost
complete respon-
sibility for de-
ciding how and
when the work is
to be done.

Mean = 4.99 S.D. = 1.61

3. How much variety is there in the job? That is, to what extent does a person have to do many different things on the job, using a variety of his skills and talents?
 :: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Very little;
a person does
the same rou-
tine things
over and over
again.

Moderate variety

Very much; a
person does many
different things,
using a number of
different skills
and talents.

Mean = 5.51 S.D. = 1.72

4. To what extent does the job involve doing a "whole" and identifiable piece of work? That is, does a person do a complete piece of work that has an obvious beginning and end? Or does he do only a small part of a job, which is completed by other people or by automatic machines? (Respond on next page)

:: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

The person does only a tiny fraction of the actual job; the result of his activities would not be identifiable in the final product or service.

The person does a moderate sized "chunk" of work; his own contribution can be identified in the final outcome.

The person does the full piece of work from start to finish; the result of his efforts is easily visible and identifiable.

Mean = 5.30 S.D. = 1.64

5. In general, how significant or important is the job? That is, are the results of work on the job likely to significantly affect the lives or well-being of other people?

:: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Not at all significant; the outcomes of work on the job are not likely to affect anyone in any important way.

Moderately significant

Highly significant; the outcomes of work on the job affect the lives or well-being of other people in very important ways.

Mean = 6.03 S.D. = 1.48

6. To what extent do managers or co-workers tell a person how well he is doing on the job?

:: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Very little; the individual may work for long stretches without anybody telling him how he is doing.

Moderate; sometimes people may tell the individual how he is doing; other times they may not.

Very much; managers or co-workers provide the individual with almost constant "feedback" about how he is doing.

Mean = 3.97 S.D. = 1.90

7. To what extent does doing the job itself provide a person with information about his work performance? That is, does the actual work itself provide clues about how well a person is doing--aside from any "feedback" obtained from co-workers or supervisors?

:: 1 : 2 : 3 : 4 : 5 : 6 : 7 ::

Very little; the person could work on the job indefinitely without finding out how he is doing.

Moderate; sometimes doing the job provides "feedback" to the person, sometimes it does not.

Very much; as a person works on this job he gets almost continuous "feedback" from the job itself about how well he is doing.

Mean = 4.95 S.D. = 1.67

Instructions:

Listed below are a number of additional statements which might (or might not) describe this job. You are to indicate the degree to which each statement is an accurate description of the job. Do this by writing the appropriate number in the left-hand margin, based on the scale below.

1	2	3	4	5	6	7
Very untrue of the job	Mostly <u>untrue</u> of the job	Slightly <u>untrue</u> of the job	Uncertain	Slightly true of the job	Moderately true of the job	Very true of the job

- 8- # 8. Other people or machines do a very substantial portion of the work; the person on the job makes only a minor contribution to the final product or service. Mean = 5.42 S.D. = 2.00
- # 9. The job requires use of a number of sophisticated or complex skills by the person who performs it. Mean = 5.26 S.D. = 2.03
- # 10. The job requires a lot of cooperative work with other people. Mean = 6.17 S.D. = 1.47
- 8- 11. The job provides a person with very little latitude in deciding how the work is to be done. Mean = 4.45 S.D. = 2.13
- # 12. Just doing the work required by the job provides many opportunities for a person to figure out how well he is doing. Mean = 5.28 S.D. = 1.74
- 8- 13. The job is quite simple and repetitive. Mean = 5.24 S.D. = 1.97
- 8- 14. The co-workers and supervisors on the job almost never give a person any "feedback" about how well he is doing his work. Mean = 4.29 S.D. = 2.09
- 8- 15. The job can be done adequately by a person working by himself--without talking to or checking with anybody else. Mean = 4.33 S.D. = 2.32
- 8- 16. The work done on the job is of little consequence; it just doesn't make much of a difference to anybody. Mean = 6.39 S.D. = 1.34
- # 17. The job involves doing a number of different kinds of tasks. Mean = 6.05 S.D. = 1.55
- # 18. Supervisors let a person working on the job know how well they think he is performing. Mean = 4.59 S.D. = 2.09
- 8- 19. The job is arranged so that a person does not have the chance to do an entire piece of work from beginning to end. Mean = 5.32 S.D. = 2.07
- 8- 20. The job denies a person any chance to use his personal initiative or discretion at work. Mean = 5.54 S.D. = 1.83
- 8- 21. The job demands are highly routine and predictable. Mean = 4.29 S.D. = 2.18
- 8- 22. The job itself provides very few clues about whether a person is performing adequately. Mean = 5.23 S.D. = 1.80
- 8- 23. The job is not very significant or important in the broader scheme of things. Mean = 6.10 S.D. = 1.58
- # 24. The job gives a person considerable chance for independence and freedom in doing the work. Mean = 5.52 S.D. = 1.69

25. The job provides a person with the chance to finish completely any work he starts. Mean = 5.51 S.D. = 1.70

26. A lot of other people can be affected one way or the other by the work which is done on this job. Mean = 6.37 S.D. = 1.27

JOB CHARACTERISTICS

- I. This section deals with your evaluation of your present job. Please respond as honestly and accurately as you can. Remember we are interested in the actual characteristics of your job not particularly how you would like them to be. You should indicate on the seven point scale how true the particular statement is about your job.

CIRCLE THE NUMBER ON THE SCALE WHICH INDICATES THE EXTENT TO WHICH YOU THINK THE STATEMENT IS TRUE FOR YOUR JOB.

		Definitely not true of my job						Very true of my job
1.	I know exactly what is expected of me	1	2	3	4	5	6	7
	Mean = 2.27 S.D. = 1.29 scoring	7	6	5	4	3	2	1
2.	I receive incompatible requests from two or more people.	1	2	3	4	5	6	7
	Mean = 2.52 S.D. = 1.62 scoring	1	2	3	4	5	6	7
3.	The major satisfaction in my life comes from my job. Mean=3.72 S.D.=1.83 scoring	1	2	3	4	5	6	7
4.	When I perform my job well, it contributes to my personal growth and development.	1	2	3	4	5	6	7
	Mean = 5.76 S.D. = 1.50 scoring	1	2	3	4	5	6	7
5.	I work with two or more groups who operate quite differently.	1	2	3	4	5	6	7
	Mean = 3.78 S.D. = 2.29 scoring	1	2	3	4	5	6	7
6.	Explanation is clear of what has to be done.	1	2	3	4	5	6	7
	Mean = 2.58 S.D. = 1.49 scoring	7	6	5	4	3	2	1
7.	I have to do things that should be done differently. Mean=3.67 S.D.=1.97 scoring	1	2	3	4	5	6	7
8.	I live, eat, and breathe my job.	1	2	3	4	5	6	7
	Mean = 2.50 S.D. = 1.72 scoring	1	2	3	4	5	6	7
9.	Doing my job well increases my feeling of self-esteem. Mean=5.91 S.D.=1.40 scoring	1	2	3	4	5	6	7
10.	I do things that are apt to be accepted by one person and not accepted by others.	1	2	3	4	5	6	7
	Mean = 3.95 S.D. = 2.03 scoring	1	2	3	4	5	6	7
11.	There are clear, planned goals and objectives for my job.	1	2	3	4	5	6	7
	Mean = 2.62 S.D. = 1.62 scoring	7	6	5	4	3	2	1
12.	I work on unnecessary things. scoring	1	2	3	4	5	6	7
	Mean = 2.78 S.D. = 1.88 scoring	1	2	3	4	5	6	7
13.	I am very much involved personally in my work. Mean=5.18 S.D.=1.86 scoring	1	2	3	4	5	6	7
14.	A job well done is a good feeling.	1	2	3	4	5	6	7
	Mean = 6.56 S.D. = .93 scoring	1	2	3	4	5	6	7

				Definitely not true of my job					Very true of my job		
				1	2	3	4	5	6	7	
15.	I feel certain about how much authority I have.										
	Mean = 2.88	S.D. = 1.81	scoring	7	6	5	4	3	2	1	
16.	Most things in life are more important than work.										
	Mean = 4.43	S.D. = 1.77	scoring	7	6	5	4	3	2	1	
17.	I have to buck a rule or policy in order to carry out an assignment.										
	Mean = 2.59	S.D. = 1.79	scoring	1	2	3	4	5	6	7	
18.	The most important things that happen to me involve my job.										
	Mean = 3.24	S.D. = 1.75	scoring	1	2	3	4	5	6	7	
19.	I feel a great sense of personal satisfaction when I do my job well.										
	Mean = 6.37	S.D. = 1.11	scoring	1	2	3	4	5	6	7	
20.	I know that I have divided my time properly.										
	Mean = 2.55	S.D. = 1.36	scoring	7	6	5	4	3	2	1	
21.	I receive an assignment without adequate resources and materials.										
	Mean = 1.82	S.D. = 1.76	scoring	1	2	3	4	5	6	7	
22.	I know what my responsibilities are.										
	Mean = 1.82	S.D. = 1.14	scoring	7	6	5	4	3	2	1	
23.	I receive an assignment without the manpower to complete it.										
	Mean = 2.60	S.D. = 1.94	scoring	1	2	3	4	5	6	7	
24.	I'm really a perfectionist about my work.										
	Mean = 5.30	S.D. = 1.34	scoring	1	2	3	4	5	6	7	
25.	When I do my work well, it gives me a feeling of accomplishment.										
	Mean = 6.48	S.D. = .93	scoring	1	2	3	4	5	6	7	
II.	We would now like to explore your views about certain parts of your job.										

Think of your present work. What is it like most of the time? In the blank beside each work given below, write

Scoring:

Y for "Yes" if it describes your work. Correct Response = 3

N for "No" if it does NOT describe it. ? = 1

? if you cannot decide. Incorrect Response = 0

WORK ON PRESENT JOB

<u>Y</u>	Fascinating	<u>F</u>	Useful
<u>N</u>	Routine	<u>N</u>	Tiresome
<u>Y</u>	Satisfying	<u>Y</u>	Healthful
<u>N</u>	Boring	<u>Y</u>	Challenging
<u>Y</u>	Good	<u>N</u>	On your feet
<u>Y</u>	Creative	<u>N</u>	Frustrating
<u>Y</u>	Respected	<u>N</u>	Simple
<u>N</u>	Hot	<u>N</u>	Endless
<u>Y</u>	Pleasant	<u>Y</u>	Gives sense of accomplishment

Think of the majority of the people that you work with now or the people you meet in connection with your work. How well does each of the following words describe these people? In the blank beside each word below put

Y if it describes the people you work with.

N if it does not describe them.

? if you cannot decide.

PEOPLE ON YOUR PRESENT JOB

<u>Y</u> Stimulating	<u>N</u> Talk too much
<u>N</u> Boring	<u>Y</u> Smart
<u>N</u> Slow	<u>N</u> Lazy
<u>Y</u> Ambitious	<u>N</u> Unpleasant
<u>N</u> Stupid	<u>N</u> No privacy
<u>Y</u> Responsible	<u>Y</u> Active
<u>Y</u> Fast	<u>N</u> Narrow interests
<u>Y</u> Intelligent	<u>Y</u> Loyal
<u>N</u> Easy to make enemies	<u>N</u> Hard to meet

Think of the kind of supervision that you get on your job. How well does each of the following words describe this supervision? In the blank beside each word below put

Y if it describes the supervision you get on your job.

N if it does NOT describe it.

? if you cannot decide.

SUPERVISION ON PRESENT JOB

<u>Y</u> Asks my advice	<u>Y</u> Tells me where I stand
<u>N</u> Hard to please	<u>N</u> Annoying
<u>N</u> Impolite	<u>N</u> Stubborn
<u>Y</u> Praises good work	<u>Y</u> Knows job well
<u>Y</u> Tactful	<u>N</u> Bad
<u>Y</u> Influential	<u>Y</u> Intelligent
<u>Y</u> Up-to-date	<u>Y</u> Leaves me on my own
<u>N</u> Doesn't supervise enough	<u>N</u> Lazy
<u>N</u> Quick-tempered	<u>Y</u> Around when needed

Think of the opportunities for promotion that you have now. How well does each of the following words describe these? In the blank beside each word put

Y for "Yes" if it describes your opportunities for promotion.

N for "No" if it does NOT describe them.

? if you cannot decide.

OPPORTUNITIES FOR PROMOTION

<u>Y</u> Good opportunity for advancement	<u>N</u> Unfair promotion policy
<u>N</u> Opportunity somewhat limited	<u>N</u> Infrequent promotions
<u>Y</u> Promotion on ability	<u>Y</u> Regular promotions
<u>N</u> Dead-end job	<u>Y</u> Fairly good chance for promotion
<u>Y</u> Good chance for promotion	

Think of the pay you get now. How well does each of the following words describe your present pay? In the blank beside each word put

Y if it describes your pay.

N if it does not describe your pay.

? if you cannot decide.

PRESENT PAY

<u>Y</u> Income adequate for normal expenses	<u>N</u> Insecure
<u>Y</u> Satisfactory profit sharing	<u>N</u> Less than I deserve
<u>N</u> Barely live on income	<u>Y</u> Highly paid
<u>N</u> Bad	<u>N</u> Underpaid
<u>Y</u> Income provides luxuries	

GENERAL

- I. In this section we are interested in knowing your feelings in general not particularly those associated with this job. Circle the one statement of each pair below which you more strongly believe. In some cases you may discover you believe both or neither statement. In this case select the one which best represents your feelings.

Scoring: 1 = external

1. a.1 Many of the unhappy things in people's lives are partly due to bad luck.
b.2 People's misfortunes result from the mistakes they make.
Mean = 1.79 S.D. = .41
2. a.2 One of the major reasons why we have wars is because people don't take enough interest in politics.
b.1 There will always be wars, no matter how hard people try to prevent them.
Mean = 1.38 S.D. = .48
3. a.1 Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
b.2 In the long run people get the respect they deserve in the world.
Mean = 1.58 S.D. = .49
4. a.1 Without the right breaks one cannot be an effective leader.
b.2 Capable people who fail to become leaders have not taken advantage of their opportunities.
Mean = 1.83 S.D. = .38
5. a.2 No matter how hard you try some people just don't like you.
b.1 People who can't get others to like them don't understand how to get along with others.
Mean = 1.67 S.D. = .47
6. a.1 I have often found that what is going to happen will happen.
b.2 Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
Mean = 1.80 S.D. = .40
7. a.2 Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b.1 Getting a good job depends mainly on being in the right place at the right time. Mean = 1.75 S.D. = .43
8. a.2 The average citizen can have an influence in government decisions.
b.1 This world is run by the few people in power, and there is not much the little guy can do about it.
Mean = 1.59 S.D. = .49
9. a.2 When I make plans, I am almost certain that I can make them work.
b.1 It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
Mean = 1.80 S.D. = .40
10. a.2 In my case getting what I want has little or nothing to do with luck.
b.1 Many times we might just as well decide what to do by flipping a coin.
Mean = 1.93 S.D. = .26
11. a.1 Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b.2 Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
Mean = 1.79 S.D. = .41
12. a.1 As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b.2 By taking an active part in political and social affairs the people can control world events.
Mean = 1.58 S.D. = .49

13. a.1 Most people don't realize the extent to which their lives are controlled by accidental happenings.
b.2 There really is no such thing as "luck".
Mean = 1.32 S.D. = .46
14. a.1 It is hard to know whether or not a person really likes you.
b.2 How many friends you have depends upon how nice a person you are.
Mean = 1.61 S.D. = .48
15. a.2 In the long run the bad things that happen to us are balanced by the good ones.
b.1 Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
Mean = 1.57 S.D. = .49
16. a.2 With enough effort we can wipe out political corruption.
b.1 It is difficult for people to have much control over the things politicians do in office.
Mean = 1.59 S.D. = .49
17. a.1 Many times I feel that I have little influence over the things that happen to me.
b.2 It is impossible for me to believe that chance or luck plays an important role in my life. Mean = 1.61 S.D. = .49
18. a.2 People are lonely because they don't try to be friendly.
b.1 There's not much use in trying too hard to please people, if they like you, they like you.
Mean = 1.75 S.D. = .43
19. a.2 What happens to me is my own doing.
b.1 Sometimes I feel that I don't have enough control over the direction my life is taking.
Mean = 1.78 S.D. = .41
20. a.1 Most of the time I can't understand why politicians behave the way they do.
b.2 In the long run the people are responsible for bad government on a national as well as on a local level.
Mean = 1.74 S.D. = .43

II. Below are some statements which are frequently used by people to describe themselves. Please mark each statement in the following way:

If the statement describes how you usually feel, put a check () in the column "like me".

If the statement does not describe how you usually feel, put a check () in the column "unlike me".

LIKE ME

UNLIKE ME

2

1

1. I'm pretty sure of myself.
Mean = 1.11 S.D. = .32

2

1

2. It is sometimes hard for me to go on with my work if I am not encouraged.
Mean = 1.31 S.D. = .46

1

2

3. I never worry about anything.
Mean = 1.18 S.D. = .38

1

2

4. I have never intensely dislike anyone.
Mean = 1.42 S.D. = .49

2

1

5. I'm pretty happy.
Mean = 1.05 S.D. = .22

LIKE ME

UNLIKE ME

<u>2</u>	<u>1</u>	6. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it. Mean = 1.16 S.D. = .37
<u>1</u>	<u>2</u>	7. I have a low opinion of myself. Mean = 1.13 S.D. = .34
<u>1</u>	<u>2</u>	8. No matter who I'm talking to, I'm always a good listener. Mean = 1.26 S.D. = .44
<u>1</u>	<u>2</u>	9. I don't like to be with other people. Mean = 1.06 S.D. = .24
<u>2</u>	<u>1</u>	10. I sometimes try to get even, rather than forgive and forget. Mean = 1.25 S.D. = .44
<u>1</u>	<u>2</u>	11. I often feel ashamed of myself. Mean = 1.28 S.D. = .45
<u>2</u>	<u>1</u>	12. There have been occasions when I felt like smashing things. Mean = 1.58 S.D. = .49
<u>2</u>	<u>1</u>	13. If I have something to say I usually say it. Mean = 1.24 S.D. = .43
<u>2</u>	<u>1</u>	14. There have been times when I was quite jealous of the good fortune of others. Mean = 1.27 S.D. = .44
<u>1</u>	<u>2</u>	15. People very often pick on me. Mean = 1.38 S.D. = .49
<u>2</u>	<u>1</u>	16. I am sometimes irritated by people who ask favors. Mean = 1.38 S.D. = .49
<u>1</u>	<u>2</u>	17. I don't care what happens to me. Mean = 1.05 S.D. = .22
<u>2</u>	<u>1</u>	18. I sometimes think when people have a misfortune they only got what they deserved. Mean = 1.30 S.D. = .46
<u>1</u>	<u>2</u>	19. I'm a failure. Mean = 1.04 S.D. = .20
<u>1</u>	<u>2</u>	20. I have never deliberately said something that hurt someone's feelings. Mean = 1.50 S.D. = .50
<u>1</u>	<u>2</u>	21. Most people are better liked than I am. Mean = 1.13 S.D. = .33
<u>1</u>	<u>2</u>	22. I can't be depended on. Mean = 1.03 S.D. = .29

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YOUR WORK ON THE JOB

In this section we are interested in knowing how you evaluate your own work on the job. We are interested in two ratings: 1) an absolute rating of your work in general and 2) a relative rating of how you compare to others who directly report to your supervisor.

- I. We are first interested in an ABSOLUTE RATING. Would you please rate yourself on the scales below in relation to workers in general and what you think should be done at work.

please check:	excellent	very good	good	fair	poor
QUALITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
Mean = 3.95 S.D.=.76					
QUANTITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
Mean = 3.83 S.D.=.85					
EFFORT AND TIME DEVOTED TO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
Mean = 4.03 S.D.=.82					
ABILITY TO DO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
Mean = 4.11 S.D.=.77					
OVERALL PERFORMANCE	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
Mean = 3.89 S.D.=.77					

- II. We are next interested in a RELATIVE RATING. Would you please rate yourself in relation to other employees who directly report to your supervisor.

Remember a low rating on these scales indicates only that you consider the other employees as higher than you not particularly that you are low in any sense. You may rate yourself low in relation to the others and still be very high compared to other groups or employees in the organization.

please check:	top 5%	top 10% but not upper 5%	top 25% but not upper 10%	top 50% but not upper 25%	top 75% but not upper 50%	lower 25%
QUALITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Mean = 3.80 S.D.=1.26						
QUANTITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Mean = 3.63 S.D.=1.31						
EFFORT AND TIME DEVOTED TO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Mean = 3.80 S.D.=1.23						
ABILITY TO DO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Mean = 3.87 S.D.=1.32						
OVERALL PERFORMANCE	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
Mean = 3.68 S.D.=1.31						

OPTIONAL INFORMATION

The following information would be helpful to the researchers for purposes of analyzing the data. We would especially encourage you to fill in your name because it is the only way we have of identifying you with your position in the organization. All items are optional, however. If there is any item you prefer not fill in, please leave it blank.

1. Name _____

2. Sex: Male 1 Female 2
N=122 N=74

3. Age:

N=14	<u>1</u>	under 20	<u>4</u>	40-49	N=43
N=43	<u>2</u>	20-29	<u>5</u>	50-59	N=60
N=30	<u>3</u>	30-39	<u>6</u>	60 or over	N= 9

4. Education:

N= 5	<u>1</u>	Some High School
N=55	<u>2</u>	High School Degree
N=43	<u>3</u>	Some Business College or Technical School Experience
N=12	<u>4</u>	Business College or Technical School Degree
N=61	<u>5</u>	Some College Experience
N=17	<u>6</u>	College Degree
N= 7	<u>7</u>	Some Graduate Work
N= 2	<u>8</u>	Master's or Higher Degree

5. How long have you been in your present job?

N=40	<u>1</u>	less than 6 months
N=25	<u>2</u>	6 months to 1 year
N=62	<u>3</u>	1 year to 5 years
N=75	<u>4</u>	over 5 years

6. How long have you been employed by the Labor Department?

N=30	<u>1</u>	less than 6 months
N=20	<u>2</u>	6 months to 1 year
N=61	<u>3</u>	1 year to 5 years
N=90	<u>4</u>	over 5 years

7. Where do you do the major part of your work?

8. Briefly what kind of work do you do?

9. How would you describe the area in which you grew up i.e., spent the most years of your life before completing high School?

<u>1</u> Rural	<u>2</u> Suburban	<u>3</u> Urban
N=63	N=50	N=84

10. What was the size of the area in which you grew up?

N=53	<u>1</u>	less than 5,000 people	N=20	<u>4</u>	50,000 to 100,000 people
N=35	<u>2</u>	5,000 to 25,000 people	N=19	<u>5</u>	100,000 to 200,000 people
N=17	<u>3</u>	25,000 to 50,000 people	N=51	<u>6</u>	over 200,000 people

11. Are there any other comments you have regarding these questions or the Bureau?

SCORING PROCEDURES

I. TASK DIMENSIONS

Deal with Others	$1 + 10 + 15 / 3$
Autonomy	$2 + 11 + 20 + 24 / 4$
Variety	$3 + 9 + 13 + 17 + 21 / 5$
Identity	$4 + 8 + 19 + 25 / 4$
Significance	$5 + 16 + 23 + 26 / 4$
Feedback Agents	$6 + 14 + 18 / 3$
Feedback Job	$7 + 12 + 22 / 3$

II. JOB CHARACTERISTICS

A) Role Ambiguity	$1 + 6 + 11 + 15 + 19 + 22$
B) Role Conflict	$2 + 5 + 7 + 10 + 12 + 17 + 21 + 23$
C) Job Involvement	$3 + 8 + 13 + 16 + 18 + 24$
D) Intrinsic Motivation	$4 + 9 + 14 + 19 + 25$

III. GENERAL

A) Internal/External Locus of Control	$E(1+20)$
B) Self-Esteem	$1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 22$
C) Social Desirability	$2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20$

APPENDIX C

TABLE 30

INTERCORRELATIONS OF THE SCALES

	Total Task	Dealing with Others	Autonomy	Variety	Identity	Significance	Feedback from Agents	Feedback from Job	Role Ambiguity	Role Conflict
Total Task	1									
Dealing with Others	.61	1								
Autonomy	.73	.31	1							
Variety	.79	.53	.44	1						
Identity	.61	.14	.45	.29	1					
Significance	.59	.29	.24	.48	.21	1				
Feedback from Agents	.37	.33	.15	.29	.21	.14	1			
Feedback from Job	.69	.22	.46	.46	.30	.30	.34	1		
Role Ambiguity	-.23	-.09	-.15	-.14	-.08	-.23	-.26	-.28	1	
Role Conflict	-.04	.07	-.15	.11	-.07	-.01	-.12	-.07	.38	1

N = 214

R > .21, p < .001

R > .16, p < .01

R > .11 p < .05

INTERCORRELATIONS OF THE SCALES

	Total Task	Dealing with Others	Autonomy	Variety	Identity	Significance	Feedback from Agents	Feedback from Job	Role Ambiguity	Role Conflict
Job Involvement	.37	.27	.17	.47	.06	.39	.16	.18	-.27	.04
Intrinsic Motivation	.35	.25	.17	.37	.13	.31	.26	.22	-.34	-.04
Internal/External	.19	.12	.12	.17	.10	.11	.18	.14	-.24	-.17
Self-Esteem	.16	.10	.13	.13	.11	.14	.09	.03	-.16	-.14
Social Desirability	-.17	-.15	-.12	-.17	-.04	-.11	-.04	-.10	.03	.09
Field Dependence ²	.12	.11	.07	.09	.03	.08	.07	.06	.11	.13
Satisfaction with Work	.55	.40	.35	.55	.15	.37	.21	.41	-.26	-.16
Satisfaction with Promotion	.12	.10	.12	.08	.06	.00	.26	.13	-.11	-.19
Satisfaction with Pay	.14	.07	.10	.10	.02	.03	.12	.22	-.06	-.05
Satisfaction with People	.32	.21	.25	.20	.16	.25	.30	.24	-.31	-.25
Satisfaction with Supervisor	.27	.22	.22	.17	.10	.10	.51	.26	-.30	-.32
Total Satisfaction	.39	.28	.30	.30	.13	.19	.42	.37	-.30	-.30
Performance ¹	.16	.12	.26	.09	.00	.03	.04	.17	-.04	-.10
Job Level	.27	.25	.16	.32	.09	.12	.15	.14	-.03	.14

N = 214

R > .21, p < .001

R > .16, p < .01

R > .11, p < .05

N¹ = 167N² = 144

INTERCORRELATIONS OF THE SCALES

	Job Involvement	Intrinsic Motivation	Internal/External	Self-Esteem	Social Desirability	Field Dependence	Satisfaction with Work	Satisfaction with Promotion	Satisfaction with Pay	Satisfaction with People
Job Involvement	1									
Intrinsic Motivation	.54	1								
Internal/External	.23	.16	1							
Self-Esteem	.15	.09	.10	1						
Social Desirability	-.20	-.10	-.10	-.07	1					
Field Dependence ²	.02	-.09	-.03	-.05	.10	1				
Satisfaction with Work	.46	.38	.24	.14	-.26	.07	1			
Satisfaction with Promotion	.09	.02	.11	.12	-.08	.08	.23	1		
Satisfaction with Pay	-.02	-.08	.11	.06	-.05	.21	.17	.34	1	
Satisfaction with People	.26	.23	.31	.16	-.15	.03	.39	.21	.09	1
Satisfaction with Supervisor	.16	.16	.19	.08	-.14	.11	.32	.29	.09	.44
Total Satisfaction	.26	.18	.28	.17	-.20	.15	.59	.74	.59	.60
Performance ¹	.04	.07	.08	.00	-.08	.10	.12	.11	.25	.09
Job Level	.28	.08	.18	.15	-.08	.25	.27	.18	.27	.12

N = 214

R > .21, p < .001

R > .16, p < .01

R > .11, p < .05

N¹ = 167N² = 144

INTERCORRELATIONS OF THE SCALES

	Satisfaction with Supervisor	Total Satisfaction	Performance	Job Level
Satisfaction with Supervisor	1			
Total Satisfaction	.63	1		
Performance ¹	.24	.25	1	
Job Level	.20	.32	-.04	1

N = 214

R > .21, p < .001

R > .16, p < .01

R > .11, p < .05

N¹ = 167N² = 144

APPENDIX D

APPENDIX D

THE VARIABLES USED IN THE STUDY

<u>VARIABLE</u>	<u>DEFINITION</u>	<u>OPERATIONALIZATION</u>
I. OBJECTIVE TASK DIMENSIONS	Extent to which the actual task has the dimensions of autonomy, variety, identity, significance, feedback from the job, and dealing with others.	Observer ratings of the task dimensions using the Job Diagnostic Survey (Hackman and Oldham, 1974)
II. PERCEIVED TASK DIMENSIONS	extent to which the task is perceived to vary on task dimensions by the job holder	self-report measures of perceived task dimensions by the job holder using the Job Diagnostic Survey (Hackman and Oldham, 1974)
III. ROLE DIMENSIONS	role conflict-extent to which pressures for action are inconsistent role ambiguity-the lack of necessary information for performance of the task	role conflict and role ambiguity scales developed by Rizzo, House, and Lirtzman (1971)
IV. INDIVIDUAL DIFFERENCES		
A. JOB INVOLVEMENT	The psychological importance of work	six item job involvement scale developed by Lodhal and Kejner (1965)
B. INTRINSIC MOTIVATION	extent to which the individual believes that satisfaction of his higher order needs is dependent upon performance in the work situation	Four items from Lawler and Hall (1970) and one item suggested by Hall
C. SELF-ESTEEM	extent to which the person sees himself as competent and need satisfying, a positive orientation towards self	twelve items scale developed from Coopersmith (1967)

<u>VARIABLE</u>	<u>DEFINITION</u>	<u>OPERATIONALIZATION</u>
D. INTERNAL/ EXTERNAL LOCUS OF CONTROL	extent to which the individual believes his outcomes are a function of his own behavior rather than powerful others or luck	Rotter's I/E Scale (1966)
E. FIELD DEPENDENCE	extent to which the individual perceives the situation with- in which he operates as differentiated with structured re- lationships exist- ing	Group embedded Figures Test (Oltman <u>et al.</u> , 1970)
V. OUTCOME VARIABLES		
A. PERFORMANCE	nature of work accomplishment on five dimensions: quality, quantity, effort, ability, and overall per- formance	Supervisor ratings on the five dimen- sions
B. SATISFACTION	satisfaction with work, pay, promo- tions, supervision, and people	Job Descriptive Index, Smith <u>et al.</u> (1969)

<u>VARIABLE</u>	<u>RELIABILITY</u>	<u>VALIDITY</u>
I. OBJECTIVE TASK DIMENSIONS	see table 2 in text	Hackman and Oldham (1974) found a median of the correlations between employees and supervisors of .51, between employees and observers of .63 and between supervisors and observers of .46
II. PERCEIVED TASK DIMENSIONS	see table 3 in text	
III. ROLE DIEM	Role Conflict, KR-20=.86 in Rizzo et al. (1971) Role Ambiguity, KR-20=.80 in Rizzo et al. (1971) Role Conflict 2=.71 in present sample Role ambiguity 2=.70 in present sample	House and Rizzo (1974) found role ambiguity to be a critical moderator of the relationship of organization practices to individual performance and satisfaction in organizations Rizzo et al. (1971) report overall negative correlations between satisfaction variables and role dimensions
IV. INDIVIDUAL DIFFERENCES		
A. JOB INVOLVEMENT	corrected split half reliability estimates .72 for nursing sample and .80 for an engineering sample Lodhal and Kejner (1965) =.77 in present sample	Lawler and Hall (1970) found job involvement to be factorially independent of the satisfaction and intrinsic motivation terms. Siegel and Ruh (1973) found a positive correlation (.51) between participation in decision making and job involvement
B. INTRINSIC MOTIVATION	=.88 in present sample	Lawler and Hall (1970) found all items designed to measure intrinsic motivation loaded above .60 on a common factor and they were independent of the job involvement items

<u>VARIABLE</u>	<u>RELIABILITY</u>	<u>VALIDITY</u>
C. SELF-ESTEEM	revised 12 item scale had a α = .76 in present sample Original Coopersmith (1967) had a .80 test-retest reliability over a five week interval and a .70 after three years.	
D. INTERNAL/ EXTERNAL LOCUS OF CONTROL	Rotter (1966) reported a test/retest reliability of .70 =.70 in present sample	Rotter (1966) found correlations running from -.07 to .35 between the I/E scale and the Crowne/Marlow social desirability scale
E. FIELD DEPENDENCE	.82 first half/second half reliability (Oltman, Raskin, Witkin, 1970)	Faterson and Witkin (1970) found a .71 correlation between GEFT and a scale measuring the degree to which the body and its surroundings were articulated in drawings GEFT was also found to be significantly correlated with the individually administered embedded figures test (.82 for males and .63 for females) Witkin <u>et al.</u> 1962.

APPENDIX E

APPENDIX E

SUPERIOR RATING FORMS

M E M O R A N D U M

May 3, 1974

TO: Supervisors

FROM:

SUBJECT: JOB CHARACTERISTICS STUDY

The Subordinate Evaluation included is part of the Job Characteristics Study the Bureau is participating in. Would you please fill it out as objectively as possible and return it to Michigan State University. As with all other data in this study, it will remain confidential and anonymous.

One point others have had questions about - this has absolutely nothing to do with Civil Service ratings or decisions about individual personnel in the Bureau. It is solely for the MSU study and is analyzed in terms of averages for types of jobs - not any particular individual.

Subordinate Evaluation

SUBORDINATES NAME _____

In this section we are interested in knowing your evaluation of those employees you directly supervise. You should fill out one of these ratings for each employee who directly reports to you. We are interested in two ratings: 1) an absolute rating of this subordinates work in general and 2) a relative rating of how he or she compares to others that you supervise.

- I. We are first interested in AN ABSOLUTE RATING. Please rate this employee in relation to workers in general and to what you think should be done on the job.

please check:	excellent	very good	good	fair	poor
QUALITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
QUANTITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
EFFORT AND TIME DEVOTED TO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
ABILITY TO DO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>
OVERALL PERFORMANCE	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>

- II. We are next interested in a RELATIVE RATING. Please rate this employee according to how he or she compares to the other subordinates you presently supervise.

Remember a low rating on these scales indicates only that you consider the other employees as higher not necessarily that this one is low in any sense. You may rate him or her low and they may still be very high compared to other groups or employees in the organization.

please check:	top 5%	top 10% but not upper 5%	top 25% but not upper 10%	top 50% but not upper 25%	top 75% but not upper 50%	lower 25%
QUALITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
QUANTITY OF WORK	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
EFFORT AND TIME DEVOTED TO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
ABILITY TO DO JOB	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>
OVERALL PERFORMANCE	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>

APPENDIX F

APPENDIX F

LETTERS OF INTRODUCTION TO MAILED QUESTIONNAIRES

M E M O R A N D U M

April 24, 1974

TO: Field Personnel

FROM:

SUBJECT: Job Characteristics Study

The questionnaire included is part of a Michigan State University study of job characteristics the Bureau is participating in. It is our hope that this survey will provide us with a better idea of what kinds of jobs we are asking you to do and how they might be improved. We would encourage you to answer the questions as objectively as possible. All employees of the Bureau are being invited to respond.

Your answers will be confidential and the data anonymous. The data will be in the form of averages rather than anyone's individual responses. In order that these averages be as accurate and representative as possible, we urge you to take part of your time today to fill out and return the forms to Michigan State. You should report the time spent on the survey as Office and Administrative Time on your weekly report. The survey normally takes about an hour to complete. We would request that you have them returned by May 3 to Michigan State.

Sincerely,

MICHIGAN STATE UNIVERSITY

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
DEPARTMENT OF MANAGEMENT

EAST LANSING • MICHIGAN • 48824

This questionnaire is part of a Michigan State University study of jobs and how people react to them. The aim of the study is to learn how people respond to different kinds of jobs, and how jobs can be better designed.

All members of the Bureau are invited to participate. Most of them have filled out the questionnaire in small groups where we have been able to respond to their questions and explain more about what we are doing. Because of the great dispersion of some of the personnel however we are forced against our preferences to use the mail to contact you. If you have already been given an opportunity to respond may we thank you, if not may we urge you to take time to fill out the questionnaire and mail them to us. May we anticipate some of the questions you might have as you do so.

WHAT IS DONE WITH THE QUESTIONNAIRE ONCE I FILL IT OUT?

It is taken directly to the Scoring Office and the Computer Center where it is combined with all the other respondents we already have. We are interested in the averages, not particularly any individual scores, so your responses are identified with the kind of job you do, not with you as an individual. They are combined with all the others who do the same kind of job as you.

WHO GETS TO SEE MY RESPONSES?

The person responsible for coding them onto the computer. No one in or out of the organization will have access to your individual answers. After they are matched with the information we already have they become part of the average and are not identified with any individual.

SO WHY DO YOU WANT MY NAME ON THE SECOND TO THE LAST PAGE?

We have done some initial work looking at the type of job you do, (kind of report you fill out, budget and time constraints you must work under, etc.) We needed somehow to match you responses with the data we have collected on the kind of job you and others like you do. We had various options (color coding, numbering, invisible ink, etc.) all involving some manner of deception. The very purpose of the study would be defeated if you felt threatened, pressured or deceived in any way. We would rather you feel comfortable putting your name down realizing it is used only initially to match you with the kind of job you do and not to identify you as an individual. We hope this will tend to make your responses more accurate and that you won't give us answers because you think they are the ones we expect.

DO I HAVE TO PUT MY NAME DOWN?

We would appreciate it because without it we can not match your answers with the work that we have done. We would however rather that you not if you feel uncomfortable doing so. The information is still valuable and we would still very much like your responses. That is the reason we have put it in the optional section. Any answer you would feel uncomfortable providing please leave blank.

SO WHO GETS WHAT KIND OF RESULTS?

Everyone gets the same results. They will be given in summary form as we receive them from the Computer Center. If you wish a copy of the results and the summary report please indicate this by putting the address to which you would like it sent next to your name on the second to the last page. May we remind you of the kind of results you will be getting. You will get the same results we do from the computer, averages. It is not possible to give you your individual scores with the present system. We mention this only because some individuals have been expecting their own scores. The data are averages for your type of work in the Bureau.

WHAT KIND OF DATA ARE YOU COLLECTING?

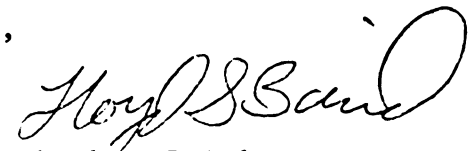
There are three kinds of data.

1. the characteristics of the job you are now doing
2. what parts of your job do you like or dislike
3. some general individual characteristics which in other organizations have tended to suggest the kinds of jobs you might enjoy and do well at.

May we thank you in advance for your cooperation and hope you will find the results interesting and useful.

Sincerely,


Douglas T. Hall


Lloyd S. Baird

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