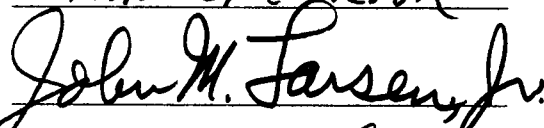


To the Graduate Council:

I am submitting herewith a dissertation written by Kammer Boyle entitled "The Effects of Change in Task Enrichment on Satisfaction with Pay: Empirical Support for an Interactive/Equity Model of Satisfaction." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Industrial and Organizational Psychology.


Eric D. Sundstrom, Major Professor

We have read this dissertation
and recommend its acceptance:


Accepted for the Council:


Vice Chancellor
Graduate Studies and Research

THE EFFECTS OF CHANGE IN TASK ENRICHMENT
ON SATISFACTION WITH PAY:
EMPIRICAL SUPPORT FOR
AN INTERACTIVE/EQUITY
MODEL OF SATISFACTION

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Kammer Boyle

August 1982

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DEDICATED
TO MY FATHER

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ABSTRACT

The purpose of this research was to examine conceptually and empirically the relation between change in task characteristics and satisfaction with pay. Specifically, changes in task characteristics were described and persons reacted to them in terms of several hypothesized equity balance variables (difference-in-inputs, employees' outcome benefits, and organizational benefits), how much they thought they should be paid, equity, and pay satisfaction after the job change.

The two predominant models of job satisfaction (i.e., the fulfillment model and the discrepancy model) were reviewed. Each of these models considers intrinsic and extrinsic satisfaction as independent of each other. However, they disagree as to the interchangeability of intrinsic and extrinsic satisfaction. Field reports were reviewed, suggesting that intrinsic and extrinsic satisfaction may be neither interchangeable nor independent. Two major points emerged: (1) Task characteristics, the major source of intrinsic satisfaction with the job, are simultaneously the source of both expectations about pay and subsequent satisfaction with pay; (2) When task characteristics are changed, workers re-evaluate their extrinsic equity. A model of satisfaction, incorporating these two major points, was proposed: the hypothesized Interactive/Equity model of satisfaction is distinct from the other two models in suggesting that intrinsic and extrinsic satisfactions are neither independent nor interchangeable.

Task characteristics were manipulated via written descriptions approximating either job enrichment or job de-enrichment; and graduate students reported their reactions to the dependent measures, half in the condition of job enrichment ($n = 108$) and half in the condition of job de-enrichment ($n = 108$). Broadly significant results were achieved. In the enriched group, the results indicated that enriching tasks did create greater pay expectations and dissatisfaction with pay; both the interactive and the equity features of the hypothesized model were supported. In the de-enriched group, however, results indicated that, while recognizing that they should be paid less as a function of the change in characteristics, participants' satisfaction with unchanged pay was not significantly affected. Thus, in the de-enriched condition the interactive feature was supported, but not the equity feature. Additionally, examining differences between the relations under the two enrichment conditions indicated that the equity effect was significantly stronger with job enrichment (the under-equitable situation), but the interactive effect was equally strong in each condition.

The findings have both theoretical and practical implications. They suggest that existing models of satisfaction may be inadequate. They also suggest that practitioners might keep two points in mind before beginning any job enrichment program. First, they should know that, even when jobs are de-enriched, persons do not expect less pay. This suggests that job enrichment may be very difficult to reverse. Thus, practitioners should be very certain of the impact of job enrichment on organizational effectiveness before

beginning a job enrichment program. Second, satisfaction from intrinsic and extrinsic rewards are interactive and non-interchangeable. A job enrichment program may provide increased intrinsic rewards and satisfaction, but--rather than substituting for satisfaction with pay--the enriched characteristics are likely to result in employees having greater pay expectations, and, thus, greater pay dissatisfaction if they do not get it.

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INTRODUCTION

The trend today in work organizations is to acknowledge the importance of workers' job satisfaction as a prerequisite for organizational effectiveness (Lawler, 1971). Job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience" (Locke, 1976). Satisfaction is frequently viewed as a function of two major components, factors which are intrinsic to the job itself and those which are extrinsic. Intrinsic job factors are those "experienced by a worker during or following the completion of a set of task behaviors which is self- or task-mediated in that the involvement of a source external to the task-person situation is not required for delivery to take place" (Brief & Aldag, 1977). The major source of intrinsic job factors are the task characteristics; these include task characteristics of skill variety, autonomy, task identity, task significance, and feedback (Hackman & Lawler, 1971; Turner & Lawrence, 1965). These are the task characteristics which, at maximum levels, set the context for intrinsic satisfaction (Hackman & Oldham, 1976); they are also the characteristics which have been specified for enriching jobs. Extrinsic job factors are "experienced by a worker following the completion of a set of task behaviors which is dependent on a source external to the immediate task-person situation for delivery to take place" (Brief & Aldag, 1977). Extrinsic factors include pay, working conditions, and relations with supervisors and coworkers (Herzberg, Mausner, & Snyderman, 1959). Pay seems to be the most important

extrinsic job factor, since some authors (e.g., Robinson, Athanisiou, & Head, 1978) conclude that the preponderance of evidence "pinpoints wages as a major, if not the major, determinant of job satisfaction."

In the work setting, the motivating power of extrinsic rewards has been acknowledged since the time of Scientific Management (Taylor, 1911). Then pay was the only reward used to influence behavior and job satisfaction. Attention to the potential motivating power of intrinsic rewards is relatively recent, but since the early experiments with job enlargement at IBM in 1943, job enrichment has gained widespread acceptance in many organizations (Pierce & Dunham, 1976). This has resulted in job enrichment being frequently proffered in industry as a means of increasing intrinsic satisfaction.

Persons advocating job enrichment claim that, through its ability to increase intrinsic satisfaction, it can increase overall job satisfaction. They do not claim to increase productivity, although it may happen as a by-product of the job redesign. Many studies support the notion that job enrichment results in positive outcomes (Biganne & Stewart, 1963; Conant & Kilbridge, 1965; Ford, 1969; Kornhauser, 1965; Paul, Robertson & Herzberg, 1969; Roche & MacKinnon, 1970; Walter & Marriott, 1951). However, other studies indicate that job enrichment may not be beneficial (Kennedy & O'Neill, 1958; Kilbridge, 1960; Lawler, Hackman & Kaufman, 1973; Wild, 1970).

These inconsistent findings may be due to some misconception of the relation between job enrichment, intrinsic and extrinsic satisfaction, and overall satisfaction. It seems that the present theories of job satisfaction, the need fulfillment and the discrepancy models, in holding that extrinsic and intrinsic satisfactions

are interchangeable or independent, respectively, in conjunction with the proposition of job enrichment promote a simplified view that workers' satisfaction can be increased by job enrichment, without concomitant changes in remuneration. A possible explanation of the conflicting results of job enrichment programs lies in whether or not pay changes were made concomitantly. The models overlook the fact that the attributes of a job are used in job evaluation to determine the appropriate compensation. The very characteristics used to enrich jobs, the ones affecting intrinsic satisfaction, are also relevant for compensation. Satisfaction from intrinsic rewards and satisfaction from extrinsic rewards both originate from the same source, i.e., task characteristics. Thus, it is possible that job enrichment programs which do not involve increased pay may result in employees being dissatisfied with their pay.

In the present research, a model is proposed in which intrinsic and extrinsic reward facets are not only non-interchangeable, but are interactive as well. The model is empirically tested by studying the effects of changes in task characteristics (involving both job enrichment and job de-enrichment) on pay satisfaction.

This dissertation is organized into eight chapters. In Chapter I the current models of satisfaction are presented. Evidence conflicting with the present models is reviewed in Chapter II. In Chapter III, the hypothesized interactive/equity model of satisfaction is presented. Theoretical bases of the proposed model are discussed in Chapter IV. In Chapter V, the objectives of this research are explained. The research method is discussed in Chapter VI. In Chapter VII, the

relations suggested by the interactive/equity model are statistically analyzed and the results are presented. Chapter VIII consists of discussion and conclusions.

CHAPTER I

CURRENT MODELS OF JOB SATISFACTION

There are, presently, two major models of satisfaction. These two models are the need-fulfillment model of job satisfaction (Morse, 1953; Schaffer, 1953; Vroom, 1964) and the discrepancy model of job satisfaction (Katzell, 1964; Locke, 1968, 1969; Porter, 1961). Depending on the model of satisfaction applied, different proscriptions are made for administering intrinsic and extrinsic rewards.

I. THE NEED-FULFILLMENT MODEL

According to a fulfillment model, ". . . job satisfaction will vary directly with the extent to which those needs of an individual which can be satisfied are actually satisfied. . ." (Schaffer, 1953). The fulfillment model suggests that, the more rewards persons receive from job facets, whether they be intrinsic or extrinsic, the more satisfied they will be, providing the rewards are appropriate to their need level. Using the fulfillment model of job satisfaction or, in modified form, the need-satisfaction model (e.g., Hackman & Lawler, 1971), one might predict that it is possible to effectively substitute intrinsic for extrinsic factors, and vice versa, to promote approximately similar levels of overall job satisfaction. Utilizing this model to increase overall job satisfaction, one would expect that increasing either intrinsic or extrinsic rewards would produce an equivalent increase in overall satisfaction. Thus, in answer to

the question, "is it better to increase intrinsic or extrinsic rewards, in terms of overall job satisfaction?", one would respond, "it makes no difference."

In effect, this model implies that intrinsic and extrinsic factors are psychologically independent and additive with respect to overall satisfaction (e.g., Porter & Lawler, 1968). See Figure 1. They are additive because, for a given level of overall satisfaction, a high level of one facet can compensate for a low level of another facet. Yet they are independent because changing the level of either factor is not expected to affect the experienced level of the other.

II. THE DISCREPANCY MODEL

The other major model of work satisfaction is the discrepancy model. According to the discrepancy model, ". . . job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one's job and what one perceives it as offering" (Locke, 1968). This definition indicates that the basic determinant of satisfaction is what persons want, and not what they expect or feel they should receive. However, as far as pay satisfaction is concerned, other discrepancy researchers (e.g., Porter, 1961), in measuring pay satisfaction have used the base of how much pay persons feel they should receive. Research has shown that persons' responses are higher when they are asked how much they want than how much they should receive; how much they should receive is based more on relevant factors such as job level (Wanous & Lawler, 1972). Thus, in studying people's feelings about their jobs, the

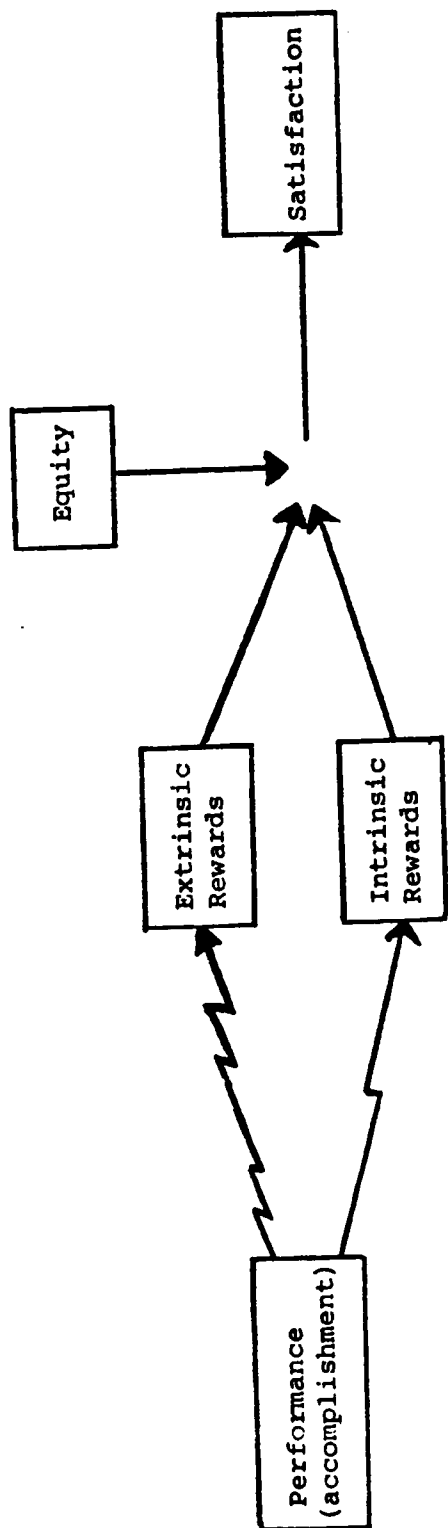


Figure 1. The Need Fulfillment Model

Source: Porter, L. W., & Lawler, E. E.
Managerial Attitudes and Performance. Homewood,
Ill.: Irwin-Dorsey, 1968.

"should be" approach makes more sense and is more widely used (Lawler, 1973). As Lawler (1971) states:

There is a difference between asking a person how much he wants and how much he thinks he should receive for what he is doing. In a sense they help us understand different aspects of a person's feelings toward his present pay. A person's satisfaction with the fairness of the pay for his present job would seem to be more influenced by what he feels he should receive than by what he ultimately aspires to. (p. 208)

The discrepancy model suggests that persons will be more satisfied as the difference between the rewards they should, or want to, receive and the rewards they actually do receive approaches zero. This model differs from the fulfillment model in suggesting that over-reward, as well as under-reward, may create dissatisfaction. Persons receiving either more intrinsic rewards or more extrinsic rewards than they want can be as dissatisfied with the over-rewarded facet as they would be with a deficient facet. Attempts to substitute satisfaction of extrinsic facets with satisfaction of intrinsic facets (or vice-versa) may lead to more of that facet than is wanted, and result in dissatisfaction with it. Using the discrepancy model of job satisfaction, one would expect that it is not possible to effectively substitute satisfaction of intrinsic and extrinsic factors. Further, as indicated by the model, those rewards which exceeded the desired basal level would result in dissatisfaction. Therefore, contrary to the fulfillment model, the discrepancy model argues that satisfaction with intrinsic and extrinsic job facets are not additive; increasing the rewards of one factor does not compensate for a deficiency of the other factor. Similarly to the fulfillment model, however, the discrepancy model suggests that satisfaction with

intrinsic and extrinsic facets are independent of each other. In other words increasing or decreasing satisfaction with either factor will not influence the other. Using this model to increase overall job satisfaction, one would expect increasing either intrinsic or extrinsic rewards would produce--as in the fulfillment model--an equivalent increase in overall satisfaction, but--contrary to the fulfillment model--only up to the point where the rewards are equivalent to what is wanted. Thus, in applying the discrepancy model to the question, "Is it better to increase intrinsic or extrinsic rewards, with respect of overall satisfaction?", one would respond that it is better to increase only those rewards which are deficient; however,--if both intrinsic and extrinsic rewards are deficient--, then either could be increased with equal effectiveness.

III. SUMMARY

The fulfillment model and the discrepancy model are inconsistent concerning the nature of the relation between satisfactions from intrinsic and extrinsic rewards. Utilizing the fulfillment model, with its belief that intrinsic and extrinsic rewards are both additive and independent, one would expect employee satisfaction to increase either when jobs are enriched or when pay is increased. One would believe that enriching jobs increases intrinsic satisfaction, increasing pay increases extrinsic satisfaction, and--with the two being compensatory and independent in their relation to overall job satisfaction--enriching jobs or increasing pay increases overall job satisfaction. When jobs are de-enriched or when pay is decreased, one would expect the identical converse situation to hold, i.e.,

that intrinsic and extrinsic rewards are decreased, and results in decreased overall job satisfaction.

However, the discrepancy model, as explained above,--although concurring with the fulfillment model that intrinsic and extrinsic rewards are independent--differs from the previous model by stating that the intrinsic and extrinsic rewards are not compensatory, since dissatisfaction may result from having too much, as well as too little, of a job facet. Utilizing the discrepancy model to increase overall job satisfaction, one would predict that it does make a difference whether jobs are enriched or pay is increased: only that facet which is presently deficient should be increased; increasing the rewards relevant to either facet which is already at, or above, a satisfactory level would produce a decrease in satisfaction with that facet and, thus, a reduction in overall job satisfaction, whereas, increasing the rewards relevant to either facet which is below a satisfactory level would increase satisfaction. A parallel relation would be expected by decreasing either job enrichment or pay: for that facet already above a satisfactory level, satisfaction would increase; for that facet below, or at a level equal to, satisfactory, satisfaction would decrease.

Focus. The models conflict as to whether or not intrinsic and extrinsic rewards are compensatory, but the models each maintain that intrinsic and extrinsic rewards are independent. In the next chapter, results from the field are presented which suggest that each of these models may be inadequate. Both models assume that certain characteristics of a job are singularly related to only one

facet of satisfaction. They suggest that job characteristics (e.g., task variety, identity, autonomy, and significance) relate to growth, but not pay satisfaction; and level of pay relates to pay satisfaction, but not growth. Both models assume that overall satisfaction is an unweighted additive function of the intrinsic and extrinsic facet satisfactions. The theoretical problem is that in assuming this additive function of the facets, they also imply independence between them. In expecting enrichment of job characteristics to increase growth satisfaction, and result in an increase in overall satisfaction, the models tend to ignore the possibility that level of job characteristics may indirectly affect pay satisfaction, and hence overall satisfaction, as well. Thus, the net effect on overall satisfaction may be null.

CHAPTER II

EVIDENCE COUNTER-INDICATIVE OF THE PRESENT MODELS OF JOB SATISFACTION

The two defining characteristics of the two major models of job satisfaction are whether or not intrinsic satisfaction and extrinsic satisfaction are compensatory (i.e., interchangeable), and independent in relation to overall job satisfaction. The variables in question are satisfactions from intrinsic and extrinsic rewards. Because the cognitive evaluations of intrinsic and extrinsic rewards are mutually rooted in the job characteristics, intrinsic and extrinsic satisfaction may be non-compensatory and inter-dependent. The independence of the facets themselves has been questioned by other researchers (Burke, 1966; Dunnette, 1965; Ewen, 1964; Friedlander, 1963, 1964; Wernimont, 1966). The independence of the resulting motivations has also been questioned (Deci, 1971).

In this chapter, evidence relating to the non-interchangeable and inter-dependent nature of intrinsic and extrinsic satisfactions is examined. The fulfillment model, states that satisfaction from intrinsic and extrinsic rewards are compensatory and independent with respect to overall satisfaction; the discrepancy model also holds satisfaction from these two divergent sources to be independent, but maintains that they are compensatory only when both facets are in the same affective state (i.e., satisfied or dissatisfied). Otherwise, attempts to alleviate dissatisfaction from a deficiency in one facet by increasing the other facet results only in increasing

dissatisfaction with the second facet, and thus increasing overall dissatisfaction. The characteristic of interchangeability is examined in the first section; independence is examined in the second section.

I. NON-INTERCHANGEABLE SATISFACTIONS

Extrinsic Satisfaction Is Essential

Evidence is accumulating which supports the notion that intrinsic and extrinsic job factors are not interchangeable. Various indicators suggest that satisfaction with pay, an extrinsic job factor, is essential. Strauss & Sayles (1957) have argued that satisfaction with pay is essential, stating that "there is little evidence that money has ceased to be a prime motivator" (p. 53). Geare (1976) also criticizes theories which question the motivational role of money. Empirical support of the importance of pay can be found in studies where workers have actually "withdrawn from the field" (Adams, 1965) because they perceive their pay as too little. In a study by Patchen (cited in Steers & Porter, 1979), men who said their pay should be higher had more absences than men who said the pay for jobs was fair.

That absenteeism in this study was a form of withdrawal is strongly supported by the fact that men with high absence rates were significantly more likely than men with low rates to say that they would not go on working at their job, if they should chance to inherit enough money to live comfortably without working. (p. 118)

Low pay has also been associated with a more permanent withdrawal from a job (Diettrich & Carrell, 1979). And high turnover occurred among hourly workers who believed their pay was too low

(Telly, French & Scott, 1971). Additionally, Klein (1972) found under-equity related to turnover. Other research (Adams, 1963; Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962) has found that low pay effects productivity. The weight of the evidence from this group suggests that pay satisfaction is an essential component of motivation. Dissatisfaction with pay appears to affect the decisions both to produce and to remain with the organization.

Evidence of the noncompensatory nature of intrinsic and extrinsic rewards comes from a study (Oldham, Hackman & Pearce, 1976) in which it was found that reactions to enriched jobs are moderated by satisfactions with peer and supervisory relations and with pay. When the work environment is characterized by a high degree of employee suspicion and distrust of management, job enrichment strategies may have negative consequences. This suggests that intrinsic and extrinsic facets are non-compensatory with respect to overall satisfaction, even when both were previously in a dissatisfied state due to deficient facets. If the conclusions of these researchers hold, positive reactions to job enrichment may occur only if extrinsic factors (i.e., pay, security, social, supervisory) are already satisfied.

Intrinsic Satisfaction is Essential

Although satisfaction with pay is a necessary component of overall satisfaction, there are other indications that it is not sufficient. In a national survey, (Michigan Research Center, 1971), workers ranked "interesting work" (an intrinsic factor) as the most important aspect of their job, while "amount of pay" (an extrinsic

factor) was ranked only fifth in importance. Friedlander (1964) found intrinsic job characteristics to be important both to satisfaction and dissatisfaction, while extrinsic job characteristics were relatively unimportant, either as satisfiers or dissatisfiers. Thus, some level of intrinsic satisfaction may be a necessary component of overall satisfaction.

Similarly, one study found that extrinsic rewards alone were not sufficient for productivity. In a factory experiment, Wyatt (1934) found that output would remain poor--even under a piece-rate system--if the task were disliked. He observed a strong positive relation between an incentive plan's effectiveness (defined as increased productivity) and liking for the job. On the best liked job, employees increased their output 200 percent when payment was changed from straight pay to group bonus and, finally, to piece-rate payment. In contrast, on the most onerous task, output showed no change under different conditions of pay. This interaction between intrinsic and extrinsic rewards suggests that both intrinsic and extrinsic rewards are necessary for productivity. Neither intrinsic nor extrinsic rewards alone were able to motivate for better performance. This indicates that some satisfaction of both intrinsic and extrinsic factors is necessary for overall satisfaction, and supports the position that intrinsic and extrinsic rewards are not interchangeable.

Still more direct support of the non-interchangeable character of intrinsic and extrinsic factors comes from Gupta & Quinn (1973). These researchers examined whether workers could be satisfied with dull jobs when they were compensated with high pay. They found that

increases in one kind of satisfaction do not necessarily affect satisfaction from other facets. Specifically,

. . . there were no trade-offs between challenge and income in their effects on job satisfaction and lack of challenge in a job was not compensated for by high pay to obtain a specific level of job satisfaction. (p. 333)

Summary

A conclusion that could be drawn from these studies is that satisfaction from interesting work and satisfaction with pay are not interchangeable in producing an overall level of satisfaction. These reports appear to indicate that, regardless of how much satisfaction workers get on one facet (intrinsic or extrinsic), they will not be satisfied, unless the other facet is also at a satisfactory level. Intrinsic and extrinsic satisfaction do not seem interchangeable, contrary to what the fullment model implies.

II. INTER-DEPENDENCE OF SATISFACTION FROM INTRINSIC AND EXTRINSIC REWARDS

Recall that both the fulfillment model and the discrepancy model maintain that satisfaction from intrinsic and extrinsic rewards are independent. This section presents reports which run contrary to that notion.

Work Environment and Intrinsic Satisfaction

Characteristics of the immediate work environment must be considered as potentially important moderators of the effects of an enriched job (Steers & Mowday, 1977). Several authors (Hackman, Oldham, Janson & Purdy, 1974; Katz & Kahn, 1978; Trist, 1976; Turner

& Lawrence, 1965) have acknowledged that job redesign strategies must take into account the sub-system in which they occur. For instance, work group and supervisory relations have important influence on how employees react to the job situation. Fein (1974) also has critically observed that most job enrichment programs (particularly the most successful ones) have been attempted only in specially selected locations or in new plants where a suitable climate could be developed (e.g., General Foods, Topeka). The need to simultaneously consider satisfaction from intrinsic and extrinsic facets is further demonstrated by the following case studies of unsuccessful job enrichment programs.

Pay Satisfaction and Intrinsic Satisfaction: Several Case Studies

Locke, Sirota & Wolfson (1976) found that, the "hard" measures (productivity, absences, turnover, complaints, grievances) showed generally positive changes as a result of job enrichment; while the "soft" measures (attitudes) did not improve. The authors attributed changes in the "hard" measures to the new work methods which allowed for greater efficiency and competition between workers. In interviews following the experiment, the authors found that the adverse attitudinal reactions were due to employees' disappointments in lack of better performance ratings, pay raises, and promotions; the employees wanted job enrichment, but they expected more pay as a result of enrichment.

Another case study (Gray, 1971) found significant effects of pay satisfaction on workers' performance. A study of an unsuccessful Scanlon Plan revealed that, as the bonus payout dropped, so did

the number of suggestions submitted. The conclusion was that workers needed to be satisfied with pay before they could have intrinsic concerns.

More anecdotal evidence comes from workers' comments following a study by Stern (1978). Stern examined the degree to which participants desired certain changes relating to their jobs. Results showed that, although respondents considered job design changes equally desirable as other changes, they were unwilling to pay as much money for the job design changes. Comments expressed after the study indicated that they believed that changes in their job characteristics "would improve productivity, and therefore, if anything, they should be paid more." This assumption is probably fairly common in spite of the fact that "job enrichment" programs do not always succeed in raising productivity (Katzell & Yankelovich, 1975). The assumption of increased productivity could be having an effect on reported results of other studies as well. Stern (1978) reports that participants were probably choosing between the dichotomous alternatives of "changes which they perceive to help others" vs. "changes they perceived to help themselves."

This comment suggests the presence of a social comparison process of distributive justice. Workers wanted costs and benefits from the enrichment program to be distributed proportionately between themselves and the employing organization. Workers' comments indicated that they might otherwise want the job enrichment, but to do so would increase the company's outcomes, i.e., productivity and profits. Interpolating between these comments, one could suggest that workers had set up equity ratios between the inputs and

outcomes of themselves and those of the organization, and that these equity ratios included job enrichment's impact or extrinsic factors.

III. EARLY CONCEPTUALIZATIONS OF THE INTERACTION BETWEEN INTRINSIC AND EXTRINSIC JOB FACETS

Systems Equity

The equity interpretation (above) is further supported by Beer & Huse's (1972) report of a case study. In that study, job enrichment led to increased quality and productivity, and decreased absenteeism. Beer & Huse attributed changes in the pay system as one reason for the project's success:

Changes toward a pay process more clearly based on merit . . . were made to reinforce and legitimate an escalating climate of work involvement. . . .(including appraisals for hourly and weekly salaried, clerical, and technical employees, as well as for managerial and professional personnel.

These authors suggest an equity model in which someone with a newly enriched job compares himself to another with an unenriched job.

(See Figure 2.) In the words of Beer & Huse (1972):

. . .the increased responsibilities, commitment, and involvement represented by job enrichment for assembly workers are not adequately represented in the normal job evaluation program for factory workers and are difficult to handle adequately within the larger system. So pay and pay system changes must be modified to fit modern OD concepts. (p. 75)

Beer and Huse's model reflects the non-independence of satisfaction from intrinsic and extrinsic factors. They suggest that augmenting job characteristics, the precise vehicle by which intrinsic satisfaction is increased, results in necessary changes in extrinsic rewards (i.e., pay).

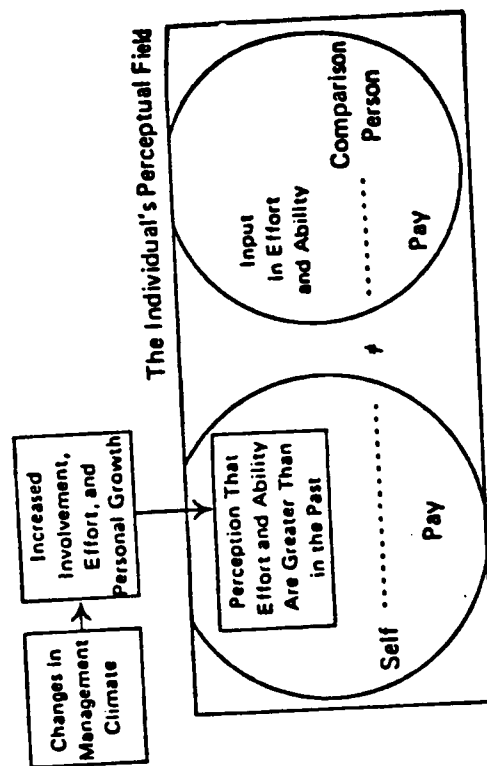


Figure 2. Systemic Equity Model

Source: Beer, M. & Huse, E. F. A systems approach to organization development. Journal of Applied Behavioral Science, 1972, 8, 95.

Determinants of Facet Satisfaction

The non-independence of satisfaction with intrinsic and extrinsic factors was also proposed by Lawler (1973). Lawler presented a model of the determinants of facet satisfaction. (See Figure 3.)

According to Lawler (1973):

The model is intended to be applicable to understanding what determines a person's satisfaction with any facet of the job. The model assumes that the same psychological processes operate to determine satisfaction with job factors ranging from pay to supervision to satisfaction with the work itself. The model. . . is a discrepancy model in the sense that it shows satisfaction as the difference between a, what a person feels he should receive, and b, what he perceives that he actually receives. (p. 74)

Lawler maintains that, although a person's perception of what his reward level should be is influenced by a number of factors, the perceived job inputs may be most important. Lawler (1973) states:

Perhaps the most important influence is perceived job inputs. These inputs include all of the skills, abilities, and training a person brings to the job as well as the behavior he exhibits on the job. The greater he perceives his inputs to be, the higher will be his perception of what his outcomes should be. Because of this relationship, people with high job inputs must receive more rewards than people with low job inputs or they will be dissatisfied. The model also shows that a person's perception of what his outcomes should be is influenced by his perception of the job demands. The greater the demands made by the job, the more he will perceive he should receive. (p. 76)

Both the Lawler (1973) and the Beer & Huse (1972) model indicate the importance of maintaining equilibrium of inputs and outcomes within the system. Specifically, both models stress the necessity of adjusting pay outcomes in relation to job inputs. These models are based on equity considerations. The equity comparisons can arise between persons and similar others or between persons and themselves at a previous time (Adams, 1963). However, another type

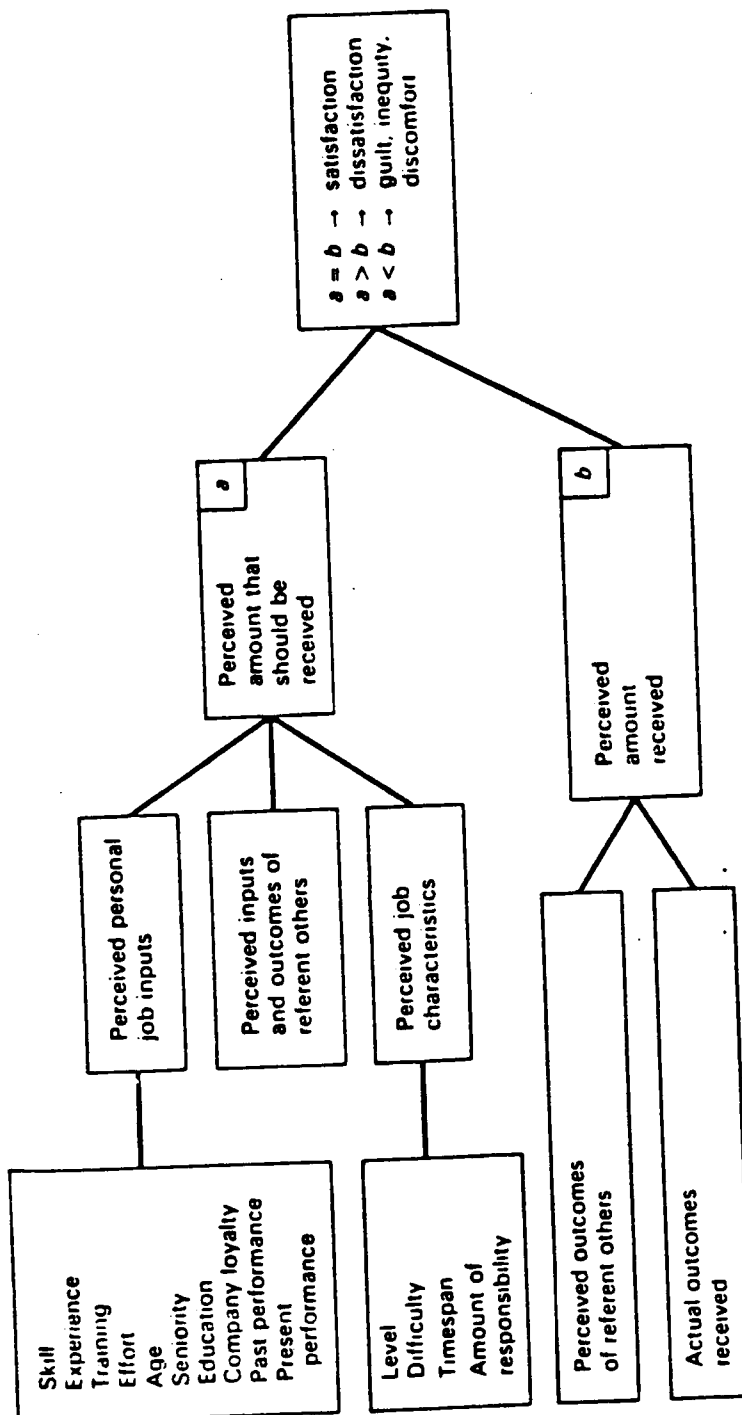


Figure 3. Model of the Determinants of
Facet Satisfaction

Source: Lawler, E. E. Pay and Organizational Effectiveness: A Psychological View. New York: McGraw-Hill, 1971.

of equity comparison is also involved. As evidenced by the remarks of the participants in the Stern (1978) study, workers also consider equity comparisons based on themselves and the employing organization. Again, changing the levels of job characteristics can have reverberations throughout the system.

IV. SUMMARY

Evidence is available which suggests that satisfactions from intrinsic and extrinsic job facets are non-interchangeable and non-independent. Views from a wide range of sources have questioned the relation between satisfaction from intrinsic and extrinsic rewards, as set forth in both the fulfillment model and the discrepancy model of satisfaction. Two fundamental and important points have evolved from these persons' experiences.

Mutual source of satisfactions. The first major point is that aspects of extrinsic satisfaction, as well as intrinsic satisfaction, have as the origin the task characteristics of the job. It has long been recognized that intrinsic satisfaction emanates from task characteristics, but--with application of either the fulfillment model or the discrepancy model of satisfaction--practitioners presumed independence of satisfaction from the two reward facets. This has led to changes in task characteristics to increase intrinsic satisfaction, expecting extrinsic satisfaction to remain the same. Recognition that both kinds of satisfaction emanate from the same source, i.e., task characteristics, suggests an interactive relation between intrinsic and extrinsic satisfaction.

Inherent equity process. The second major point which is suggested by the literature is that, using task characteristics as the basis of their perceptions of required inputs, persons revise their equity appraisals when the task is changed. Accordingly, any change in the level of task characteristics is related to a change in perceived inputs. Based on the perceived level of inputs and outcomes, an equity equation is formed cognitively to determine the fairness of the situations' changed level of task characteristics (as it affects both intrinsic and extrinsic outcomes).

These two major points, taken together, suggest that intrinsic and extrinsic satisfaction emanate simultaneously from the task characteristics in an asymmetrical, interactive manner which is mediated by an interposing equity formulation involving intrinsic and extrinsic rewards. The relation is asymmetrical, in that intrinsic factors effect both intrinsic and extrinsic satisfaction, while extrinsic factors affect only extrinsic satisfaction. Further, equity formulations are interposed between the task characteristic-satisfaction relations. Such a model is proposed in Chapter III.

CHAPTER III

THE HYPOTHESIZED INTERACTIVE EQUITY MODEL OF SATISFACTION

I. THE MODEL

Augmenting job characteristics is the predominately proposed method used to increase intrinsic outcomes (Hackman & Oldham, 1976). However, concomitant with perceived increases in intrinsic outcomes, individuals may also perceive increases in several variables which may contribute to their estimate of the equity of the new job situation. Some of these "equity balance variables" might be the perceived difference in inputs required by the new job relative to the prior job, and who benefits from the changes. Persons might assess how the change in task characteristics affects their job outcomes and how the organization might benefit from the new work arrangement. Based on these perceptions of inputs and benefits, an equity equation could be formed cognitively to determine the fairness of the situation's changed level of job characteristics. If the outcomes have been augmented proportional to the inputs, then persons might perceive their pay to be right, and equity is maintained. However, if the inputs have been augmented proportionally more than the outcomes, then persons might perceive they should be receiving more money, and under-equity ensues. Their satisfaction with the pay is likely to be based on their appraisal of the equity of the situation. (See Figure 4).

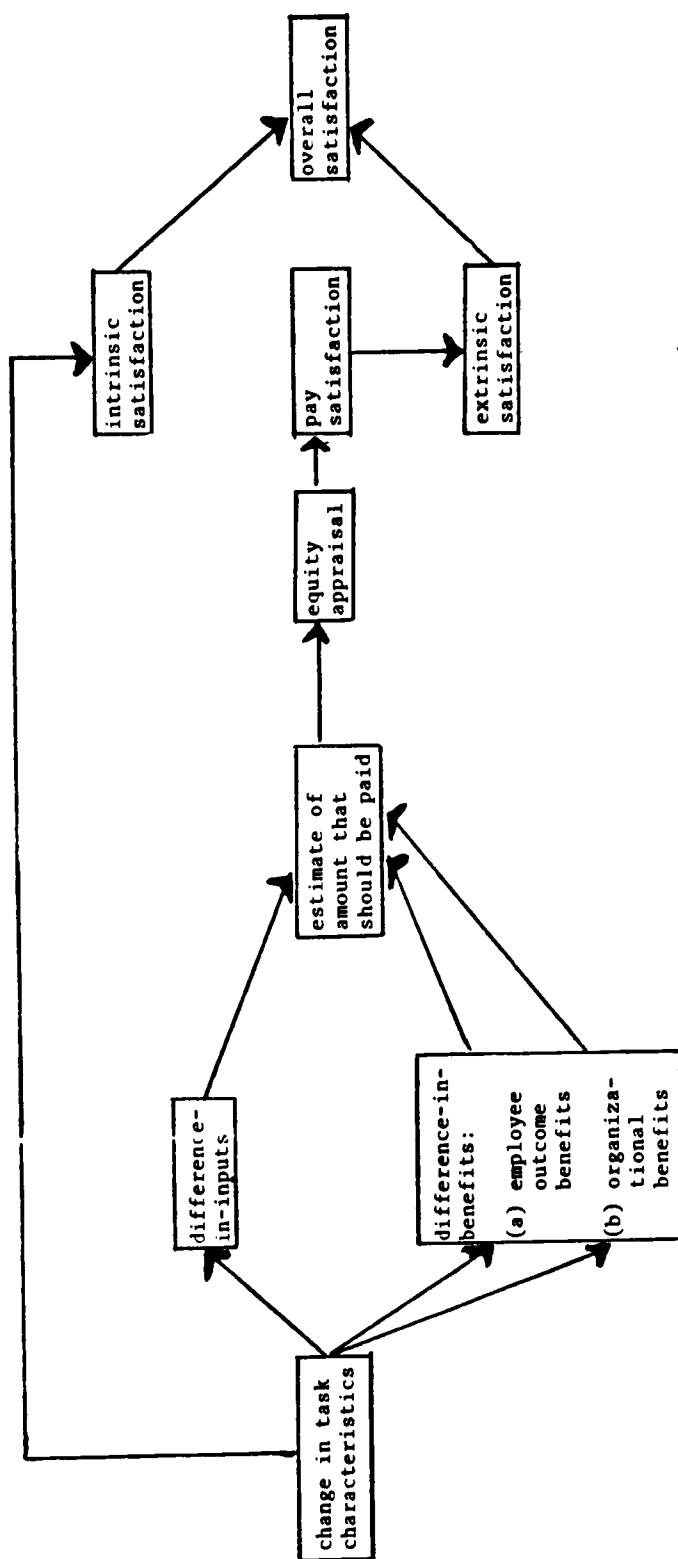


Figure 4. Hypothesized Interactive/Equity Model of Satisfaction.

II. COMPARISON OF THE HYPOTHESIZED MODEL WITH THE EXISTING PREDOMINANT MODELS

The major distinguishing characteristics of the major models of satisfaction are their description of the relation between satisfaction from intrinsic and extrinsic rewards, specifically whether or not they are taken to be compensatory and whether they are taken as independent or interactive. Recall from Chapter I that the fulfillment model and the discrepancy model are inconsistent concerning this relation. In comparing them to the hypothesized Interactive Equity Model each of these characteristics will be considered separately.

To reiterate, the fulfillment model suggests that intrinsic and extrinsic satisfactions are compensatory and, therefore, interchangeable; while the discrepancy model suggests that they are not. The Interactive/Equity model proposed in this study concurs with the discrepancy model in suggesting that intrinsic and extrinsic satisfactions are not compensatory, i.e., that dissatisfaction can result from receiving too much of the reward facets, as well as too little. The reason for this is that the issue herein examined is pay satisfaction. As has been discussed by Lawler (1971), when pay fairness is the concern, then satisfaction is best determined by comparisons against perceptions of what one should receive.

Both the fulfillment and the discrepancy models represent satisfactions of intrinsic and extrinsic facets to be independent. Yet, as presented above, evidence from the field is accumulating which gives support to the notion that they may be related. The

Interactive Equity Model proposed here suggests that the satisfaction from intrinsic and certain extrinsic rewards may be complexly inter-related due to the simultaneous evaluation of intrinsic and extrinsic rewards relative to job characteristics.

CHAPTER IV

THEORETICAL UNDERPINNINGS OF THE HYPOTHESIZED INTERACTIVE EQUITY MODEL OF JOB SATISFACTION

The purpose of this chapter is to provide the reader with an understanding of the cognitive processes involved in the proposed Interactive/Equity Model of Job Satisfaction. The findings of some recent equity research which have provided the basis for the model are presented in this chapter. In the first section, basic equity theory is explained. Recent insights to the equity process, and subsequent revisions of the original equity formulation are presented in the second section. In Section III, intrinsic and extrinsic satisfaction are explained in relation to the equity ratios. Then, in Section IV the findings from all of this previous research are brought to bear for extrapolating the formulation of the hypothesized Interactive/Equity Model. Finally, the specific hypotheses, derived from the hypothesized Interactive/Equity Model, are presented.

I. BASIC EQUITY THEORY

Equity theory is rooted in the theory of distributive justice (Homans, 1961). According to Homans' (1961) general rule of distributive justice:¹

¹In the socio-economic arena, Homans is acclaimed as the originator of this concept; however, credit must also be given to Hobbes (1651) who recognized the importance of fair distribution in three-party exchanges (Leviathan, Chapter XV).

A man in an exchange relation with another will expect that the rewards of each man be proportional to his costs--the greater the rewards, the greater the costs--and that the net rewards, or profits, of each man be proportional to his investments--the greater the investments the greater the profit. . . . The more to a man's disadvantage the rule of distributive justice fails of realization, the more likely he is to display the emotional behavior we call anger. (p. 75)

Distributive justice has a strong influence on persons' social behavior (Shaw & Costanzo, 1970, p. 79).

From this foundation Adams (1965) derived a theory of equity, based on persons' comparisons of what they put into a situation ("inputs", e.g., skill, age, experience) with what rewards they get from a situation, ("outcomes," e.g., wages, respect, benefits). According to Adams, equity exists whenever the ratio of a person's outcomes to inputs is equal to the ratio of other's outcomes to inputs.

$$\frac{\text{Outcomes}}{\text{Inputs}} \frac{\text{person}}{\text{person}} = \frac{\text{Outcomes}}{\text{Inputs}} \frac{\text{other}}{\text{other}}$$

Inequity exists whenever the two ratios are unequal. The "other" in the comparison may be another person, group of persons, or even some internal standard based on the persons' own previous experience. As summarized by Mowday (1979), the theory postulates that (1) perceived inequity creates tension in the individual; (2) the amount of tension is proportional to the magnitude of inequity; (3) the tension created in the individual will motivate him or her to reduce it; (4) the strength of the motivation to reduce it is proportional to the perceived inequity. Thus, persons become dissatisfied when they perceive that what they are putting into a job and getting from the job is disproportionate to that of a comparison other.

II. REVISED EQUITY FORMULATIONS

Operations Have Similar Units

While equity theory is well accepted in the literature (Walster, Berscheid & Walster, 1976), the specific details of the comparisons have recently been questioned. Some researchers (e.g., Anderson & Farkas, 1975; Farkas & Anderson, 1979) noted the conceptual difference between the proportional processes implicit in Adams' equity theory and those of a similar model dating back to Aristotle.

$$\begin{array}{lcl} \text{Adams} & \frac{\text{Outcomes A}}{\text{Inputs A}} & = \frac{\text{Outcomes B}}{\text{Inputs B}} \\ \text{Aristotle:} & \frac{\text{Outcomes A}}{\text{Outcomes B}} & = \frac{\text{Inputs A}}{\text{Inputs B}} \end{array}$$

Although the two models are mathematically equivalent, they differ in their assumptions about the comparison structure (Anderson, 1978). Adams' formulation is more cognitively difficult because the numerator and denominator are expressed in different units. Anderson and Farkas postulated another ratio model, derived from an integration theory of social averaging:

$$\text{Anderson \& Farkas:} \quad \frac{\text{Inputs A}}{(\text{Inputs A} + \text{Inputs B})} = \frac{\text{Outcomes A}}{(\text{Outcomes A} + \text{Outcomes B})}$$

Using judgments of inequity to test the adequacy of the various models (Anderson & Farkas, 1975), Aristotle's model did better than Adams', but not as well as Anderson & Farkas' model. The most accurate equity model--[the Anderson & Farkas (1975) model]--was the one in which similar units are combined before the equity comparisons are made.

Dissimilar Inputs Have Separate Equity Ratios

Input integration. Once the equity formula had been refined, the path was open to examine how the units were combined. The cognitive underpinnings of equity theory have long been questioned. Even as Adams (1965) proposed equity theory, he recognized that research was needed to determine how individuals aggregate their outcomes and inputs. The ambiguity has stood as an obvious weakness in the theory for some time. The problem was well captured by Hook & Cook (1979):

. . .there is the large assumption that the allocator is able to conceptualize heterogeneous outcomes (e.g., satisfaction or dollars) and heterogeneous inputs (the quantity and quality of work or qualifications) and is able to weld them into a single unidimensional scale of outcomes or inputs. (p. 433)

Traditionally, the implicit assumptions have been that (a) inputs are summed, (b) rewards are summed, (c) one is divided by the other for both proportions, (d) the comparison is made, and (e) an equity judgment ensues (e.g., Adams, 1965; Walster, Berscheid & Walster, 1973). This process is commonly called "input integration" because it assumes the inputs are algebraically combined to yield a unitary input value before an equity ratio is formed.

Equity integration. However, recent research (Farkas & Anderson, 1974; Anderson & Butzin, 1974; Farkas & Anderson, 1979) has suggested that for dissimilar inputs, persons employ a process of equity integration, rather than input integration. Equity integration implies a reverse order of processing, a process which begins by forming equity ratios consisting of similar units. For dissimilar inputs,

persons tend to create several equity ratios, each having their distinct input dimension. The resulting equity ratios are then averaged into one final equity estimate. In other words, it is the implicit equity divisions that are integrated. This method is used as opposed to summatively combining the dissimilar inputs, doing the same with the dissimilar outcomes, and having one ratio. These two alternative rules, input integration and equity integration, have twice been experimentally tested (Anderson, 1976; Farkas & Anderson, 1979), and "these results raised doubt about the validity of any rule of input integration." For example, Farkas & Anderson (1979) manipulated various levels of two input dimensions (effort and performance) for Persons A and B, and had participants allocate rewards for Person A. They studied the data patterns to diagnose which, if either, model could predict the observed judgments. They plotted rewards of Person A as a function of all proportional combinations of inputs:

$$\begin{array}{cccccc}
 (1) & & (2) & & (3) & & (4) & & (5) & & (6) \\
 \frac{P_A}{(P_A + P_B)} & & \frac{E_A}{(E_A + E_B)} & & \frac{E_A}{(E_A + P_B)} & & \frac{P_A}{(P_A + E_B)} & & \frac{E_B}{(E_B + P_B)} & & \frac{P_A}{(P_A + E_A)}
 \end{array}$$

where:

P = performance

E = effort

subscripts = denotation of Persons (A,B)

All six input combinations were consistent with predictions from equity integration, whereas, only the first two combinations (i.e., only those which were unidimensional) were consistent with input integration. The authors concluded, therefore, that for dissimilar inputs equity integration is employed. In practical terms, that

means that for dissimilar inputs there actually exist several distinct equity ratios before they are formed into a single entity.

III. COGNITIVE INTEGRATION OF EQUITY OUTCOMES

Separate Intrinsic and Extrinsic Equity Ratios

Generalizing from those studies: If it can be assumed that intrinsic and extrinsic rewards are dissimilar outcomes, and that dissimilar outcomes result in equity integration just as has been shown for dissimilar inputs, then workers will use equity integration, rather than input integration, in their equity evaluations of outcomes, as well. Thus, workers should have separate equity ratios for intrinsic and extrinsic outcomes. The formulation being suggested, extrapolating from the Anderson & Farkas (1975) model, is as follows:

$$\frac{\text{Inputs}_A}{(\text{Inputs}_A + \text{Inputs}_B)} = \frac{\text{Intrinsic Outcomes}_A}{(\text{Intrinsic Outcomes}_A + \text{Intrinsic Outcomes}_B)} + \frac{\text{Extrinsic Outcomes}_A}{(\text{Extrinsic Outcomes}_A + \text{Extrinsic Outcomes}_B)}$$

Phenomenologically, this suggests that equity from intrinsic and extrinsic job facets have separate and distinct identities, and thus are evaluated separately.

Distinct Levels of Intrinsic and Extrinsic Satisfaction

The notion that there are distinct equity ratios for intrinsic and extrinsic inputs and outcomes is relevant to understanding the process of appraising satisfaction. Recalling that equity is directly related to satisfaction. (Burt & Sundstrom, 1979; de Carufel, 1979; Dittrich & Carrell, 1979; Klein, 1973; Pritchard, Dunnette, & Jorgenson,

1972; Sears & McConahay, 1973), then having the intrinsic and extrinsic ratios processed separately implies that there may be two separate estimates of satisfaction, that intrinsic satisfaction and extrinsic satisfaction are appraised separately.

In fact, since intrinsic and extrinsic satisfactions are commonly measured as two distinct variables (Herzberg, et al., 1959; Wanous, 1974; Weiss, Dawis, England & Lofquist, 1967), it may be said that intrinsic and extrinsic satisfaction are well accepted in the literature as distinct cognitive realities. This notion is consistent with each of the major models of satisfaction previously discussed, the fulfillment and the discrepancy models, as well as with the hypothesized model, each of them recognizing that overall satisfaction is an unweighted combination of intrinsic and extrinsic satisfaction. Separate entities of intrinsic and extrinsic satisfactions are also consistent with the findings presented above which indicated that satisfactions of intrinsic and extrinsic factors are not interchangeable. The non-interchangeable characteristic inherently suggests that they are different. Moreover, the separate identities of intrinsic and extrinsic satisfaction is implied in the equity formulation of the previous section, stating that there are separate equity ratios for the intrinsic and extrinsic outcomes. And the finding that the level of extrinsic satisfaction moderates reactions to job enrichment implies that the two dimensions of intrinsic and extrinsic satisfactions are computed separately. Thus, it could be said that the present knowledge of intrinsic and extrinsic satisfaction is consistent with, and corroborates, the notion of separate equity ratios for intrinsic and extrinsic outcomes.

IV. RELATIVE BENEFITS FROM JOB CHANGE AND EXTRINSIC EQUITY

There are two bases for believing that changing task characteristics may affect the evaluation of extrinsic equity, and thus raise pay expectations. Each stems from considerations of "who benefits" from the job change. These become apparent after examination of the equity formula. As noted above, equity exists when:

$$\frac{\text{Inputs A}}{\text{Inputs A} + \text{Inputs B}} = \frac{\text{Outcomes A}}{(\text{Outcomes A} + \text{Outcomes B})}$$

In this equation, "A" represents the person making the equity comparison; "B" could represent the person before the job change, another whose job was not changed, or the employing organization.

Equity Comparisons Involving One's Self or Another at Previous Job

Adams (1965) stated that persons "will minimize increasing inputs that are effortful and costly to change"; this premise has also been empirically supported (Weick & Nasset, 1968). If persons perceive that job enrichment has high costs to themselves relative to its rewards, they will not want it and will be dissatisfied with it.

In the words of Steers & Porter (1979):

. . . redesigning someone's job may not increase motivation if such efforts are not seen by the individual as changing the inputs-outcomes matrix. If the employee still believed he or she was inequitably treated (perhaps paid at a lower rate than comparable others), there is little reason to believe that such an individual would be motivated to increase effort. (p. 105)

Accordingly, after a change in job characteristics, persons will form equity comparisons of the inputs and outcomes of the new situation to those they had before the job change. If augmenting

task characteristics is perceived as increasing inputs, a relevant variable for job evaluation, and pay has not changed, then persons might perceive pay as under-equitable. Similarly in job de-enrichment, if decreasing task characteristics is perceived to decrease inputs, and pay has not changed, then persons might perceive pay as over-equitable.

Equity Comparisons Involving the Employing Organization

The second phenomenon which can effect extrinsic equity when job characteristics are augmented is inherent in the idea that persons compare the rewards each gets from an exchange. The comparison process can elicit emotional behavior due to "relative deprivation" (Merton & Kitt, 1950). Relative deprivation occurs when persons' are receiving less reward(s) than others with whom they compare themselves, although they feel equally entitled to them. Relative deprivation arises from the notion of equity, but it has unique applications.

Employees have an exchange relation with their employer, and they compare their inputs and outcomes not only with other workers, but also with those of the employer. If employees perceive that their augmented job characteristics increase the employer's outcomes, they may feel themselves entitled to increased outcomes, as well. Others (Crosby, 1976; Stouffer, Suchman, DeVinney, Star & Williams, 1949) have also noted that outcomes are not evaluated in objective terms, but rather in relation to a subjective standard of deserving. Empirical evidence (deCarufel, 1979) supports the contention that the adequacy of compensation is a function of the resources available

to the allocator. Therefore, as workers perceive job enrichment to benefit the organization, they would probably expect more pay and there should be a concomitant decrease in their pay satisfaction; as workers perceive job de-enrichment to be costly to the organization, they are likely to expect less pay and there should be a concomitant increase in their pay satisfaction.

Analogously, however, one might expect that, as workers perceive additional costs to the organization due to job enrichment, the net value of that outcome to the workers might increase. Fein (1974) has argued that job redesign does include inherent organizational costs, e.g., additional training time and production costs. Workers who are more cognizant of these costs should experience less under-equity from the enriched job, or more over-equity from a de-enriched job.

CHAPTER V

OBJECTIVES OF THIS RESEARCH

All of these previous studies are relevant for the present research. Augmenting job characteristics is the method used to increase intrinsic outcomes. Job evaluations, the basis of pay determinations are also tied to job characteristics. Even though augmented job characteristics may produce "experienced psychological states" which result in increased intrinsic satisfaction, it is also possible that augmented job characteristics produce some psychological phenomena (e.g., equity) relating to the extrinsic outcomes. And since past research (Anderson & Farkas, 1974; Farkas & Anderson, 1979) suggests that there are separate equity ratios for dissimilar outcomes, then it is possible to examine the relation of changes in task characteristics with extrinsic outcomes, and the resulting estimates of extrinsic equity and pay satisfaction.

Adams, (1965) said that the inputs and outcomes of the exchange relationship

. . .are conceived as being the sum of such outcomes and inputs as are perceived to be relevant to a particular exchange. Furthermore, each sum is conceived as a weighted sum, on the assumption that individuals probably do not weigh elemental outcomes or inputs equally.

Equity dimensions are based on what persons perceive as relevant, rather than on any objective reality (Homans, 1950; Turk & Simpson, 1971). Lawler (1973) has speculated about the relevant dimensions for extrinsic facet satisfaction, but these variables have not been empirically examined as they relate to changes in task characteristics.

The Interactive/Equity Model examines two variables suggested by Lawler, i.e., perceived inputs and benefits to the workers, and also a third one, perceived benefits for the employing organization.

The purpose of this study is to empirically test the hypothesized Interactive/Equity Model of Job Satisfaction. Specifically, the Interactive/Equity Model of Job Satisfaction suggests that changing task characteristics results in changes in perceptions of: inputs required by the job, who benefits from the work re-design (i.e., the employee or the organization), the amount of pay that should be received, the equity of the new situation, and pay satisfaction. Thus, it is predicted that--when task characteristics are changed and pay remains constant--persons should feel they have changed their job inputs and other variables of their extrinsic equity ratios, without increasing extrinsic outcomes; they should perceive inequity.

The predictions from the hypothesized model, all involve persons' reactions to changes in their jobs' level of enrichment, enrichment represented by levels of task variety, identity, significance, and autonomy, since Hackman & Lawler (1971) found that high levels of these task attributes should be present in order for jobs to encourage higher levels of intrinsic motivation. The changes involve either more or less enrichment, with constant pay. Specifically, the expected relations were as follows:

Hypothesis I--The perceived difference-in-inputs after a job change is a positive function of the difference in the job's level of enrichment before and after the job change.

Hypothesis II--The perceived benefits (i.e., employees' outcome benefits and organizational benefits) resulting from the job change are positive functions of the change in level of enrichment.

Hypothesis III--Expected pay is a positive function of the change in level of enrichment.

Hypothesis IV--In the enriched condition, the perceived equity of a job, and pay satisfaction, are negative functions of the change in level of enrichment, when task characteristics are changed and pay remains constant.

In the de-enriched condition, perceived equity is a negative function of change in level of enrichment; satisfaction with pay (due to shift in direction of the neutral point, caused by the conditions' different direction of inequity) is a positive function of change in enrichment.

Hypothesis V--When task characteristics are changed, a positive relation exists between the perceived difference-in-inputs and the perceived benefits (i.e., employee outcome and organizational outcome) resulting from the job change.

Hypothesis VI--When jobs are changed, a positive relation exists between perceived difference-in-inputs and expected pay.

Hypothesis VII-- In the enriched condition, when task characteristics are changed while pay remains constant, a negative relation exists between the perceived difference-in-inputs and perceived equity of the new job, and also between, perceived difference-in-inputs and pay satisfaction.

In the de-enriched condition, a negative relation is expected between perceived decrease in inputs and equity. This is predicted

to be in the same direction as the enriched condition, since both variables have shifted directions corresponding to the directional shift in the manipulation of de-enrichment. A positive relation is expected between difference-in-inputs and pay satisfaction (since, in this relation, only one variable--i.e., the perceived difference-in-inputs--has a shift of direction, from one enrichment condition to the other.

Hypothesis VIII--When task characteristics are changed, there is a positive relation between the benefits (i.e., both employee outcome benefits and organizational benefits) believed to result from the job change and the amount of expected pay.

Hypothesis IX--In the enriched condition, when task characteristics are changed while pay remains constant, there is a negative relation between the benefits (i.e., employee outcome benefits and organizational benefits) believed to result and the perceived equity on the new job; also a negative relation between benefits and the new pay satisfaction.

In the de-enriched condition, also, the relation between benefits and equity is negative; benefits and pay satisfaction have a positive relation. The shift in algebraic sign is due to the shift in benefits, from increasing to decreasing in the conditions of job enrichment and job de-enrichment, respectively.

Hypothesis X-- In the enriched condition, when pay is unchanged, a negative relation exists between the perceived equity of the re-designed job and the expected pay; and a negative relation exists between pay satisfaction and allocated pay.

In the de-enriched condition, also, there is a negative relation between allocated pay and perceived equity; there is a positive relation between allocated pay and pay satisfaction. (Again, the difference in predictions between the conditions due solely to the shift in directions of the scales involved.)

Hypothesis XI--Each of the preceding hypothesized relations (with the exception of perceived difference-in-inputs as a function of change in enrichment) is stronger under the condition of job enrichment (the hypothesized under-equitable situation) than de-enrichment (the hypothesized over-equitable situation).

CHAPTER VI

METHOD

I. DESIGN

This questionnaire study employed a balanced analysis of variance design involving six levels of the independent variable (difference between described level of job enrichment before and after a job change) to examine the effects of changes in the level of job enrichment. The direction of the job change (i.e., enriched or de-enriched) was counterbalanced in order to allow for comparisons of persons' reactions to the described job changes due to the directionality of the difference. The two independent variables ((1) the degree of change in job enrichment; and (2) the direction of the change) were fully crossed in a balanced design. The dependent measures were perceived difference-in-inputs, outcome benefits for employees, organizational benefits, perceived equity of the new job situation, and expected pay from the new job.

II. PARTICIPANTS AND PROCEDURE

The questionnaires were distributed during class meetings to Business graduate students at The University of Tennessee, Knoxville. The researcher explained that the data were to be used for research purposes only, and assured the students of the confidentiality of their responses, if they should choose to participate. Some questionnaires were completed during class time, and some were taken

home to be completed. Data were collected in six waves. Within each wave, questionnaires were distributed randomly until some levels of the independent variable reached their quota for that wave, and then randomly from among the remaining levels until they reached their quotas. Two hundred sixteen completed questionnaires were returned, yielding a response rate of 66%. The sample consisted of 138 males and 78 females.

III. INDEPENDENT VARIABLES

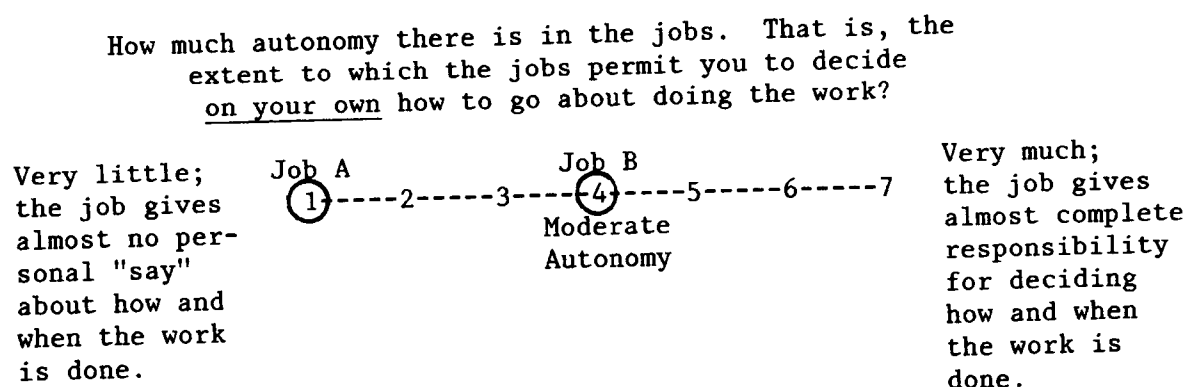
Changed Level of Job Enrichment

Defining job enrichment. Hackman & Lawler (1971) found that high levels of the task attributes of skill variety, autonomy, task identity, task significance, and feedback should be present in order for a job to be "enriched" in the sense of encouraging higher levels of intrinsic motivation. However, feedback does not imply any inputs for the worker, and the feedback characteristic was omitted in this operationalization of job enrichment. Thus, the job characteristics manipulated in this study were those found important by Hackman & Lawler (1971) (skill variety, task identity, task significance, and autonomy), excluding the characteristic of feedback.

These job characteristics were manipulated through seven-point scaled descriptions in the questionnaire. Although a separate description and, thus, separate seven-point item was used to visually describe the level of each job characteristic, participants receiving a given level of one characteristic received the same level

of the other characteristics. Thus, all job characteristic, within-subject, were present at the same degree. The level of described job characteristics was constant within-subject in order that, taken together, the described level of characteristics could represent a non-ambiguous level of enrichment.

The strength (or level) of job characteristics was manipulated through an anchored scale, utilizing verbal descriptions of these dimensions as found on the Job Diagnostic Survey (Hackman & Oldham, 1974), Section One. Only minor grammatical changes were required to adapt them to this present purpose. It should be noted that the use of the items in this questionnaire was different from that in the Job Diagnostic Survey (JDS). In the JDS the items are used as a response format for respondents to describe their present jobs; here the items were a stimulus vehicle. The items served as stimuli by describing each of two jobs, A and B, with the job letters written above each of two numbers on the scale, representing the degree of that job dimension in the respective job. For example, the dimension of "autonomy" was presented as:



This examples states that a person initially had Job A, with very little autonomy, and the job was changed to Job B, a job with moderate autonomy.

Operationalizing a change in the degree of job enrichment. As shown above, each description of a job characteristic was accompanied by a representative level of that characteristic in Job A and Job B. Participants were asked to imagine that the composite of the characteristics defined Job A and Job B, in terms of their respective levels of the job characteristics. Job A was used to represent the level of characteristics present in the hypothetical job before a job change. Job B represented the level of the characteristics present after the job was changed; Job B varied between persons. The independent variable, the amount of change in job enrichment, was manipulated by holding Job A (the initial job) at a constant level at either end of the seven-point scale (low or high enrichment), while Job B (the redesigned job) varied across participants along the remaining six scale points. (See Figure 5). Thus, the value of the independent variable, change in job enrichment, was calculated by subtracting the described level of characteristics in Job A (the initial Job) from the level described for Job B (the redesigned Job). For example, in the enriched group, when Job B (the redesigned job) was described at Level 5, the change in enrichment was "+4" (i.e., 5-1).

Directionality of the Changed Enrichment

The second independent variable was the direction of the change in the described levels of enrichment, representing Job A and Job B. This manipulation was achieved by having Job A, the initial job, held at a low enrichment level ("1" on the job characteristic scales) for half of the participants and at a high enrichment level ("7" on the job characteristic scale) for the other half, while Job B--the

job after the described redesign--varied across the other six levels. Thus, for one group the job change involved greater levels of job characteristics, resulting in job enrichment. This group will hereafter be referred to as the "Enriched group." For the other half of the participants, the described job change resulted in lesser levels of the job characteristics. This group will hereafter be referred to as the "De-enriched group."

IV. DEPENDENT VARIABLES

Participants responded to the questionnaire based on their comparisons between the constant-comparison job and the manipulated job. They were instructed to respond as if persons had had Job A (the constant job) and then their job were changed to Job B (the job with manipulated characteristics), while their pay remained unchanged. The dependent measures were: Several equity balance variables, i.e., the difference in perceptions (after the job change) in required inputs of the job, outcome benefits to the employees, and benefits to the organization; expected pay for the redesigned job; equity; and pay satisfaction (considering the job was changed, but pay was not). The equity section of the questionnaire directed participants to respond as they would feel if it were their own job that had been changed, while pay was unchanged. Thus, the equity considerations involved comparison of the situation for themselves, before the job change versus after the job change, with pay unchanged. The comparison with self at the previous job was preferred to comparisons with another, since research (Oldham, 1980; Weick & Nasset, 1968) has shown that self-referent comparisons are the most common

and the most salient in equity evaluations. A copy of the entire questionnaire is reproduced in Appendix A.

Change-In-Perceptions: The Equity Balance Variables

Several variables were used to gauge participants' change in perceptions after the job redesign, perceptions which might influence their equity estimates. These were the perceived difference-in-inputs required by the job, the perceived outcome benefits to employees, and the perceived benefits to the organization.

Perceived Difference-In-Inputs. To measure the difference-in-inputs which persons associate with the various levels of changed job characteristics, items adapted from the Tornow Input Outcome Checklist (TIOC) were used. The TIOC contains 80 items of ambiguous inputs and outcomes, thought to measure individual differences in perception, and 40 nonambiguous items "included to insure adequate anchoring of the inputs and outcomes." (Tornow, 1971). In constructing his scale, Tornow empirically identified the 40 non-items as ambiguous, as those which had agreement among his respondents of at least eighty percent. It should be note that, because the items are nonambiguous, this study did not require that participants indicate whether the item was perceived as inputs or outcomes. Such an indication might have induced participants to respond to the equity items from a mental set of inputs and outcomes, thereby detracting from the goal of measuring intuitive perceptions. The use of Tornow's "nonambiguous items" avoids that difficulty while still permitting a measure of the perceived difference in inputs and outcomes associated with augmented or decreased job characteristics.

In the present study, twenty-one items were adapted from Tornow's set of 40 non-ambiguous items. Ten of these items are known to be non-ambiguous inputs, nine are non-ambiguous outcomes, and two were considered as manipulation checks on the task characteristic descriptions for this study.

The "input" and "outcome" items were randomized when presented to participants. For each item persons were asked, first, to choose which job had more of that characteristic; and, second, to rate the items as to the difference, if any, between the two jobs (0 = no difference; 1 = very small difference; 2 = somewhat small difference; 3 = moderate difference; 4 = somewhat large difference; 5 = very large difference). Only the input items and the manipulation checks are considered in the present study. These are:

2. experience needed to get the job
5. education required
6. long hours
9. variety (manipulation check)
11. schooling of persons holding the job
12. hard work
13. frustration
15. independence (manipulation check)
16. skill required for job performance
17. difficult work
20. effort required
21. training required by the position

Item values were computed by multiplying the difference rating by "-1" when Job A, the initial job, was designated as having more,

and by "+1" when Job B, the redesigned job was designated as having more. A coefficient alpha of .90 was obtained for the ten input items. An index of difference-in-inputs after the job redesign was formed by averaging these items.

Perceived difference-in-benefits to employees and to the employing organization. Perceptions of benefits that might result from the described job change were measured using two different concepts: (1) the benefits and costs believed to accrue to the individuals as employees, and (2) the benefits and costs believed to accrue to an employing organization. A nineteen-item questionnaire, using seven-point Likert-type response format, was constructed to measure these two concepts.

To measure "perceived benefits to employees" the following thirteen items were used, two of which served as a reliability check:

1. I wouldn't have to work as hard.
2. I would have more self-esteem.
3. I would feel more confused. (reverse scored)
4. I would get more respect from others.
6. I would have a lot more freedom.
7. I would enjoy my work more.
9. I would need more skills. (reverse scored)
10. I could get promoted faster.
11. I would have to work harder. (reverse scored; reliability item)
14. I would feel a greater sense of accomplishment.

- 16. I would end up working longer hours. (reverse scored)
- 18. I would take more pride in my work.
- 19. I would enjoy my work less. (reverse scored; reliability item)

The average reliability of the two manipulation checks was .75. However, with the other eleven items having a coefficient alpha = .33, this item set was divided into two more homogeneous subsets. These were labelled as "input benefits to employees" and "outcome benefits to employees." "Input benefits to employees consisted of items 1, 3, 9, 16 (see above). Item 11 served as a reliability check, $r = .64$, $p. < .001$. Coefficient alpha on these four items was .80. Since input benefits overlap conceptually with the index of perceived difference in inputs, they were dropped from the study.

The other homogeneous subset, 'outcome benefits to employees', consisted of items 2, 4, 6, 7, 10, 14, 18 (see above). The reliability check, using item 19, yielded $r = .83$, $p. < .001$. Coefficient alpha on these seven items was .97. Thus, an index of 'outcome benefits to employees' was formed on the average of these items.

These items represent outcomes to employees that would result from the job change. They are, for the most part, a measure of intrinsic benefits.

Change-in-benefits to the employing organization. The last operationalization of perceived benefits was the benefits and costs believed to accrue to the employing organization after the described job changes. The following five items were included in the perceived benefit scale to measure perceived 'organizational benefits':

5. Organizational productivity would decrease. (reverse scored)
8. People could work more efficiently.
12. Organizational profits would increase.
15. The organization's profits would increase. (reliability item)
17. Redesigning jobs would cost the organization a lot of money. (reverse scored)

The reliability check on this group yielded an $r = .54$. Coefficient alpha, using items 5, 8, 12, 17, was .61. The average of these four items was used to form an index of 'benefits to the organization.'

Equity

Items measuring equity appeared together in a separate section of the questionnaire. Participants were instructed to respond to the items based on how they would feel if their jobs were changed from Job A to Job B (i.e., the independent manipulation previously described), noting simultaneously that their pay were unchanged. In other words, half of the participants were responding to situations where pay was to remain unchanged, while the job characteristics became enriched; the other half of the participants responded to situations where pay was to remain unchanged, while the job characteristics became de-enriched.

Equity was measured using five items (Section Three, Items 1-5). The first item measured participants' perceptions of their inputs relative to their outcomes in the new job situation. Drawn from the Tornow (1971) study, alternative responses ranged from an under-equitable position of "Persons put much more into this job than they

get out of it" ("1"), to an over-equitable position of "Persons get a great deal more out of it than they put in" ("13"). This item was previously unique to the Tornow (1971) study, but it was strongly significant in that study. The next item, fairness of pay, is the standard (and generally only) measure of perceived equity, with response alternatives ranging from "very fair" to "very unfair" ("13"). Fairness of pay was measured in the third item by asking to what extent pay on Job B should be increased or decreased relative to Job A. Response alternatives ranged from "increased substantially" ("1") to "decreased substantially." ("13"). Item 4 was a rating of the degree of underpayment or overpayment, having response alternatives from "very overpaid" ("1") to "very underpaid" ("13"). Item 5 asked the participants to rate the pay for Job B in comparison to what people in that job are worth. Response alternatives ranged from an under-equitable position of "very unfair" ("1") to "very unfair to the person who pays their salaries" ("13"). Each of these five items relating to fairness had thirteen response alternatives, with under-equity and over-equity being represented at the extremes (1;13), and equity being represented by the mid-point (7). To minimize response bias, items were alternatively reflected. Thus, items 2 and 4 were reverse scored before being averaged with the other three items to form a fairness index. The coefficient alpha of these items was .87.

Pay Satisfaction

Measures of pay satisfaction were adapted from the JDS (Hackman & Oldham, 1974). Two items were used, each containing a reminder to the respondents that pay for the redesigned job was the same as

it had been before the job change. One item asked how ". . .The amount of pay for Job B should make persons holding Job B feel." The other item asked: ". . considering what they contribute to this organization, persons with Job B would feel. . ." These items were presented in the same section of the questionnaire as were the items concerning equity as fairness. These items had a response format of thirteen response alternatives. The first item's responses ranged from "very satisfied" ("1") to "very dissatisfied" ("13"). This item was reverse scored. The second item contained the same response alternatives, but in reflected order. The coefficient alpha of these two items was .77. Their average was used to form an index of 'pay satisfaction.'

Pay Expectations

Two separate measures allowed respondents to indicate how much pay they would expect from their jobs after the job had been changed. One of these measures, in an effort to attain a response less influenced by personal history, was a symbolic measure using millimeters on a graphic horizontal bar; the other required a response in a specific dollar amount.

Millimeters on graphic bar. This was the first measure of expected pay associated with the redesigned job. Using a technique similar to that of Farkas & Anderson (1979), participants were asked to divide a fixed amount of pay fairly between Job A and Job B, based on the respective job characteristics. Judgements were made on a 150mm horizontal graphic bar labeled "Job A" and "Job B" at the ends.

The number of mm allocated to Job B served as the dependent variable of "expected pay." The instructions read:

The horizontal bar below represents a fixed amount of money to be divided as pay for Job A and Job B.

You are to allocate that money in whatever proportion you think it should be divided between Job A and Job B. Please look again at the descriptions of Job A and Job B in Section One.

Note that you are to indicate how you personally think it should be divided. Please base your response on your personal judgment, ignoring any specific previous experience.

Job A _____ Job B

Dollars allocated. This measure of expected pay asked respondents to allocate annual pay for Job B, the redesigned job, relative to a fixed annual amount which the person holding Job A receives. Specifically, the question was: "Suppose that a person holding Job A is paid \$17,000 on an annual basis. Then how much annual pay do you think should be allotted to Job B? \$ _____."

The correlations between the two measures of expected pay were: $r = 0.69$, $p < .001$ in both the enriched and the de-enriched groups; $r = 0.82$, $p < .001$ when the two groups were combined. In the analyses that follow, each measure of expected pay was separately examined.

CHAPTER VII

RESULTS

To serve as a check on the manipulations of the job characteristic descriptions, the items of "variety" and "independence" were included in the difference-in-inputs scale. Variety was one of the characteristics used in the job characteristic descriptions; independence is synonymous with autonomy, another of the job characteristics included in the descriptions. Using the Pearson coefficient of correlation, responses to the manipulation checks correlated highly with the actual manipulations ($p < .0001$, for each correlation) in the conditions of both enrichment and job de-enrichment, indicating that participants understood the manipulations of the task descriptions. (See Table 1).

Scores on the indices of the dependent measures formed the data base for the statistical analyses. (See Appendix, Table 1, for the means and standard deviations of the indices). Responses from the job enrichment group and the job de-enrichment group were examined separately in testing the hypotheses. Then the results from each of these groups were tested for significant differences between the groups.

I. TESTS OF HYPOTHESES, UNDER THE CONDITION OF JOB ENRICHMENT

This chapter has three major divisions: (1) results within the condition of enrichment, (2) results within the condition of

TABLE 1
CORRELATIONS AMONG THE MANIPULATION CHECKS AND
CHANGE IN LEVEL OF ENRICHMENT

Variables	Enriched group	De-Enriched group	Enriched and De-Enriched groups combined
Task variety with change in enrichment	.74	.79	.95
Autonomy with change in enrichment	.70	.71	.95
Variety with autonomy	.77	.79	.97

n = 108 for each group; 216 for the groups combined.

p < .0001 for all correlations.

de-enrichment (3) an examination of any differences between the results of the two conditions. In this section of the chapter the hypotheses will be examined under the condition of job enrichment. In each condition, attention is initially placed on those hypotheses where the measurement variables are expected to be a function of the change in levels of task characteristics. (In this first section, that change in levels of task characteristics creates the condition of enrichment). In the latter part of these first two sections, the relations among the variables are examined.

The Effect of Enriching Levels of Task Characteristics on Perceived Difference-in-Inputs

It was predicted that the perceived difference-in-inputs after a job change would be a positive function of the change in the job's level of enrichment (i.e., job characteristics of task variety, task significance, identity, and autonomy). In the case of job enrichment, this meant that the greater the job change, the greater the increase in perceived difference-in-inputs. A one-way analysis of variance examined perceived difference-in-inputs as a function of job enrichment. The effect was significant: $F(df = 5, 102) = 7.48, p < .0001$. (See Table 2).

Figure 6 depicts the cell means of this relation for the enriched group. From the graph, it can be seen that the perceived difference-in-inputs was a positive function of the change in level of enrichment, $r = .45, p < .0001$. The more task characteristics were enriched, the more inputs were perceived to increase. Hypothesis I was supported.

TABLE 2

DEPENDENT VARIABLES AS A FUNCTION
OF ENRICHING JOB CHARACTERISTICS

Dependent Variables	MS _E	Overall ^a F (Eta)	Linear ^b F (r)	Devi- ation from linearity ^c F
1. Difference-in		****	****	
inputs	0.92	7.48(.52)	28.30(.45)	2.27
3. Outcome benefits		****	****	*
to employees	0.77	7.42(.52)	24.49(.42)	3.15
3. Benefits to organization	0.69	0.54(.16)	0.15(-.04)	0.64
4. Equity		****	***	*
	1.65	11.22(.60)	45.27(-.54)	2.71
5. Pay satisfaction	3.17	6.06(.48)	28.39(-.46)	0.48
6. Allocated salary		****	****	*
(in mm)	98.5	6.88(.50)	22.98(.41)	2.85
7. Allocated salary		****	****	
(in dollars)	575,638,784	9.32(.56)	45.43(.55)	0.29

^adf = 5, 102^bdf = 1, 102^cdf = 4, 102^dDifference is in direction opposite of prediction.

* p < .05
 ** p < .01
 *** p < .001
 **** p < .0001

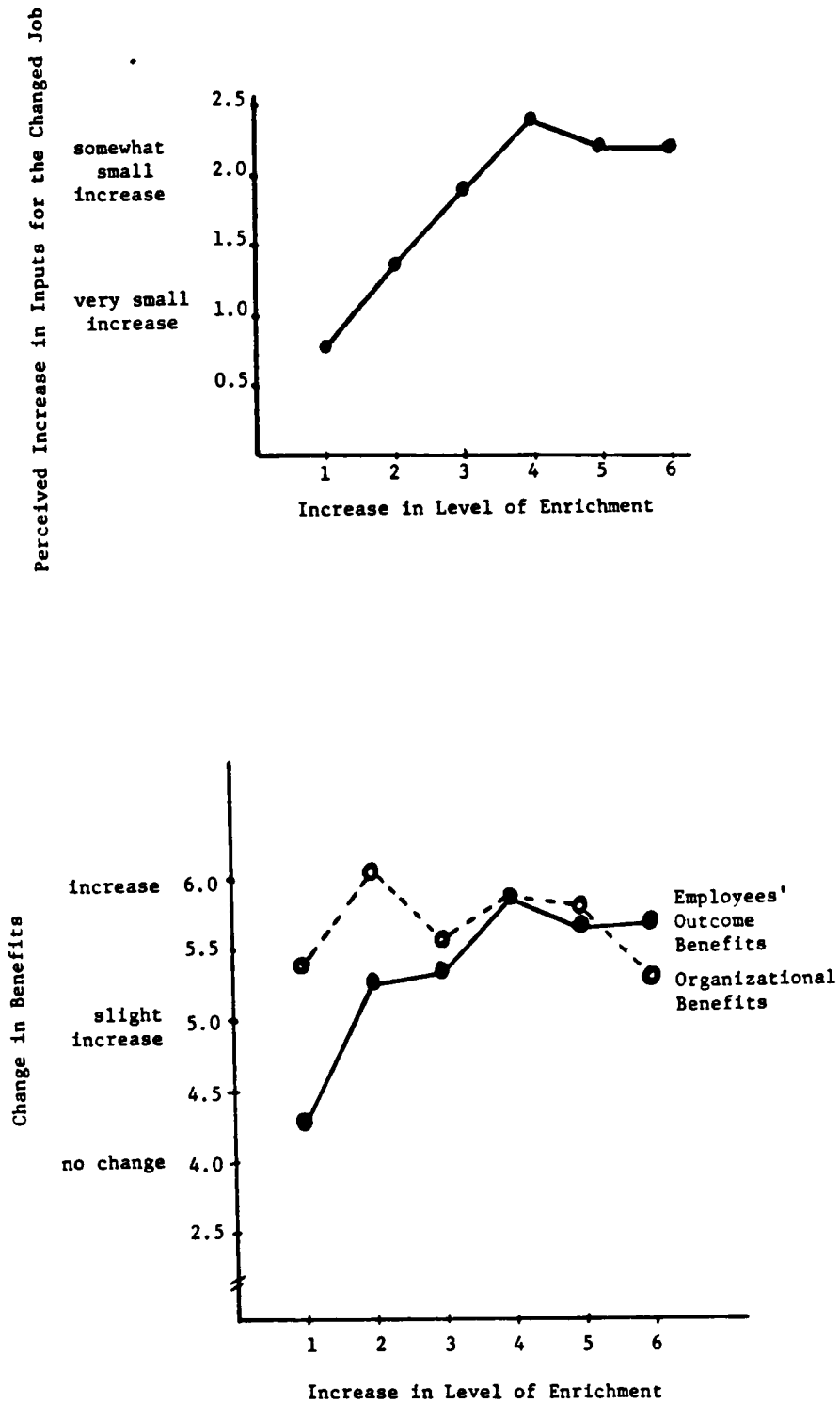


Figure 6. Equity balance variables as a function of enriched levels of task characteristics.

Post hoc comparisons. Tukey's Honestly Significant Difference (HSD) method is used in all of the aposteriori comparisons. Tukey HSD method is recommended by Myers (1972) for making multiple post hoc pairwise comparisons among means of equal cell size. The risk of a Type I error for the fifteen pairwise comparisons performed for each dependent variable under each enrichment condition is never greater than .05. The cell means of difference-in-inputs, and of the other dependent variables, as functions of change in task characteristics are presented in Appendix B. Tukey's HSD test resulted in a number of significant pairwise comparisons.

The Effect of Enriching Levels of Task Characteristics on Perceived Outcome Benefits to Employees

Since outcome benefits to employees was almost a wholly intrinsic measure, it was predicted that perceived outcome benefits to employees would vary as a positive function of the change in levels of enriching task characteristics. In the job enrichment condition, this meant that respondents would perceive outcome benefits to employees to increase as a function of enriching the levels of task characteristics. A one-way analysis of variance was used to examine perceived outcome benefits to employees as a function of change in level of enrichment. The results are presented in Table 2. Change in level of enrichment was significantly related to perceived outcome benefits: $F(5, 102) = 7.42, p < .0001$. The cells means of this relation are depicted in Figure 6.

For the job enriched group, the more the job was changed the more outcome benefits participants perceived for employees ($\bar{x} = .42$,

$p < .0001$). The job enriched group also had a significant non-linear relation ($\eta = .52$; deviation from linearity, $F = 3.15$ $p < .05$). This curvilinear trend was due to the relatively large difference in perceived outcome benefits between persons whose jobs were enriched only one unit and those enriched more than one unit. As indicated on the a posteriori test results from Appendix B, persons whose jobs were enriched only one level perceived significantly less outcome benefits than persons in any other cell.

Summary. In the enriched group, perceived outcome benefits of employees increased as a function of enriched job characteristics. The linear relation ($r = .42$) was within the range of what can be considered a moderately strong effect size (Cohen, 1969).

The Effect of Enriching Levels of Task Characteristics on Perceived Benefits to the Organization

It was predicted that perceived benefits to the organization in which job changes occur vary as a positive function of change in level of enrichment. In the enrichment condition, this meant that perceived benefits to the organization would increase as a function of increasing levels of task characteristics. A one-way analysis of variance examined perceived outcome benefits to the organization as a function of change in level of enrichment. The results, shown in Table 2, indicate that there was no significant relation between the variables: $F(5, 102) = 0.54$. Furthermore, there was neither a significant linear nor non-linear relation between "change in level of enrichment" and "perceived benefits to the organization" ($r = .04$; $\eta = .16$).

Summary. In the enriched condition, there was no significant relation between increasing levels of job enrichment and outcome benefits to the organization where job changes would occur.

The Effect of Enriching Levels of Task Characteristics on Perceived Equity

It was hypothesized that perceived equity would be a negative function of the change in level of enrichment, i.e., the levels of task variety, task significance, identity, and autonomy. In the enrichment condition, a one-way analysis of variance found that enriching task characteristics significantly effects perceived equity, $F(5, 102) = 11.22, p < .0001$. (See Table 2). The cell means of this relation are presented in Appendix B. Using the Tukey HSD test, many significant comparisons were found. Note especially that, when job characteristics were increased two units, perceived equity decreased significantly more than when job characteristics were enriched only one unit. Perceived equity was highly sensitive to the changes increasing the enrichment.

Figure 7 depicts the cell means of this relation for the enriched group. As predicted, perceived equity was a negative function of increased enrichment ($r = -.54, p < .0001$). The more enriched the job became, the more under-equitable persons perceived the unchanged pay to be. As shown in Table 2, the overall correlation ($\eta = .60$) was slightly greater than the correlation of the variables involving only the linear component, $F(4, 102) = 2.71, p < .05$. Thus, in the enriched condition, there was a significant

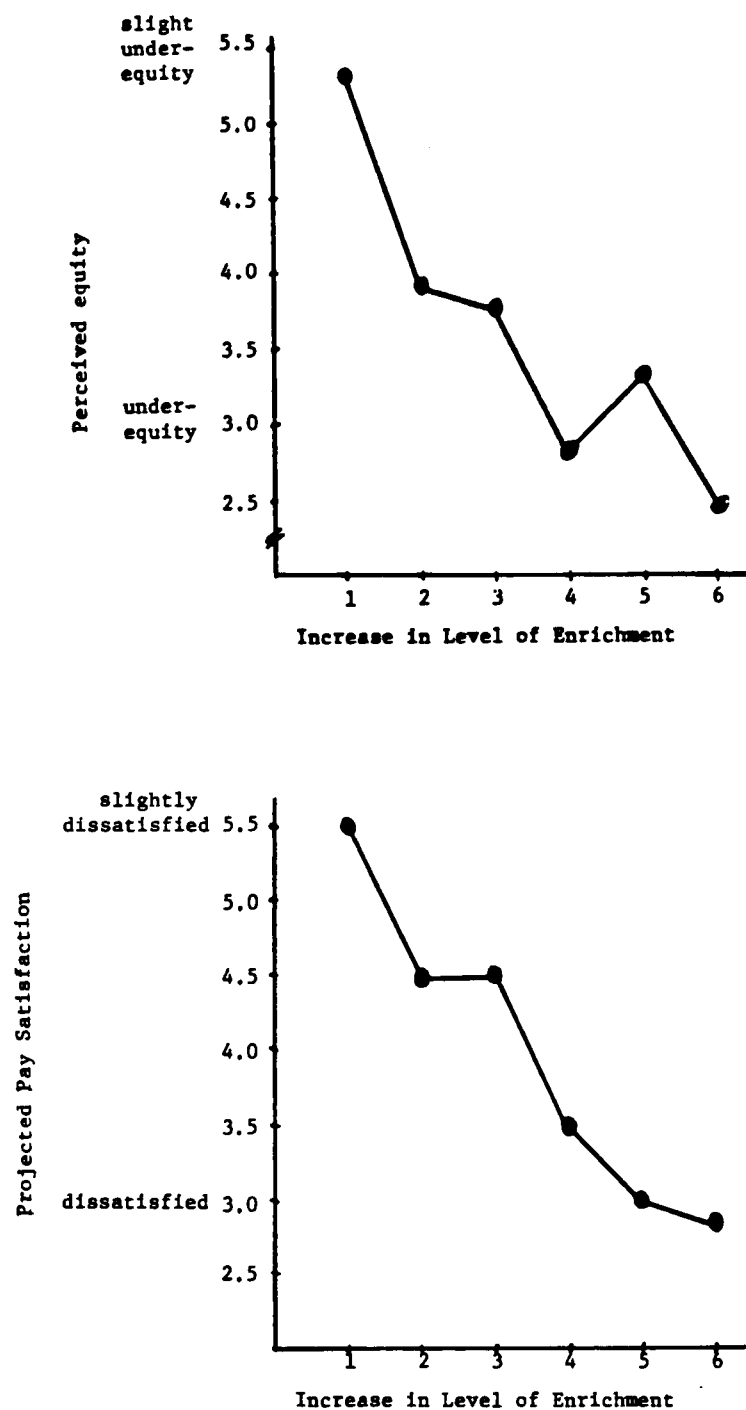


Figure 7. Pay equity and pay satisfaction as a function of increase in level of enrichment.

non-linear component to the relation between perceived equity of pay and increased levels of task characteristics.

Summary. This hypothesis was supported in the condition of job enrichment. Increasing the levels of enriching task characteristics, without making a change in pay, significantly decreased persons' perceptions of the equity of the pay. Perceived equity was highly sensitive to increases in enrichment, especially to the difference in increases from one unit to two units, and there was a significant non-linear component in the relation between pay equity and change in task characteristics.

The Effect of Enriching Levels of Task Characteristics on Pay Satisfaction

It was hypothesized that, when task characteristics are changed and pay is unchanged, pay satisfaction varies as a negative function of the change in levels of task characteristics. In the enriched condition this meant that pay satisfaction decreases as a function of enriching levels of task characteristics. A one-way analysis of variance was used to examine pay satisfaction as a function of change in level of enrichment. Results are given in Table 2. In the job enrichment condition, satisfaction with pay was effected by change in level of job characteristics, $F(5, 102) = 6.06, p < .0001$.

For the enriched group, the greater the increase in levels of job characteristics, the less was the projected satisfaction with pay (assuming pay for the two jobs was equal); $r = -.46, p < .0001$. The measure of overall association did not have a significant non-linear component ($\eta^2 = .48$; deviation from linearity, $F = .048$).

Summary. Pay satisfaction clearly operated as a function of increased level of job characteristics. In the enrichment condition, when pay remained unchanged while job characteristics were enriched, persons projected pay satisfaction to decrease. This finding is logically consistent with what would be expected based on the significant relations of change in task characteristics with perceived difference-in-inputs and with pay equity in the enriched condition; persons perceived an increase in inputs and decrease in pay equity. However, using a compensatory/additive equity model, it is not logically consistent with what would be expected from the significant positive relation between enriching job characteristics and outcome benefits to employees, in the enriched condition. According to the compensatory model, the positive relation between job characteristics and employees' outcome benefits implies that, because the intrinsic outcomes have increased, the change in task characteristics should have a positive relation to pay satisfaction. The result, indicating that change in task characteristics effects evaluation of extrinsic equity, suggests support for the hypothesized interactive/equity model.

The Effect of Enriching Levels of Job Characteristics on the Amount of Pay Allocated to the Changed Job

Responses concerning the amount of pay allocated to the changed job were elicited relative to comparison amounts for the job before it was changed. Allocated pay was operationalized in two ways, annual salary and millimeters. The correlations between allocated salary and allocated pay in millimeters, in the enriched condition, was

$r = .69$ ($p < .0001$). Each of these variables was analyzed separately, and treated separately, below.

It was predicted that expected pay from the redesigned job is a positive function of the change in the levels of enriching job characteristics, i.e., task variety, task significance, identity, and autonomy. In the enriched condition, this meant that the amount of pay allocated for the changed job would increase as a function of increased levels of job characteristics.

Allocated salary using millimeters. A one-way analysis of variance was used to examine allocated millimeters as a function of change in the level of enriching job characteristics. Results are given in Table 2. Change in the level of job enrichment significantly effected the millimeters allocated, $F(5, 102) = 6.88$, $p < .0001$. Figure 8 depicts the cell means, demonstrating allocated millimeters as a positive function of change in level of enrichment. Allocated millimeters and enriched job characteristics were linearly related ($r = .41$, $p < .001$). However, there was also a significant non-linear relation ($\eta^2 = .50$; deviation from linearity, $F = 2.85$, $p < .05$). As shown by the a posteriori test results in Appendix B, the curvilinear tendency was caused by the relatively low amount of millimeters allocated by persons whose jobs were enriched only one unit, relative to the amount of millimeters allocated by those in other sub-groups. (The non-linear relation becomes non-significant when the cell representing one unit of enrichment was dropped from the analysis).

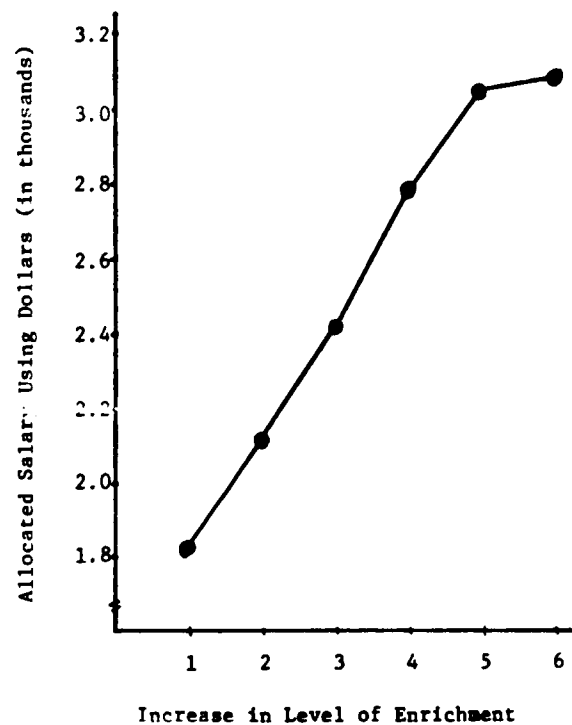
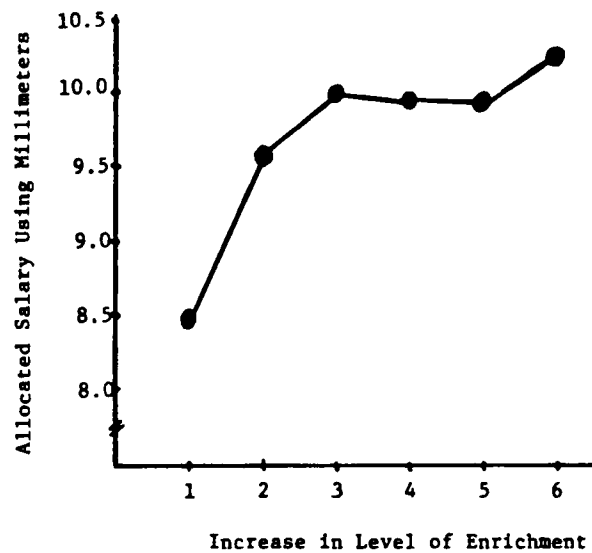


Figure 8. Allocated salary as a function of enriched levels of task characteristics.

Allocated salary using dollars. A one-way analysis of variance was used to examine the amount of annual pay allocated to the changed job as a function of change in the level of enriching job characteristics. Results are presented in Table 2. In the enriched condition, allocated dollars was significantly effected by the change in level of enrichment: $F(5, 102) = 9.32, p < .0001$. The sub-group means are plotted in Figure 8. The amount of dollars allocated to the redesigned job was a monotonic function of change in level of enrichment ($r = .55, p < .0001$). The greater the job enrichment, the more dollars were allocated for annual salary of the redesigned job. There was no significant non-linear component ($\eta^2 = .56$; deviation from linearity, $F = .029$). The hypothesis was supported using both operationalizations of expected pay.

Relations Among the Dependent Measures in the Condition of Job

Enrichment

Perceived difference-in-inputs and outcome benefits for employees.

Both of these variables were expected to be a positive function of change in task characteristics. Thus, perceived difference-in-inputs and outcome benefits for employees were likely to be positively related, also. In the enriched condition, this meant that greater perceived increases in inputs would be associated with greater outcome benefits for employees. A Pearson coefficient of correlation indicated a significant linear relation of the variables, $r = .43, p < .0001$. (See Table 3). Thus, in the enriched group, the hypothesis was supported.

TABLE 3
CORRELATIONS AMONG VARIABLES UNDER THE CONDITION
OF JOB ENRICHMENT

Variables	1	2	3	4	5	6	7	8
1. Change in enrichment	--							
2. Difference-in-inputs	*** .45	--						
3. Outcome benefits to employees	*** .42	*** .43	--					
4. Benefits to the organization	-.04	.09	*** .36	--				
5. Allocated salary, using mm.	*** .41	*** .44	*** .35	.01	--			
6. Allocated salary, using dollars	*** .55	*** .40	** .30	-.08	*** .69	--		
7. Pay equity	*** -.54	*** -.56	** -.29	.01	*** -.55	*** -.49	--	
8. Pay satisfaction	*** -.46	*** -.35	* -.16	.16	*** -.38	*** -.43	*** .66	--

n = 108

* $p < .05$

** $p < .001$

*** $p < .0001$

Perceived difference-in-inputs and benefits for the organization.

A positive relation was predicted between perceived difference-in-inputs and benefits for the organization. In the enriched condition, it was expected that greater perceived increases in inputs would be associated with greater organizational benefits. Using the Pearson coefficient of correlation to test the relation, it was non-significant, $r = .09$. Thus, in the enriched group, the hypothesis was not supported.

Perceived difference-in-inputs and expected pay. It was predicted that, when jobs are changed, a positive relation exists between the perceived difference-in-inputs required by the job and expected pay. In the enriched condition, this meant that the greater the perceived difference-in-inputs, the greater would be the amount of expected pay. Pearson coefficients of correlation were computed between perceived difference-in-inputs and each of the two measures operationalizing expected pay (millimeters and dollars). Both coefficients indicated that there was a significant linear relation between difference-in-inputs and expected pay: as millimeters, $r = .44$, $p < .0001$, and as dollars, $r = .40$, $p < .0001$. Thus, in the condition of job enrichment, the greater the perceived increase-in-inputs the more millimeters persons allocated as pay. The hypothesis was supported.

Perceived outcome benefits to employees and expected pay. It was predicted that, when jobs are changed, a positive relation exists between outcome benefits to employees and expected pay. Each of these variables was expected to be a positive function of change in

task characteristics, and, thus, to have a positive relation between them. Conceptually, the Interactive/Equity Model suggests that they would be positively related due to their simultaneous relation to task characteristics. In the enriched condition, this meant that the greater the perceived outcome benefits to employees, the larger the amount that would be expected as pay. Pearson coefficients of correlation tested the prediction of a positive relation between outcome benefits to employees and expected pay, operationalizing expected pay in both millimeters and in allocated dollars. Both coefficients indicated significant linear relations between outcome benefits to employees and expected pay: millimeters, $r = .35$, $p < .0001$; dollars, $r = .30$, $p < .001$. Thus, the hypothesis was supported.

Because the measure of "outcome benefits to employees" was almost wholly a measure of intrinsic outcomes, the direction of this relation between "outcome benefits to employees" and "amount of pay that should be allocated to the changed job" was able to indicate in a mutually exclusive manner, whether the results support the hypothesized interactive equity model or the existing compensatory/additive model. A negative relation between the two variables would have suggested the trade-off potential of intrinsic and extrinsic rewards, and would have supported a compensatory/additive equity model. As it was, the positive relation between the variables supports the hypothesized Interactive/Equity Model.

Perceived organizational benefits and expected pay. It was predicted that, when jobs are changed, a positive relation exists

between perceived organizational benefits and expected pay. In the enriched condition, this meant that the greater the perceived organizational benefits, the larger the amount that would be expected as pay. As before, Pearson coefficients were used to measure the relation between perceived organizational benefits and expected pay. Once again, expected pay was expressed in both millimeters and dollars. Both coefficients were non-significant: millimeters, $r = .01$; dollars, $r = -.08$.

Perceived difference-in-inputs and equity. It was predicted that, when pay is unchanged, a negative relation exists between the perceived difference-in-inputs resulting from the job changes and the perceived equity of the new jobs. In the enriched condition, this meant that the hypothesized increase-in-inputs would be associated with perceptions of lower equity. Pearson coefficients of correlation were used to test the prediction of a negative relation between difference-in-inputs and perceived equity. Results are presented in Table 3. There was a significant linear relation $r = -.56$, $p < .0001$. When pay was unchanged and the job was enriched, the greater the change in level of enrichment the more under-equitable persons thought the pay. Thus, the hypothesis was supported.

Perceived outcome benefits to employees and equity. It was predicted that, when jobs are changed and pay remains unchanged, a negative relation exists between perceived outcome benefits to employees and equity. In the enriched condition, this meant that the greater the perceived outcome benefits to employees (as expected in enrichment), the more under-equitable persons would perceive the

unchanged pay. A Pearson coefficient of correlation indicated a significant linear relation between the variables, $r = -.29$, $p < .001$. The hypothesis was supported. The prediction was consistent with the notion that intrinsic and extrinsic rewards are interactive, rather than compensatory or additive. This finding lends support to the hypothesized interactive equity model.

Perceived organizational benefits and equity of pay. It was predicted that, when jobs are changed and pay remains constant, a negative relation exists between benefits believed to accrue to the organization and person's perceptions of equity. In the enriched condition, this meant that the greater the perceived organizational benefits, the more under-equitable persons would perceive the unchanged pay to be. A Pearson coefficient of correlation was used to examine this relation. As indicated in Table 4, the relation was non-significant, $r = .01$.

Perceived difference-in-inputs and pay satisfaction. It was predicted that, when jobs are changed, there exists a negative relation between perceived difference in-inputs and pay satisfaction. A Pearson coefficient of correlation was computed to test the prediction of a negative relation between difference-in-inputs and pay satisfaction, operationalizing equity. There was a significant linear relation, $r = -.35$, $p < .0001$. When pay remained unchanged while the job was enriched, the more persons perceived inputs to increase, the less satisfied they expected persons to be with the pay. Thus, the hypothesis was supported in the enriched group.

Perceived outcome benefits to employees and satisfaction with pay.

It was predicted that, when jobs are changed and pay remains unchanged, a negative relation exists between perceived outcome benefits to employees and their expected pay satisfaction. The relation was examined via a Pearson coefficient of correlation. Results indicated a significant linear relation between the variables, $r = -.16$, $p < .05$. In the enriched condition, when levels of job characteristics were enriched and pay remained unchanged, greater perceived outcome benefits for employees was associated with expectations of lower pay satisfaction.

This finding (as was said about the finding of the relation between outcome benefits to employees and expected pay) supports the hypothesized Interactive/Equity Model, and is contradictory of models suggesting that intrinsic and extrinsic rewards are compensatory and independent. To reiterate, outcome benefits to employees was a measure of almost wholly intrinsic outcomes, thus a relation between this measure and a measure of expected extrinsic rewards is able to distinguish which of the satisfaction models the results are conforming to more closely. The proposed Interactive/Equity Model predicts a negative relation between these variables, since it predicts outcome benefits to employees to be contingent on enriched levels of task characteristics and expects the intervening equity process to result in persons having less pay satisfaction. Whereas, the other satisfaction models, in assuming that intrinsic and extrinsic rewards are independent, predict a positive relation (when a compensatory relation is also assumed, i.e., in the

fulfillment model) or no relation (when compensatory is not assumed, i.e., in the discrepancy model).

Perceived organizational benefits and pay satisfaction. It was predicted that, when there is a change in jobs' levels of enrichment and pay remains unchanged, a negative relation exists between organizational benefits believed to accrue to the organization and the satisfaction with pay employees were expected to have in the new job. Using a Pearson coefficient of correlation, a non-significant relation was found between the variables, $r = .16$. The hypothesis was not supported.

Expected pay and perceived equity. It was predicted that, when jobs are changed and when pay is unchanged, a negative relation exists between the perceived equity of the redesigned job and the expected pay. In the enriched condition, this meant that the lower the estimate of equity, the greater would be the amount of expected pay. Pearson coefficients of correlation tested the prediction of a negative relation between perceived equity and expected pay, operationalizing expected pay first as allocated millimeters, then as allocated dollars. Results, shown in Table 4, indicated significant linear relations between perceived equity and expected pay: millimeters, $r = -.55$, $p < .0001$; dollars, $r = -.49$, $p < .0001$. Thus, in the condition of job enrichment, the less the perceived equity, the greater was the amount allocated as expected pay.

Expected pay and pay satisfaction. It was predicted that when jobs' levels of enrichment are changed and pay remains unchanged, a

negative relation exists between the amount of pay persons think should be allocated to the new jobs and the level of pay satisfaction they expect employees to have with the unchanged pay. The relation between expected pay and pay satisfaction was examined, operationalizing expected pay in both allocated millimeters and dollars. Using Pearson coefficients of correlation significant linear relationships were found between pay satisfaction and each measure of expected pay: millimeters, $r = -.38$; dollars, $r = -.43$, $p < .0001$ for each correlation. When jobs were enriched while pay remained unchanged, the more pay persons thought should be allocated to the new job, the more dissatisfied they expected workers to be with unchanged pay.

Perceived equity and expected pay satisfaction. It was predicted that, when jobs' levels of enrichment are changed and pay remains unchanged, a positive relation exists between perceived equity on the new job and persons expectations of workers' satisfaction with pay. As shown in Table 4, a Pearson coefficient of correlation indicated a significant linear relation between the variables, $r = .66$, $p < .0001$. When jobs were enriched and pay was unchanged, the more under-equitable persons perceived the pay, the more dissatisfied they expected employees to be with the unchanged pay.

II. TESTS OF HYPOTHESES, UNDER THE CONDITION OF JOB DE-ENRICHMENT

This section of the chapter examines the same hypotheses as Section I, but involves the data from the condition of job

de-enrichment. As in the previous section, initial attention is focused on those hypotheses where the measurement variables are expected to function dependently on the de-enriched level of task characteristics, then the relations among the dependent measures are examined.

The Effect of De-Enriching Levels of Task Characteristics on Perceived Difference-in-Inputs

It was predicted that the perceived difference-in-inputs after a job change is a positive function of the difference in the job's level of enrichment (i.e., job characteristics of task variety, task significance, identity, and autonomy) before and after the job change. An analysis of variance examined perceived difference-in-inputs as a function of de-enriching levels of task characteristics. The effect was significant, $F (df = 5, 102) = 6.23, p < .0001$. (See Table 4). The Tukey HSD test of paired comparisons indicated several comparisons of significant difference, each involving the cell group where characteristics were decreased by six units. (See Appendix C).

Figure 9 depicts the cell means of this relation for the de-enriched condition. From the graph, it can be seen that the perceived difference-in-inputs was a positive function of the de-enriched task characteristics ($r = .38, p < .0001$). The greater the job change (i.e., de-enrichment in task characteristics), the greater the perceived decrease-in-inputs. Hypothesis I was supported in the de-enriched condition, as well as in the enriched condition.

Additionally, there was also a non-linear component of the relation ($\eta^2 = .48, p < .0001$) which differed significantly from the linear relation [$F (4, 102) = 3.03, p < .05$].

TABLE 4

DEPENDENT VARIABLES AS A FUNCTION OF DE-ENRICHING
JOB CHARACTERISTICS

Dependent Variables	MS _E	Overall ^a F (Eta)	Linear ^b F (r)	Devi- ation from linearity F
1. Difference-in inputs	1.18	**** 6.23(.48)	**** 19.01(.38)	* 3.03
3. Outcome benefits to employees	0.35	**** 9.07(.56)	**** 43.39(.54)	0.49
3. Benefits to organization	0.72	1.89(.29)	6.94(.25)	0.62
4. Equity	3.05	0.94(.21)	1.91(-.13)	0.70
5. Pay satisfaction	6.09	1.19(.23)	0.27(.05)	1.42
6. Allocated salary (in mm)	125.84	** 3.74(.39)	**** 16.51(.37)	0.55
7. Allocated salary (in dollars)	93,247,296	**** 17.93(.68)	**** 80.21(.65)	2.35

^adf = 5, 102^bdf = 1, 102^cdf = 4, 102^dDifference is in direction opposite of prediction.

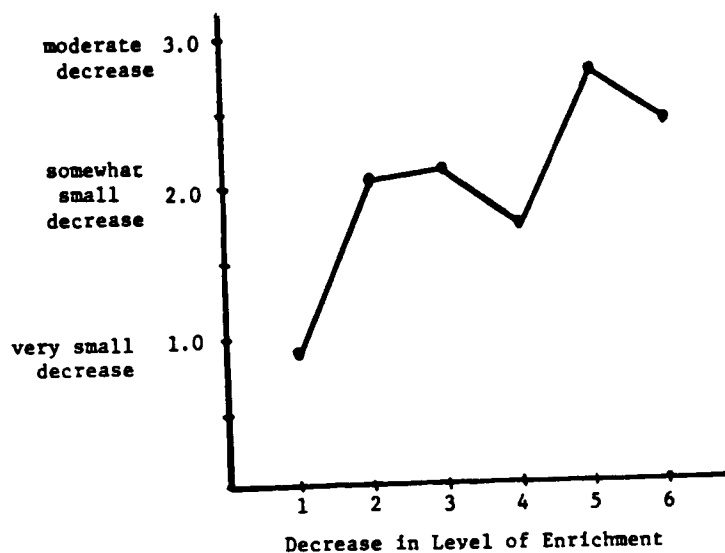
* p < .05

** p < .01

*** p < .001

**** p < .0001

Perceived Decrease in Inputs for Job B
Relative to Job A



Decrease in Benefits of the Changed Job

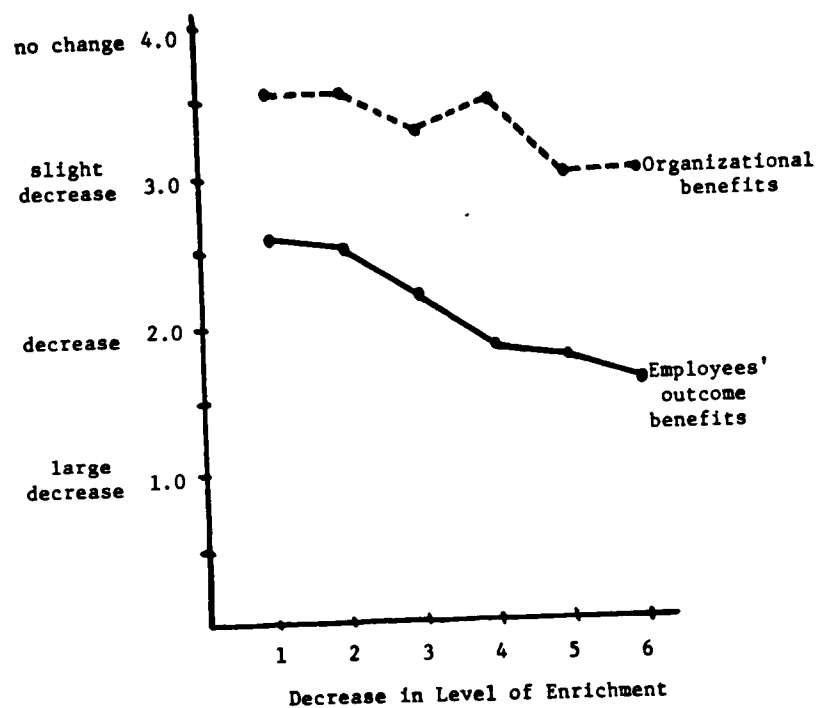


Figure 9. Decrease in equity balance variables as functions of decreased levels of enrichment.

The Effect of De-Enriching Levels of Task Characteristics on Perceived Equity

It was hypothesized that perceived equity would be a negative function of the change in levels of enrichment. In the de-enriched condition, this meant that decreasing the levels of task characteristics would make the pay, which was unchanged, seem over-equitable relative to before. A one-way analysis of variance was used to examine perceived equity as a function of de-enriching task characteristics. Table 4 shows the results. For the de-enriched group, the relation was not significant, $F(5, 102) = 0.94$; $p < .46$. Figure 10 depicts the cell means of this relation. However, change in level of enrichment and perceived equity has a slight linear relation [$r = -.13$, $p < .05$ (one-tailed); $\eta = .21$, but the deviation from linearity was not significant].

The Effect of De-Enriching Levels of Task Characteristics on Pay Satisfaction

It was hypothesized that, when job characteristics are changed and pay is unchanged, pay satisfaction varies as a positive function of the change in levels of task characteristics. In the de-enriched condition, this meant that pay satisfaction decreases as a function of de-enriching levels of job characteristics. A one-way analysis of variance was used to examine pay satisfaction as a function of change in level of enrichment. As shown in Table 4, in the de-enriched condition, pay satisfaction was not significantly effected by change in level of job characteristics, $F(5, 102) = 1.19$. Neither was there any significant association between the two variables ($r = .05$, $\eta = .23$). (See Figure 10).

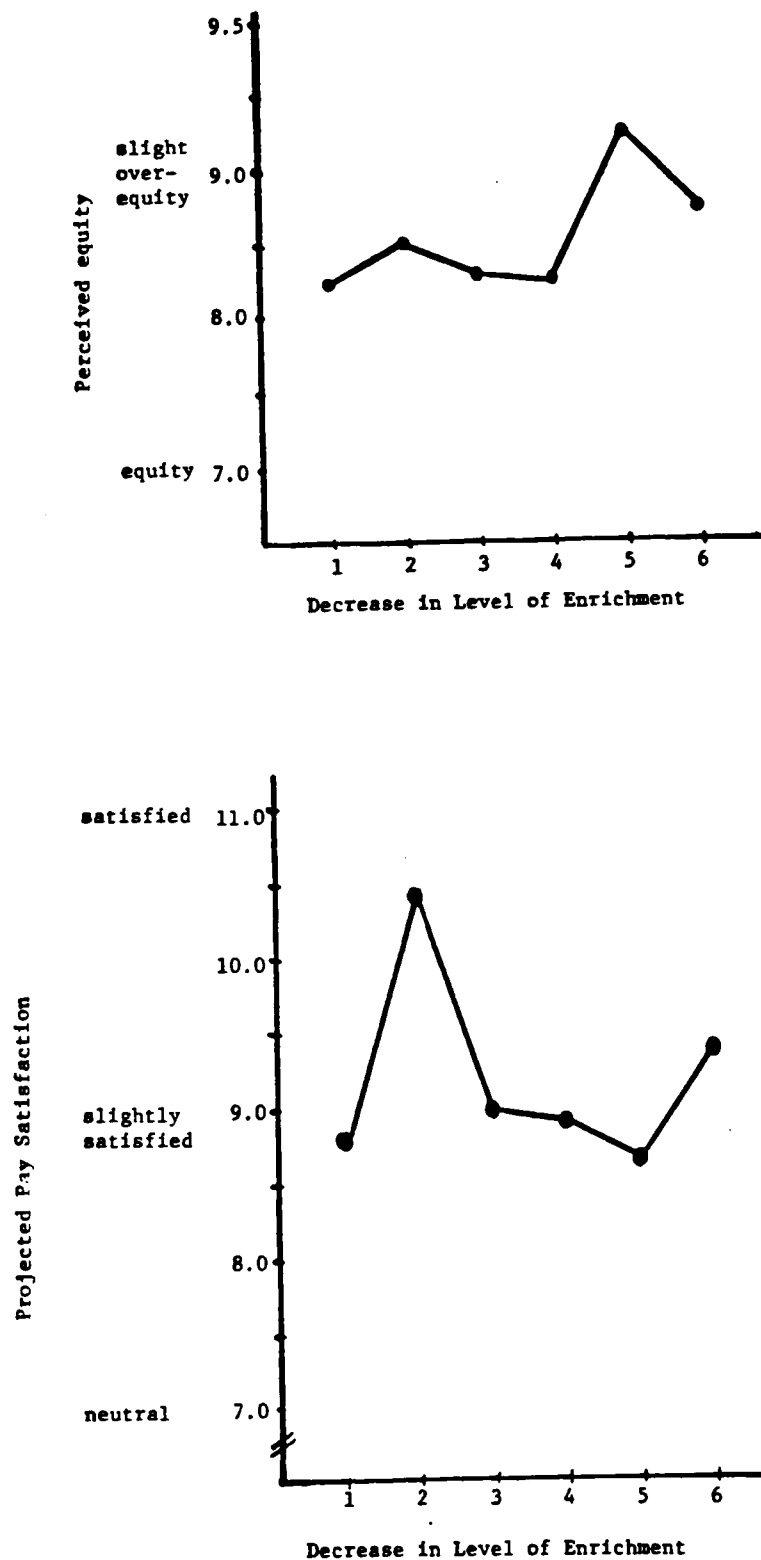


Figure 10. Perceived equity and projected satisfaction with pay in the changed job as a function of decreased level of enrichment.

The lack of relation between pay satisfaction and changed levels of job characteristics in the de-enriched condition is inconsistent with what would have been expected if persons were using a mediating equity process. Based on the significant positive relations between decreased levels of job characteristics and the equity balance variables of difference-in-inputs and benefits to the organization, the equity process would have suggested that, when task levels were decreased, pay satisfaction would decrease due to dissonance from over-equity. The finding is also inconsistent with what would have been expected, based on the significant relations of decreased levels of job characteristics with the equity balance variable of outcome benefits to employees (a measure of intrinsic outcomes). According to the proposed Interactive/Equity model, the relation of changed level of job characteristics with each of these variables would have suggested that, when task levels were decreased, pay satisfaction would decrease. Thus, this relation failed to support the Interactive/Equity model.

The fulfillment and the discrepancy models do not make predictions about this relation. The lack of significance between change in level of enrichment and pay satisfaction in this de-enriched condition is neither supportive nor contrary to those models.

The Effect of De-Enriching Levels of Job Characteristics on the Amount of Pay Allocated to the Changed Job

It was predicted that expected pay from the redesigned job would be a positive function of the change in the levels of enriching job characteristics, i.e., task variety, task significance, identity, and autonomy. In the de-enriched condition, this meant that the

amount of pay allocated for the redesigned job would decrease as a function of decreased levels of job characteristics.

Allocated salary using millimeters. A one-way analysis of variance was used to examine allocated millimeters as a function of change in the level of enriching job characteristics. Results are given in Table 4. Decreasing the levels of job characteristics significantly effected the millimeters allocated, $F(5, 102) = 3.74, p < .01$. Figure 11 depicts the cell means, showing allocated millimeters as a decreasing monotonic function of change in level of enrichment.

Allocated salary in millimeters and decreased levels of job characteristics were linearly related ($r = .37, p < .0001$). The relation did not significantly deviate from linearity ($\eta = .39$; deviation from linearity, $F = 0.55$). The more de-enriched the levels of job characteristics became, the less was allocated as salary for the redesigned job.

Summary. In the de-enriched condition, using millimeters, allocated salary was a positive function of decreasing levels of job characteristics. The positive function of allocated millimeters on changed level of characteristics was also found in the enriched condition. The hypothesis was supported in both conditions.

Allocated salary using dollars. A one-way analysis of variance was used to examine the amount of annual pay allocated to the changed job as a function of decreased levels of enriching job characteristics. Results are presented in Table 4. In the de-enriched condition, the amount of allocated annual pay varied as a positive function of

decreased levels of job characteristics, $F(5, 102) = 17.93, p < .0001$. There was also a "strong" linear association between allocated annual pay and changed levels of enrichment ($r = .65, p < .0001$), using Cohen's (1969) classification of strength. (See Figure 11).

In the de-enriched group, using allocated annual salary in dollars to measure expected pay, persons' pay allocations decreased as a function of the de-enriched levels of job characteristics. The hypothesis was supported, using both operationalizations of expected pay.

Relations Among the Dependent Measures in the De-enriched Condition

Perceived difference-in-inputs and outcome benefits for employees.

A positive relation was predicted between perceived difference-in-inputs and outcome benefits for employees. In the de-enriched condition, this meant that larger decreases in inputs would be associated with lesser outcome benefits for employees, since it was expected that each of these measures would have a positive relation with change in task characteristics. A Pearson coefficient of correlation indicated a significant linear relation between the variables, $r = .31, p < .001$. (See Table 5). Thus, in the de-enriched group, the hypothesis was supported.

Perceived difference-in-inputs and benefits for the organization.

A positive relation was predicted between perceived difference-in-inputs and benefits for the organization. Testing the relation with the Pearson coefficient of correlation, results indicated a significant linear relation, $r = .18, p < .05$. In the de-enriched condition, greater perceived decreases-in-inputs were associated with greater

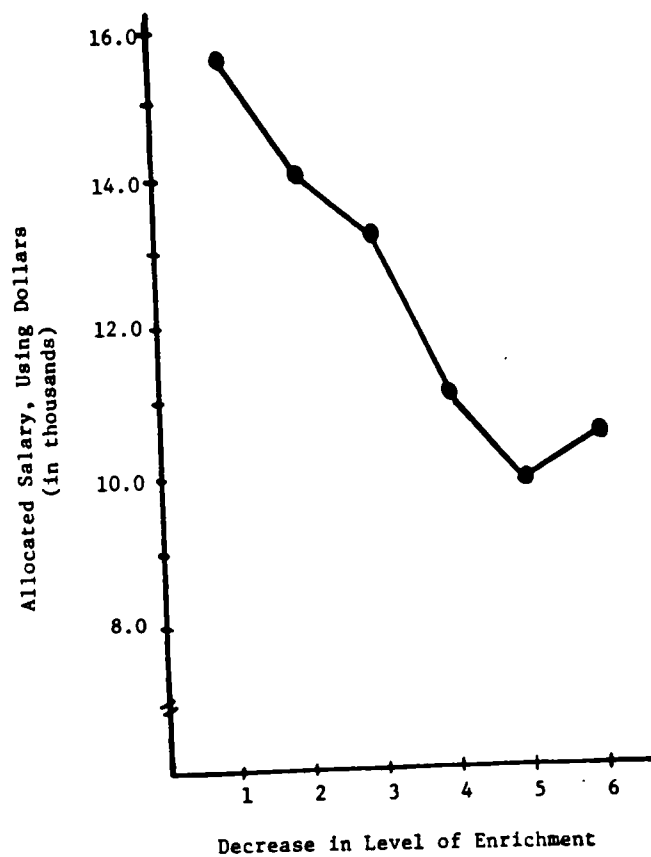
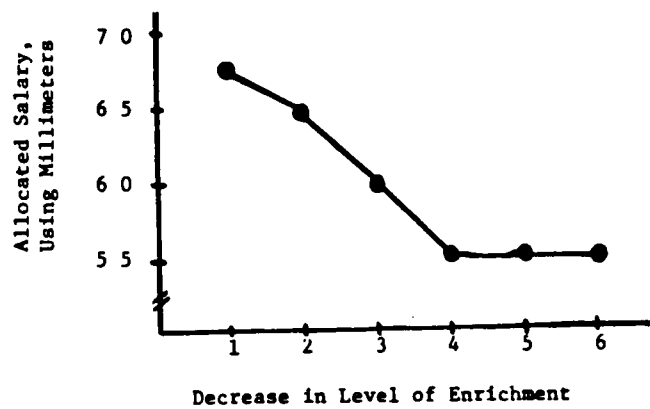


Figure 11. Allocated salary as a function of decreased level of enrichment.

CORRELATION AMONG VARIABLES UNDER THE CONDITION OF JOB DE-ENRICHMENT

Variables	1	2	3	4	5	6	7	8
1. Change in enrichment	--							
2. Difference-in-inputs	*** .38	--						
3. Outcome benefits to employees	*** .54	** .31	--					
4. Benefits to the organization	** .25	* .18	** .26	--				
5. Allocated salary, using mm.	*** .37	*** .41	** .25	* .16	--			
6. Allocated salary, using dollars	*** .65	*** .53	*** .47	* .17	*** .69	--		
7. Pay equity	-.13	** -.29	-.08	.04	*** -.43	*** -.59	--	
8. Pay satisfaction	.05	.13	* .19	* .21	* .16	.12	.14	--

$n = 108$

* $P < .05$
 ** $P < .01$
 *** $P < .001$
 **** $P < .0001$

estimated decreases in benefits for the organization. Thus, in the de-enriched group, the hypothesis was supported.

Perceived difference-in-inputs and expected pay. It was predicted that, when jobs are changed, a positive relation exists between the perceived difference-in-inputs required by the job and expected pay. In the de-enriched condition, this meant that the greater the perceived-in-inputs on the redesigned jobs, the less pay would be allocated for the jobs. Pearson coefficients of correlation were computed between perceived difference-in-inputs and each of the two measures operationalizing expected pay (millimeters and dollars). Both coefficients indicated that there was a significant linear relation between difference-in-inputs and expected pay: as millimeters, and $r = .41$, $p < .0001$; and as dollars, $r = .53$, $p < .0001$. In the de-enriched condition, the more inputs were perceived to decrease from the job changes, the less pay persons allocated for those jobs' salaries. Thus, in both job enrichment and job de-enrichment, the hypothesis was supported.

Perceived outcome benefits to employees and expected pay. It was predicted that, when jobs are changed, a positive relation exists between outcome benefits to employees and expected pay. In the de-enriched condition, this meant that the less employees were perceived to benefit from the job change, the smaller the amounts persons would think they should be paid. Such a relation was expected due to 'perceived outcome benefits to employees' being a measure of almost wholly intrinsic outcomes and, thus, being expected to be associated with greater inputs and greater pay expectations. Pearson coefficients

of correlation tested the prediction of a positive relation between outcome benefits to employees and expected pay, operationalizing expected pay in both millimeters and allocated dollars. Both coefficients indicated significant linear relations between outcome benefits to employees and expected pay: using millimeters, $r = .25$, $p < .01$, using dollars, $r = .47$, $p < .0001$. Thus, in the de-enriched condition, as well as in the enriched condition, there was a positive relation between perceived outcome benefits to employees and allocated pay. The hypothesis was supported in both conditions.

As was explained in the results of the enriched condition, the direction of this relation between "outcome benefits to employees" and "amount of pay that should be allocated to the changed job" was used to indicate whether the results support the hypothesized interactive equity model or the existing compensatory/additive model. A negative relation between the two variables would have suggested the trade-off potential in intrinsic and extrinsic rewards, and would have supported a compensatory/additive equity model. As it was, the positive relation between the variables supports the hypothesized interactive equity model.

Perceived organizational benefits and expected pay. It was predicted that, when jobs are changed, a positive relation exists between perceived organizational benefits and expected pay. In the de-enriched condition, this meant that the less the perceived organizational benefits (i.e., the greater the costs to the organization), the smaller the amounts persons would allocate as pay. As before, Pearson coefficients were used to measure the relation between

perceived organizational benefits and expected pay. Once again, expected pay was expressed in both millimeters and dollars. Both coefficients were significant in the predicted direction: using millimeters, $r = .16$, $p < .05$; using dollars, $r = .17$, $p < .05$. The less benefit the organization was perceived to get from the job changes, the less pay persons allocated to the changed jobs. Thus, in the de-enriched condition the hypothesis was supported, while in the enriched condition it was not.

Perceived difference-in-inputs and equity. It was predicted that, when pay is unchanged, a negative relation exists between the perceived difference-in-inputs resulting from the job changes and the perceived equity of the new jobs. In the de-enriched condition, this meant that the hypothesized decrease-in-inputs would be associated with perceptions of over-equity. Pearson coefficients of correlation were used to test the prediction of a negative relation between difference-in-inputs and pay equity. Results are presented in Table 5. There was a significant linear relation: $r = -.29$, $p < .001$. When pay was unchanged and the job was de-enriched, the greater the decrease in level of enrichment the more over-equitable persons thought the pay. Thus, the hypothesis was supported in both the job-enriched and the job de-enriched conditions.

Perceived outcome benefits to employees and equity. It was predicted that, when jobs are changed and pay remains unchanged, a negative relation exists between perceived outcome benefits to employees and equity. In the de-enriched condition, this meant that

the less the perceived outcome benefits to employees (as expected in de-enrichment), the more over-equitable persons would perceive the unchanged pay. A Pearson coefficient of correlation indicated that the linear relation between the variables was non-significant, $r = -.08$. In job de-enrichment, there was no relation between a change in outcome benefits for employees and perceived equity of pay. The positive relation found in the condition of job enrichment did not hold up in the de-enriched condition.

The non-significant relation does not support the hypothesized Interactive/Equity model; a negative relation was needed. A positive relation would have supported the juxtaposed additive/compensatory equity models. This would have indicated that the less the perceived outcome benefits, i.e., intrinsic rewards, for employees (as expected in de-enrichment), the more under-equitable the unchanged pay appeared. In other words, a positive relation would have suggested that greater perceived decreases in intrinsic rewards were associated with perceptions of greater under-equity from the unchanged pay. Thus, the result is not supportive of the additive/compensatory equity models.

Recalling that, in previous equity research, it has been found that perceived over-equity is much less sensitive to variation than perceived under-equity, then a plausible explanation may exist for the non-significance between variables in the de-enriched condition. Using the hypothesized Interactive/Equity model, it was predicted that, in de-enrichment, the less the perceived outcome benefits to employees, the more over-equitable persons would perceive the unchanged pay. Since it was over-equity that persons were expected to perceive, the lack of significance may be due to what has been

previously established as persons' inherent relative insensitivity to over-equity. Therefore, the relation indicated by the data is not inconsistent with the hypothesized interactive equity model.

Perceived organizational, benefits and equity of pay. It was predicted that, when jobs are changed and pay remains constant, a negative relation exists between benefits believed to accrue to the organization and person's perceptions of equity. In the de-enriched condition, this meant that the less the perceived organizational benefits, the more over-equitable persons would perceive the unchanged pay to be. A Pearson coefficient of correlation was used to examine this relation. As indicated in Table 5, the relation was non-significant, $r = .04$. Thus, in neither the job-enriched condition nor the job de-enriched condition was there a significant relation between perceived organizational benefits and equity of pay.

Perceived difference-in-inputs and pay satisfaction. It was predicted that, when jobs are changed, there exists a positive relation between perceived difference-in-inputs and pay satisfaction. In the de-enriched condition, this meant that the greater the perceived decrease-in-inputs, the greater the pay dissatisfaction. A Pearson coefficient of correlation was computed to test the prediction of a positive relation between difference-in-inputs and pay satisfaction. The relation was not significant, $r = .13$. Thus, the predicted relation (a positive relation between perceived difference-in-inputs and pay satisfaction) was significant in only the job enriched condition.

Again, here is a case where the predicted relation (based on the hypothesized interactive equity model) was significant in the enriched condition, the condition where perceived under-equity was expected, and yet the predicted relation was not significant in the de-enriched condition, the condition where perceived over-equity was expected. Just as with the relation between perceived 'outcome benefits to employees' and 'equity of pay', a plausible explanation for the non-significance appears to be persons' relative insensitivity to over-equity (here, expressed as dissatisfaction with pay)

Perceived outcome benefits to employees and satisfaction with pay.

It was predicted that, when jobs are changed and pay remains unchanged, a positive relation exists between perceived difference in outcome benefits to employees and their expected pay satisfaction. The relation was examined via a Pearson coefficient of correlation. Results indicated a significant linear relation between the variables, $r = .19$, $p < .05$. The relation was in the direction of that predicted. The results indicate that, in the de-enriched condition, when levels of job characteristics were decreased and pay remained unchanged, greater perceived decrease in outcome benefits for employees was associated with expectations of dissatisfaction with pay.

In the enriched condition, the predicted relation was also supported. Thus, in the enriched condition, greater perceived outcome benefits to employees was associated with expected greater pay dissatisfaction; and in the de-enriched condition lesser perceived outcome benefits to employees was also associated with expected greater

pay dissatisfaction. Since 'outcome benefits to employees' represents intrinsic rewards which, in the independent compensatory models of satisfaction, would increase satisfaction, the negative relation between the variables in the enriched condition is supportive of the hypothesized interactive equity model, and contrary to the additive/compensatory models of satisfaction. The positive relation between the variables in the de-enriched condition is also supportive of hypothesized interactive equity model. The direction of the relation changes from one condition to the other due to the shift from under-equity to over-equity, respectively.

Perceived organizational benefits and pay satisfaction. It was predicted that, when there is a change in jobs' levels of enrichment and pay remains unchanged, a positive relation exists between the difference in organizational benefits believed to accrue to the organization and the satisfaction with pay employees were expected to have in the new job. A Pearson coefficient of correlation indicated a significant linear relation between the variables, $r = .21$, $p < .05$. It was in the direction opposite of that predicted. In the de-enriched condition, when task characteristics were de-enriched and pay remained unchanged, the greater the decrease persons perceived in organizational benefits, the less satisfied they were with their pay. As in the enriched condition, this result suggests that, rather than equity (i.e., pay satisfaction) being determined by allocator's resources (i.e., organizational benefits), it is more related to an internal comparison with the self or with another.

Expected pay and perceived equity. It was predicted that, when jobs are changed and when pay is unchanged, a negative correlation exists between the perceived equity of the redesigned jobs and the expected pay. In the de-enriched condition, this meant that the more the perceived over-equity, the less would be the amount of expected pay.

Pearson coefficients of correlation tested the prediction of a negative relation between perceived equity and expected pay, operationalizing expected pay first as allocated millimeters, then as allocated dollars. Results, shown in Table 5, indicated significant linear relations between perceived equity and expected pay: millimeters, $r = -.43$, $p < .0001$; dollars, $r = -.39$, $p < .0001$. Thus, in the condition of job de-enrichment, perceived over-equity was associated with smaller amounts of allocated pay. Thus, the hypothesis was supported in both enrichment conditions.

Expected pay and pay satisfaction. It was predicted that when jobs' levels of enrichment are changed and pay remains unchanged, a positive relation exists between the amount of pay persons think should be allocated to the new jobs and the level of pay satisfaction they expected employees to have with the unchanged pay. The hypothesized equity process suggests that those who think pay should be greater would have less reason to be dissatisfied with the unchanged (over-equitable) pay. The relation between expected pay and pay satisfaction was examined, operationalizing expected pay in both allocated millimeters and dollars. Using Pearson coefficients of correlation, a significant linear relation was found between pay

satisfaction and expected pay using millimeters, $r = .16$, $p < .05$. The relation was in the direction of that predicted. The relation between pay satisfaction and allocated pay, using dollars, was non-significant, $r = .12$. When jobs were de-enriched while pay remained unchanged, the less pay (in millimeters) persons thought should be allocated to the new job, the less satisfied they expected workers to be with unchanged pay. The hypothesis was supported in both the enriched and the de-enriched conditions. The results were supportive of the equity feature of the proposed model. The predicted direction of the correlation necessarily changes from negative in the enriched condition to positive in the de-enriched condition due to the shift from under-equity to over-equity, respectively.

Perceived equity and expected pay satisfaction. It was predicted that, when jobs' levels of enrichment are changed and pay remains unchanged, a negative relation exists between perceived over-equity on the new job and persons' expectations of workers' satisfaction with pay. As shown in Table 6, a Pearson coefficient of correlation failed to find a significant linear relation between the variables, $r = .14$. The predicted relation between perceived equity of the unchanged pay and expected satisfaction with pay was supported in the condition of job enrichment, but not job de-enrichment.

III. DIFFERENCES BETWEEN CORRELATIONS UNDER THE TWO ENRICHMENT CONDITIONS

It was predicted that the relations between the variables would be stronger in the condition of job enrichment than in the condition of job de-enrichment. This result was expected due to the equity feature of the proposed model. Previous equity research findings indicate that given a symmetrical deviation from parity, in the conditions of under-equity and over-equity, persons' reactions are much stronger to the under-equitable situation than to the over-equitable situation. In this study, job enrichment represented an under-equitable situation, while job de-enrichment was over-equitable. This prediction was tested by examining the difference between the respective Pearson correlation coefficients of the variables. The Pearson coefficients were converted to Fisher Z 's, and then Z tests of difference were performed on the Fisher Z 's, as shown in Table 6.

Of the twenty-five tests, eight showed significant difference in the correlation of the variables between the two enrichment conditions. All but one of the significant differences involved relations in which either equity or pay satisfaction was one of the variables. Clearly the reaction to inequity was stronger in the enriched condition where it consisted of under-equity.

The only significant difference not involving either equity or pay satisfaction occurred in the relation of organizational benefits with change in enrichment, $z = -2.12$, $p < .05$. The relation was stronger in de-enrichment, the direction opposite of that predicted.

TABLE 6
COMPARISON OF THE RELATION BETWEEN VARIABLES
UNDER THE TWO ENRICHMENT CONDITIONS

Variables	Enrichment	De-enrichment	<u>Z</u> Score
change in enrich- ment/outcome benefits for employees	.42	.54	-1.17
change in enrich- ment/organizational benefits	-.04	.25	-2.12 ^{*b}
change in enrich- ment/mm	.41	.37	0.35
change in enrich- ment/dollars	.55	.65	-1.07
change in enrich- ment/equity	-.54	-.13	-3.35 ^{***}
change in enrich- ment/pay satisfaction	-.46	.05	-3.24 ^{***c}
difference-in-inputs/ outcome benefits for employees	.43	.31	1.01
difference-in-inputs/ organizational benefits	.09	.18	-0.68
difference-in-inputs/mm	.44	.41	0.23
difference-in-inputs/ dollars	.40	.53	-1.17
difference-in-inputs/ equity	-.56	-.29	-2.43 ^{**}
difference-in-inputs/ pay satisfaction	-.35	.13	-1.70 ^{*c}

TABLE 6 (Continued)

Variables	Enrichment	De-enrichment	Z Score
outcome benefits for employees/mm	.35	.25	0.84
outcome benefits for employees/dollars	.30	.47	-1.48
outcome benefits for employees/equity	-.29	-.08	-1.58
outcome benefits for employees/pay satisfaction	-.16	.18	0.15 ^c
organizational benefits/mm	.01	.16	-1.12
organizational benefits/dollars	-.08	.17	-0.70
organizational benefits/equity	.01	.04	-2.21
organizational benefits/pay satisfaction	.01	.21	1.62 ^{bc}
mm/equity	-.55	-.43	-1.15
dollars/equity	-.49	-.39	-0.92
mm/pay satisfaction	-.38	.16	-1.73 ^{*c}
dollars/pay satisfaction	-.43	.12	-2.46 ^{**c}
equity/pay satisfaction	.66	.14	4.72 ^{*****}

n = 108

* p < .05

** p < .01

a one-tailed

*** p < .001

**** p < .0001

b direction is opposite of that predicted

^cThe algebraic sign of the de-enriched condition is reversed to compensate for the reversal of the direction of change which occurs between the conditions.

But the prediction from the additive or compensatory models suggested that, in de-enrichment, the less the perceived outcome benefits to employees, the more under-equitable the unchanged pay would be. Since persons are naturally sensitive to under-equity, there is no logical rationale that is consistent with the additive/compensatory model to explain the non-significant relation between perceived outcome benefits to employees and pay equity.

CHAPTER VIII

DISCUSSION

I. SUMMARY

Overview

The purpose of this research was to empirically examine the relation between change in task characteristics and pay satisfaction. Specifically, an Interactive/Equity Model of Satisfaction was hypothesized in which changes in task characteristics are related to several equity balance variables (perceptions of differences-in-inputs, outcome benefits for employees, organizational benefits), revised equity estimates, the amount of expected pay, and satisfaction with the unchanged pay.

The two predominant models of job satisfaction were reviewed; these are the fulfillment model and the discrepancy model of satisfaction. The distinguishing characteristics of the models were shown to be their positions on whether or not intrinsic rewards and extrinsic rewards are compensatory and independent, relative to overall satisfaction. Each of these models considers intrinsic and extrinsic satisfaction as independent of each other; the fulfillment model maintains that they are also interchangeable, while the discrepancy model ascribes limited interchangeability to the two kinds of satisfaction.

Some reports were presented, suggesting that intrinsic and extrinsic satisfaction may be neither interchangeable nor independent.

Two major points emerged: (1) Task characteristics, the source of intrinsic satisfaction, is simultaneously the source of pay expectations and subsequent satisfaction with pay; (2) Changing task characteristics triggers a re-evaluation of workers' extrinsic equity.

A model of satisfaction, incorporating these two major points, was developed and tested. Task characteristics were manipulated via written descriptions, and graduate students reported their reactions to the dependent measures. However, before reviewing the results of the research, limits to their generalizability must be considered.

Limitations

The limitations of this study revolve around the fact that it was done under artificial conditions. The manipulation, being a written description of task characteristics with the change in characteristics represented visually on a scale, may have some inherent method bias. It is possible that participants transcribed the differences to the dependent scales. However, this seems unlikely, since the results differed between the conditions of job enrichment and job de-enrichment. The manipulation might also be criticized for lacking veracity, for failing to identify with any specific job. While this was certainly the case, the written manipulation may have been preferable to manipulation of an actual task where a group of individuals are performing tasks in each others' presence. This latter situation can result in dependent measures varying more from the social cues, than from the actual task manipulations (O'Reilly & Caldwell, 1979). Moreover, Weick (1965) argues that, if the

cognitive processes, that would be involved in the actual situation, are able to be abstracted, then the phenomenon under investigation may be studied by simulation without damage to validity.

The other important limitation is in the nature of the participants. They were a relatively homogeneous group. It may be that a more heterogeneous sample would have responded differently.

Findings

Job enrichment. In the condition of job enrichment, each of the dependent variables, with the exception of perceived benefits for the organization, was a significant function of change in task characteristics. Again with the exception of perceived benefits for the organization, each of the dependent measures was significantly correlated with each of the other dependent measures.

These results indicate strong effects on the dependent variables from change in task characteristics. Moreover, there were three variables whose relation with change in task characteristics involved conflicting predictions, depending on which of the competing models of satisfaction is applied. These variables are pay fairness, pay satisfaction, and estimated amount that should be paid. The models' conflicting predictions are shown in Table 7. Change in task characteristics correlated negatively with pay equity and pay satisfaction, indicating that--when task characteristics increased with pay remaining constant--persons re-evaluated, and devalued, the equity of the job situation. Change in task characteristics correlated positively with estimates of amount that should be paid. This relation indicates that--when task characteristics increased

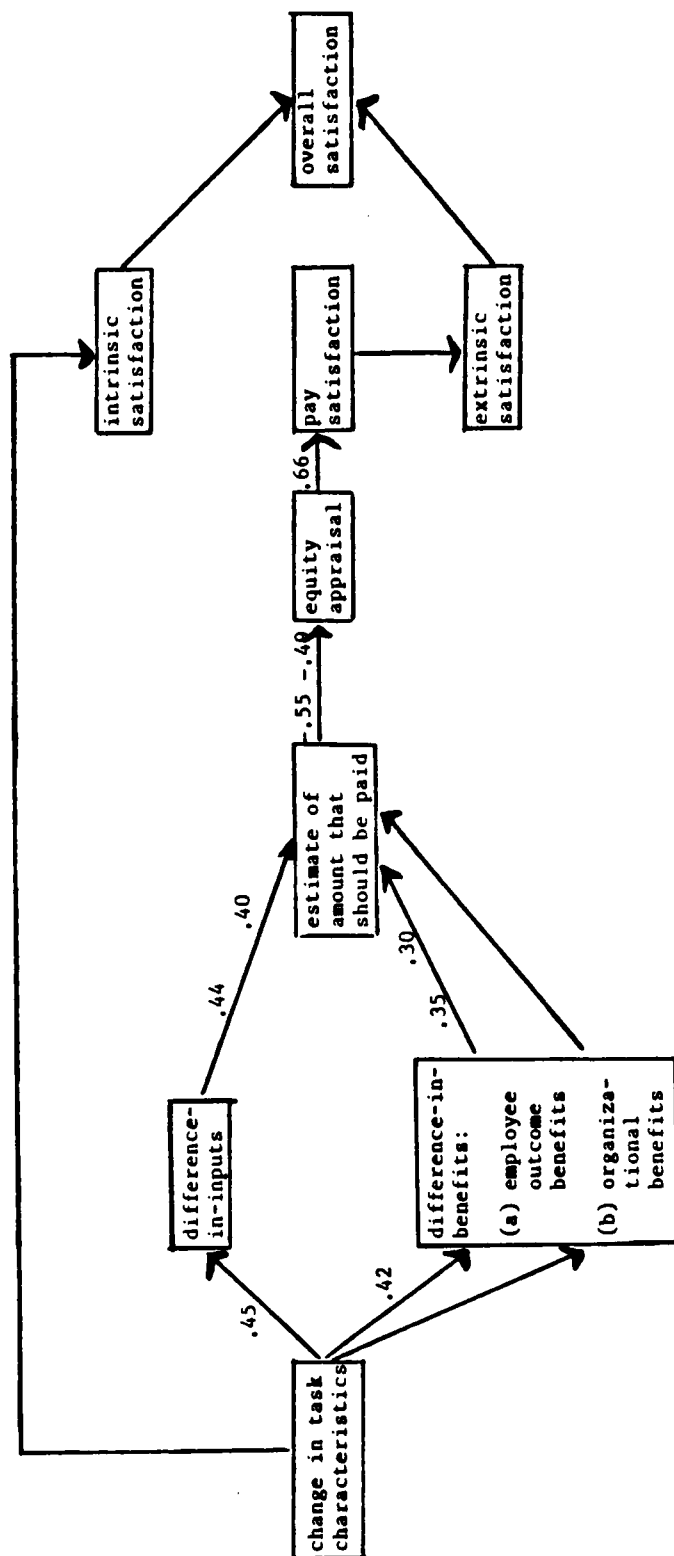


Figure 12. Representation of significant statistical results in the enriched condition, which were consistent with the hypothesized Interactive/Equity Model of Satisfaction.

TABLE 7

PREDICTIONS FROM COMPETING MODELS OF SATISFACTION, COMPARED WITH ACTUAL RESULTS:
DEPENDENT VARIABLES AS A FUNCTION OF CHANGE IN TASK CHARACTERISTICS

Variables	Predictions for				Results	
	Enriched and De-enriched		Discrepancy	Fulfillment	Enriched	De-enriched
	Inter-active Equity	Models				
Change in Task characteristics, with: difference-in-inputs	+	N/A	N/A		***	***
employee outcome benefits	+	+	+		***	***
organizational benefits	+	N/A	N/A		-(n.s.)	+(n.s.)
estimated amount that should be paid dollars	+	- ^a	-		***	***
pay equity	-	+ ^a	+		-**	-(n.s.)
pay satisfaction	(enr.) - (de-enr.) +	+ ^a	+		-**	+(n.s.)

^a When satisfaction with intrinsic and extrinsic rewards are both either satisfied or dissatisfied.

*p < .01

**p < .0001

+ indicates a positive linear correlation.

- indicates a negative linear correlation.

while pay remained constant--persons expected greater pay increases for greater increases in task characteristics. Each of these relations was significant in the direction predicted by the hypothesized Interactive/Equity Model. Thus, the interactive feature of the proposed model, as well as the equity feature, was supported in the enriched condition.

In the enriched condition, only the variable of perceived benefits for the organization yielded non-significant relations, not fitting the proposed model. Particularly, there was no significant relation between increasing levels of job enrichment and organizational benefits. This variable was based on a measure having rather low internal consistency ($r_{\alpha} = .61$). Either persons did not perceive a relation between the variables, or the scale used to measure "benefits to the organizations"--with its low internal consistency (.61)--was not capable of detecting the perceived relation. However, the significant relations in the de-enriched condition between perceived benefits for the organization and the other variables precludes the dismissal of the lack of significant relations for this variable in the enriched condition, as being due merely to its low internal consistency. While the low internal consistency may have made significance more difficult, it also appears that it did not fit well with the model in the enriched condition. Persons associated increased outcome benefits for employees with increased organizational benefits, but organizational benefits was not related to their equity evaluation. Thus, contrary to deCarufel (1979), allocator's resources were not related to perceived equity, when the "allocator" in question was an impersonal organization.

Job de-enrichment. In the condition of job de-enrichment, only difference-in-inputs, employee outcome benefits, and estimated amount of pay that should be allocated (both millimeters and dollars) were significant dependent functions of change in task characteristics; perceived benefits for the organization, pay equity, and pay satisfaction did not significantly vary as a function of change in task characteristics. (Note, however, that there was a significant linear association between decreasing task characteristics and perceived benefits for the organization, $r = .25$, $p < .01$.)

Also, in the relations among the dependent variables, significance was less consistent than in the condition of job enrichment. (See Figure 13). Pay satisfaction was significantly correlated with only three variables: perceived outcome benefits for employees, benefits for the organization, and allocated salary using millimeters; each of these correlations was in the direction of that predicted, and, therefore, supports the Interactive/Equity Model of Satisfaction. The correlations of pay satisfaction with allocated salary was significant only with the operationalization using millimeters ($r = .16$). The relation between pay satisfaction and allocated salary in dollars ($r = .12$) was not significant. It is possible that, were it not for a "floor effect" as to a reasonable minimum salary using dollars, allocated salary in dollars might also have been significantly related to pay satisfaction in the predicted direction.

In the de-enriched condition, pay fairness correlated significantly only with perceived difference-in-inputs and estimated amount that should be paid. And perceived benefits to the organization

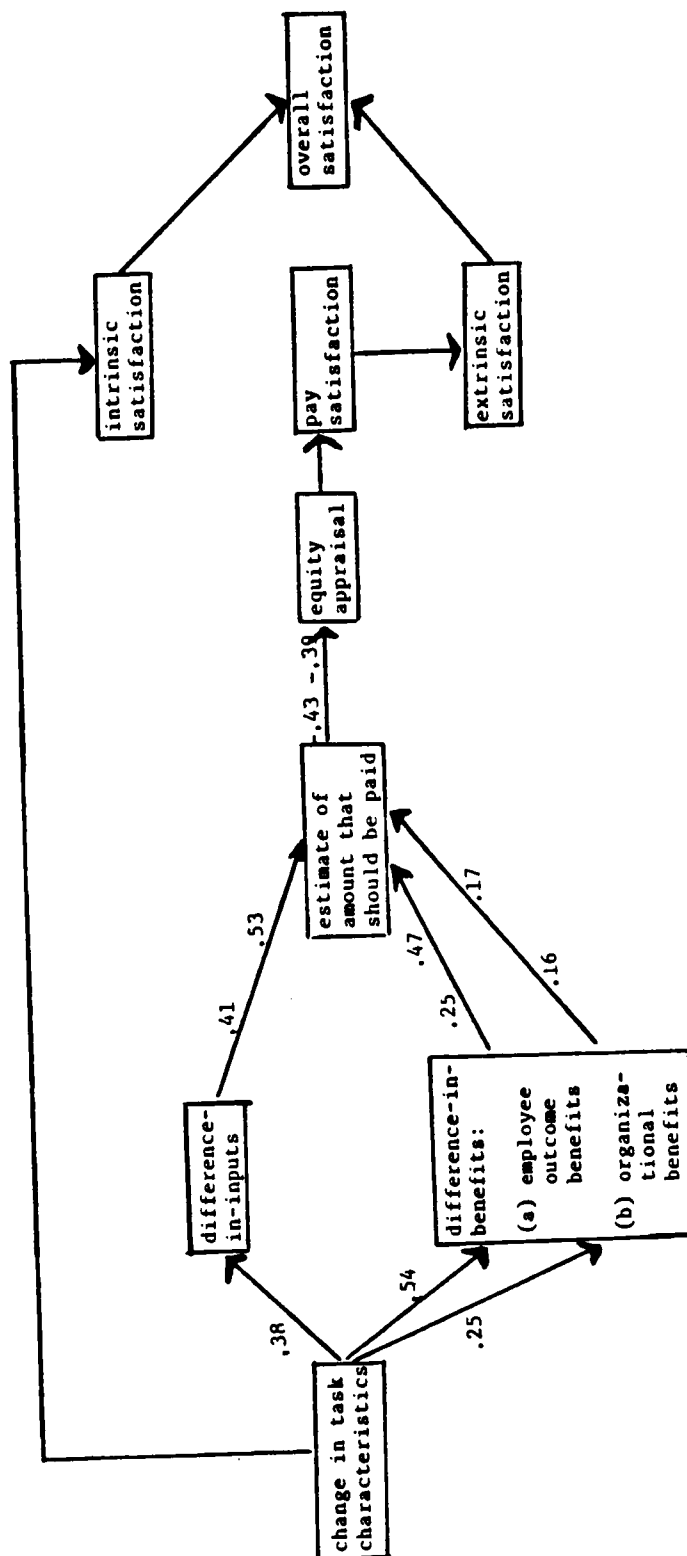


Figure 13. Representation of significant statistical results in the de-enriched condition, which were consistent with the hypothesized Interactive/Equity Model of Satisfaction.

correlated significantly (although at times in the direction opposite of that predicted) with all other dependent variables, except pay equity.

Very little significance was obtained in the de-enriched condition with the variables of pay equity and pay satisfaction. Of particular interest was the lack of significant results for each of these variables, respectively, as a function of change in task characteristics. These are the relations which, because of the conflicting predictions from the different models of satisfaction, were expected to shed light on the appropriateness of the equity feature of the Hypothesized Interactive/Equity Model. Contrary to the support it received in the job-enriched condition, in the de-enriched condition these relations of the model did not support the equity feature. The lack of significance, however, also fails to support the competing models. (See Table 7).

Several predicted relations in the study, especially those involving pay equity and satisfaction with pay, were significant in the enriched condition (the condition where perceived under-equity was expected), and yet not in the de-enriched condition (the condition where perceived over-equity was expected). In previous equity research, it has been found that persons are less sensitive to, and/or are more willing to accept inequity where it is a situation of over-equity in their favor. Since it was over-equity that persons were expected to perceive in the de-enriched condition, the lack of significance may be due to what has been previously established as persons' inherent relative insensitivity to over-equity. It may be that the equity process was equally present in the

de-enriched condition, but with a weakened effect due to the over-equity of that condition. Therefore, the relation indicated by the data may not be inconsistent with the hypothesized Interactive/Equity Model.

However, the results involving equity and satisfaction with pay, in the de-enriched condition, are contradictory of predictions from the fulfillment and the discrepancy models. For example, a telling relation was that between employees' outcome benefits and pay equity ($r = -.08$). The fulfillment and the discrepancy models would suggest that, in de-enrichment, the less the perceived outcome benefits to employees, the more under-equitable the unchanged pay would be. Since persons are naturally sensitive to under-equity, there is no logical rationale that is consistent with these models to explain the non-significant relation between perceived outcome benefits to employees and pay equity.

The other important relation in comparing the validity of the competing models was the effect of change in task characteristics on the estimated amount that should be paid. This relation has bearing on both the interactive and the equity features of the hypothesized Interactive/Equity Model. As shown in Table 7, the hypothesized model predicted a positive relation between these variables, while the other models predict it to be negative. These positive relations, $r = .37$, $r = .65$, $p < .0001$, using millimeters and dollars, respectively, indicate that, when task characteristics were decreased, persons thought that employees should be paid accordingly. Thus, these relations support the interactive/equity features of the hypothesized model.

Differences under the two conditions. Of the eight significant correlational differences, seven involved the perceived equity variable of either pay satisfaction or pay fairness. These results indicated that the equity feature of the hypothesized Interactive/Equity Model was much stronger in the condition of job enrichment.

Also noteworthy is the lack of differences between the two conditions involving estimates of how much should be paid. It suggests that in the over-equitable condition of job enrichment, persons were able to cognitively minimize the over-equity, while simultaneously being aware that the unchanged pay was more than "should be" associated with the de-enriched levels of task characteristics. The only significant difference involving estimates of how much "should be paid" occurred in its relation with pay satisfaction. From consistency between the conditions of other results involving what should be paid, versus the significant differences between conditions in those results involving satisfaction with pay, it appears that this difference was due more to pay satisfaction than to the variable of allocated pay. The general lack of significant differences with this variable suggests that, for recognizing the amount that "should be" paid, the interactive feature of the hypothesized model was not significantly stronger under job enrichment or job de-enrichment.

II. IMPLICATIONS

Theoretical

The results were generally supportive of the notion that intrinsic satisfaction and extrinsic satisfaction are interactive. In

both the job enriched and the job de-enriched conditions, persons expectations of what should be paid was a function of the job characteristics. In the job enriched condition, the equity predictions were supported, while in the condition of job de-enrichment they received partial support. However, where they were not supported, results may have been due to persons' relative insensitivity to over-equity. In any case, the results which failed to support the Interactive/Equity Model were not inconsistent with it, while they were inconsistent with predictions from the fulfillment and discrepancy models. The results were supportive of the idea that, contrary to the other models, intrinsic and extrinsic satisfaction are non-compensatory and independent. Other models overlook the fact that intrinsic outcomes and expectations of extrinsic outcomes each stem from the same source, i.e., job characteristics. Thus, they have failed to take into account the equity process which intervenes, creating dissatisfaction with pay. Due to dissatisfaction with pay, and thus reduced extrinsic satisfaction, any increase in intrinsic satisfaction may be nullified, with respect to overall satisfaction. The model may be useful in explaining findings of previous researchers. For example, the Locke, Sirota, and Wolfson (1976) results found that job enrichment improved the "hard" measures, but not the attitudinal ones; workers might have been working more effectively and experiencing intrinsic rewards, and concomitantly experiencing a reduction in extrinsic satisfaction.

The effect of reduced satisfaction with pay becomes even more important in view of some previous research. Research on the importance of different rewards shows that the amount of any given reward

persons receive influences the importance they attach to it (Alderfer, 1969). This suggests that, as persons receive comparatively less extrinsic rewards relative to the intrinsic rewards, the extrinsic ones may become that much more important. Additionally, in a recent study examining trade-offs between job attributes, Shapiro (1981) found that the trade-offs of attributes for losses or gains, are not symmetrical. In examining trade-offs on the aspects of salary, authority, interest in job, influence on company's policy, and status, Shapiro found that the change in the trading direction affected the relative importance of the attributes; "losses" were more important to people than "gains." This notion, besides being consistent with the equity literature which finds greater sensitivity to under-equity, is also consistent with negative and positive utility functions. According to Stevens (1959), outcomes of negative utility function as $[-(x)^2]$, while positive utilities function as $[x]$. It would be interesting, in light of the Shapiro results combined with results of this study, in future research to examine the Interactive/Equity Model with respect to how specific intrinsic and extrinsic outcome adjustments affect intrinsic and extrinsic satisfaction, respectively, and the net effect on overall satisfaction.

Practical

Job enrichment. When enriching jobs while keeping pay constant, employees will probably perceive their job inputs have increased; they will be dissatisfied with their pay. Employees' dissatisfaction with pay may be avoided by increasing pay, opportunity for promotion, etc. (Beer & Huse, 1972), simultaneous to job enrichment. Another possibility for offsetting dissatisfaction with pay may be to directly

influence the social perceptions of inputs involved in the new tasks (O'Reilly & Caldwell, 1979, White & Mitchell, 1979). Perceptions might be effected by the comments with which the new tasks are introduced and the attitudes expressed therein. However, according to this research, employees are not likely to associate any significant costs or benefits to the organization itself from the job change. Thus, for job enrichment, effects at attitudinal influence should be directed toward the workers' benefits and costs, in order to maintain credibility.

The results of this study were based on examining the dependent measures as a function of the task characteristics. It should be noted, however, that the other major method of evaluating jobs is based on individuals' skills and skill levels, rather than on the job characteristics. The findings from this study should generalize to situations where compensation is skill-based, because the same underlying variables and equity processes are involved. The measures of difference-in-inputs, employees' outcome benefits, and organizational benefits would still play an integral part in the equity considerations, and thus be equally relevant in a skill-based program.

Job de-enrichment. If an organization de-enriches, or simplifies jobs, while keeping pay constant, it should expect employees to perceive that the jobs are less demanding, to believe that they should be paid less for them, but to not be dissatisfied by their unchanged pay. If that is so, then one might guess that an organization which de-enriches jobs and also adjusts pay downwards might have employees being very dissatisfied with pay. Thus, it is

difficult for organizations to de-enrich jobs: On the one hand, leaving pay unchanged, the organization is paying inflated labor costs; on the other hand, decreasing pay relative to the task characteristics, employees are likely to become dissatisfied. This suggests that, before enriching any jobs, organizations should carefully examine how it is likely to impact on organizational effectiveness and how it will be accepted by employees, because--once it is put into practice--job enrichment is difficult to reverse.

The Interactive/Equity Model can be used to infer what would happen if the situation of over-equity came about--not by decreasing task characteristics, as in this study, but--by leaving task characteristics the same while increasing pay. The effect might be similar to that of over-equity in this study: employees would perceive they should be paid less, but would not be dissatisfied with the higher pay.

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APPENDICES

APPENDIX A
JOB EXPECTATION SURVEY

This questionnaire was developed in order to study what people expect from jobs. The questionnaire helps to determine how organizations can design jobs, by obtaining information about what people expect from different kinds of jobs.

On the following pages, you will find several different kinds of questions about jobs. Specific instructions are given at the start of each section. Please read them carefully. It should take no more than ~~30~~ minutes to complete the entire questionnaire. Please move through it quickly.

The questions are designed to obtain your expectations of a job and how you think outcomes should be.

There are no "trick" questions. Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

For more information about this questionnaire and its use, please contact:

Kammer Boyle
Department of Management
University of Tennessee - Knoxville

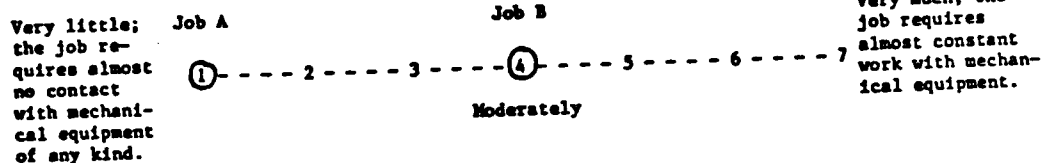
SECTION ONE

The items on the following "fold-out" graphically describe two jobs, Job A and Job B. This description is to serve as the basis of your responses to the following sections.

The jobs are compared along four characteristics: autonomy, wholeness, variety, and significance. Each characteristic is defined with its respective scale. Note carefully each characteristic and the difference between the two jobs.

A sample characteristic is given below:

A. The extent that the jobs require you to work with MECHANICAL equipment:



The circled number below each job name represents the amount of that characteristic in the job.

If, for example, Job A is at "1" and Job B is at "4", then note that Job A requires almost no contact with any mechanical equipment, while Job B requires a moderate amount of work with mechanical equipment.

If you do not understand any of these instructions, please ask for assistance. If you do understand them, turn to the fold-out page, and carefully examine the descriptions of the job characteristics of Job A and Job B.

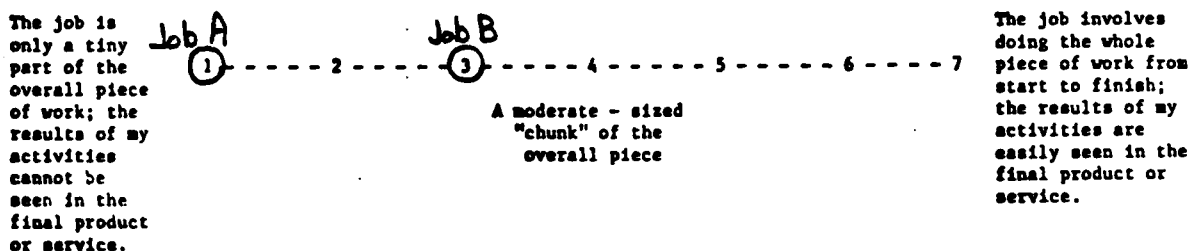
Use these descriptions on the fold-out as the basis for all of your responses to all of the following sections.

SECTION ONE -- JOB DESCRIPTIONS

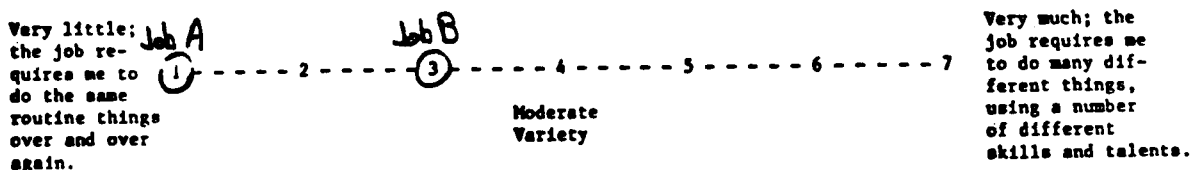
1. How much AUTONOMY there is in the jobs. That is, the extent to which the jobs permit you to decide on your own how to go about doing the work:



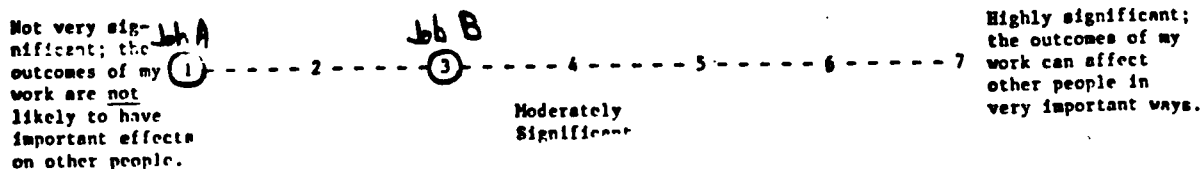
2. The extent to which the jobs involve doing a "WHOLE" and identifiable piece of work. That is, whether the jobs involve a complete piece of work that has an obvious beginning and end; or, whether they are only a small part of the overall piece of work, which is finished by other people or by automatic machines:



3. How much VARIETY there is in the jobs. That is, the extent to which the jobs require you to do many different things at work, using a variety of your skills and talents:



4. In general, the SIGNIFICANCE or IMPORTANCE of the jobs. That is, the extent to which the results of your work are likely to significantly affect the lives or well-being of other people:



SECTION TWO

Listed below are a number of phrases which could be used to describe a job, or persons holding a job:

You are to indicate whether you think Job A and Job B differ in the extent to which each phrase could be used to accurately describe the jobs, or job incumbents.

Please try to base your responses on the descriptions of the jobs in the fold-out. Using these descriptions, indicate how you think these jobs would actually differ.

First, indicate which job, or job incumbent, has more of the item by placing that job letter in the blank. If you think there is no difference between the jobs on an item, indicate no difference between the jobs by placing "N" in the blank, and skip to the next item.

Second, if there is a difference between the jobs, then rate the strength of this difference using the following scale:

1	2	3	4	5
Very Small Difference	Somewhat Small Difference	Moderate Difference	Somewhat Large Difference	Very Large Difference

For example, using the sample from the previous page, you could be asked to rate the difference between the jobs on mechanical skill:

_____ mechanical skill 1 2 3 4 5

You would probably place "B" in the blank, since Job B requires more work with mechanical equipment. Then you would circle a number to indicate the difference in levels of skill you think the jobs require.

What difference, if any, is there in Job A and Job B, pertaining to each phrase?

Which job has more?
(A, B, N)

	Very Small Difference	Somewhat Small Difference	Moderate Difference	Somewhat Large Difference	Very Large Difference
1. _____ status	1	2	3	4	5
2. _____ experience needed to get the job	1	2	3	4	5
3. _____ success	1	2	3	4	5
4. _____ knowledge obtained on the job	1	2	3	4	5
5. _____ education required	1	2	3	4	5
6. _____ long hours	1	2	3	4	5

SECTION TWO — CONT.

	Very Small Difference	Somewhat Small Difference	Moderate Difference	Somewhat Large Difference	Very Large Difference
7. ____ interest	1	2	3	4	5
8. ____ enjoyment of the job	1	2	3	4	5
9. ____ variety	1	2	3	4	5
10. ____ feeling of accom- plishing something	1	2	3	4	5
11. ____ schooling of persons holding the job	1	2	3	4	5
12. ____ hard work	1	2	3	4	5
13. ____ frustration	1	2	3	4	5
14. ____ respect from others	1	2	3	4	5
15. ____ independence	1	2	3	4	5
16. ____ skill required for job performance	1	2	3	4	5
17. ____ difficult work	1	2	3	4	5
18. ____ influence	1	2	3	4	5
19. ____ recognition	1	2	3	4	5
20. ____ effort required	1	2	3	4	5
21. ____ training required by the position	1	2	3	4	5

SECTION THREE

Please look at Job A and Job B in the "fold-out", Section One.

Suppose that you have been working in Job A with a fair rate of pay, and then your job is changed to Job B. However, your pay is unchanged; pay is the same for Job A and Job B.

Please respond to the following statements as you would after your job is changed from Job A to Job B. Please refer to the job descriptions on the fold-out.

The statements below describe a wide-range of possible reactions to Job B. Please complete each statement by placing a mark alongside a number that most accurately describes your reaction.

1. Considering that the same pay were allocated for Job B and Job A, then, in describing Job B, I would say
 1. ☐ Persons put much more into this job than they get out of it.
 2. ☐ Persons put somewhat more into this job than they get out of it.
 3. ☐ Persons put a little more into it than they get out of it.
 4. ☐ What people get out of this job is about right for what they put into it.
 5. ☐ Persons get a little more out of this job than they put into it.
 6. ☐ Persons get somewhat more out of it than they put in.
 7. ☐ Persons get a great deal more out of it than they put in.
2. Considering that the same pay were allocated for Job B and for Job A, then the pay for Job B is
 1. ☐ very fair
 2. ☐ fair
 3. ☐ slightly fair
 4. ☐ neutral
 5. ☐ slightly unfair
 6. ☐ unfair
 7. ☐ very unfair
3. To be really fair, then - relative to Job A - the pay on Job B should be
 1. ☐ increased substantially
 2. ☐ increased moderately
 3. ☐ increased slightly
 4. ☐ the same (as it is now)
 5. ☐ decreased slightly
 6. ☐ decreased moderately
 7. ☐ decreased substantially

4. Considering that the same pay were allocated for Job B and Job A, persons with Job B would feel

1. ☐ very overpaid
2. ☐ overpaid
3. ☐ slightly overpaid
4. ☐ paid about right
5. ☐ slightly underpaid
6. ☐ underpaid
7. ☐ very underpaid

5. Considering that the same pay were allocated for Job B and Job A, when it comes to what people are worth and what they are paid on Job B --

1. ☐ It is very unfair.
2. ☐ It is unfair.
3. ☐ It is slightly unfair.
4. ☐ They are getting about what they are worth.
5. ☐ It is slightly unfair to the person who pays their salaries.
6. ☐ It is unfair to the person who pays their salaries.
7. ☐ It is very unfair to the person who pays their salaries.

6. Considering that the pay for Job B is the same as that for Job A -- then the amount of pay for Job B should make persons holding Job B feel

1. ☐ very satisfied
2. ☐ satisfied
3. ☐ slightly satisfied
4. ☐ neutral
5. ☐ slightly dissatisfied
6. ☐ dissatisfied
7. ☐ very dissatisfied

7. Remembering that the pay for Job B is the same as for Job A, -- then, considering what they contribute to this organization, persons with Job B would feel

1. ☐ very dissatisfied
2. ☐ dissatisfied
3. ☐ slightly dissatisfied
4. ☐ neutral
5. ☐ slightly satisfied
6. ☐ satisfied
7. ☐ very satisfied

SECTION FOUR

The horizontal bar below represents a fixed amount of money to be divided as pay for Job A and Job B.

You are to allocate that money in whatever proportion you think it should be divided between Job A and Job B. Please look again at the descriptions of Job A and Job B in Section One.

Note that you are to indicate how you personally think it should be divided. Please base your response on your personal judgement, ignoring any specific previous experiences.

Draw a vertical line through the bar to indicate pay allocation.

Job A

Job B

Suppose that a person holding Job A is paid \$17,000 on an annual basis. Then how much annual pay do you think should be allotted to Job B?

\$ _____

SECTION FIVE

Once again, your responses are to be based on the job descriptions from the "fold-out".
(Please look at Job A and Job B in the fold-out, Section One.)

As in the previous section, suppose that you have been working in Job A.
Then your job is redesigned and changed to Job B. However, your pay is
unchanged; pay is the same for Job A and Job B.

Respond to the following items as you would after your job is changed from Job A to Job B.

For each statement, circle the number which represents how much you agree
with the statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I wouldn't have to work as hard.	1	2	3	4	5	6	7
2. I would have more self-esteem.	1	2	3	4	5	6	7
3. I would feel more confused.	1	2	3	4	5	6	7
4. I would get more respect from others.	1	2	3	4	5	6	7
5. Organizational productivity would decrease.	1	2	3	4	5	6	7
6. I would have a lot more freedom.	1	2	3	4	5	6	7
7. I would enjoy my work more.	1	2	3	4	5	6	7
8. People could work more efficiently.	1	2	3	4	5	6	7
9. I would need more skills.	1	2	3	4	5	6	7
10. I could get promoted faster.	1	2	3	4	5	6	7
11. I would have to work harder.	1	2	3	4	5	6	7
12. Organizational profits would decrease.	1	2	3	4	5	6	7
13. I would get higher wages.	1	2	3	4	5	6	7
14. I would feel a greater sense of accomplishment.	1	2	3	4	5	6	7
15. The organization's profits would increase.	1	2	3	4	5	6	7
16. I would end up working longer hours.	1	2	3	4	5	6	7
17. Redesigning jobs would cost the organization a lot of money.	1	2	3	4	5	6	7
18. I would take more pride in my work.	1	2	3	4	5	6	7
19. I would enjoy my work less.	1	2	3	4	5	6	7

SECTION SIX

Now please indicate how you personally feel about Job A and Job B.

Each of the statements below is something a person might say about his or her job. You are to indicate your own personal feelings about the jobs by marking what difference you think there is between the jobs on each of the statements.

Once again, write the appropriate job letter in the first blank beside each statement, to indicate which job -- "A" or "B" -- has more of the item. If you think there is no difference between the jobs on an item, place "N" in the blank, and skip to the next item.

Second, if there is a difference, then rate the difference between the jobs using the following scale:

Which job is better described? (A, B, N)		What difference, if any, is there in how well each phrase applies to Job A and Job B?				
		Very Small Difference	Small Difference	Moderate Difference	Large Difference	Very Large Difference
1. ____	It's hard, on the job, for me to care very much about whether or not the work gets done right.	1	2	3	4	5
2. ____	My opinion of myself goes up when I do the job well.	1	2	3	4	5
3. ____	Generally speaking, I am very satisfied with the job.	1	2	3	4	5
4. ____	I get a lot of personal growth and development in doing the job.	1	2	3	4	5
5. ____	Most of the things I have to do on the job seem useless or trivial.	1	2	3	4	5
6. ____	I usually know whether or not my work is satisfactory on the job.	1	2	3	4	5
7. ____	I feel a great sense of personal satisfaction when I do the job well.	1	2	3	4	5
8. ____	The work I do on the job is very meaningful to me.	1	2	3	4	5
9. ____	I feel a very high degree of personal responsibility for the work I do on this job.	1	2	3	4	5

SECTION SIX -- CONT.

Which job is better described? (A, B, N)	What difference, if any, is there in how well each phrase applies to Job A and Job B?				
	Very Small Difference	Small Difference	Moderate Difference	Large Difference	Very Large Difference
10. ___ I frequently think of quitting this job.	1	2	3	4	5
11. ___ I get a feeling of worthwhile accomplishment from doing the job.	1	2	3	4	5
12. ___ I feel bad and unhappy when I discover that I have performed poorly on this job.	1	2	3	4	5
13. ___ I often have trouble figuring out whether I'm doing well or poorly on this job.	1	2	3	4	5
14. ___ I can exercise a lot of independent thought and action in the job.	1	2	3	4	5
15. ___ I feel I should personally take the credit or blame for the results of my work on this job.	1	2	3	4	5
16. ___ I am generally satisfied with the kind of work I do in this job.	1	2	3	4	5
17. ___ My own feelings generally are <u>not</u> affected much one way or the other by how well I do on this job.	1	2	3	4	5
18. ___ There is a great deal of challenge in the job.	1	2	3	4	5
19. ___ Whether or not this job gets done right is clearly <u>my</u> responsibility.	1	2	3	4	5

SECTION SEVEN

Now, please think of how other people might react to Job A and Job B.
(Refer again to the "fold-out".)

For each statement, please think about how other people might feel about the job.

It is quite all right if your answers are different from when you described your own reactions to the job. Often different people feel quite differently about the same job.

Once again, write the appropriate job letter in the first blank beside each statement, to indicate which job -- "A" or "B" -- has more of that item. If you think there is no difference between the jobs on the item, place "N" in the blank and skip to the next item.

Second, if there is a difference, then rate the difference between the jobs using the following scale:

What difference, if any, is there in how well each phrase applies to Job A and Job B?

Which job is described better? (A, B, N)	Very Small Difference	Small Difference	Moderate Difference	Large Difference	Very Large Difference
1. ____ Most people on the job feel a great sense of personal satisfaction when they do the job well.	1	2	3	4	5
2. ____ Most people on the job are very satisfied with the job.	1	2	3	4	5
3. ____ Most people on the job feel that the work is useless or trivial.	1	2	3	4	5
4. ____ Most people on the job feel a great deal of personal responsibility for the work they do.	1	2	3	4	5
5. ____ Most people on the job have a pretty good idea of how well they are performing their work.	1	2	3	4	5
6. ____ Most people on the job find the work very meaningful.	1	2	3	4	5
7. ____ Most people on the job feel that whether or not the job gets done right is clearly their own responsibility.	1	2	3	4	5
8. ____ People on the job often think of quitting.	1	2	3	4	5
9. ____ Most people on the job feel bad or unhappy when they find that they have performed the work poorly.	1	2	3	4	5
10. ____ Most people on the job have trouble figuring out whether they are doing a good or a bad job.	1	2	3	4	5

SECTION EIGHT

Once again, your responses are to be based on Job A and Job B from the "fold-out." (Please see "fold-out.")

In this section, please base your responses on your objective comparisons of Job A and Job B. Suppose that you don't presently have either Job A or Job B. Respond as you would feel in this case.

Note that this is different than previous sections which asked you to respond as if you already had Job A and your job had been changed.

Please indicate your answers by placing a mark on the appropriate blanks.

1. Which job would you prefer to have?

1. ☐ Job A 2. ☐ Job B

2. If you had Job B, would you feel you should be paid more than a person who has Job A?

1. ☐ Yes 2. ☐ No

3. If you answered "YES" to the previous question then: What percent more pay would you expect?

☐ 5%	☐ 55%
☐ 15%	☐ 65%
☐ 25%	☐ 75%
☐ 35%	☐ 85%
☐ 45%	☐ 95%

4. If you had Job A, would you feel you should be paid more than a person who has Job B?

1. ☐ Yes 2. ☐ No

5. If you answered "YES" to the previous question, then: What percent more pay would you expect?

☐ 5%	☐ 55%
☐ 15%	☐ 65%
☐ 25%	☐ 75%
☐ 35%	☐ 85%
☐ 45%	☐ 95%

YOUR BACKGROUND

1. Gender: 1. ☐ Male 2. ☐ Female
2. Age:
3. How many years of work experience have you had?

1. ☐ none	5. ☐ 3 to 4 years
2. ☐ less than 1 year	6. ☐ 4 to 5 years
3. ☐ 1 to 2 years	7. ☐ 5 or more
4. ☐ 2 to 3 years	
4. How much leadership, or supervisory, experience have you had?
(Include any experience where you had control or direction of others.)

1. ☐ none	5. ☐ 2 to 3 years
2. ☐ 1 to 6 months	6. ☐ 3 to 4 years
3. ☐ 7 to 12 months	7. ☐ 4 or more years
4. ☐ 1 to 2 years	
5. What is the highest monthly salary you have earned?
\$
6. What is your present monthly salary? (If unemployed, please mark "zero.")
\$
7. Are you employed at the present time?

1. ☐ Yes	2. ☐ No
---------------------------------	--------------------------------

(Continue on to the next questions, ONLY IF you are presently employed)
8. Are you employed full-time or part-time?

1. ☐ Full-time	2. ☐ Part-time
---------------------------------------	---------------------------------------
9. How long have you been working for the present organization?

1. ☐ 1 to 6 months
2. ☐ 6 months to a year
3. ☐ 1 to 3 years
4. ☐ 3 to 5 years
10. Do you expect to be working in the same organization three years from now?

1. ☐ Yes	2. ☐ No
---------------------------------	--------------------------------

APPENDIX B

TABLE B-1

JOB ENRICHMENT: MEANS OF DEPENDENT VARIABLES AS A FUNCTION OF INCREASES IN TASK CHARACTERISTICS

Dependent Variable	Increase in Level of Enrichment					
	1	2	3	4	5	F
Equity Balancers						
Difference-in-inputs	0.76 ^{a,b,c,d}	1.38 ^e	1.89 ^a	2.38 ^{b,e}	2.20 ^c	2.18 ^d 7.48*
Outcome benefits to employees	4.31 ^{a,b,c,d,e}	5.30 ^a	5.36 ^b	5.88 ^c	5.68 ^d	5.69 ^e 7.42*
Benefits to the organization	4.19	4.51	4.26	4.40	4.38	4.13 0.54
Pay Equity	5.33 ^{a,d,e,f,g}	3.89 ^{b,d}	3.76 ^{c,e}	2.80 ^f	3.33 ^g	2.44 ^{a,b,c} , 11.22*
Pay Satisfaction	5.53 ^{a,b,c}	4.47	4.53 ^{d,e,f}	3.50 ^{a,d}	3.03 ^{b,e}	2.86 ^{c,f} 6.06*
Expected Pay						
Allocated salary using mm	84.83 ^{a,b,c,d,e}	96.00 ^a	99.61 ^b	98.61 ^c	98.44 ^d	102.33 ^e 6.88*
Allocated salary using dollars (in thousands)	18.25 ^{a,d,g}	21.14 ^{b,e}	24.11 ^{c,f}	27.83 ^g	31.75 ^{a,b,c}	32.03 ^{d,e,f} 9.32*

a, b, c, d, e, f, g, Means with common superscripts within the same row are significantly different ($p < .05$).

* $p < .0001$

APPENDIX C

TABLE C-1

JOB DE-ENRICHMENT: MEANS OF DEPENDENT VARIABLES AS A FUNCTION OF DECREASES IN TASK CHARACTERISTICS

Dependent Variable	Decrease in Level of Enrichment					
	1	2	3	4	5	F
Equity Balancers						
Difference-in-inputs	-0.89 ^a	-2.05 ^b	-2.09	-1.73 ^c	-2.75 ^d	-2.42 ^{a,b,c,d} 6.23**
Outcome benefits to employees	2.64 ^{a,d,f}	2.54 ^{b,e,g}	2.21 ^c	1.84 ^{d,e}	1.79 ^{f,g}	1.61 ^{a,b,c} 9.07**
Benefits to the organization	3.61	3.63	3.26	3.46	2.97	3.08 1.88
Pay Equity	8.24	8.50	8.30	8.28	9.28	8.73 0.94
Pay Satisfaction	8.81	10.39	9.00	8.94	8.64	9.36 1.19
Expected Pay						
Allocated salary using mm	67.50 ^a	63.39 ^b	59.28 ^c	55.67	55.28	55.11 ^{a,b,c} 3.74*
Allocated salary using dollars (in thousands)	15.55 ^{a,b,g,i}	14.03 ^{c,d,h}	13.31 ^{e,f,i}	11.10 ^{g,h}	9.69 ^{a,c,e}	10.54 ^{b,d,f} 17.93**

a, b, c, d, e, f, g, h, i Means with common superscripts within the same row are significantly different ($p < .05$).

* $p < .01$

** $p < .0001$

APPENDIX D

TABLE D-1

CORRELATIONS AMONG VARIABLES, WHEN THE ENRICHED
AND THE DE-ENRICHED GROUPS ARE COMBINED

Variables	1	2	3	4	5	6	7	8
1. Change in enrichment	--							
2. Difference-in-inputs	.86	--						
3. Employees' outcome benefits	.89	.85	--					
4. Benefits to the organization	.49	.49	.57	--				
5. Allocated salary, using mm.	.85	.84	.83	.47	--			
6. Allocated salary, using dollars	.79	.74	.73	.35	.82	--		
7. Pay equity	-.83	-.83	-.79	-.40	-.85	-.74	--	
8. Pay satisfaction	-.73	-.67	-.67	-.28	-.67	-.64	.76	--

n = 216

p < .0001 for each correlation

APPENDIX E

TABLE E-1

MEANS AND STANDARD DEVIATIONS OF
THE DEPENDENT INDICES

Dependent Indices	Enriched Group		De-enriched Group	
	Means	S.D.	Mean	S.D.
Difference- in-inputs	1.80	1.10	-1.99	1.21
Employees' outcome benefits	5.37	1.00	2.11	0.70
Benefits to the organization	4.31	0.82	3.34	0.87
Allocated salary:				
Using mm.	96.64	11.21	59.37	11.92
Using dollars	25.85	9.26	12.37	3.05
Pay equity	3.59	1.56	8.56	1.74
Pay satisfaction	3.99	1.98	9.19	2.48

n = 108 for each group.

VITA

Kammer Boyle was born in New Orleans, Louisiana on June 17, 1946. She attended Mercy Academy and graduated in 1964. The following September she entered Newcomb College/Tulane in New Orleans. In 1966, she discontinued her studies to follow her husband's career. Resuming her education in 1974, she was awarded a Bachelor of Science degree in Management, Magna cum Laude, from the University of West Florida at Pensacola, in 1976.

She entered the graduate program in industrial and organizational psychology at The University of Tennessee at Knoxville in the autumn of that year. During the first two years, she served as a graduate assistant, teaching and doing research. In 1978, she accepted an internship with the Central Intelligence Agency (Alexandria, Virginia), in the Office of Management Development. Upon returning to the university, she supplemented the academic experience with teaching, researching, consulting, and management training. She received the Doctor of Philosophy degree with a major in industrial and organizational psychology in August 1982.

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