

## An Examination of Adams' Theory of Inequity

*This paper examines the empirical evidence for Adams' theory of inequity. Studies testing propositions concerning the effects of inequity on performance and on allocation of rewards, and concerning the determinants and the psychological state of inequity are analyzed. There seems to be initial support for the theory. Some methodological and theoretical issues relevant for further validating the theory are reviewed.*

This paper examines the empirical evidence directly testing Adams' (1963a, 1965) theory of inequity.<sup>1</sup> Adams' theoretical statement and initial experimental design have stimulated considerable interest among researchers interested in motivation, organizational performance, and compensation systems. Although others (Homans, 1961; Jaques, 1961) have presented similar concepts of inequity, Adams' formulation has generated more systematic empirical evidence. Given this growing body of data, it is useful to assess critically the validity of the theory in order to determine possible directions for future research and possible implications of the theory for practice. This type of review is particularly important now because a number of researchers have recently questioned the utility of the theory (Lawler, 1968a; Pritchard, 1969; Wiener, 1970).

### ADAMS' THEORY OF INEQUITY

Adams (1965: 280) defined inequity as follows: Inequity exists for Person whenever he perceives that the ratio of his outcomes to inputs and the ratio of Other's outcomes to Other's inputs are unequal. This may happen either (a) when Person and Other are in a direct exchange relationship or (b) when both are in an exchange relationship with a third party and Person compares himself to Other. Outcomes refer to rewards such as pay or job status which Person receives for

performing his job. Inputs represent the contributions Person brings to the job, such as age, education, and physical effort. Outputs, a term not used in the definition, refer to products of Person's work, such as the number of interviews completed or pages proofed.

The basic assumptions, propositions, and derivations of the theory (Adams, 1965: 280-296) can be divided into two general classes: those dealing with the conditions of inequity and those dealing with the resolution of inequity. Propositions concerning conditions of inequity include: inequity is a source of tension; the greater the feeling of inequity, the greater drive to reduce this tension; inequity results from input-outcome discrepancies relative to Other versus absolute input-outcome discrepancies; the threshold for underpayment is lower than for overpayment; inputs and outcomes are additive. Sample propositions dealing with resolution of inequity include: Person will allocate rewards in a dyad proportionate to each member's contributions; Person will resist changing input-outcome cognitions about self more than about Other; Person who is overpaid in an hourly pay system will produce more than an equitably paid Other; Person who is overpaid in a piece-rate system will produce higher quality but fewer units than an equitably paid Other.

Listing these propositions serves two functions. (1) It indicates the range of the theory requiring empirical assessment. Previous reviewers (Lawler, 1968a; Pritchard, 1969) have considered propositions dealing mainly

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with the effect of inequity on performance. (2) It provides a logical basis for organizing the paper. The evidence relevant to propositions concerning resolution of inequity are analyzed first, because there are more studies in this area and because the evidence for these propositions bears on propositions concerning conditions of inequity. Empirical evidence about conditions of inequity are analyzed second.

## RESOLUTION OF INEQUITY AND PERFORMANCE

### Inequity-Performance

These studies examine how resolution of inequity affects job performance. The basic design is as follows: The experimenter, posing as an employer, advertises for individuals interested in part-time work—for example, interviewing for attitude survey. A contact is made, and the subject comes to the prospective employer. The experimenter creates the inequity induction by paying the subject more or less than the going rate, or by paying more or less than the going rate and also telling the subject that his qualifications for the job are lower than a comparison Other receiving the same pay. The pay is either on an hourly or piece-rate basis. After some initial job training, the subject performs the task over a stated period of time, returns to the employer, completes a postjob experimental questionnaire, and is paid. The number of units—for example, interviews—completed, quality of work, and attitudinal responses from the questionnaire represent the major dependent variables.

There are four types of studies in this area: overpaid-hourly, overpaid-piece rate, underpaid-hourly, and underpaid-piece rate.

*Overpaid-hourly* The basic hypothesis is that overpaid subjects will raise their inputs by producing more as a means of reducing inequity. Four studies (Adams and Rosenbaum, 1962; Arrowood, 1961; Goodman and Friedman, 1969; Pritchard *et al.*, 1970) have generally supported this hypothesis. Kalt (1969) provided nominal support for the hypothesis, but the induction in this study was not particularly effective. Studies by Valenzi and Andrews (1969), Evan and Simmons (1969), and Anderson and Shelly (1970) indicated no differences in produc-

tivity between over and equitably paid groups. Three studies (Friedman and Goodman, 1967; Lawler, 1968b; Wiener, 1970) have obtained findings which support and some which reject the hypothesis.

The studies which did not support the hypothesis had two distinguishing characteristics: their hourly rate of pay was lower and their induction of overpayment differed from the supporting studies. The lower rate of pay was a limitation because it undermined the notion of overpayment. The supporting studies, on the other hand, paid an hourly rate higher than the modal rate for most of the subjects and, therefore, produced a more powerful induction.

The second distinguishing characteristic of the nonsupporting studies was the use of an induction which overpays by circumstances. Subjects were told their pay exceeded the modal rate for the job because of a special circumstance—for example, a private foundation was subsidizing the work, or there was a mistake in the advertisement for the job. If subjects in these studies selected the most similar comparison Others—those working on the same job—their outcomes would be high relative to their inputs, but the same as their comparison Others and, therefore, although they may have reported their pay as high, they should not have experienced inequity. In Evan and Simmons' (1969: 234) study, using an overpaid-by-circumstance design, only 53 percent of their overpaid subjects reported they were overpaid. Also, in their second experiment they (1969: 234) concluded: "Although acknowledging the discrepancy between their authority and salary (it was higher) the overpaid subjects did not translate this awareness into a psychological feeling of being inequitably paid." Therefore, this evidence indicates that the overpaid-by-circumstance induction is not very successful in creating feelings of inequity, and studies using this induction, and the lower hourly rate are not suitable tests of the overpaid hypothesis (Adams, 1968). A similar induction is used in selected experimental groups in Lawler (1968b) and Pritchard *et al.* (1970); the results also do not support the hypothesis.

The main criticism against the supporting studies is that the results are attributed to devalued self-esteem rather than to feelings

of inequity (Lawler, 1968a; Pritchard, 1969). The inductions in these studies (Adams and Rosenbaum, 1962; Arrowood, 1961) provided similar pay to equitably and overpaid subjects, but told the overpaid subject his qualifications were lower—devalued—and thus he was overpaid relative to the equitably paid Other. If the subject's increased productivity was an attempt to demonstrate valued abilities that had been devalued by the induction, then the results cannot be interpreted in equity terms even though the data appear in the predicted direction.

A number of studies (Friedman and Goodman, 1967; Andrews and Valenzi, 1970; Wiener, 1970) demonstrated that feelings of self-qualification can affect performance variation in equity experiments. However, it is difficult to extrapolate from these studies to those supporting the main hypothesis. For example, Wiener (1970) showed that overpaid subjects—those whose inputs were devalued—produced significantly more than equitably paid subjects in an ego-involved task, but not more in a less ego-involved task. Since these subjects only produced more in a condition where task abilities were central to one's self-concept, Wiener argued that their behavior represented a reaction to devalued self-esteem rather than to feelings of overpayment. Even if this interpretation is accepted, it is difficult to extrapolate from this study to those supporting the equity hourly hypothesis for two reasons. First, the induced ego orientation in this study far exceeded that in any other inequity study. Second, subjects in the overpaid-unqualified group did not report significantly greater feelings of overpayment than those in the equitably paid group; a relationship which does appear in the supporting studies. Empirically we know that reaction to devalued self-esteem can affect performance in inequity experiments. What has not been empirically demonstrated is that reaction to devalued self-esteem accounts for more production variance than feelings of inequity in studies supporting the hypothesis.

An analysis of supporting studies indicates that the inequity explanation is more tenable than the devalued self-esteem explanation. Some studies have minimized conditions likely to evoke feelings of devalued self-esteem by: (1) not hiring qualified subjects

(Adams and Rosenbaum, 1962); (2) distinguishing in the analysis between qualified subjects and those who felt overpaid (Arrowood, 1961); (3) using a pseudotest to pretend to validate the subjects' lower qualifications (Goodman and Friedman, 1968); (4) not selecting an ego-involved task; and (5) using a reduced dissonance control group. In these studies inputs were devalued and pay was also reduced, commensurate with the lower qualifications. Since subjects in both the overpaid and reduced dissonance groups were devalued, then no differences should have appeared between these groups if reaction to devalued self-esteem was more salient than to wage inequity; however, the differences did appear (Goodman and Friedman, 1968).

A study by Pritchard *et al.* (1970) employed an induction which did not rely on devaluation of self or on overpaid-by-circumstance, and successfully supported the hourly hypothesis. In their induction the payment system was changed after several days' work so that subjects were getting more or less money for the same amount of work; that is, the relationship between past and present input and outcome ratios was modified to create feelings of inequity. Since their design used a relatively unambiguous method to create feelings of inequity, did not rely on devaluation of self nor on overpaid-by-circumstance (Wiener, 1970), and it embraced a longer experimental time period—greater than 30 hours—than in most experiments (for example, Valenzi and Andrews, 1969—2 hours), its supporting data provides one of the most powerful tests of the hourly hypothesis.

Another major criticism (Lawler, 1968a) of the supporting studies is that feelings of job insecurity evoked by the experimental induction reduce the efficacy of the equity explanation. That is, if the subject feels that subsequent employment is based on initial high job performance, and if this feeling is more salient in the overpaid-unqualified condition, then differential performance represents a way of buying job security rather than reducing inequity.

In a study on the possible effects of job insecurity, Arrowood (1961) found overpaid subjects produced more than control subjects in both high and low job-security conditions.

Perhaps more important, however, is the likelihood of job-insecurity feelings being evoked by the inductions in the studies under consideration. Only the Adams and Rosenbaum (1962) study leaves the length of future employment ambiguous, and therefore, likely to evoke feelings of insecurity. The other studies seem quite clear in stating the employment period, and the employment period is relatively short—2 hours to part-time for 7 days. The authors' own experience indicates that presenting a clear, short work period with a statement that no future work is available substantially reduces the contamination from feelings of job insecurity.

*Summary.* There is some evidence to support the hypothesis that overpaid subjects increase their productivity as a way of bringing their inputs and outcomes in balance and thus of reducing feelings of inequity. Studies which used the overpay-by-circumstance induction and paid a lower rate were not considered adequate tests of the hypothesis. Although the effects of devalued self-esteem and job insecurity can affect performance variation in the equity studies, there is no compelling evidence that they represent the major source of production variance in the supporting studies. The Pritchard *et al.* (1970) study, which supports the hypothesis, offers a more useful way to test the hypothesis.

*Overpaid-piece rate.* The basic hypothesis is that overpaid subjects will produce higher quality and lower quantity than equitably paid subjects. The assumption for this hypothesis is: Overpaid subjects will increase their inputs as a means of achieving equity. These inputs can lead to greater quantity or quality. However, increases in quantity can only increase inequity because every unit is overpaid. Therefore, inputs are invested in increased quality and inputs and outcomes per unit achieve a balanced relationship.

The design for the piece-rate studies is the same as that described for the hourly system except that the job is advertised and paid by the piece.

The empirical support for this hypothesis seems relatively straightforward. Adams and Rosenbaum (1962), Adams (1963b), Adams and Jacobsen (1964), and Goodman and Friedman (1969) reported lower quantity and higher quality for the overpaid group.

Lawler *et al.* (1968) supported this relationship for the initial work session but not over subsequent experimental sessions. Wood and Lawler (1970) reported lower quantity for the overpaid piece-rate subjects. Andrews (1967) reported lower quantity and higher quality for the overpaid subjects as compared to equitably paid subjects, but the differences were not statistically significant. Moore (1968) presented data contrary to the equity prediction; however, she used the overpaid-by-circumstance induction, which is not particularly effective. Moore (1968: 101) indicated that the connection between inputs and outcomes was not successfully created, hence the divergence between this and other piece-rate studies.

Although there seems to be support for the piece-rate hypothesis, alternative explanations should be considered. First, the piece-rate system probably does not initially evoke feelings of overpayment. Most of the subjects had never worked piece-rate and no referent in these studies was available to translate the piece-rate into some effective wage. Therefore, at the time of employment the subjects probably did not feel overpaid, which is in contrast to a basic assumption of the piece-rate hypothesis.

A second dimension of the induction is whether it evokes perception of pay on a global or a unit basis. The hypothesis assumes perception of pay on a unit basis; that is, to reduce inequity one can not increase production since each unit is overpaid. Therefore, by increasing quality, balance per unit can be achieved. However, it is not clear that subjects perceived pay on a unit basis. Most of the subjects were unfamiliar with a piece-rate system. Their work time was limited and specified in hours. Also, the fact that overpaid subjects reduced the number of units produced, and thus their pay over time (Andrews, 1967), suggests that they evaluated in a global sense the amount earned, the amount they could earn in the next time period, and how much they thought they should earn as a function of the induction or past wages. This conclusion does not mean the subject did not feel overpaid. The process of overpayment could have worked as follows: The subject was hired and told his qualifications were low in comparison to some Other who received the same rate. At

that time, feelings of inequity would not have been salient because the 30-cent rate was not translatable into a common referent. After a period of work, a global or dollar amount would have been calculated and compared to some minimal acceptable rate. If the amount earned seemed reasonable, the induction should have taken effect. That is, the subject knew he could earn an acceptable wage and he knew that his qualifications were less than those of Other receiving the same potential wage, therefore, it was congruent to reduce quantity and to invest more time in improving the quality of his inputs. Andrews (1967) reported overpaid piece-rate workers did produce fewer pieces in their second hour of production than in the first hour.

The implication of asserting that the individual adopts a global versus unit assessment is that this assertion rejects the assumption that differences in quality and quantity from the overpaid group are a function of intrinsic characteristics of the payment scheme, as Adams has hypothesized. The differential emphasis between quality and quantity can be traced to the nature of the induction and characteristics of the task. Most of the overpaid inductions (Adams and Jacobsen, 1964; Lawler, 1968b) emphasized the importance of quality, and thus focused on one salient way to achieve equity; that is, the induction provided the subjects with an instrumental way to reduce inequity. The task became an added dimension in this explanation for two reasons. First, in both proofreading and interviewing tasks quality is an important component; it is difficult for someone proofreading not to recognize quality as an intrinsic part of task performance. Second, in both tasks quality and quantity are inversely related; and if the induction and task focus on quality, it is not surprising that while quality increases as a means of dissonance reduction for the overpaid subjects, quantity decreases. Goodman and Friedman (1969) examined the effect of differential emphasis on quantity or quality in a piece-rate induction, indicating that the perceived instrumentality of quantity or quality in resolving overpayment led to the amount of quantity or quality produced. That is, overpaid subjects increased quality or quantity if it was perceived as instrumental to reducing inequity, not because of some characteristic of the payment scheme.

uity, not because of some characteristic of the payment scheme.

There are two other studies relevant to the quantity-quality issue. A study by Andrews (1967) used a task similar to most of the other studies but omitted statements emphasizing quality over quantity. Inequity was induced by varying the level of pay. The results seemed to suggest that overpaid piece-rate workers produce better quality and lower quantity. However, the quantity and quality differences between the experimental and control subjects were not statistically examined and were not very substantial. Therefore, this study does not provide strong support for Adams' basic hypothesis.

The second study, by Wood and Lawler (1970), also focused on whether subjects in an overpaid situation first reduce their outcomes to avoid inequity and as a consequence increase quality or first increase quality and as a consequence reduce quantity and their outcomes. A task was designed in which quantity was not dependent on quality. Wood and Lawler (1970) reported that overpaid subjects produced less than equitably paid subjects and that low productivity was not dependent on striving for increased quality. This study is not in conflict with the present paper's interpretation of the quality-quantity issue. It merely stated that given a task where quantity was not dependent on quality, and quantity was the focal output measure, then lower quantity in the overpaid situation was selected as a means of avoiding increased dissonance.

A third dimension of the induction which may reduce the internal validity of the piece-rate studies is the problem of devalued self-esteem. That is, as with the hourly studies, production differences may be a reaction to devalued self-esteem rather than to feelings of inequity. There are several studies which provide additional information on this problem. Lawler *et al.* (1968) used the unqualified induction in a piece-rate study but designed the study to cover several work periods rather than the single two-hour session found in most inequity experiments. He (1968) reported the modal finding—lower quantity-higher quality for overpaid subjects—in the initial session but no differences between overpay and controls in sub-

sequent sessions, and also that feelings of self-qualification to perform the job increased over the three work sessions for the overpaid subjects. One interpretation of these findings is that subjects reduced productivity in the initial session as a reaction to devalued self-qualification, learned that they could perform the task, and then increased their feelings of confidence and produced more. Another interpretation, consistent with inequity theory, is that increasing quality and lowering the quantity in the initial work situation followed the hypothesized resolution strategy, but that the piece-rate system, which rewarded for increasing rather than reducing outputs, and the failure to repeat the inequity induction, caused the hypothesized differences not to reappear in the latter work sessions. The increase in feelings of self-qualification could reflect both a desire to increase inputs and a successful work experience. Therefore, either interpretation is tenable, and additional information is necessary to indicate a preferred choice.

On the self-qualification issue, Andrews (1967) used the same task and procedures as the other studies, but varied pay to induce inequity rather than to devalue qualifications. His data supported Adams' hypothesis but the differences were not strong and did not provide definitive support to the inequity versus self-qualification argument. Because neither of these two studies demonstrated the importance of devalued self-esteem in explaining production variance in inequity studies, and because the supporting piece-rate studies tried to minimize the effect of reactions to devalued self-esteem, this alternative explanation of the piece-rate findings is not accepted.

Job security represents the last dimension which can affect internal validity of the piece-rate studies. The problem is exactly the same as in the hourly studies. The unqualified induction can increase feelings of job insecurity which can lead to higher quality productivity as a way of protecting the job. Adams and Jacobsen (1964) designed a study to deal with the job security issue by creating high and low job security conditions as well as the inequity experimental conditions. Because the high and low prospect condition did not contribute significantly to production variation, nor did it interact with the inequity conditions, job

security was not considered a major confounding variable. Evans and Molinari (1970), employing a similar design, reported that for quality of work produced there was a weak inequity main effect ( $p > 10$ ) and no significant inequity-security interaction effect; for quantity of work produced there was a significant inequity-security interaction. They (1970) suggested that in their secure condition the inequity effect paralleled Adams' hypothesis, but did not hold in the insecure condition. Although the present experiment indicated that feelings of insecurity could affect performance in inequity experiments, it did not indicate that this dimension is important in evaluating the internal validity of the supporting piece-rate studies. First, the insecurity induction was quite strong in the Evans and Molinari (1970) study and it had no parallel in the studies supporting the hypothesis. Second, the secure condition in their experiment paralleled the studies under consideration and provided data supporting the piece-rate hypothesis. Also, most researchers in the piece-rate studies had been quite clear in advertising that the job was for a limited time to minimize any insecurity effect.

*Summary.* The data from the overpaid piece-rate studies supported Adams' hypothesis more consistently than that from the hourly studies. However, it is less clear that the data supported some of the assumptions underlying the hypothesis. It is unlikely that piece-rate subjects initially felt overpaid or conceptualized overpayment on a unit basis—two assumptions necessary to explain the differential emphasis on quantity versus quality for overpaid subjects.

Although the data did not support some of the mechanisms underlying the piece-rate hypothesis, the findings could be interpreted in the inequity framework. That is, overpaid subjects did experience inequity after an initial performance period and differentially emphasized quantity or quality outputs—whichever seemed more successful in resolving inequity. The problem with most piece-rate studies is that the perceived instrumentality of quantity or quality outputs was a function of artifacts in the induction and task rather than intrinsic characteristics of the payment system as suggested by Adams.

*Underpaid-hourly.* The basic hypothesis is

that underpaid subjects decrease their inputs to achieve an input-outcome balance. Masters (1968) showed that increasing outcomes is also a relevant resolution strategy in the underpaid hourly condition. Since his population—young children—and design differ greatly from the studies under consideration, Masters' study is not included.

The change in inputs can affect the quantity or quality of outputs; Adams does not specify which output dimension would change. The emphasis on quality or quantity seems a function of the instrumental task characteristics and the relationship between quantity and quality. If quality is an instrumental task requirement, as in proofreading, then decreased inputs will lead to lower quality. If quality and quantity are inversely related, then quantity will increase as quality decreases. On the other hand, if quantity and quality are positively related, decreased inputs will decrease quantity.

Four underpaid-hourly studies, using the same general design of the other studies, tested Adams' hypothesis. An experiment by Evan and Simmons (1969) and one by Pritchard *et al.* (1970) supported the underpaid hourly hypothesis. Another experiment by Evan and Simmons (1969) and one by Valenzi and Andrews (1969) did not support the underpaid hypothesis.

In the Evan and Simmons (1969: 234) experiment which did not support the hypothesis, the induction probably did not create strong feelings of inequity. It was thus not an effective test of the hypothesis. The differences in results between the Valenzi and Andrews (1969) and the supporting studies are more difficult to reconcile because many factors—populations, rates of pay, tasks, length of employment—were different.

While it is difficult to delineate why there were no differences among underpaid and equitably paid groups in the Valenzi and Andrews (1969) study, the following factors seem relatively clear for the Evan and Simmons (1969) and Pritchard *et al.* (1970) studies. First, underpaid subjects did express feelings of underpayment. Second, the time periods for both studies were short and clearly stated, thus minimizing feelings of insecurity. In the Valenzi and Andrews (1969) study subjects were to work for at least six weeks, a more ambiguous recruit-

ment procedure. Third, the Pritchard *et al.* (1970) study used an unambiguous referent for creating feelings of underpayment—past work and wages to present work and wages. Thus it created a powerful induction. From these three factors it seemed reasonable to conclude that the Evan and Simmons (1969) and Pritchard *et al.* (1970) studies did provide some positive evidence for the underpaid-hourly hypothesis.

*Summary.* There were not enough studies to adequately test the validity of the hourly underpaid hypothesis, but from the few existing studies there appears to be some preliminary support for the hypothesis.

*Underpaid-piece-rate* The basic hypothesis is that underpaid subjects will produce a large number of low quality outputs because the production of low quality outputs permits increasing outcomes without substantially increasing inputs.

Two studies (Andrews, 1967; Lawler and O'Gara, 1967) successfully tested this hypothesis. Both reported greater quantity and lower quality from the underpaid subjects. Lawler and O'Gara (1967) also reported that the underpaid subjects perceived the job as interesting—an outcome—and at the same time simpler and less challenging—inputs—than the equitably paid subjects. The attitudinal differences were congruent with Adams' hypothesis that inequity resolution would occur by increasing outcomes and decreasing inputs. Although Moore (1968) examined the underpaid condition, the induction in that study did not provide a satisfactory test of the hypothesis.

Many problems in interpreting the other inequity-performance studies have been avoided in this payment condition. In addition, by introducing new measures to capture additional forms of the resolution process these studies tested the hypothesis better. Because these studies specifically demonstrated that underpaid subjects cognitively devalued their inputs and raised their outcomes, one is more certain that the underpaid subjects were attempting to resolve inequity.

*Summary.* The data from these studies supported Adams' hypothesis. Although more studies are needed to provide full confirmation of the hypothesis, the two cited studies were probably freer of alternative explana-

tions than the other inequity-performance studies.

### Other Inequity Resolution Studies

The majority of studies testing Adams' theory focused on the effect of inequity on performance. Recently other studies have been designed to test resolution strategies unrelated to job performance. These studies were distinguished from the inequity-performance studies in one or more of the following ways: (1) The inequity resolution process between Person and Other was examined. Inequity-performance studies have focused on the employer-Person relationship, with Other's identity generally ambiguous. (2) The dependent variable in these studies concerned the allocation of rewards rather than changes in performance to achieve equity. (3) The studies occurred in either a laboratory setting or in an on-going organization. The inequity-performance studies were experiments in a simulated work situation in the field.

Leventhal and his associates (see Leventhal *et al.*, 1969a) have conducted most of the laboratory experiments in this area. Typically, subjects participated in an experiment to fulfill a class requirement. The subject was led to believe he was performing with a partner on a task for monetary rewards. The experimenter varied the inputs contributed by each member, and Other initially allocated the rewards after the task performance on an overpaid, equitably paid or underpaid basis. The subject could then reallocate the rewards, thus providing a test of inequity theory.

Findings from these studies supported the general proposition from Adams' model that Person will allocate rewards earned by the dyad in accordance with each member's contributions. Each study by Leventhal attempted to test some theoretical elaboration of this general proposition; for example, Leventhal *et al.* (1969a) showed that when Person could not change his inputs he was likely to reduce inequity by reallocating available rewards. Overpaid subjects reduced their share of outcomes; underpaid subjects increased their share. Leventhal *et al.* (1969b) indicated that alternative theoretical explanations were not as useful as the inequity model in explaining this realloca-

tion behavior. Leventhal and Bergman (1969) examined conditions in which the general proposition did not hold, and found that under extreme conditions of underpayment, Person would reduce rather than try to increase his outcomes. Leventhal and Lane (1970) and Leventhal and Anderson (1970), using a different strategy to refine the hypothesis, indicated that sex was a moderator of the inequity resolution process.

Lane and Messé (1969), using a similar design, reported some parallel findings. Given a task where inputs were equal, outcomes were most frequently allocated on an equal basis. Other variables which related to the selection of equal distribution of outcomes included: (1) the sex composition of the dyad—heterogeneity was associated with role symmetric choices, or, equal allocation of outcomes; (2) sex of chooser—females made more role symmetric choices; (3) whether choices were made publicly or privately—the former was more associated with role symmetric choices; and (4) personality—the greater the concern for others the more role symmetric choices. In a second experiment Lane and Messé (1969) varied the inputs of the chooser and receiver in the dyad and analyzed the allocation of rewards. The inputs of the receiver—high or low—seemed more important in affecting allocation of rewards than those of the chooser. That is, when the receiver's inputs were low the chooser allocated in his own favor, regardless of whether his own inputs were high or low. Also, there was some evidence that the chooser would distort the levels of his inputs as a way of alleviating feelings of dissonance. When choosers worked one-third as long as receivers, about 40 percent said they worked about the same as receivers and preferred a more equal distribution of outcomes.

These findings are directed to hypotheses not previously tested, and deal with critical dimensions in the theory. For example, the definition of relevant inputs affects the resolution of inequity. Leventhal extended theoretically and empirically some aspects of this definition process, arguing that the locus of control for Other's behavior affects Person's assessment of Other's inputs. If Person believes Other operates under involuntary constraints, Person is more likely to attribute higher inputs to him. This hypothesis is based



on the assumptions that Person's perception of inputs is affected by the difference between actual and expected performance and that Person expects lower performance when constraints on Other are high. Leventhal and Michaels (1970) varied the external constraints by telling Person that Other had useful or nonuseful training for a particular task. As predicted, with performance held constant, individuals with nonuseful training were considered more deserving of rewards than those with useful training.

These laboratory studies do represent a new direction in inequity research, but they have several limitations which should be noted. First, pay, the main outcome in the experiments, does not seem very relevant (Leventhal and Michaels, 1969). Subjects were recruited to participate in the study and course credits were the initial payments. At the conclusion of the experiment subjects returned the money they subsequently received. These conditions are not conducive to making pay a relevant outcome.

Second, the mechanisms for reallocating rewards, a critical dimension in testing for inequity resolution strategies, lack credibility. For example, in Leventhal *et al* (1969b), subjects were told that the high-scoring member of their dyad would divide the money after the task was finished, but that the low-scoring member could modify the initial allocation. The subjects were then told that the two members of the dyad tied in their scores and a coin was flipped to determine who would allocate the money. The other member of the dyad, who really was nonexistent, won and then the subject was told that the winner had decided on the allocation himself or randomly selected the basis of allocation. Allocation occurred and then the subject reallocated. The low relevance of the pay, and the low credibility of this reallocation induction as further evidenced by the fact that some subjects recognized the deception (Leventhal and Michaels, 1969) increased the salience of experimental demand characteristics and thus chances for experimental error.

A third problem concerns how well the induction creates perceptions that one's inputs are related to outcomes. This relationship is basic to testing Adams' hypotheses. Because the subject had little time in these

studies to test how his inputs were related to outcomes and because prior to task performance the subject knew that the other member of the dyad could determine his rewards, it was likely that his outcomes would not be perceived as directly dependent on his inputs (Leventhal *et al*, 1969b).

Weick and Nessel (1968) in using a different design to examine the inequity resolution process, developed a force choice format which contains 20 pairs of hypothetical work situations, the situations varying in degrees of inequity. Subjects have to select the preferred work situation and then to indicate preferred resolution strategies to make the least preferred choice in the pair more comfortable. Analysis of the resolution strategies indicated subjects were more likely to change individual circumstances by increasing effort than interpersonal circumstances by finding a new comparison Other. This was consistent with Adams' (1965: 294) hypothesis. Seeking higher wages was the most preferred strategy for underpaid subjects. It is interesting that this alternative had not been examined in the inequity resolution studies. Subjects did select quitting as an alternative, which seems contrary to Adams' hypothesis that leaving the field would occur only when other strategies were blocked. However, because the instrument permitted responding to more than one resolution strategy, it is not surprising to see that leaving the field was selected as an option, and therefore, Adams' hypothesis about withdrawal was not adequately tested.

Weick and Nessel's (1968) force choice instrument represents a new approach in testing inequity theory hypotheses. Refinements of this methodology would be important for assessing the validity of inequity theory because the use of different methods to test similar hypotheses is a very powerful validation strategy. Some of the limitations of this force choice instrument were discussed by Weick and Nessel (1968: 414). Other additions, such as assessing the instrument's reliability and using an independent criterion, would improve the instrument's validity.

In a correlational study in an organization, Penner (1967), directly testing dimensions of Adams' hypothesis, indicated that propensity to leave the company was twice as likely

for those individuals who perceived their salary as inequitable. Although there has been other research on the satisfaction, absenteeism, and turnover relationships (Hulin, 1968), these studies were not direct tests of Adams' theory. Therefore more work is needed to test preferences for alternative resolution strategies in the field.

*Summary.* Studies in this section focused on inequity resolution between Person and Other, considered resolution strategies other than changing performance, and used designs different from the inequity-performance studies. The basic proposition tested is that Person allocates outcomes to himself and Other proportional to their respective inputs. The effects of the source of inequity, of how much control Other had over his inputs, and of Person's sex on the distribution of outcomes between Person and Other were investigated. Redefinition of Other's inputs and anticipation of future behavior from Other were other processes mediating the distribution of outcomes. These findings seemed congruent with Adams' theory, and in some cases (Weick and Nettet, 1968; Leventhal and Michaels, 1970) offered extensions to the theory. Additional studies are needed, however, to provide a more critical analysis.

### CONDITIONS OF INEQUITY

Other studies which bear on Adams' theory concern determinants of feelings of inequity and the psychological state of inequity. The role of the comparison Other as a determinant of inequity has received surprisingly little attention. There have been field studies which indicated that an imbalance between Person and Other led to feelings of inequity (Penner, 1967; Lawler, 1965); these provided a confirmation of a basic assumption in the theory. An experiment by Wicker and Bushweiler (1970) indicated that the degree of liking between Person and Other could moderate perceptions of inequity during an exchange in this dyad. However, the complex processes leading to the selection of a comparison Other had not been pursued. Weick and Nettet (1968) made the most significant advance in this area, distinguishing between three comparison conditions of equity: own equity—Person had a balanced input-outcome ratio (L/L, low inputs-low outcomes)

but it is unbalanced in regard to Other (H/L, high inputs-low outcomes); comparison equity—Person had an equal input-outcome ratio with Other but both were unbalanced (H/L, H/L); own comparison equity—Person had a balanced input-outcome ratio which equaled Other's (L/L, H/H). Weick and Nettet's (1968) findings indicated that subjects chose equitable conditions in terms of Other's input-outcome ratio (H/L, H/L) rather than in terms of their own input-outcome ratio. Subjects also chose situations where their own input-outcome ratio was in balance and equal to Other's ratio rather than a situation of own equity (L/L, H/L). Other analyses indicated that overpayment relative to one's own inputs (L/H, L/H) was preferred to overpayment in terms of Other's inputs (L/L, H/L). This study was especially important as the first that empirically examined some of the alternative comparison models, and focused on Person's input-outcome ratio as a source of inequity without reference to Other.

There are some very preliminary findings on the effect of past and future input-outcome ratios on the evaluation of present feelings of inequity, for example, Pritchard *et al.* (1970) indicated that past input-outcome ratio could induce present feelings of inequity. Although there is some data indicating that optimism about future outcomes is associated with present feelings of satisfaction (Goodman, 1966), the evidence supporting the effect of future input-outcome ratios on inducing present feelings of inequity is not yet clear (Lawler, 1970).

Other factors, such as characteristics of the individual and the organization providing the outcomes, can affect feelings of inequity. Penner (1967) indicated that high performers were more likely to feel dissatisfied with their pay; high inputs were more likely to lead to feelings of inequity. Klein and Maher (1966), using education as an input, indicated that college educated respondents were more likely to feel dissatisfied with their pay than noncollege respondents.

Organizational factors also seem to affect feelings of inequity. Penner (1967) reported that when pay and performance were not perceived as related, feelings of dissatisfac-

tion with pay would more likely occur. In equity terms this reward system did not reward increased inputs for performance, and therefore, inequity resulted. A corollary finding was that when pay was determined by budgetary constraints rather than by inputs, dissatisfaction with pay resulted. Probably the most provocative finding from Penner's study was that increasing one organizational reward, like amount of freedom, could affect feelings of inequity about other rewards, like pay. Implicit in this finding was a hypothesis from Adams' theory which asserts that outcomes are additive. Although Penner's (1967) study represented an important test in the field of Adams' work, it lacked some important control procedures. For example, variables such as amount of pay, organizational level, and type of job should have been controlled in an analysis of the relationship between amount of freedom and feelings about pay. Since these controls were absent in Penner's (1967) analysis, the findings must be considered tentative.

The last set of studies to be reviewed concerns the psychological state of inequity. Adams argued that inequity is a source of tension which an individual is motivated to reduce. To some extent, all the studies confirming any inequity hypotheses are testing this assumption. Some studies, however, directly measured the affective state associated with inequity, and confirmed Adams' basic contention (Leventhal *et al.*, 1969a; Pritchard *et al.*, 1970). Pritchard *et al.*'s (1970) research went beyond confirming the inequity and dissatisfaction relationship to indicate that inequity with one input-outcome ratio may generalize to other outcomes. For example, their data indicated that subjects in a condition of pay inequity exhibited lower job satisfaction than equitably paid subjects.

Another hypothesis in inequity theory—that the threshold for underpayment is lower than for overpayment—received fairly consistent support from different investigators (Andrews, 1967; Weick and Nasset, 1968).

*Summary.* Studies in this section extended our understanding of inequity theory by examining how the comparison process affected feelings of inequity, individual and organizational factors which affected feelings of inequity, as well as some aspects of

the state of inequity. Although none of the findings presented seriously challenged Adams' theory, more, better controlled studies are needed to adequately test the validity of the hypotheses discussed in this section.

## METHODOLOGICAL ISSUES

### Recruitment-Selection

There are a number of important moderators—ability (Bass, 1968; Moore, 1968); past work experience (Friedman and Goodman, 1967); past wages (Andrews, 1967); need preferences (Lawler and O'Gara, 1967)—which can affect interpretation of inequity studies. Some moderators, like need for money represent an alternative explanation for variation in the dependent variables, and therefore must be controlled to assess the role of the inequity explanation. For example, individuals high in need for money may work hard in a piece-rate experiment not as a means of reducing inequity but to satisfy a need for more money. Although it can be argued that these moderators should be equally distributed across experimental conditions, given the relatively small sample size in most studies and the fact that despite random assignment the moderators often are not equally distributed (Goodman and Friedman, 1968), it seems desirable to measure and analyze the effects of the relevant moderators. The fact that few investigations (Lawler *et al.*, 1968 is an exception) have done this casts doubt on the internal validity of the studies we have examined.

A recruitment-selection bias is also relevant for interpreting the external validity or generalizability of some inequity studies. For example, since the method of payment is often advertised during recruitment, there is probably a differential selection process for hourly and piece-rate studies, with the latter selecting out more subjects because of the ambiguity of how much they can make (Evans and Molinari, 1970). Although this differential selection does not limit the internal validity of a particular study, it does limit one's ability to compare hourly and piece-rate studies (Adams, 1963b). One solution to this problem would be to examine the differences between people who respond and do not respond to the simulated adver-

tisements about either hourly or piece-rate jobs.

### Induction

The induction is an important experimental event for explaining differences among studies. Inequity theory postulates an imbalance between Person's outcomes and inputs in comparison to Other as a condition of inequity. To successfully operationalize this concept, however, one must deal with the following cognitions (Vroom, 1964):

1. Person's evaluation of his inputs.
2. Person's perception of the relevance of his inputs for task performance.
3. Person's perception of E's perception of his inputs.
4. Person's perception of Other's outcome-input ratio.
5. Person's perception of future outcomes
6. Person's perception of the outcomes relative to alternative outcomes—his past outcomes—the outcomes for this class of tasks, and so forth.
7. The relative importance Person attaches to using 4, 5, and 6 as comparison points.

These conditions are basic to assessing the internal validity of any inequity experiment. If, for example, the subject selects comparison Others different from those intended by the experimenter, then the substantive interpretation of an experiment is limited, and since the comparison Other in most experiments is ambiguously specified, this particular problem is likely to occur. Or subjects could define relevant outcomes differently from the experimenter. Because many of the studies are advertised as part of some research and because helping in research has been identified as an additional outcome which affects performance differences in inequity studies (Heslin and Blake, 1969), failure to control on definition of outcomes introduces a source of experimental error.

None of the studies reviewed recognized most of these conditions in specifying their experimental design; therefore, another source of error has not been controlled. These conditions could be controlled either by directly building them into the induction or

measuring these cognitions and including them in the analysis.

Developing an adequate control group, a problem relevant to inequity resolution studies, is another aspect of the induction which deserves attention. The equitable condition, characterized by an absence of tension, has been the modal control group. At issue is the source and degree of motivation exhibited by subjects in this group. One equity study (Friedman and Goodman, 1967) showed that equitably paid control subjects, as a way of confirming their valued abilities, were actually highly motivated to produce. Although this problem has been identified by others (Weick, 1967b), it has not captured the attention of researchers concerned with inequity. The Pritchard *et al.* (1970) study illustrated how the subject's own performance could provide a baseline for assessing subsequent feelings of inequity. Also, by introducing various levels of inequity—high, medium, and low overpayment—more refined contrasts could be made and assumptions about the similarity between an overpaid and equitable induction could be avoided.

### Task

The experimental task represents another source of error which should be controlled. The design of future studies, especially when performance is a major dependent variable, must reflect the following problems found in past inequity studies. First, if the hypothesis indicates a differential emphasis on quality or quantity, tasks in which these two are relatively independent should be developed. This issue is particularly important in studies where one wants to know if the subject is reducing quantity or increasing quality. Some recent studies (Wood and Lawler, 1970; Wiener, 1970) have reported tasks where quantity and quality are independent.

Second, if the subject modifies the task in a way unintended by the experimenter (Weick, 1967a), internal validity can be reduced. Although there are no data available to assess the effect of task modifiability in these studies, it does represent a problem in interpreting inequity studies. For example, it is possible for the subject to modify some of the scoring procedures in the question-

naire or proofreading tasks used in inequity-performance studies. The problem is how to evaluate the modification. On one hand, it might represent a new input and it should then be measured. However, it would be difficult to add this input to other measures of outputs such as the number of units produced and form some common index of contributions to the job. On the other hand, if this modification increases productivity, counting this additional productivity may not reflect an increase in inputs; the subject may merely have found a more efficient way to increase outputs without additional effort.

A third and related problem concerns the need for an independent assessment of the relationship between inputs and outputs for different tasks. Basic to the inequity-resolution studies in the strategy of modifying inputs to reduce inequity. Outputs are taken to be measures of inputs. The problem is to what extent do the number of outputs—questionnaires for example—reflect the amount of inputs—effort—expended. If the amount of effort per unit varies with the level of performance and type of task, then evaluation of inputs from outputs becomes a less desirable measure. Unfortunately, there is no evidence on this particular point, and therefore, the issue can only be raised for consideration in future studies.

The fourth task-related problem concerns the amount of time allocated for task performance. There has been considerable variation in the studies reviewed; some took less than 10 minutes (Leventhal *et al.*, 1969b), others took more than 30 hours (Pritchard *et al.*, 1970). Although there do not seem to be any clear differences between studies which support or do not support the inequity hypotheses on the time dimension, there is evidence that the time dimension is relevant in assessing the validity of inequity studies. For example, change over time in subject behavior within an experimental session (Andrews, 1967) was important in assessing whether subjects were overpaid in piece-rate studies. The fact that some studies (Lawler *et al.*, 1968; Pritchard *et al.*, 1970) have not supported the inequity hypotheses over several experimental sessions raises questions about the effectiveness of the theory or the induction over time. In any case, it would

seem desirable to use multiple sessions over time in future studies—most studies have been single sessions—and to systematically assess behavior over time both within and between sessions and to identify factors like differential task success which affect performance over time.

### Measurement and Data Analysis

There are a number of problems of measurement and analysis which confound the interpretation of the reviewed studies and should be eliminated in future studies. First, measures of the effectiveness of the induction must be introduced immediately after the induction. This would require one experimental group that would be tested after the induction but would not complete the experimental session. In many of the reviewed studies this measurement was taken after the experiment and thus was contaminated by the experimental experience. Second, and most important, inequity theory focuses on the complex interrelationship among multiple cognitions. Most of the research reviewed has dealt with only a few cognitions. One contribution to research would be to develop additional measures using different methods to capture the multiple cognitions used to define inequity (Zedeck and Smith, 1968) and to resolve it.

Problems in working with a small sample size, with subject mortality, and with weak statistical techniques which characterized some of the earlier studies (Arrowood, 1961; Goodman and Friedman, 1968), seem to have been avoided in the most recent studies (Pritchard *et al.*, 1970; Wiener, 1970). Thus it seems that data analysis issues have been recognized and probably will receive continued attention in future studies.

### THEORETICAL OVERVIEW

The purpose of this paper is to examine the empirical evidence testing Adams' theory of inequity. It is important in making this assessment to review all the varied propositions in the theory, not just inequity-performance; for this alone does not permit an adequate evaluation of the theory.

Three general conclusions about the relative validity can be offered. First, some assump-

tions and hypotheses derived from the theory have relatively clear empirical support; they are: inequity is a source of tension (Pritchard *et al.*, 1970); the greater the inequity the greater the drive to reduce it—all supporting studies; input-outcome discrepancies relative to Other are a source of inequity (Weick and Nettet, 1968); the threshold for underpayment is lower than for overpayment (Leventhal *et al.*, 1969b); Person maximizes positive outcomes in inequity resolution (Leventhal and Michaels, 1970); Person allocates rewards in a dyad in proportion to each member's contributions (Leventhal *et al.*, 1969a); underpaid piece-rate subjects produce more than equitably paid subjects (Lawler and O'Gara, 1967).

Second, there are a set of assumptions and hypotheses which have tentative empirical support. The tentative label is applied to these hypotheses either because there have not been enough tests of the hypothesis or because the evidence is mixed. In this latter category, we have argued that the supporting evidence is greater than the nonsupporting evidence. Hypotheses in this second set include: Person will resist changing input-outcome cognitions central to his self-concept (Leventhal and Lane, 1970); Person will resist changing his comparison Other once Other has become a referent (Weick and Nettet, 1968); overpaid-hourly subjects produce more than equitably paid subjects (Pritchard *et al.*, 1970); overpaid piece-rate subjects produce less quantity and higher quality than equitably paid subjects (Adams and Jacobsen, 1964); underpaid-hourly subjects will invest lower inputs than equitably paid subjects (Evan and Simmons, 1969).

Third, the following are a set of hypotheses which either have not been tested, or have been tested in a single study with poor controls: if input-outcome discrepancies are the same for Person and Other no inequity results; inequity is greater when both inputs and outcomes are discrepant for Other; inputs and outcomes are additive; within certain limits of inequity Person manipulates inputs and outcomes to reduce inequity; Person will resist changing cognitions about his own inputs and outcomes more than about Other's inputs and outcomes; Person will leave the field when inequity is high

and other reduction strategies are unavailable.

The evidence seems to provide initial support for some of Adams' propositions, but the critical test of the theory will depend on: (1) empirical support for the propositions listed above that are not fully tested; (2) elaboration of conceptual areas not fully specified by Adams to generate new propositions for testing; and (3) contrasting of inequity theory with other theories to evaluate its comparative advantages in prediction.

Although the general concept of inequity has been well stated by Adams, the components of perceived inequity have not been theoretically specified in sufficient detail. One important problem concerns the process by which inputs and outcomes are defined as relevant. Advancing our knowledge in this area would permit identification of determinants of inequity and prediction of inequity. Weick (1966) and Leventhal and Michaels (1970) have provided some provocative thinking about the input-outcome specification problem which should stimulate further theorizing and research.

A related problem concerns how information is combined when Person evaluates his input-outcome ratio. Person must deal with information not only about his own multiple inputs and outcomes, but also about input-outcome ratios of Others. How is this information combined? Einhorn (1970a, 1970b) has developed a conceptual and operational procedure for testing whether people use linear or nonlinear models when combining information. This type of research could be applied to inequity studies to provide a better understanding of how different methods of combining information lead to feelings of inequity.

Another problem subsumed in the inequity concept is the selection and use of a referent in evaluating one's inputs and outcomes. The major theoretical focus has been derived from social comparison theory and Other has been critical in the determination of inequity. There are, however, other relevant referents in inequity evaluation such as Person's concept of his own self-worth, past input-outcome ratios, and future input-outcome ratios. The critical issue, then, is specifying a theoretical framework to permit the

identification and weighting of multiple referents used in evaluating the input-outcome ratio.

The inequity resolution process requires further elaboration and testing before the utility of the theory can be assessed. The basic issues for both cognitive and behavioral resolution modes are how are salient resolution strategies defined and which strategies are most likely to be evoked. Expectancy theory (Lawler, 1970) might provide a general framework for predicting resolution processes. The expectancy and valence components could be defined for each resolution strategy and the expected force associated with each strategy assessed.

Testing competing hypotheses from inequity theory and other theoretical perspectives provides another way to assess its comparative validity. For example, expectancy theory (Porter and Lawler, 1968), which focuses primarily on the perceived relationship between behavior and valued rewards, would not predict increased performance for overpaid subjects in the hourly condition since performance is not related to pay; inequity theory does predict increased performance. Lawler (1968a) has argued that the reported performance differences in the hourly study are attributed to the characteristics of the induction, and that expectancy theory represents a preferred theoretical perspective. We would argue that there is an inequity effect in those studies, although expectancy theory probably is a more powerful long-run predictor. Pritchard *et al.*'s (1970) study suggests a future model for comparing both theories; it examines different levels of inequity in payment systems with different expectancies that pay and performance are related.

The concept of insufficient rewards (Weick, 1967b) represents another theoretical position which contrasts with inequity theory predictions. Inequity theory predicts no increase in effort from underpaid subjects in the hourly condition; the insufficient rewards concept predicts increased effort. A design incorporating different levels of underpayment would permit a test of these contrasting hypotheses. We would expect inequity theory predictions to be supported at moderate levels of underpayment, and in-

sufficient reward predictions at greater levels.

Research on the norm of reciprocity (Pruitt, 1968), the norm of social responsibility (Goranson and Berkowitz, 1966; Berscheid *et al.*, 1968; Greenglass, 1969), or the belief in a just world (Simmons and Lerner, 1968) poses an interesting challenge to the development of inequity theory. To what extent, for example, is there a norm of equity? How would such a norm differ from the reciprocity or social responsibility norms? Leventhal *et al.* (1969b) have made some preliminary attempts to empirically separate these concepts; however, there seems to be little interchange in the development of these three perspectives. Messé *et al.* (1970) examined the effect of inequity in the resolution of interpersonal conflict; another potentially useful area to expand inequity theory.

Until research in the above areas is well developed, it will be difficult to delimit with certainty the relevance of Adams' theory for organizational processes. However, there are some indications of directions in which the theory may contribute. First, and its most general contribution, inequity theory offers a relatively simple model to explain and to predict an individual's feelings about various organizational rewards. Although the experimental studies have focused primarily on feelings of inequity about pay, the model seems generalizable to other types of rewards such as promotion, supervisor support, status (Stephenson and White, 1968), and to other types of relationships such as that of buyer-seller (Leventhal *et al.*, 1970). The primary contribution of the model will certainly not be in explaining performance. The data at the present time only indicate a very short term effect of inequity on performance. Also, it is important to remember that variations in performance represent only one inequity resolution mode. Neither the theory nor present research indicates it is the dominant resolution strategy. Unfortunately, the large number of studies in the inequity-performance area have led some people to think of Adams' theory as primarily a motivation-performance model.

Second, the delineation of the comparison model an individual uses in evaluating his input-outcome ratio should be relevant for organizational decision makers involved in

determining appropriate levels of rewards. For example, identifying Others Person considers in evaluating his pay should indicate what groups of individuals should be included in a salary survey, one mechanism for setting levels of pay.

Another contribution of the inequity model to administration may be in the area of the interchangeability of rewards. A topic that needs further empirical analysis concerns how an individual combines his outcomes and inputs. This type of research should aid organizational decision makers by identifying what kind of rewards like freedom have an additive effect on other rewards like pay, and which rewards can be substituted for others (Penner, 1967).

Finally, research on allocation of rewards suggests that achieving balance between input and outcome is an important decision rule. However, there may be alternative forces or competing decision rules in organizations that conflict with an equitable allocation. For example, an experiment by Rothbart (1968) indicated supervisors consider competing models of inequity and of the relative effectiveness of different reward-punishment schedules in allocation of possible outcomes. Identifying individual or structural factors which evoke these competing decision rules and their consequences would represent another contribution of the theory.

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