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**THE EFFECTS OF "TASK" AND "EGO" ORIENTED
PERFORMANCE ON TWO KINDS OF OVERCOMPEN-
SATION INEQUITY.**

**The Ohio State University, Ph.D., 1968
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THE EFFECTS OF "TASK" AND "EGO"
ORIENTED PERFORMANCE ON TWO KINDS OF
OVERCOMPENSATION INEQUITY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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* * * * *

The Ohio State University
1968

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I. INTRODUCTION

The distribution of wealth, power, goods and services in society is obviously an essential and continual element in human interaction. In fact, there have been attempts to explain social behavior in terms of the rewards exchanged and the costs incurred in interaction. General exchange theories of this nature have been developed by Thibaut and Kelley (1959) and Homans (1961). The basic concepts of these theories are reward, cost, outcome, and comparison level. In these theories the process of exchange is conceived to have characteristics peculiar to itself that enable it to generate predictable affect, motivation and behavior.

One of these unique characteristics of an exchange process is that its consequences may be perceived as just or unjust. Several investigators have studied this specific aspect of exchange processes. They dealt mainly with the problem of establishing a relationship between perceived injustice and dissatisfaction (Homans, 1961; Jaques, 1961; Patchen, 1961; Stouffer et al., 1959; Zaleznik et al., 1958). Adams' inequity formulation, which is an attempt for some integration that might make possible the specification of antecedents and consequences of injustice in human exchanges also belongs in the framework of these works. Before discussing Adams' inequity notion, a brief overview of two earlier

major concepts relating to the perception of justice and injustice in social exchange will be presented and their relationship to Adams' formulation will be specified.

Relative Deprivation

Stouffer and his colleagues (1949) employed the concept of relative deprivation as an hypothetical construct explaining the quite common phenomenon that some people may express more dissatisfaction than others over given conditions even though from an objective point of view, they may be "better off" with regard to these conditions than the others. Stouffer found, for example, that in spite of the objective fact that soldiers with high school education had better opportunities for advancement in the Army, they were not as satisfied with their status and jobs as less educated men. Stouffer also found that Army Air Corps men were less satisfied with promotion opportunities than were men in the Military Police, even though objective opportunities for mobility were greater in the Air Corps. In both examples the concept of relative deprivation as an explanatory means bears on the discrepancy between expectation and attainment. This discrepancy accounts for the empirical observation that some men were less satisfied than others. An assumption is, of course, that higher education and high promotion rate indeed raise expectations in the relevant domains. Thus, relative deprivation can be seen as the unfair violation of expectations.

Subsequent to Stouffer's work, other studies were conducted in

which relative deprivation was manipulated as an independent variable (Spector, 1956; Thibaut, 1950). The findings were in line with Stouffer's notion.

On the basis of the above mentioned works, Adams (1965) drew several important conclusions which related the concept of relative deprivation to his own inequity notion: 1) The manifest dissatisfaction is a response to acutely felt injustice, rather than directly to relative deprivation. 2) What is just is based upon relatively strong expectations. 3) The development of expectations and the perception of injustice are involved in a comparative process, as indeed implied by the term relative deprivation. For example, well-educated Army men felt unfairly treated in comparison to treatment they would have received in civilian life, or in comparison to the treatment civilians did receive.

Distributive Justice

The existence of relative deprivation clearly raises the question of distributive justice, that is, fairness in the way the rewards and costs of activities are distributed among men. Homans (1961, p. 232) postulated that:

"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 profits."

Schematically, then, distributive justice exists when:

$$\frac{\text{Person A's rewards minus his costs}}{\text{A's investment}} = \frac{\text{Person B's rewards minus his costs}}{\text{B's investment}}$$

If the two ratios are unequal, the members of the exchange will experience injustice and one or the other party will experience deprivation. The party to experience the relative deprivation is the one for whom the ratio of profits to investments is the smaller.

The main contribution of this formulation is its extension beyond the concept of relative deprivation by explicitly stating that it is the relationship between ratios of profits to investments that results in perceived justice or injustice. The theory of distributive justice also addresses itself to the case of two or more persons, each of whom is in direct exchange with a third person.

Homans dealt only briefly with the relationship between distributive justice and satisfaction. He suggested that if there is a state of injustice, the person at a disadvantage will "display the emotional behavior we call anger" (1961, p. 75). If, on the other hand, the injustice is in his favor, the person will experience guilt.

Several other investigators have stated formal propositions that obviously refer to the same phenomenon as Homans' distributive justice. Among them are Sayles (1958), Zaleznik, Christenson and Roethlisberger (1958), Jaques (1961) and Patchen (1961). Patchen's notion is especially relevant to the present discussion since it clearly constitutes a link between the concepts of relative deprivation and distributive justice, and Adams' inequity formulation. Using the terms of Festinger's theory of cognitive dissonance (1957),

Patchen postulated that workers making wage comparisons establish a cognitive relationship as follows (1961, p. 9):

$$\frac{\text{My pay}}{\text{His (their) pay}} \quad \text{compared to} \quad \frac{\text{My position on dimensions related to pay}}{\text{His (their) position on dimensions related to pay}}$$

If these ratios are unequal, cognitive dissonance is experienced. In turn, dissatisfaction is manifested. However, this dissatisfaction is not necessarily a bad state of affairs, since it does provide a basis for mobility aspirations. Patchen suggests that the motivation to attain consonance is dominated by achievement motivation.

Some evidence for Patchen's notion comes from his own study (1961) in which he interviewed 489 employees in a Canadian oil refinery. The employees were asked to name two persons whose yearly earnings were different from their own. The basic finding showed that those who chose objectively dissonant comparisons perceived the comparison as unsatisfactory. When the comparisons were not dissonant, there was no dissatisfaction.

Adams (1965), following a review of the concepts of relative deprivation and distributive justice, acknowledged that these notions specified some of the conditions that arouse perceptions of injustice or justice. But they failed, he claimed, to specify theoretically what are the consequences of felt injustice, other than dissatisfaction. Adams' inequity theory attempts to specify both the antecedents of perceived injustice and its consequences; that is, what actions an individual takes to restore equity. It

is not a new theory. It does not employ new concepts other than those discussed above. Rather, it builds upon that work, systemizes and elaborates it.

Inequity Formulation

Inequity is defined 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 he 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. The values of outcomes and inputs are, of course, as perceived by Person. Schematically, inequality is experienced when either $\frac{O_p}{I_p} < \frac{O_a}{I_a}$ or $\frac{O_p}{I_p} > \frac{O_a}{I_a}$

where $O = \sum o_i$, $I = \sum i_j$ (sum of all outcomes and sum of all inputs, respectively) and p and a are subscripts denoting Person and Other, respectively. A condition of equity exists when $\frac{O_p}{I_p} = \frac{O_a}{I_a}$ " (Adams, 1965, p. 280).

From this definition it can be seen that equity involves a ratio of outcomes to inputs as perceived by Person. Inputs can include anything that a person regards as his relevant contribution to an exchange, and for which he expects a just return, for example, age, education, effort, and beauty. Outcomes are the returns Person gets for his inputs into the exchange. They also are dependent upon Person's perception and may include pay, intrinsic job satisfaction, rewarding supervision, etc. These several inputs and outcomes are summed to determine the ratio and are weighted according to importance.

Obviously, an inequitable relation may occur when the exchange is to Person's advantage as well as when it is not in his favor.

The presence of inequity is not an all-or-none phenomenon. It is possible to distinguish many degrees of inequity, the magnitude of which is assumed to be some increasing monotonic function of the difference between the ratios of outcomes to inputs.

As has been already emphasized above, inequity theory attempts to specify consequences of inequity in terms that permit specific predictions to be made. In order to accomplish that end the theory presents two general postulates which closely follow propositions from dissonance theory (Festinger, 1957; Brehm and Cohen, 1962):

"First, the presence of inequity in Person creates tension in him. The tension is proportional to the magnitude of inequity present. Second, the tension created in Person will motivate him to eliminate or reduce it. The strength of the motivation is proportional to the tension created" (Adams, 1965, p. 283).

From these postulates, and from the theory of cognitive dissonance in general, Adams attempted to derive propositions concerning means of reducing inequity. He listed the following possibilities:

- 1) Person altering his inputs. Person may make a change in his inputs, either increasing them or decreasing them, depending on whether the inequity is to his advantage or disadvantage. Whether Person resorts to this mean of reducing inequity depends upon two main factors: a) susceptibility of the inputs to change; b) the principal of "cause" of the inequity. Thus, if Person's ratio of outcome-input is at variance with Other's ratio, and the reason for it is a difference between Person's and Other's inputs, Person is more likely to alter his inputs than his outcomes.

Additionally, it is postulated that given equal opportunity to alter inputs and outcomes, Person will be more likely to lower his inputs when the exchange is in his favor. The main reason for this is that a Person is motivated to minimize his costs and to maximize his gains. In other words, a Person will attempt to reduce inequity, insofar as possible, in a manner that will yield him the largest outcomes.

2) Person altering his outcomes. Much of the immediately preceding discussion is relevant to the altering of outcomes mode of resolution. Decrease of outcomes in case of advantageous exchange, in this case, is less likely than increase of outcomes in an unfavorable exchange.

3) Person distorting his inputs and outcomes cognitively. In order to achieve the same ends obtained by actually altering inputs and outcomes, a Person cognitively may distort them in the same direction. Substantial distortion is difficult, however, since most people are influenced strongly by reality. The distortion more often would take the form of altered utility, importance and relevance of inputs and outcomes. Altered utility can be exemplified as follows: while it might be difficult for Person to change his cognitions, for example, about the fact that his salary is \$700 per month, it is possible for him, within limits, to alter the utility of this amount of money. That is, Person can consider the fact that \$700 per month is a pretty good salary which is sufficient for comfortable life, or, conversely, Person may consider this pay from the point of view that it will never permit him to

purchase his favorite oil painting. As for the importance of inputs and of outcomes, changing importance would be equivalent to changing the weights associated with the inputs and outcomes. This, of course, is in line with the general dissonance formulation which accounts for the importance of the relevant cognitive elements in the same way.

4) Person leaving the field. This would be quite a drastic means for coping with inequity. It may be represented by behavior like quitting the job and absenteeism. The larger the magnitude of the inequity the larger the probability of employing these means. The more other means are available, the less are the chances of leaving the field.

5) Person acting on Other. Person may employ all the above four means of resolution with reference to Other, rather than to himself. Thus, he may attempt to alter, or cognitively distort Other's inputs and outcomes, or try to force Other to leave the field. Cognitive distortion of Other's inputs and outcomes seems to be relatively easy, at least in comparison with distortion of Person's own inputs and outcomes, since cognitions about Other are probably not as well anchored as cognitions about one's self.

6) Person changing the object of his comparison. This mode of resolution is relevant only when Person and Other are in an exchange relationship with a third party and Person compares himself to Other. This means of resolution is difficult to establish. Person would need to be able to perceive himself as noncomparable to Other on at least one relevant dimension.

Adams summarized the conditions that may affect the choice of one or another method of resolving inequity in the form of the following propositions:

"a) Person will maximize positively valent outcomes and the valence of outcomes.

b) He will minimize increasing inputs that are effortful and costly to change.

c) He will resist real and cognitive changes in inputs that are central to his self-concept and to his self-esteem. To the extent that any of Person's outcomes are related to his self-esteem, this proposition is extended to cover his outcomes.

d) He will be more resistant to changing cognitions about his own outcomes and inputs than to changing his cognitions about Other's outcomes and inputs.

e) Leaving the field will be resorted to only when the magnitude of inequity experienced is high and other means of reducing it are unavailable. Partial withdrawal, such as absenteeism, will occur more frequently and under conditions of lower inequity.

f) Person will be highly resistant to changing the object of his comparisons, Other, once it has stabilized over time and, in effect, has become an anchor" (Adams, 1965, p. 295).

Adams himself acknowledged that these propositions are crude and have not yet been tightly incorporated into the theory. It is difficult at this stage of development of the theory to propose which one of two possible resolutions might be dominant in a given injustice dilemma.

Experimental Evidence

Research relevant to inequity theory includes studies which have been carried out to directly test propositions and derivations of it, and works which have been conducted without direct reference

to the theory, but do bear on some of its aspects. Some of these later works will be reviewed briefly first.

A field study of Clark (1958) bears on the hypothesis that a person will reduce his inputs when he is undercompensated; that is, when the discrepancy of outcome/input ratios is unfavorable to him. The study concerned itself with supermarket employees and more specifically with teams of "ringers" and "bundlers." "Ringers" usually were the higher paid, permanent workers. "Bundlers" were usually part-timers and were lower paid. When a "bundler" teamed up with a "ringer," the former perceived himself as bringing to the job higher inputs than the "ringer" (determined by sex, age, and education). This caused the "bundlers" to experience inequity, which apparently was reduced by decreasing the rate at which they filled shopping bags--i.e., by reducing some of their inputs.

An experiment by Thibaut (1950) bears on the altering of outcomes mode of resolution. Teams of five or six boys were formed. Half of the teams were assigned unpleasant roles in playing a series of games. The other half were assigned more gratifying roles in these games. Thus, the outcomes of half of the teams were higher than those of the others, even though all were equal in inputs. A major way to resolve this inequity by the "low status" teams, upon understanding that the status differentiation was to be permanent, was to express mobility aspirations, asking the experimenters to reverse the roles of the teams. This could be construed as an attempt to establish equity by means of increasing outcomes.

Two experiments by Leventhal, Reilly, and Lehrer (1964) and

Weick (1964) are relevant to the mode of resolution by cognitive distortion of inputs and outcomes. Leventhal et al. (1964) hired subjects to participate in an experiment for \$1.25. One-third of the Ss were paid \$0.60 and another third \$1.90. Subsequently all Ss were asked under what circumstances they felt subjects should be paid for their services. The two "unequitably" paid groups were less likely to assert that subjects should always be paid than was the "equitable" group. As for the underpaid Ss, Adams (1965) concluded that their response was actually an indicator that they revised the way they perceived their inputs, by lowering it, or that they changed their estimate of what amounts to be fair outcomes, by lowering it. The reaction of overpaid Ss, on the other hand, is possibly an indication of willingness to actually accept lower outcomes in subsequent experiments. This, then, is not a cognitive distortion of outcomes, but an actual desire to alter them.

Weick (1964) showed that subjects working for an inconsiderate experimenter, and for no credits, reduced the dissonance they experienced by evaluating their task more highly than subjects who worked for credits. They perceived the experiment as interesting and important. "Task enhancement" has been found to be quite a common way of dissonance resolution in task acceptance dilemmas. Adams conceives this phenomenon to be a form of cognitive distortion of outcomes.

The studies mentioned above and some others have been related to inequity theory by post-hoc explanation and analysis. However,

the many possible ways of resolution of inequity, and the many principles governing the choice of a specific resolution, which have not been integrated systematically into a coherent theoretical net, lend themselves quite readily to a variety of post-hoc explanations and a wide range of experimentation. Such efforts, of course, do not provide for conclusive support of the theory, or any of its aspects.

Direct experimentation to test propositions of equity theory exists. In fact, the theory has generated considerable interest among experimenters. Most studies have dealt, however, with a restricted aspect of the theory, namely, with propositions and derivations concerning the altering of the inputs mode of resolution. Also, most of the research has dealt with only one specific form of overcompensation inequity. These studies will be reviewed in the following section. In a later section a more critical approach toward some of these studies will be taken, especially with respect to the specific problem toward which the present study is directed.

Adams and Rosenbaum (1962) reported two experiments testing two derivations from equity theory. The first hypothesis stated that when a person is paid by the hour his productivity will be greater when he perceives his pay as inequitably large than when identical pay is perceived as equitable. Twenty-two college students were hired for an interviewing task at \$3.50 per hour. Half of them were made to believe they were qualified and equitably paid, and the other half were made to feel unqualified and inequitably overpaid. As predicted, the overcompensated group conducted

significantly more interviews than the control group within the given time. The second hypothesis stated that when a Person is paid on a piecework basis his productivity will be less when he perceives his pay as inequitably large than when he perceives identical pay as equitable. The rationale for this hypothesis is that workers overpaid on a piecework basis would actually increase feelings of inequity if they produce more since they would be increasing the amount of their overpayment. This hypothesis was sustained in a factorially designed study in which 36 Ss were paid \$3.50 per hour or \$0.30 per piece, and felt either equitably paid or inequitably overpaid. The task was again interviewing the general public. The interaction between method of pay and equity was found to be significant.

To eliminate an alternative explanation that the group made to feel unqualified, and thus overpaid, worked harder because Ss felt insecure and were afraid of being fired, Adams (1962) reported an experiment by Arrowood (1961). This was a study with the same design as Adams' experiment described above, but with the addition of a "private" group that was under the impression that their employer would never see their work. The overcompensated "private" Ss conducted more interviews than a control group.

Adams and Rosenbaum (1962) did not measure the quality of their pieceworkers' performance. In a subsequent study, Adams and Jacobson (1964) elaborated further on the effect of overpayment inequity on piecework performance. They reasoned that the effect of overpayment is not simply reducing productivity (as actually

found in the 1962 experiment), but rather, increasing inputs by improving quality of work. A corollary is that subjects who produce better quality work will have lower productivity, on the assumption that better quality work requires more time per unit produced. In addition, this experiment was concerned with testing the alternative hypothesis that the inequitable subjects displayed better performance than control subjects because they feared possible loss of their jobs or a reduction in pay. This is, in fact, the problem that the Arrowood (1961) study was concerned with. To test these hypotheses, a 3 X 2 experimental design was used. Three levels of inequity were manipulated: 1) High dissonance, in which Ss were made to feel that they were not qualified for the \$0.30 which they received. 2) Reduced dissonance, in which Ss were induced to believe that they are not qualified for \$0.30 per unit and therefore would be paid only \$0.20 per piece. 3) Low dissonance, or equity group. The inclusion of the reduced dissonance condition served actually as a check on the dissonance manipulation, the expectation being that there would be no difference between the low and reduced dissonance groups. The two conditions of the other independent variable - job security - were: 1) High job prospects, in which Ss were told that work on similar tasks would continue for several months and that, therefore, Ss might be employed again, and 2) low job prospects, in which Ss were told that the job was a short-term, one-time-only affair. If the alternative explanation of job insecurity is valid, an interaction effect between equity and job prospects should be expected. The task employed was correcting

errors in simulated galley-proof pages, which provided a measure of quality. An analysis on quality scores showed a significant main effect due to equity--the high dissonance group detecting the highest number of errors--and no effects of job security, or of an interaction. It was also found, however, that the high dissonance group, or the inequity group, had significantly more nonerrors as errors than the other groups. Adams interpreted this later result as an indicator of the strength of motivation underlying the behavior of the inequity Ss. The interpretation of the results by Adams and Jacobson as supporting equity theory was challenged by Opsahl and Dunnette (1966) on the ground of different emphasis on quality in the two sets of instructions given to the overpaid and equitable groups.

Andrews (1967) introduced into his experiment two important new aspects. First, he studied underpayment and secondly, he manipulated overpayment through change in outcomes rather than inputs (qualification). He hypothesized that the underpaid pieceworkers would maintain equity by increasing work quantity at the expense of work quality, whereas overpaid Ss would maintain equity by reducing work quantity and increasing work quality (the latter part of the hypothesis is equivalent to Adams and Jacobson's, 1964). He ran 96 students that worked at one of three piece rates: equitable (\$0.20), underpay (\$0.15) and overpay (\$0.30). The results confirmed the hypothesis. A second hypothesis stating that within each of these groups, the more the present wage potential exceeds previous high wage, the lower the work quantity and the higher the

work quality, and the greater the extent that present wage potential is less than previous high wage, the higher the work quantity and the lower the work quality was supported too. Two other hypotheses, one stating that the effect of inequity will be stronger when the task is dull than when it is interesting and the other dealing with the problem of thresholds of under- and over-compensation, were not supported. The tasks employed in the experiment were interviewing (an interesting task), and checking transcribed numbers (a dull task).

Lawler and O'Gara (1967) also studied the effects of underpayment inequity. Two new features in their work were attempts to find the effect of inequity on task attitudes as a means of reducing dissonance, and to relate personality variables to a choice of an inequity resolution. Forty subjects were divided into an equitable piecework payment group (25¢), and an underpayment group (10¢). The task they were hired for was an interviewing job. The results showed, as predicted, and in line with Andrews (1967) findings, that the underpaid Ss produced more interviews than the equitably paid Ss, but the interviews were of lower quality. As far as attitudes toward the job were concerned, underpaid Ss tended to see the job as more interesting than the equitably paid Ss, but they saw it as less important and challenging. In other words, the underpaid Ss both increased their outcomes and lowered the perception of their inputs. Scores on the 12 scales of the California Personality Inventory were correlated with job performance and job attitudes. In general, it appeared that the poise and self-assurance

scales predicted productivity well, while the maturity and responsibility scales predicted work quality.

Friedman and Goodman (1967) actually replicated the original Adams and Rosenbaum (1962) experiment. The data, in terms of productivity above and below the median, did not show significant differences between the inequity overcompensation group and the control condition. This is at variance with the original experiment. Goodman and Friedman attempted to reconcile the two studies on the basis of further analysis of the data. Within each of the equity conditions Ss were divided on the basis of their perceived qualification for the job. The results analyzed in terms of qualification below and above the median--without regard to inequity condition--showed that qualified Ss produced at a higher rate than unqualified Ss. As for the discrepancy between this experiment and the Adams and Rosenbaum study, the authors raised the possibility that in the later study the control group might have been represented by what they called "unqualified controls." If only those would have been compared in their experiment to "unqualified experimentals," both experiments would have provided similar results, and would have supported the original inequity hypothesis. The basic claim of Friedman and Goodman in this experiment was that the equitable Ss, if they perceived themselves qualified, would not have necessarily produced less than the inequitable Ss. In fact, they should have produced more in order to preserve their self-concept. More about this contention and the study itself will be said in the following section of this paper.

Goodman and Friedman (1968) in a subsequent study, investigated the following two hypotheses: 1) Subjects who perceived their outcomes as greater than their inputs will increase the quality (or quantity) of their inputs if quality (or quantity) is perceived to be the basis for equitable payment. 2) The introduction of known production rates as a criterion for equitable payment will reduce production variance in both overpaid and equitably paid groups relative to comparable groups without known production rates. These hypotheses were supported. It should be noted that although they fit in the framework of inequity theory, they do seem to make sense in connection with any other incentive theory as well. Adams and Rosenbaum (1962) original inequity hypothesis was supported in this study. The task used was a new one--a questionnaire scoring task. The study also addressed itself to problems of the relationships between self-conception about abilities and inequity. This aspect of the study will be discussed in the next section.

Statement of the Problem and Hypotheses

The definition of equity actually specified, as it has been seen already, two kinds of inequitable exchanges: 1) the exchange which is in Person's favor, and 2) the exchange which is in Person's disadvantage. In work situations those relationships may be called overcompensation and undercompensation, respectively. Both overcompensation and undercompensation, however, can occur from two different sources: imbalance may exist because of change in either

inputs or outcomes in a Person's ratio. (See definition of inequity, p. 6.)

The present study will deal with a situation of overcompensation inequity. In such a situation a Person may contribute less than a co-worker, but both receive similar outcomes. This may be called "input overcompensation" (IOC) to designate the fact that the source of the overcompensation is in a change in inputs. Also, a Person may contribute the same inputs as a co-worker, but receive higher outcomes, i.e., "outcome overcompensation" (OOC) which indicates that the source of the overcompensation is in a change of outcomes. (Similarly, of course, it is possible to define "input undercompensation" and "outcome undercompensation.")

This distinction may refine equity theory predictions. Currently, the theory cannot do much better than making the gross prediction that the greater the inequity, the more discomfort and the more intense the efforts to restore equity. Similarly, it predicts that the same magnitude of inequities result in the same amount of discomfort and the same intensity of efforts to restore equity. These predictions are based solely on the magnitude of inequality when ratios are compared, and ignores the issue of the nature and content of the ratios' imbalance, and the fact that the different ways of creating overcompensation may evoke different absolute levels of discomfort, even though the actual magnitude of inequity may be the same in these situations. Furthermore, data about such different forms of inequity may shed more light on the specific forms of the resolution of inequities, since it is

conceivable that different contents of the ratios may determine different resolutions of inequity, even though the arithmetical inequity formulation may indicate the same magnitude of dissonance in those situations. Although inequity theory at present can make only gross predictions based on the magnitude of the inequality, Adams proposed some guidelines, as discussed in the preceding section, for possible resolutions under different situations. On the basis of these guidelines and drawing from cognitive dissonance theory in general, specific hypotheses of resolutions for IOC and OOC inequities will be offered later in this section, after introduction and discussion of another variable that seems to be relevant to the inequity phenomenon.

The distinction between IOC and OOC seems to be important also from a methodological point of view. Most inequity studies have manipulated overcompensation by having "person's" outcomes (always pay) equal "other's" outcomes, and "person's" inputs (always qualifications) be less than "other's" inputs. This manipulation is equivalent to the IOC condition. The effect of this manipulation has been investigated only on measures of performance, and the results show better performance--either in quantity or quality terms, depending on whether the pay is hourly or piece-rate--on the part of overcompensated Ss compared to equitable-control Ss (Adams and Rosenbaum, 1962; Adams and Jacobson, 1964; Friedman and Goodman, 1968; Goodman and Friedman, 1968).

Only two studies (Lawler, 1967; Andrews, 1967) manipulated overcompensation through change in pay. Basically, their manipulation

involved rewarding Ss in the experimental condition with obviously high pay. However, no inequity was manipulated through comparison with others. Thus, Ss indeed perceived themselves as being overpaid but did not necessarily experience inequity. (See also the Goodman and Friedman (1968) criticism of Lawler's study (1967).) Andrews (1967) found differences between the control group and the overpaid group in accordance with equity theory predictions, whereas Lawler (1967) did not find any significant difference between these conditions. The scarcity of research manipulating overcompensation through change in pay; the inadequacy of the manipulation (when it was carried out) to distinguish between inequity overpayment and overpayment not based on comparison; and the conflicting results obtained--all these call for direct comparison of the two ways to create overpayment in the same design. This need becomes even more obvious when considering the fact that the only manipulation to be carried out extensively--the equivalent of the IOC manipulation--is amenable to confoundings and alternative explanation, which the OOC condition is not. These possible confounding and alternative explanations are connected to self concept needs which may be aroused by an IOC manipulation.

The problem of self-concept (as relevant to the inequity effect) may be conceived as having two aspects: 1) confirmation of existing self-conceptions about abilities, and 2) achieving self-conceptions about valued abilities.

Lecky (1945) and Vroom (1962) carried out work dealing with the first aspect. The important element here is Person's conception of

his abilities. Vroom hypothesized that if a person believes himself to possess an ability and believes that successful performance of his task requires that ability, he will prefer performing the task effectively to performing it ineffectively. On the basis of this hypothesis Friedman and Goodman (1967) found that equitably paid Ss who believed they were qualified performed better than overpaid Ss who believed they were not qualified. In general, they did not find a main effect of inequity, whereas they did find an effect of perceived self-qualifications. Friedman and Goodman (1967) explained the failure to obtain an inequity effect in their experiment by the fact that the control Ss perceived themselves as having high abilities; according to the Vroom (1962) hypothesis they performed well to confirm their self-concept. If this explanation is true, then it is very difficult to explain why other experiments did find inequity effects. After all, even if Ss have not had any conception of their abilities before an experiment, the nature of the inductions in the inequity experiments would have established them. Thus, in an inequity experiment equitable-control Ss should always perceive their qualifications as high, and overpaid Ss should always perceive them as low. Apparently this possibility and its effects have not materialized, and it is possible to account for the Friedman and Goodman (1967) results by some flaws in their procedures and data treatment. First, they arranged the Ss as "qualified" and "unqualified" mainly on the basis of recorded statements they made during the manipulations concerning their qualification, and on the degree Ss perceived the task as easy. A subject that

did not make a statement of qualification was regarded as unqualified, as far as this dimension was concerned. Whether this kind of procedure resulted in meaningful division of Ss into those who perceived themselves qualified and unqualified is doubtful. It is also probable that this procedure might have caused a division on the basis of some other characteristic; ability, for example, which might well have accounted for the results. Another possible difficulty in the procedure is the nature of the equitable induction, even though it was very similar to the one carried out in Adams and Rosenbaum's (1962) study. In addition to telling control Ss that they were qualified for the job, the Es emphasized very strongly (and confoundingly) that many applicants were turned down because they were unqualified, and also they stressed the severe consequences of doing the job poorly. This information had not been given to the experimental group. Such a procedure very nearly "asks" Ss in the control condition to perform well, which, of course, may have accounted for high performance in that condition. This is not to say that self-perceived qualifications may not be a moderator variable in an inequity situation. Vroom's self-concept consistency theory gained experimental support (e.g., Kaufman, 1962), and Friedman and Goodman were right in pointing out that self-concept inconsistency may counteract inequity effects. It seems, however, that they erred in assuming that whenever a person perceives himself qualified (i.e., has high inputs, in their terminology), his motivation to produce will increase. To eliminate a possible dissonance between level of performance and the self-concept of being qualified for a task,

nothing more is needed than a "normal," accepted level of performance. Extra effort is not asked for. Thus, it seems that in an inequity experiment a control group of equitably paid people that perceive themselves qualified for a task is an appropriate control group to have. Friedman and Goodman's contention that the proper control group should consist of people that perceive themselves as unqualified is not justified on the basis of Vroom's theory, and does not fit in the framework of inequity experiments, since the control Ss would not, then, perceive themselves equitably paid, as indeed they should. It seems plausible, however, that a resolution of a possible dissonance between cognitions of self-concept and cognitions of level of performance might indeed call for exerting extra effort in performance when a person has very salient cognitions about the relevant aspects of his self-concept; that is, when he perceives himself very high on the relevant abilities involved, or very unique in possessing such abilities. This probably was the case in Friedman and Goodman's experiment. The nature of the equity induction for the control Ss in that experiment might have established the sort of salient cognitions described above.

The second aspect of the self-esteem problem--achieving self-conceptions of valued abilities--seems to be even more crucial to inequity formulations. In contrast to the possible effect of self-concept of possessed abilities, which is supposed to counteract and thus obscure IOC inequity consequences, the effects of achieving self-concept of valued abilities may operate in the same direction

and have the same effects as IOC inequity, thus providing alternative explanations for the same phenomenon.

This distinction between the two aspects of self-esteem effects seems to be important, especially because it has been ignored, and even confused in the literature. Thus, Friedman and Goodman (1967) attempted to demonstrate (unsuccessfully) the effect of the first aspect, namely, self-concept of possessed abilities. In a subsequent study Goodman and Friedman (1968) again dealt indirectly with self-concept effects, this time with what they call "reaction to devalued self-esteem." Conceptually they have not attempted to distinguish between the two effects (they call the effect in their 1967 study a "reaction to devalued self-esteem," which it is not) and have not made it clear that they are dealing with two different phenomena.

In this second study, Goodman and Friedman practically ignore the problem of the effect of self-concept of possessed abilities, with which they dealt in their 1967 study. They are no longer concerned with the possibility that an "equitable" group may perform as well as an overpaid group. They are concerned now with the possibility that the overpaid Ss may perform better than equitable ones not because of inequity dissonance, but because of devaluated self-esteem, that is, a wish to prove or demonstrate that one does possess the abilities he is told he does not possess. As mentioned earlier, this point is important in attempting to clarify inequity theory. Since inequity effects have been found in situations equivalent to the IOC manipulation, and have not been (as was shown

before) adequately treated in situations equivalent to the OOC manipulation, it is possible to question the phenomenon of inequity altogether on the grounds of the "reaction to devaluated self-esteem" alternative explanation. This alternative explanation would not hold, of course, for an appropriate OOC manipulation, since Ss are not told in that condition that they are not qualified.

Goodman and Friedman (1968) attempted to control for this alternative explanation. In addition to the usual overpaid and equitable-control groups, a condition of "reduced dissonance" was introduced. In this condition Ss were told that they were unqualified, but in contrast to the "overpaid" group, they had been hired at a reduced hourly rate. Inequity effects were found in the "overpaid" group, but not in the "reduced dissonance" group. This control does not seem to be entirely satisfactory. It is amenable to the same criticism Opsahl and Dunnette (1966) made with regard to Adams and Jacobson's (1964) study which employed a similar control group of reduced dissonance:

"...it can still be argued, of course, that the reduced-rate group should then have shown an increase in (quantity) of about the magnitude as that shown by the overpaid group. We do not believe this would necessarily obtain. It is likely, for example, that the pay reduction would be sufficient to suggest to an 'unqualified' subject that his expected poor performance was already being taken into account, and he might then work in accordance with his employer's implied expectation." (Opsahl and Dunnette, 1966, p. 112)

It seems that a different kind of control is needed. If the phenomenon of "reaction to devaluated self-esteem" occurs whenever one's abilities or qualifications are challenged, then it is

conceivable to assume that this "reaction" will be stronger when the abilities involved are valued by a person than when they are not. Vroom (1964) reports findings of several studies (e.g., Kaustler, 1951; Freanch, 1955) which indicate that the level of performance of subjects on a task tends to be increased by instructions designed to induce them to believe that the task measures a highly valued ability.

It is possible, then, to compare IOC and OOC conditions (and equity) under two sets of task instructions. One set emphasizes that the task requires abilities which are generally valued, or asks for "ego oriented" (EO) performance, and the other set points out that the abilities required are trivial, or asks for "task oriented" (TO) performance. Presumably, the second set should not raise self-esteem needs, even if qualifications are challenged.

Thus, the present design includes four levels of inequity: IOC, OOC, low equity (EQ2) and high equity (EQ3). (The pay for the low equity \$s is the same as in the IOC condition, and the pay for the high equity \$s is the same as for the OOC \$s.) Half of the \$s in each of these groups will be induced to engage in "ego oriented" performance, and the other half in "task oriented" performance. Dependent variables are quantity and quality of performance and several attitudinal variables like perceived qualifications and effort exerted (input variables) and importance of money and interest (outcome variables). The design (which will be described in more detail in the next chapter) enables dealing with the basic questions already discussed in this section.

One of Adams' contentions is that varying either inputs or outcomes might be a function of Person's perception of the "cause" of the inequity. On that basis it is conceivable to hypothesize that, in general, a Person who experiences IOC inequity, i.e., his inputs are lower than those of Other's while his outcomes are the same as Other's, will attempt to resolve this inequity by "doing something" about his inputs. He may, for example, work harder to produce more than he would have otherwise. He also may distort cognitively his inputs into the job, perceiving himself as qualified appropriately even though he is told he is not. All these will be in accordance with the assumption that "Person will reduce inequity, insofar as possible, in a manner that will yield him the largest outcomes" (Adams, 1965, p. 284). A Person that experiences OOC inequity, on the other hand, is more likely "to do something" about outcomes. He probably will not change them physically to accept, for example, lower pay for his inputs, but he can change his evaluation of the utility of the pay, which, again, as has already been seen, is a type of cognitive distortion of outcomes. Of course, he can resolve the inequity by increasing his inputs. This mode of resolution, however, will not only be in contradiction to the principal of the "cause of inequity," but will not fit with another possible principle of resolution, namely, "Person will minimize increasing inputs that are effortful" (Adams, 1965, p. 295). To conclude, then, it is expected that IOC Ss should produce more, in terms of quantity, than OOC Ss, while both groups will produce more than the equitable Ss, but OOC Ss should score lower on a scale

measuring their evaluation of the utility of the pay then IOC Ss and controls. Also, it is expected that IOC Ss will rank themselves as qualified for the job, even though they are told they are not.

This pattern of expectation changes, of course, when the variable of "performance orientation" is introduced. Three sets of hypotheses will be stated depending on three different premises of what might probably be happening in an "hourly" overcompensation situation. A general expectation, however, is that under each condition of inequity (equity), "ego oriented" Ss will always produce more than "task oriented" Ss.

The first premise assumes that the phenomenon of "reaction to devalued self-esteem" actually is not operative in an inequity situation and does not have any bearing as far as the inequity model is concerned. If this premise is true, one would expect that as far as productivity is concerned, both main effects of orientation and inequity should be found. IOC Ss should produce more than OOC groups, and both of these conditions will be higher in productivity than the equity conditions. There is no reason to assume that "orientation" and "inequity" would combine in another than an additive way, so interaction is not expected at all (Hypothesis A-1).

As far as other possible ways of resolution under the first premise are concerned, it is not expected that either TO-IOC Ss or EO-IOC Ss will resort to the possibility of raising their perceptions about their qualifications as a mode of resolution of inequity dissonance, since by doing so they might create another

dissonance, namely, between their cognitions about their qualifications and the way they perceive E's cognitions about them. Thus, a main effect of inequity, but no interaction should be found (Hypothesis A-2). This effect is simply a consequence of the differential experimental induction of qualification in the IOC conditions and in the OOC and equity conditions.

Changes in outcome variables such as "utility and importance of money" should reflect the main effect of inequity. Both OOC conditions should be lower in that respect than the IOC and equity groups (including the high-equity group). No interaction or main effect of "orientation" should be expected (Hypothesis A-3).

A second possible premise regarding the question of inequity and "reaction to devalued self-esteem" is that the phenomenon of "input" or "qualification" inequity does not exist, and what have been considered effects of IOC are, in fact, effects of "reaction to devalued self-esteem." If this premise is true, then, as far as productivity is concerned, one would expect an interaction effect of inequity (IOC and equity-low conditions) and "performance orientation." IOC-EO Ss should produce more than equity-EO, and IOC-TO should produce about the same as equity-TO (Hypothesis B-1). The reasoning for this is as follows: if inequity effects do not exist, and only "reaction to devalued self-esteem" is operating, then this "reaction" should be manifested only, or at least mainly, in the "ego-orientation" condition, where the task abilities involved are valued and central to the self-concept of a person.

Since the second premise deals with the possibility that IOC

inequity does not exist, it seems conceivable to hypothesize that a change in "perception of qualifications" will not be used as a means to resolve inequity. On the other hand, such a change might reflect a "reaction to devalued self-esteem," since Ss in the EO-IOC condition might challenge E's cognitions about their low qualifications. If this is true, it is expected that EO-IOC Ss will perceive themselves to be more qualified than TO-IOC Ss. Both TO-IOC and EO-IOC Ss should perceive themselves to be less qualified than the two EQ2 groups. Thus, a main effect of inequity and an interaction effect may be expected (Hypothesis B-2).

It should be noted that both premises deal with what may happen in extreme cases--first, when "reaction to devalued self-esteem" is assumed to be nonexistent, and second, when only "reaction to devalued self-esteem," rather than IOC inequity is assumed to operate. Of course, it is possible that both phenomena exist and operate. It is quite difficult to specify hypotheses for this case. A conceivable possibility is that the combined effect of IOC inequity and "devalued self-esteem" is larger than each of those alone--ignoring possible factors such as ceiling effects of performance and motivation. If this is true, interaction is expected, as under the second premise, with the addition that main effect of inequity should also be demonstrated. It is important that the TO-IOC mean will be significantly larger than the TO-EQ2 mean. The interaction, of course, should be due to a larger difference of the EO-IOC and the EO-Eq2 means.

Predictions regarding changes of "perception of qualifications"

seem to be the same as under the second premise, because, as has been previously mentioned, these changes are not likely to be resorted to as means to reduce inequity, but might possibly reflect a "reaction to devalued self-esteem."

The third premise deals with the possibility that the phenomenon of OOC inequity actually does not exist, and what have been considered effects of OOC are just an artifact of the direct effects of absolute levels of pay on performance. In other words, the higher performance that has been found in what has been considered OOC inequity can be actually attributed to the higher pay received by Ss in this condition in comparison with a control-equity condition. This notion is quite distinct from the inequity notion, since it will predict differential behavioral and attitudinal consequences of equitably paid Ss as a function of their absolute pay, whereas the inequity notion does not regard the absolute pay as a crucial factor, and would not make differential predictions for equitably paid Ss (equity, of course, defined in Adams' terms), no matter what their actual pay is.

If this premise is true, a main effect of inequity should be found on the productivity measure. There should not be a difference between the high-equity and OOC conditions (in both, Ss will get \$3.00 per hour), but both of these conditions will be higher than the low equity group (\$2.00 per hour). No interaction should be expected (Hypothesis C-1).

Since this premise does not involve any assumption of

dissonance, no effects should be expected for all six conditions on the "utility of money" measure (Hypothesis C-2).

The above discussions of possible hypotheses have concentrated on three dependent variables: productivity (quantity of performance), perceived qualification ("attitudinal" input variable), and utility of sum of money ("attitudinal" outcome variable). In addition to productivity, a behavioral measure of quality of work will be taken. The general hypothesis is that in an overcompensation-hourly pay situation, where equal emphasis is placed on "quantity" and "quality," the salient variable will be "quantity," and no effects should be expected in relation to "quality" (Hypothesis D). Both measures of "quantity" and "equality" will be taken twice; early in the work session, and at the completion of it. That will allow study of the inequity phenomenon in relation to temporal sequences.

Additional attitudinal dependent variables on the side of input variables include: perception of effort exerted and perception of complexity of the task. An additional outcome variable is interest in the task. Two other variables serve as checks on manipulations: the personal importance of working on the job (check on the "orientation" manipulation) and perception of how high the pay is. In addition, a rating measure of "liking the job" will be taken.

The procedure of the experiment (which will be described in detail in the next chapter) allows obtaining a measure of "initial ability" to perform the task. This variable may serve both as a covariate and independent variable. As an independent variable it may be employed in testing the general hypothesis that inequity

processes and effects may be operating to a larger degree with low ability Ss, than with high ability ones. This implies, in general, an interaction of inequity and ability (Hypothesis E).

Another variable which will be introduced as both covariate and independent variable is achievement motivation. This variable is relevant to a possible hypothesis that high achievement Ss are less affected by inequity procedures than low achievement Ss. Again, interaction between achievement and inequity is implied (Hypothesis F). Introducing the achievement motivation variable will also permit testing the hypothesis that Ss with high need for achievement will perform better under "ego-oriented" conditions than those with low need for achievement (Hypothesis G). This hypothesis was supported by studies by French (1955) and Atkinson (reported in McClelland et al., 1953).

In addition to achievement motivation, another variable which may bring about different motivational states within a given inequity situation is "causal attribution" (Weick, 1965), i.e., to what extent Person is responsible for the occurrence of the inequity, and to what degree its occurrence is beyond Person's control. This, of course, is related to the problem of volition, or free choice, which is an important element in dissonance theory and research. It is conceivable that the less Person perceives himself responsible for the situation, and the less he has control over it, the less will be the dissonance in the inequity situation. Ss' predisposition to "causal attribution" will be measured and determined by Rotter's "Internal-External Locus of Control" inventory.

The hypothesis is that Ss that are high on "internal locus of control" may experience more inequity than the "external control" Ss in the same condition (Hypothesis H).

Summary of Main Hypotheses

Premise A

The inequity model holds. No other processes can account for the inequity effects.

- 1) Main effect of orientation and inequity should be found on the productivity data. IOC Ss should produce more than OOC groups, and both of these conditions should be higher in productivity than the equity conditions. No interaction of orientation and inequity should be expected.
- 2) Main effect of inequity on qualification rating should be expected. IOC Ss should rank themselves lower on qualification than Ss in the other conditions.
- 3) Main effect of inequity on "utility of money" rating should be expected. OOC condition should be lower in that respect than the IOC and equity groups.

Premise B

IOC inequity is not a real phenomenon. Only the phenomenon of "reaction to devalued self-esteem" is operating.

- 1) Interaction of inequity (IOC, EQ2) and orientation on the productivity data is expected. IOC-EQ Ss should produce more than equity-EQ Ss, and IOC-TO Ss should produce about the same as equity-TO Ss.

- 2) Main effect of inequity and interaction of inequity and orientation on the qualification data are expected. Both IOC groups should perceive themselves less qualified than the two EQ2 groups, but the EO-IOC Ss should rate themselves higher on qualification than TO-IOC Ss.

Premise C

OOO inequity is not a real phenomenon. What have been considered effects of OOC are just artifacts of the direct effects of absolute levels of pay on performance.

- 1) Main effect of inequity on productivity data is expected. There should not be a difference between EQ3 and OOC conditions, but both of these conditions should be higher than the EQ2 groups.
- 2) No effects should be expected for EQ3, OOC and EQ2 conditions on the "utility of money" measure.

Hypothesis D

In an overcompensation-hourly pay situation where equal emphasis is placed on "quantity" and "quality," no effects should be expected in relationship to "quality."

Hypothesis E

High ability Ss will be less affected by inequity procedures than low ability Ss. Interaction of ability and inequity is expected.

Hypothesis F

High achievement Ss will be less affected by inequity procedures

than low achievement Ss. Interaction of achievement and inequity is expected.

Hypothesis G

High achievement Ss will perform better under "ego oriented" conditions than low achievement Ss. Interaction of achievement and orientation is expected.

Hypothesis H

"Internal control" Ss will experience more inequity dissonance than "external control" Ss. Interaction of "control" and inequity is expected.

Hypothesis I

Main effect of orientation on the productivity data. Under each condition of inequity (equity), "ego oriented" Ss should produce more than "task oriented" Ss.

II. METHOD

General Method and Procedure

The present study is a laboratory experiment, manipulating as independent variables 4 levels of inequity and 2 levels of performance orientation. The main dependent variables are productivity of work, perception of one's own qualifications and perception of utility of a sum of money. Other dependent variables include quality of work and self-ratings of the following: (1) amount of effort exerted, (2) interest in the task, (3) liking the task, (4) complexity of the task, (5) personal importance of doing well on the task, and (6) perception of the pay. The following individual differences measures were also taken: (1) ability, (2) achievement motivation, and (3) internal-external locus of control. The first two also serve as covariate variables.

The experiment was conducted in three rooms at the Human Performance Center building on The Ohio State University campus. One room served as the "employer's" office, and in the other two rooms Ss worked on their task. The 96 Ss were all Ohio State University students, mostly undergraduates, but including several graduate students, from various departments and colleges. Psychology students were not used as Ss.

The design scheme is as follows:

	Input Overcompensation (\$2.00)	Equity \$2.00	Outcome Overcompensation (\$3.00)	Equity \$3.00
ego orientation performance				
task orientation performance				

Subjects

Ninety-six male students at The Ohio State University were recruited by the University Employment Office. The job opening and the referral to the Employment Office were announced by an advertisement in the students' newspaper, stating: "Students needed--help in collecting and processing research materials. Two hours work--\$2.00 (\$3.00) per hour." The Employment Office scheduled and referred the students to the prospective employer.

Twelve Ss were assigned randomly to each of the following six groups: Equity--"task" and "ego" orientation (EQ2-TO, EQ2-EO); input-overcompensation--"task" and "ego" orientation (IOC-TO, IOC-EO), and outcome-overcompensation--"task" and "ego" orientation (OOC-TO, OOC-EO). For each of the Ss assigned to these conditions the job was advertised as paying \$2.00 per hour.

Twenty-four additional Ss were assigned randomly to two other equity groups, for which the job was advertised as paying \$3.00 per

hour. These groups are EQ3-T0 and EQ3-E0. The Ss in these conditions were run after the running of Ss in the above mentioned six groups.

Task

Basically, the task consisted of extracting five-letter words from a source and performing several verbal manipulations related to these words. An exact description of the task will follow in the next section.

The selection of this particular task was based on the following considerations:

1) The task should be perceived as credible for both groups of Ss--the Ss who think they are working on a psycholinguistic project (task-oriented performance), and the Ss who think they are helping in developing a psychological test of "mental alertness" (ego-oriented performance).

2) The task should be sensitive to motivational changes, and should not possess an inherent interest value.

3) The task should be easy to learn, and should not feature large individual differences in the basic abilities involved.

4) The task should lend itself to single and clear quantity and quality measures of performance.

5) The measures of quantity and quality should not correlate highly with each other, so that independent changes in these measures can be assessed.

Procedure

When the subject arrived at the office of the prospective employer, the following procedure was carried out:

1. The S was informed about the sponsor of the job. If the S was to be assigned to the "ego-orientation" conditions he was told the sponsor was the "American Testing Service" (ATS). If he was to be assigned to the "task-orientation" conditions, he was informed that the sponsor was the "American Psycholinguistic Society" (APS).
2. E asked S for information such as address, social security number, major and rank. This information was included in a "Temporary Employment Confirmation" form (See Appendix A).
3. E then told S that, as part of the hiring procedure, it was necessary to have him work for a short time on a specific task which is very similar to the actual job. S was told that the "secretary in the other room, who also worked part-time for the ATS (APS), checks the work, and primarily on the basis of it she makes the decision whether to hire a particular student." S was also told that this short work period would be good practice for him. S was then presented with a printed sheet including a French prose passage, entitled "Standard Practice 6" (See Appendix B). He was asked to go through the passage and to write down on the form he was given (See Appendix C) each 5-letter word he came across. For each word he wrote down he was asked to perform the first five of seven

operations that were specified on a form entitled "operational specification-Task 17" (See Appendix D). The operations were as follows:

- A) Notice the word immediately preceding the 5-letter one. If it contains three or more letters, write Y in this column. Otherwise write N.
- B) Put down Y if the preceding word to the 5-letter one contains two vowels or more. Otherwise write N.
- C) Put down Y if the 5-letter word appears as the first or second word in the sentence. Otherwise write N.
- D) Put down Y if a comma follows the 5-letter word. Otherwise write N.
- E) Notice the immediately preceding and following words to the 5-letter one. If any is a 2-letter word, write it down in the appropriate column. Otherwise leave the space blank.
- F) If the sentence in which the 5-letter word appears contains more than 10 words, put down Y. If it contains 10 or less words, write down the exact number of words.
- G) Put down a check mark if there are more than one 5-letter words in the sentence. Otherwise leave the space blank.

S was given about a minute to read the operations, being told that he could use the form of the specifications while working. After eight minutes of work E collected the filled form, and asked S to wait for him a couple of minutes until he comes back from the "secretary." The eight-minute work period provided for the measure of "initial ability."

4. When out of the room E filled out the rest of the "Temporary

Employment Confirmation" form (Appendix A). When he came back, he proceeded with the appropriate experimental inductions.

Equity-task oriented performance condition

"The sponsor of this job is the American Psycholinguistic Society. They work now in cooperation with several universities including O.S.U., in a project which has lasted for the last several months. The project as a whole is about to be completed, and it seems that for future projects of this kind the APS won't use any more people to collect the data, since they are developing computer programs for that purpose, which probably will be more efficient. Meanwhile, the APS prefers many people--as many as needed--working on the job for a short time each, rather than fewer people working for longer periods. The reason for it is the nature of these jobs, as you yourself might shortly realize. It simply turns out to be more efficient for them. Basically the APS is concerned with a comparative study of different languages from the point of view of the statistical organization of languages. I must admit that I myself don't know much about this area. It's not my field, and I am only administrative assistant here as part of my duties as graduate assistant. Anyway, very generally, this kind of research deals with the probability characteristics of letters, or words, or any other kind of language unit. Probabilities are calculated for characteristics like order of units, frequency of occurrence of certain units in given structures, and so forth. As a simple example of the nature of this kind of study, take the case of the letter "q" and "u" in the English language. The probability is 100% that "u" will follow "q", always. Similarly, two given words may very often appear next to each other, whereas two other words may seldom or never appear together. This kind of research is important to determine indexes of meaningfulness of grouping of units in different languages, and it is essential in comparative study of languages.

"You may already realize that your job will be basically a matter of simple counting of certain units in relation to others. Many different kinds of jobs of this nature are carried out, and the one you will be doing today is just one of them.

"On the basis of past experience the APS does not approve hiring everybody for this particular task. That is the reason why we gave you, when you came in, the short standard test. We determine the degree of the applicants qualifications on the basis of this test. Your score was all right. It is possible to say that you have the average qualifications for this job. So we will hire you for

\$2.00 an hour, which is the amount the APS pay to all qualified people for this particular task wherever it is carried out.

"Now I'll show you what you actually are going to do today. It is basically the same as the standard test you took before (E then explains the task briefly).

"As you can easily see for yourself the only thing this job requires is trivial clerical abilities. Still the APS expects, of course, the people that work for them to get done as much as they can with minimum of errors.

"All together you won't spend more than two hours here. Now, I'll show you were to sit and work."

The actual task was almost the same as the eight minute test performance, except that S was asked to perform all seven operations, and instead of using as a source the standard French passage, he was presented with a French book from which he was supposed to extract the words. S was told that different workers received different sources, in different languages and each source was sampled; all this was done according to the APS specifications. S could see on E's desk many books--supposedly different sources. Of course, all Ss worked on the same book, starting from the same page.

Equity-ego oriented performance condition

"The sponsor of this job is the American Testing Service. They work now in cooperation with several universities, including O.S.U., in developing and constructing a new test of mental ability. The ability is called "Mental Alertness," and it is an important component of general intelligence. More precisely, "mental alertness," as defined by the developers of the test, is the ability to deal quickly and accurately with demands of changing operations. It was found to be very important for successful performance in quite a few scientific and management areas.

"The ATS is now in the final stages of developing the test. They attempt to refine items and operations and to find the optimum length of testing. The performance of the people we hire now helps in working out these problems. We also may relate the performance

of people we hire to personal variables, like grade average, and I.Q.

"Inherent in the demands of this specific stage of test development is the requirement that we hire people that don't score below a certain point on the short standard test I gave you when you came in. Your score was all right, and it is possible to say that you have the average qualifications for the job. So, we will hire you for \$2.00 an hour, which is the amount the ATS pays to all qualified people for that particular job wherever this project is conducted.

"Now I'll show you your actual job, which is basically the same as the practice test you had taken. (E then explains the task briefly.)

"As I said before, your performance is important to the final stages of developing the test, and it also will provide a very good measure of an important component of your general intelligence, which will be compared in the research done at the psychology department here to other personal variables which we will obtain. Of course, the purpose of your performance is to get as much as possible done with a minimum of errors.

"You belong to a group which works on the task for 70 minutes. Now, I'll show you where to sit and work."

The actual task was exactly the same as in the "task oriented performance" condition. Ss were told that different groups of participants received different sources, as part of the requirements of the test development program.

The same induction was given to the two \$3.00 equitably paid groups, except, of course, that the equitable pay was \$3.00 instead of \$2.00 per hour.

Input overcompensation (both "ego" and "task" orientation conditions)

When E came back to his office after presumably checking the test with the "secretary," he said to S, somewhat hesitantly: "Well, there is some problem regarding your performance on that task which I asked you to work on. But before we will see what to do about it,

let me tell you anyway very briefly what this thing is all about."

E proceeded with the induction for both IOC conditions, exactly as was specified above for the equity groups, until the point, where it said "your score was all right..." Then, instead of continuing with the paragraph starting with those words, E said:

"Your score was somewhat below the point which would have qualified you for the job. So, it is possible to say that you don't have what the ATS (APS) would consider as the standard qualifications for the job. Usually, in the past, we used to hire people like you, who were not quite qualified for the present job, for some other jobs related to the test development program (related to the general psycholinguistic project) and which might be somewhat simpler, and paid them \$1.35 per hour--in accordance with their lower qualifications. However (E hesitates), we don't have at the moment any of these other tasks, so I can't offer any of them to you. We really did not know what to do.... Since we need people for the job, and we sort of hate to ask a person to leave, Mrs. Jones (the secretary) and I decided to hire you anyway for the job and pay you \$2.00 per hour. So, in spite of the fact that actually, according to the ATS (APS), you are qualified just for the \$1.35 jobs, we will hire you for the \$2.00 job that we advertised and pay you this amount.

From this point E proceeded exactly as in both equity inductions, starting with the words "Now I'll show you..."

Outcome overcompensation (both "ego" and "task" orientation)

E started the induction for both OOC groups, exactly as was specified above for their respective equity groups, until the point where it said, "So, we will hire you..." Then, instead of continuing with that paragraph, E proceeded as follows:

"So, we will hire you for this job. There is, however, I guess, some good news for you. Two days ago we got authorization from the ATS (APS) to pay the people that work on this project \$3.00 per hour instead of the standard pay of \$2.00 an hour. My boss here, Dr. Brown, who has been working for the APS (ATS) for quite some time already, says that they used to do the same in some past projects too. Whenever they were about to complete a project, and they found that they had some grant money left unused, they would use this money to pay some more to the students that worked

for them, rather than returning all of it to the government, or whoever granted it. It probably helps in public relations. Of course, relatively very few students will profit from it--only those that would be hired this week, which is the project's last. All of those many others who worked on the project throughout the last several weeks got, of course, \$2.00 per hour. So, in fact, you are getting more than the large majority of the students who worked on this project and who are as qualified as you are.

The IOC and OOC manipulation may create cognitions which will bring about the following set of ratios of inputs over outcomes:

	<u>Person's qualifications</u> Person's pay	<u>Other's qualifications</u> Other's pay	Inequity
IOC	$\frac{1.35}{2.00}$	$\frac{2.00}{2.00}$	$\frac{1}{3}$
OOC	$\frac{2.00}{3.00}$	$\frac{2.00}{2.00}$	$\frac{1}{3}$

The assumption in this analysis is that IOC Ss will perceive their qualifications as "valued" at \$1.35 per hour, while their pay is \$2.00. Similarly, OOC Ss will perceive their qualifications as "valued" at \$2.00 per hour while their pay is \$3.00. The resulting inequity--using Adams' formulation--should be the same in both conditions.

5. S was taken to another room where he worked alone for 70 minutes. Before S started working, E had presented him with the completed form of "Temporary Employment Confirmation" (Appendix A), in which the exact hiring procedure had been stated, that is, the standard pay, the pay that S actually had received, his qualifications, etc. S was asked to sign the original form, and was given a copy. This procedure intended to make the induction more salient

for S upon starting his work. Twenty minutes after S had started working, E entered his room "to see if there are any questions" and to tell him "not to forget to number his completed data forms as he goes along." At this point E observed how far along S was in his work (No. of words processed), and marked it down upon leaving the room.

6. After 70 minutes work, E told S that he had completed his job, and asked him to fill out a "worker's job evaluation questionnaire" (Appendix E) which would "help ATS (APS) in planning and improving future employment setups for students." In this questionnaire S responded to the following 7-point rating scales:

- 1) Rate the degree of your qualifications to perform this task.
- 2) Considering your general needs at the present time, how useful and valuable to you are the following amounts of money?

a) \$0.75b) \$4.00c) \$6.00
- 3) Rate the amount of effort you feel you put in the task.
- 4) Rate the degree you feel the job was interesting.
- 5) Rate the degree of complexity of this job.
- 6) Rate the extent you liked working on the job.
- 7) Rate the extent you felt that doing well on the job was important to you personally.
- 8) The pay for the job is: (very high - very low)

Item 2 includes three amounts of pay in order to account for

the fact that half of the Ss received \$6.00 as their pay for the job, and the other half \$4.00. The \$0.75 was included to provide a more or less clear and equivalent reference point for the rating.

7. After S had filled out the questionnaire he was paid, and told that he might leave if he wished. He was asked, however, if he would mind staying an additional 20-25 minutes to "help me (E) in my own thesis research--and after all, you are short about 20 minutes of your full two hours." No S refused. At that point Ss were given French's "test of insight" (1958), as an achievement motivation measure, and Rotter's "Internal-External Locus of Control" inventory. (Appendix F and G). In the "Locus of Control" inventory only 11 items were used, which represented factors of general "internal-external control" and "luck." Items representing attitudes toward the nature of politics were excluded (Raines, 1968). This was done primarily to shorten the time Ss had to stay in the laboratory.
8. Ss were encouraged to say what they felt and thought about the "job." This unstructured-non-formal interview was intended mainly to provide additional checks on the manipulations. Before leaving, Ss were told the real purpose of the project.

III. RESULTS

All analyses were carried out employing the analysis of variance program by Clyde, Cramer and Sherin (1966). The method of analysis is described by Bock (1963).

Manipulation Checks

A) Perception of pay. The summary of the Anova presented in Table 1 indicates a main effect of inequity on the self-rating measure of "perception of pay" ($p < .001$, $df: 1, 88$). Figure 1 presents means of rating of pay perception as a function of inequity conditions. Both the \$2.00 an hour groups (IOC, EQ2) perceived their pay as lower than the \$3.00 groups (OOC, EQ3). All groups perceived their pay as higher than average.

B) Personal importance of doing well on the job. It was expected that the ego-oriented Ss would feel more strongly than the task-oriented Ss that it was important for them to do well on the job. A 2 X 4 Anova of the self-rating of "personal importance" did not reveal a main effect of "orientation," however. In spite of the fact that this particular check failed to show the appropriateness of the "orientation" manipulation, it is quite clear that the manipulation did "take." This can be demonstrated from the strong main effect of "orientation" on the productivity data in all the analyses done, as will be reported in this chapter.

C) Perception of qualification. This variable was incorporated in the experiment in order to test some of the hypotheses (A-2 and B-2) rather than as a direct check on the manipulation. However, it reflects on the appropriateness of the "qualification" manipulation as will be discussed shortly in this chapter and in the chapter of "Discussion and Conclusion."

Premise A

The analysis which is most appropriate to test the hypotheses stated under the first premise is a 2 X 4 analysis of variance, including all 8 conditions manipulated in the experiment. This analysis was performed for all dependent variables.

Productivity Data

Productivity was measured by the number of 5-letter words processed by each S. This measure was taken for the entire work period (70 minutes) and for the first 20 minutes of work.

Table 2 summarizes the Anova for the entire work period and Figure 2 shows mean productivity as a function of "orientation" for all inequity groups for that period. Only the main effect of orientation--in line with Hypothesis I--was found to be significant ($p < .001$, $df = 1, 88$), as for each inequity condition EO Ss produced more than TO Ss. A similar pattern of results was found for the first 20 minutes of work (Table 3 and Figure 3).

This pattern is not in accord with Hypothesis A-1 which predicts a main effect of inequity and a significantly higher mean of IOC-TO than the means of the EQ-TO groups. As can be seen from

Table 1

Summary of a 2 X 4 Anova on the "Perception of Pay" Data

Source	df	MS	F	p
orientation	1	0.753	1.076	.302
inequity	1	12.162	17.385	.001
or X ineq	3	1.336	1.910	.134
error	88	0.699		

Table 2

Summary of a 2 X 4 Anova on the Total Productivity Data

Source	df	MS	F	p
orientation	1	38240.166	40.900	.001
inequity	3	1240.847	1.327	.271
or X ineq	3	1249.916	1.337	.268
error	88	934.953		

Table 3

Summary of a 2 X 4 Anova on the First 20 Min. Productivity Data

Source	df	MS	F	p
orientation	1	2137.594	30.087	.001
inequity	3	86.622	1.219	.308
or X ineq	3	154.621	2.176	.096
error	88	71.048

Figure 1. Mean ratings of pay perception as a function of inequity.

Figure 2. Mean of total productivity as a function of orientation for all inequity groups.

Figure 3. Mean of first 20 min. productivity as a function of orientation for all inequity groups.

Figure 2, the IOC-TO mean is lower than the equity means which contrasts with equity model prediction stated under the first premise. Hypothesis A-1 excluded a possibility of interaction. Again, Figure 2 shows a clear interaction tendency, even though this effect does not reach significance.

Quality of work data

The quality data was analyzed in the form of per cent errors of total words processed for each S. The within cells correlations (based on the 2 X 4 Anova) between productivity and quality for the entire work period is $-.05$, and for the first 20 minutes it is $-.01$. The quality data for both work periods does not show any significant effect. Figure 4 shows mean quality as a function of "orientation" for all inequity groups. As the above correlations and Figure 4 show, high productivity was not achieved at the expense of lower quality. In fact, the TO conditions, which were lower on productivity than the EO conditions, show somewhat higher percentage of errors. This is especially true with regard to the IOC-TO group. In general, then, Hypothesis D is supported.

"Qualification" data

"Qualification" was measured on the basis of self-rating on a 7-point scale. Table 4 summarizes the Anova for these data. A main effect of inequity ($p < .001$, $df = 1,88$) was found where both IOC groups rated themselves lower than the rest of the groups. This can be seen from Figure 5 which presents mean "qualification" ratings as a function of "orientation" for all equity groups. This is in

accord with Hypothesis A-2 specified under the first premise. It should be noted (Figure 5), that IOC groups rated their qualifications just about average (3.5), whereas the other group rated themselves much higher. All groups rated their qualifications higher than those specified by E. It is recalled that IOC Ss were told that their qualifications were somewhat below average, while the Ss in all other conditions were told that they had average qualifications.

Utility and importance of money

The following pattern of intercorrelations was obtained for the 3 different amounts of money which Ss rated as to their utility and value:

	<u>\$0.75</u>	<u>\$4.00</u>	<u>\$6.00</u>
\$0.75		.653	.448
\$4.00			.848

The relatively high correlations were, of course, expected, particularly the one between the amounts \$4.00 and \$6.00. Analysis of variance is presented for the \$4.00 data. Table 5, which summarizes the Anova, shows main effect of inequity ($p < .05$, $df = 1,88$). Figure 6 shows the mean self-ratings of utility of money as a function of inequity conditions for both the \$4.00 and \$6.00 amounts of money. The very similar pattern of curves for both "money" measures is in accord with the high correlation reported above. The effect for the \$6.00 measure, however, was not found to be significant, probably as a result of an anchoring effect. In

Table 4

Summary of a 2 X 4 Anova on the "Qualification" Data

Source	df	MS	F	p
orientation	1	1.898	1.763	.188
inequity	3	6.968	6.470	.001
or X ineq	3	2.093	1.943	.128
error	88	1.077		

Table 5

Summary of a 2 X 4 Anova on the "Utility as \$4.00 Data

Source	df	MS	F	p
orientation	1	0.128	0.061	.805
inequity	3	7.635	3.672	.015
or X ineq	3	2.364	1.137	.339
error	88	2.079

Figure 4. Mean quality in entire work period as a function of orientation for all inequity groups.

Figure 5. Mean qualification ratings as a function of orientation for all inequity groups.

Figure 6. Mean utility of money ratings as a function of inequity for \$4.00 and \$6.00.

spite of the fact that the inequity effect for the \$4.00 measure was found to be significant, the pattern of the means is not in accord with inequity predictions, as stated under Hypothesis A-3. Inequity theory would predict the OOC condition to be lower than the rest of the groups. This was not found. A most legitimate comparison in this context is between OOC and EQ3 conditions since they are equal in the actual amount of pay received (\$6.00). In contrast to what might have been expected, OOC Ss did not value \$4.00 less than EQ3 Ss.

No other dependent variables except of the perception of pay (a manipulation check) was affected significantly by inequity, orientation or interaction of those. Some tendency can be noted, however, for the variables of "effort" and "interest" to be affected by orientation. Ego-oriented Ss tended to perceive their job as more interesting, and thought they put more effort in the job (Tables 6 and 7 and Figures 7 and 8, respectively).

Ability as a covariate

The measure of ability consists of productivity in the 8-minute test period. Analysis of variance on the ability data did not show any significant effect. A within cells correlations between ability and productivity in the first 20 minutes and in the entire period were .668 and .688, respectively. The correlations between the other dependent variables and ability clustered around the zero point.—

The 2 X 4 analysis presented and discussed above was recomputed

Table 6

Summary of a 2 X 4 Anova on the "Interest" Data

Source	df	MS	F	p
orientation	1	10.010	3.562	.062
inequity	1	5.705	2.030	.116
or X ineq	3	0.177	0.063	.979
error	88	2.809		

Table 7

Summary of a 2 X 4 Anova on the "Effort" Data

Source	df	MS	F	p
orientation	1	3.760	3.815	.054
inequity	1	1.174	1.191	.318
or X ineq	3	1.476	1.497	.221
error	88	0.986

Figure 7. Mean interest ratings as a function of orientation for all inequity groups.

Figure 8. Mean effort ratings as a function of orientation for all inequity groups.

with the variable "ability" as a covariate. As might have been expected the within cells regression was found to be significant only for the 20 minute and total productivity variables.

Table 8 summarizes the analysis of covariance for total productivity. As in the analysis of variance (Table 2), "orientation" was highly significant ($p < .001$, $df = 1,87$). Inequity, however, which was not found to be significant in the 2 X 4 Anova, reached significance in the analysis of covariance. As can be seen from Figure 9, which represents the means of the 8 conditions adjusted for ability as a covariate, the pattern is very similar to the one on which the 2 X 4 Anova was based. Hypothesis A-1, which assumed the inequity model for both IOC and OOC conditions, indeed predicted main effect of inequity--but it specifically emphasized that the IOC-T0 mean should be higher than the EQ2-T0 mean. This condition did not materialize, as shown in Figure 9. The interaction of "orientation" and "inequity" did not quite reach significance in this analysis either.

Table 9 summarizes the analysis of covariance for the data of productivity in the first 20 minutes. For this measure the interaction of "orientation" and inequity reached significance ($p < .05$, $df = 3,87$), while equity main effect was short of it. "Orientation," again, displayed a highly significant effect ($p < .001$, $df = 1,87$).

Achievement motivation as a covariate

Unexpectedly, the within cells correlations, based on the 2 X 4

Table 8

Summary of a 2 X 4 Analysis of Covariance ("Ability" As a Covariate)
on the Total Productivity Data

Source	df	MS	F	p
regression	1	38946.197	78.196	.001
orientation	1	29238.624	58.705	.001
inequity	3	1473.810	2.959	.037
or X ineq	3	850.339	1.707	.171
error	87	498.048		

Table 9

Summary of a 2 X 4 Analysis of Covariance ("Ability" As a Covariate)
On the First 20 Min. Productivity Data

Source	df	MS	F	p
regression	1	2791.848	70.195	.001
orientation	1	1576.205	39.630	.001
inequity	3	95.156	2.392	.074
or X ineq	3	114.478	2.878	.041
error	87	39.778

Figure 9. Adjusted total productivity means as a function of orientation for all inequity groups.

Anova, between achievement motivation and total and first 20 minutes productivity were found to be $-.142$ and $-.089$, respectively. The correlations between achievement motivation and the other dependent variables ranged between $-.163$ and $+.113$. Analysis of covariance on the dependent variables with achievement as a covariate did not provide for any significant within cells regression. 2×4 Anova on the achievement scores did not reveal any main effect of inequity or orientation, or their interaction.

Premise B

The hypotheses under the second premise deal only with the IOC and EQ2 conditions, since the assumption under this premise is that IOC manipulation does not create inequity dissonance. Rather, it raises "reaction to devalued self-esteem." The most appropriate way, then, to treat the data relevant to this problem, is by 2×2 Anova. The design should include the two levels of "orientation," and two levels of inequity: IOC and EQ2.

Productivity

Table 10 summarizes the analysis of variance for the productivity data for the whole work period. "Orientation" was found to be significant ($p < .001$, $df = 1,44$). "Equity" main effect was not significant. The interaction of "orientation" and "inequity" did not quite reach an acceptable level of significance. Figure 10 shows mean productivity as a function of orientation for both IOC and EQ2 conditions. The pattern of these results is in accord with

Table 10

Summary of a 2 X 2 Anova on the Total Productivity Data

Source	df	MS	F	p
orientation	1	24570.750	27.940	.001
inequity	1	396.750	0.451	.505
or X ineq	1	3040.082	3.457	.070
error	44	879.419		

Table 11

Summary of a 2 X 2 Anova on the First 20 Min. Productivity Data

Source	df	MS	F	p
orientation	1	1365.333	19.959	.001
inequity	1	48.000	0.702	.407
or X ineq	1	420.083	6.141	.017
error	44	68.409

Figure 10. Mean total productivity as a function of orientation for IOC and EQ2 conditions.

Hypothesis B-1, even though the level of significance of the interaction is short of .05.

Table 11 summarizes the Anova for the initial 20 minute productivity data. Both interaction of "inequity" and "orientation," and the main effect of "orientation" are significant ($p < .05$, $df = 1,44$; $p < .001$, $df = 1,44$ respectively). Thus, these data show the same patterns as the total productivity data, while reaching acceptable significance level.

The above 2 X 2 analysis was redone with the ability variable as a covariate. Tables 12 and 13 summarize the analysis of covariance for the total productivity and first 20 minute productivity data, respectively. It can be seen that--ability being controlled--the interaction of inequity (IOC, EQ2) and orientation is significant for both total and 20 minute productivity ($p < .05$, $df = 1,43$; $p < .005$, $df = 1,43$ respectively), while in the 2 X 2 Anova presented above, the interaction effect in the total productivity data was short of significance. It is possible to conclude, then, that the production Hypothesis B-1 is indeed supported.

Additional support for this hypothesis comes from a 2 X 2 X 2 analysis of variance including the variables inequity (IOC, EQ2), orientation and ability. Within each condition of inequity and orientation, Ss were divided on the basis of their productivity score in the 8 minutes "test" into "high" and "low" ability groups. The median ability score in an inequity-orientation treatment combination was the "cut-off" point for the above division. The summary of the 2 X 2 X 2 Anova is given in Table 14. It indicates

Table 12

Summary of a 2 X 2 Analysis of Covariance ("Ability" As a Covariate)
on Total Productivity

Source	df	MS	F	p
regression	1	19526.239	43.805	.001
orientation	1	18551.563	41.618	.001
inequity	1	214.792	0.482	.491
or X ineq	1	1980.827	4.444	.041
error	43	445.758		

Table 13

Summary of a 2 X 2 Analysis of Covariance ("Ability" As a Covariate)
on First 20 Min. Productivity

Source	df	MS	F	p
regression	1	1591.587	48.256	.001
orientation	1	970.787	29.433	.001
inequity	1	29.428	0.892	.743
or X ineq	1	304.417	9.230	.004
error	43	32.982		

Table 14

Summary of a 2 X 2 X 2 Anova on the Total Productivity Data

Source	df	MS	F	p
orientation	1	24570.750	36.517	.001
inequity	1	396.750	0.590	.447
ability	1	11285.334	16.772	.001
or X ineq	1	3040.083	4.518	.040
or X AB	1	12.000	0.018	.084
ineq X AB	1	0.333	0.000	.982
or X AB X ineq	1	481.334	0.715	.403
error	40	672.884		

Table 15

Summary of a 2 X 2 Anova on the "Qualification" Data

Source	df	MS	F	p
orientation	1	0.083	0.067	0.797
inequity	1	18.750	15.115	.001
or X ineq	1	2.083	1.679	0.202
error	44	1.241		

a significant interaction of inequity and orientation ($p < .05$, $df = 1,40$).

Qualification

Table 15 summarizes the 2 X 2 Anova for the "perception of qualification" self-ratings. A highly significant main effect of inequity was obtained ($p < .001$, $df = 1,44$), as can be seen also in Figure 11, which presents mean "qualification" ratings as a function of "orientation" for IOC and EQ2 groups. An interaction effect was not found. Thus, IOC-EO Ss did not raise the perception of their qualification to a higher level than those of IOC-TO Ss, as probably could have been expected under conditions in which "reaction to devalued self-esteem" is operating (Hypothesis B-2).

The 2 X 2 Anova, including the two "orientation" levels and IOC and EQ2 inequity levels also shows a main effect of "orientation" on the data of the "effort" ratings ($p < .05$, $df = 1,44$). Table 16 summarizes this analysis, and Figure 12 shows mean "effort" ratings as a function of "orientation" for both IOC and EQ2 groups. It can be seen that EO Ss seem to perceive themselves as exerting more effort on the job.

Premise C

The third premise deals, as has been said, with OOC inequity, and with the possibility that what has been considered OOC effect might actually be an artifact of direct effects of absolute levels of pay on performance. The hypotheses under this premise, then, deal only with the OOC, EQ2 and EQ3 conditions of inequity, and

the most appropriate analysis is a 2 X 3 Anova with 2 levels of "orientation" and the three levels of "inequity."

Productivity

Tables 17 and 18 summarize the Anova for the total and the first 20 minutes productivity data, respectively. For both measures only the "orientation" effect was found to be significant ($p < .001$, $df = 1,66$). Figures 13 and 14 represent mean productivity as a function of orientation for the 3 inequity levels of both work periods and first 20 minutes work, respectively.

When these data were reanalyzed by analysis of covariance--ability being a covariate--the effect of inequity reached significance for both total and 20 minutes productivity measure ($p < .05$, $df = 2,65$) as summarized in Tables 19 and 20, respectively. As can be seen from Figures 13 and 14, OOC Ss produce more than EQ2 and EQ3 Ss, who are about equal in productivity. This pattern is in accord with what might be expected if OOC inequity actually exists and is in contrast to Hypothesis C-1.

Utility and importance of money

The 2 X 3 Anova does not indicate any main effect or interaction of the rating data of "utility of money." The 2 X 4 Anova, discussed above, which included also the IOC level of inequity, showed an effect of inequity (Table 5, Figure 6). Apparently, it is the IOC condition that contributed to this effect. In any case, neither of these findings support a possible prediction derived from inequity formulation (e.g., Hypothesis A-3).

Table 16

Summary of a 2 X 2 Anova on the "Effort" Data

Source	df	MS	F	p
orientation	1	4.380	5.735	.021
inequity	1	2.755	3.608	.064
or X ineq	1	0.130	0.170	.682
error	44	0.764		

Table 17

Summary of a 2 X 3 Anova on the Total Productivity Data

Source	df	MS	F	p
orientation	1	19404.502	20.135	.001
inequity	2	1860.931	1.931	.153
or X ineq	2	68.625	0.071	.931
error	66	963.730		

Table 18

Summary of a 2 X 3 Anova on the First 20 Min. Productivity Data

Source	df	MS	F	p
orientation	1	896.056	12.080	.001
inequity	2	129.542	1.746	.182
or X ineq	2	27.681	0.373	.690
error	66	74.167		

Table 19

Summary of a 2 X 3 Analysis of Covariance ("Ability" As a Covariate) on the Total Productivity Data

Source	df	MS	F	p
regression	1	30410.613	59.548	.001
orientation	1	15366.808	30.090	.001
inequity	2	2184.628	4.278	.018
or X ineq	2	27.543	0.050	.951
error	65	510.715		

Table 20

Summary of a 2 X 3 Analysis of Covariance ("Ability" As a Covariate)
on the First 20 Min. Productivity Data

Source	df	MS	F	p
regression	1	2186.056	52.444	.001
orientation	1	668.169	16.029	.001
inequity	2	140.049	3.360	.041
or X ineq	2	18.805	0.451	.639
error	65	41.680

Figure 11. Mean qualification ratings as a function of orientation for IOC and EQ2 groups.

Figure 12. Mean effort ratings as a function of orientation for IOC and EQ2 groups.

Figure 13. Mean total productivity as a function of orientation for EQ2, EQ3 and OOC groups.

Figure 14. Mean of first 20 min. productivity as a function of orientation for EQ2, EQ3 and OOC groups.

Ability as an independent variable

As has already been described above, Ss within each treatment combination of "inequity" and "orientation" were assigned to "high" and "low" ability conditions. This division was done on the basis of the median ability score in each treatment combination. A 2 X 2 X 4 Anova on the productivity data and all other dependent variables does not show interaction of "ability" with any of the other independent variables. A 2 X 2 X 3 analysis, including only the EQ2, EQ3 and OOC inequity conditions seems to be more appropriate. This is because, on the basis of the findings described above, only the OOC conditions showed indications of "true" inequity effects, and after all, the relevant question in this context is a possibility of an interaction of ability and inequity. No such interaction, or any other interaction, was found in the 2 X 2 X 3 Anova. The conclusion, then, is that Hypothesis E which states that low ability Ss will demonstrate stronger inequity effects than high ability Ss is not supported.

Achievement motivation as an independent variable

The same analysis described above for the ability variable was carried out for "Achievement Motivation," as was measured by French's "Test of Insight." Both 2 X 2 X 4 and 2 X 2 X 3 (excluding the IOC inequity conditions) analyses do not show interaction of "achievement" with inequity, or any other interaction. Again, Hypothesis F which states that low achievement Ss will demonstrate stronger inequity effects (such as larger productivity

difference between the equity conditions EQ2, EQ3 and OOC) than high achievement Ss, is not supported. Hypothesis G, which predicted interaction of achievement and orientation, has not gained support either.

Internal-external locus of control

This variable was measured by 11 items from Rotter's inventory. Scores were also divided into "high" and "low" on the basis of the median score in each treatment combination. Again, both a 2 X 2 X 4 and a 2 X 2 X 3 analysis on productivity data and all other dependent variables do not show any interaction of "control" with inequity, or any other interaction. Thus, Hypothesis H, which predicts that "Internal control" Ss will demonstrate stronger inequity effect than "external" control Ss, has not gained support.

Summary of the Results in Terms of the Hypotheses

Main Hypotheses

Premise A

The inequity model holds. No other processes can account for the inequity effects.

- 1) Main effect of orientation and inequity should be found on the productivity data. IOC Ss should produce more than OOC groups, and both of these conditions should be higher in productivity than the equity conditions. No interaction of orientation and inequity should be expected.

Findings: (a) No main effect of inequity, and (b) clear tendency of interaction. Hypothesis is not supported.

- 2) Main effect of inequity on qualification rating should be expected. IOC Ss should rank themselves lower on qualification than the Ss in the rest of the conditions.

Findings: Main effect of inequity as specified.

Hypothesis is supported. However, this finding may just show that the qualification manipulation was successful.

- 3) Main effect of inequity on "utility of money" rating should be expected. OOC condition should be lower in that respect than the IOC and equity groups.

Findings: (a) Main effect of inequity, and (b) OOC condition is not lower than Equity-3 condition. Hypothesis is not supported.

Premise B

IOC inequity is not a real phenomenon. Only the phenomenon of "reaction to devalued self-esteem" is operating.

- 1) Interaction of inequity (IOC, EQ2) and orientation on the productivity data is expected. IOC-EO Ss should produce more than equity-EO Ss, and IOC-TO Ss should produce about the same as equity-TO Ss.

Findings: Interaction effect of inequity and orientation as specified when "ability" is a

covariate or treated as an independent variable. Hypothesis is supported.

- 2) Main effect of inequity and interaction of inequity and orientation on the qualification data are expected. Both IOC groups should perceive themselves less qualified than the two EQ2 groups, but the EO-IOC Ss should rate themselves higher on qualification than TO-IOC Ss.

Findings: (a) Main effect of inequity, and (b) no interaction. Hypothesis is not supported.

Premise C

OOO inequity is not a real phenomenon. What have been considered effects of OOC are just artifacts of the direct effects of absolute levels of pay on performance.

- 1) Main effect of inequity on productivity data is expected. There should not be a difference between EQ3 and OOC conditions, but both of these conditions should be higher than the EQ2 groups.

Findings: (a) Main effect of inequity, and (b) OOC Ss produce more than EQ2 and EQ3 Ss who produce at about the same level. Hypothesis is not supported. Inequity prediction is supported.

- 2) No effects should be expected for EQ3, OOC and EQ3 conditions on the "utility of money" measure.

Findings: No main effects or interaction. Hypothesis is supported. However, the fact that main

effect of inequity is obtained when the IOC condition is added to the analysis (Finding A-3) makes any interpretation difficult (See Discussion Chapter).

Subsidiary Hypotheses

Hypothesis D

In an overcompensation-hourly pay situation where equal emphasis is placed on "quantity" and "quality," no effects should be expected in relation to "quality."

Findings: No main effects or interaction. Hypothesis is supported.

Hypothesis E

High ability Ss will be less affected by inequity procedures than low ability Ss. Interaction of ability and inequity is expected.

Findings: No interaction. Hypothesis is not supported.

Hypothesis F

High achievement Ss will be less affected by inequity procedures than low achievement Ss. Interaction of achievement and inequity is expected.

Findings: No interaction. Hypothesis is not supported.

Hypothesis G

High achievement Ss will perform better under "ego oriented" conditions than low achievement Ss. Interaction of achievement and orientation is expected.

Findings: No interaction. Hypothesis is not supported.

Hypothesis H

"Internal control" Ss will experience more inequity dissonance than "external control" Ss. Interaction of "control" and inequity is expected.

Findings: No interaction. Hypothesis is not supported.

Hypothesis I

Main effect of orientation on the productivity data. Under each condition of inequity (equity), "ego oriented" Ss should produce more than "task oriented" Ss.

Findings: Main effect of orientation as specified. Hypothesis supported.

Other findings:

- 1) The pattern of the productivity results was found to be the same for the first 20 minutes of work and for the total work period under all conditions.
- 2) Ego-oriented Ss perceived themselves as exerting more effort on the job than task-oriented Ss.
- 3) Ego-oriented Ss tended to find more interest in the job than task-oriented Ss.

IV. DISCUSSION AND CONCLUSIONS

The productivity data for the EQ2 and IOC groups showed apparent inequity effect when the task required "ego-oriented" performance. When the job demanded "task-oriented" performance, no such effect was revealed. Inequity theory cannot account for this differential performance of "ego" and "task" oriented Ss. The theory would clearly predict higher productivity for IOC Ss in comparison with EQ2 Ss, even when performance is "task" oriented. One possible conclusion, then, is that the IOC experimental manipulation did not arouse inequity dissonance. Rather, it might have evoked what Lawler (1967) and Goodman and Friedman (1968) termed "a reaction to devalued self-esteem." This reaction may be expressed in a form of a greater desire to prove one's competence, when competence is central to one's self-concept. In the present study the higher productivity of the EO-IOC Ss can be accounted for by their greater desire to prove their competence which had been challenged. The competence and abilities required under the "ego orientation" condition are obviously more central and crucial to one's self-concept than the competence and abilities required under the "task orientation" condition. Seemingly, a challenged competence for the "task oriented" Ss would not threaten their self-concept as it might do to challenged "ego oriented" Ss.

Hence, the extra effort, expressed in increased productivity exerted by the latter.

It is quite possible, then, that other inequity experiments did not really reveal input-overcompensation effects, but rather, a reaction to a threatened self-concept. The above reasoning may also apply to input-overcompensation in the piece rate situation. In this situation IOC Ss display higher quality and lower quantity of work than controls. Considering the inductions in these experiments (Adams and Jacobson, 1964; Adams and Rosenbaum, 1962; Andrews, 1967), which strongly emphasize the aspect of accurate, errorless performance, no wonder that IOC-challenged-Ss perceived that the criterion to prove competence was high quality of work. Concentration on high quality inherently brings about reduced productivity. This reasoning is entirely different from the inequity reasoning, according to which the increased quality and decreased quantity are ways of input/outcome adjustments for resolving inequity dissonance.

Independent experimentation of the effect on performance of challenging valued abilities has not yet been carried out. One of the few studies which deal with a somewhat related problem is an experiment by Kaufman (1962). He was interested in determining whether the effects of failure in a task on satisfaction depended on the extent to which the subject conceived the task as a test of a possessed ability and on the value which he placed on the ability. It was found that failure caused a higher level of dissatisfaction among Ss who believed they possessed the abilities the task required and valued them.

The data regarding the other input variable--perception of qualification--is inconclusive. The finding of a main effect of inequity, where both IOC groups rated themselves lower than the rest of the groups, is not in disagreement with inequity theory. However, as has been stated earlier in the "Statement of the Problem" section, this effect is obviously a result of the differential experimental induction of level of qualification in the IOC conditions and in the OOC and equity conditions. On the other hand, it was suggested that both a main effect of inequity and interaction of inequity and orientation might reflect a "reaction to devalued self-esteem" (p. 30). This expectation did not materialize. However, the fact that EO-IOC Ss did not raise the perception of their qualification to a higher level than that of TO-IOC Ss, as was expected, should not diminish the support the hypothesis of "reaction to devalued self-esteem" has received from the productivity data. After all, it seems that the most efficient way for Person to deal with a situation where his self-concept is threatened by a challenge to his competence is by actually attempting to do a "good job." An actual attempt of confirmation and proof of competence, rather than cognitive distortion of it, is especially likely when Person feels that he has a good chance to succeed in this attempt. It seems that the nature of the task in the present study provided for this condition. The findings of the present experiment indicate that challenged Ss, even under the "ego orientation" condition, were not willing to create a strong dissonance between their cognitions about their abilities and the

experimenter cognitions of them; thus, they did not resort to "cognitive distortion" more than the degree needed to demonstrate that they had "average qualifications." It seems that the obtained main effect of inequity with the qualification data bears unequivocally only on the fact that the experimental manipulation of "qualification" was successful. Again, it should be noted that what is termed "reaction to devalued self-esteem" obviously deserves a direct and independent investigation and experimentation in order to trace the conditions under which it occurs, and the factors affecting different "reactions."

The productivity data for the EQ2, EQ3 and OOC groups indicate a possible inequity effect. Both EO-OOC and TO-OOC groups performed significantly better than their respective EQ2 and EQ3 controls. This is in accordance with inequity theory prediction. It should be noted, however, that on the basis of Adams' principle of "cause of inequity," increased productivity should figure more strongly in input-overcompensation than in outcome-overcompensation. Thus, if the outcome-overcompensation inequity is a real phenomenon it is expected that OOC groups would produce less than IOC groups, but more than the equity groups. Since in the present study increased productivity for IOC Ss was concluded to be a manifestation of "reaction to devalued self-esteem," rather than of an inequity effect, the first part of the hypothesis is no longer relevant to OOC inequity prediction. The second part, as it has been seen, was supported.

Direct effect of the absolute level of pay was not found in the

present study. Thus, it cannot be used as an alternative explanation to OOC inequity. "Equitable" Ss, who were paid \$3.00 an hour, produced about the same as "equitable"--\$2.00 per hour Ss, and both these groups produced less than members of the OOC group, who were paid \$3.00 per hour.

Inequity theory, of course, explains the increased productivity of OOC Ss as a way to resolve the dissonance between the cognition that they contribute to the job as much as others, and the cognition that they receive in return more than others. However, the present study cannot conclusively support this notion. The manipulation of the OOC condition consisted of two main elements: 1) The job was advertised for \$2.00 per hour. The Ss, then, expected \$2.00 per hour as a pay, but received \$3.00 per hour. 2) Ss were told that practically all other workers received \$2.00 per hour; that is, they were compared to others with standard but lower outcomes. The experiment does not provide for identifying the relative contribution of these elements.

The first element points at the possibility that an adjusted level of performance may occur merely as a result of a pay expectancy that has not come about. This very general notion differs from inequity theory in that it does not necessarily tie up "expectancy" with a "comparison" process, and it does not assume any dissonance. The second element of the OOC manipulation--the comparison with others--is, of course, a basic concept in inequity theory.

As has already been said, it is difficult to determine on the

basis of the present experiment, which of the above mentioned two processes may have accounted for the increased productivity in the OOC condition. It seems experimentally possible to pit the notions against each other and test them.

The data of the "importance and value of \$4.00 (\$6.00)" do not support inequity-dissonance prediction. OOC Ss did not rate the utility of \$4.00 lower than EQ3 Ss, as might have been expected according to inequity-dissonance theory. This in itself, however, should not be considered evidence against inequity-dissonance. It is possible that Ss did not resort to a cognitive distortion mode of resolution because another mode--actual change in the ratio of inputs/outcomes--was quite readily available and apparently seemed to be a sufficient and satisfactory resolution. It should be noted that the alternative explanation to the OOC effect does not make any prediction for any variable except production. It does not, of course, assume a dissonance process. Thus, it is not relevant to the variable "utility of \$4.00."

As for the obtained main effect of inequity, on the "utility of \$4.00" data it seems that it may be an artifact of the actual pay difference between IOC and EQ2 groups, and EQ3 and OOC groups. In IOC and EQ2 conditions Ss received \$4.00 as total pay, while in EQ3 and OOC conditions they received \$6.00. It is possible that the more money one possesses, the less he would perceive its utility--whether or not dissonance exists.

In order to summarize this discussion of the main hypotheses

and findings, the following two major conclusions can be drawn:

- (a) The phenomenon called "input overcompensation" has not been proved to produce an emotion of inequity dissonance. Rather, it seems to reflect what might be termed a "reaction to devalued self-esteem."
- (b) The phenomenon of "outcome overcompensation" has been shown to fit inequity dissonance predictions. However, this cannot be considered a conclusive support of inequity theory, since an alternative explanation in terms of the concept of "expectancy" is available.

In general, the present study has failed to demonstrate the general validity of inequity theory.

This conclusion may be qualified by some possible procedural deficiencies. A manipulation check of the "fairness" of pay was not included. Thus, it is difficult to determine whether the experimental manipulation aroused the feelings of being treated "justly" or "unjustly," which is a requirement of inequity theory. However, as has been shown, the separate manipulations of "perception of pay" and "qualifications" were successful, and after all, the basic question of the present study was whether a given combination of these manipulations arouses or does not arouse a feeling of inequity dissonance. The study did not assume the arousal of this feeling. It attempted to find out whether dissonance has actually been caused by the manipulation.

Another difficulty of interpretation may be due to the possibility that different kinds of \$s were attracted to the \$2.00 per

hour offer than to the \$3.00 per hour offer. Even though no statistical analysis was carried out, it seemed that the \$3.00 \$s were not different from the \$2.00 \$s on the basis of demographic variables. Variables like "ability" and achievement motivation were controlled anyway. Thus, it seems, that this unavoidable problem is not crucial either.

It may be recalled that an attempt was made in the experiment to equate the magnitude of the inequity in both OOC and IOC conditions (p. 48). It may be argued that this attempt may not have been successful because of the possibility that the ratio of

$\frac{\text{Person's qualification}}{\text{Person's pay}}$ was not perceived the same for IOC \$s $\left(\frac{1.35}{2.00}\right)$

and for OOC \$s $\left(\frac{2.00}{3.00}\right)$. This may occur because the "psychological"

distance between \$1.35 and \$2.00 may be different than the distance between \$2.00 and \$3.00.

This problem seems to be a real one, and a factor in attempting to quantify inequity theory. However, as far as the present experiment is concerned, it does not seem to be a confounding element. The crucial distinction is between the actual manipulation of IOC and OOC conditions. After all, the IOC condition was not found to reflect inequity dissonance effects. Thus, a comparison of magnitude of dissonance between the two conditions is irrelevant. Obviously, the possibility of identifying IOC dissonance does not depend on the size of the ratio $\frac{\text{Person's qualification}}{\text{Person's pay}}$.

Data on input-outcome "attitudinal" variables other than qualification and utility of pay did not show any significant results. The failure to find clear predictable patterns in the "attitudinal" data may stem from either one of two main sources: 1) insensitivity of the measures; 2) irrelevancy of the measures. This irrelevancy may be due to either nonexistence of dissonance, even in the OOC condition, or to the sufficiency of the actual change of inputs, through increased productivity, as a mode of dissonance resolution in the OOC condition.

The pattern of the productivity results was found to be the same for the first 20 minutes of work and for the total work period. It seems, then, that the effects of "reaction to devalued self-esteem" in the IOC condition, and the possible inequity effect in the OOC condition did not dissipate with the progression of the work period. Lawler et al. (1968) found dissipation effect of inequity over work sessions. His results are not, however, directly comparable to those obtained here. First, in the present experiment productivity measures were taken within one session. Secondly, the relevant manipulations in the present study represented outcome-overcompensation-hourly rate condition, whereas Lawler's experiment manipulated an input-overcompensation-piece-rate condition.

The increase in productivity that occurred in some of the experimental conditions did not come about at the expense of quality of work. No difference between conditions was found with regard to work quality. This supports the notion that in an hourly-rate "overcompensation" (or equity) situation, when equal emphasis is placed

on both quantity and quality, a Person who is motivated to perform better--for whatever reason--will choose to improve his performance in terms of higher quantity, rather than in a better quality of work. Apparently, the nature of the experimental task allowed for increased productivity without an accompanying decrease in quality. For this to occur, no correlation between quantity and quality in task performance should exist. It is desirable to employ in inequity experiments--especially those that make differential prediction for quantity and quality--tasks that provide for independence between these two variables. It seems, however, that this has not been the case in previous experimentation.

The manipulation of "performance orientation" was successful. Highly significant differences between "task" and "ego" oriented Ss were found for all conditions. Ego oriented Ss produced more than task oriented Ss, as was expected. Equity "ego oriented" Ss showed considerable increase in productivity in comparison with equity "task oriented" Ss. The fact that "ego oriented" IOC and OOC Ss increased their productivity even further, undeniably reflects on the high strength of the motivation to produce that these manipulations have aroused.

A strong tendency was observed for the "ego orientation" Ss to rate the task as more interesting in comparison with "task oriented" Ss. Also, they tended to perceive themselves as exerting more effort in the task. Surprisingly, however, no difference was found between the two conditions with regard to the "personal importance" of the task.

Contrary to the stated hypotheses, the possibility of the interactions of ability, achievement motivation and locus of control with inequity has not materialized. As far as the last two variables are concerned, the findings may not be conclusive. There might be a problem with regard to the adequacy of the measures as employed in the study. The "Locus of Control" inventory measures a general "chronic" inclination to perceive events as being "internally" or "externally" controlled. It is possible that in a case of cognitive dissonance this general inclination is not as crucial as the perception of the degree of "free choice" on the basis of the actual, specific situation. Of course, it is possible, as it has already been suggested, that no dissonance was actually aroused in the experiment. The fact that only 11 items from the inventory were employed, excluding all the items reflecting on the factor of political attitudes, may have also accounted for the failure of the "Locus of Control" measure to show any effect.

French's "Test of Insight," which is supposed to measure "achievement motivation," did not show any correlation with performance. This is, of course, unexpected, and in itself may explain the lack of the hypothesized interaction effects of "orientation" and "inequity" with achievement, even though the former interaction was found in an experiment by French (1955). It seems that the lack of any observable effect of the achievement measure may have been a result of administering the test after the experimental manipulations. This might have affected the measure in an undeterminable way, which, of course, renders the findings inconclusive.

APPENDIX A

The "Temporary Employment Confirmation" Form

American Testing Service
Temporary Employment Confirmation

- 1) Name
- 2) Address
- 3) Social Security Number
- 4) Job Number
- 5) Standard Pay
- 6) Length of Employment
- 7) Qualifications Needed
- 8) Qualification Status:

Below Standard

Standard

- 9) Hiring Decision

Job

Pay

No Hiring

- 10) Date
- 11) Worker Signature
- 12) Supervisor Signature

APPENDIX B

"Standard Practice 6"

American Psycholinguistic Society

Standard practice 6

sûr de tout, plus sûr que lui, sûr de ma vie et de cette mort qui allait venir. Oui, je n'avais que cela. Mais du moins, je tenais cette vérité autant qu'elle me tenait. J'avais eu raison, j'avais encore raison, j'avais toujours raison. J'avais vécu de telle façon et j'aurais pu vivre de telle autre. J'avais fait ceci et je n'avais pas fait cela. Je n'avais pas fait telle chose alors que j'avais fait cette autre. Et après? C'était comme si j'avais attendu pendant tout le temps cette minute et cette petite aube où je serais justifié. Rien, rien n'avait d'importance et je savais bien pourquoi. Lui aussi savait pourquoi. Du fond de mon avenir, pendant toute cette vie absurde que j'avais menée, un souffle obscur remontait vers moi à travers des années qui n'étaient pas encore venues et ce souffle égalisait sur son passage tout ce qu'on me proposait alors dans les années pas plus réelles que je vivais. Que m'importaient la mort des autres, l'amour d'une mère, que m'importaient son dieu, les vœux qu'on choisit, les destins qu'on élit, puisqu'un seul destin devait m'élire moi-même et avec moi des milliards de privilégiés qui, comme lui, se disaient mes frères. Comprenait-il, comprenait-il donc? Tout le monde était privilégié. Il n'y avait que des privilégiés. Les autres aussi, on les condamnerait un jour. Lui aussi, on le condamnerait. Qu'importait si, accusé de meurtre, il était exécuté pour n'avoir pas pleuré à l'enterrement de sa mère? Le chien de Salamano valait autant que sa femme. La petite femme automatique était aussi coupable que la Parisienne que Masson avait

épousée ou que Marie qui avait envie que je l'épouse. Qu'importait que Raymond Fût mon copain autant que Céleste qui valait mieux que lui? Qu'importait que Marie donnât aujourd'hui sa bouche à un nouveau Meursault? Comprenait-il donc, ce condamné, et que du fond de mon avenir... J'étouffais en criant tout ceci. Mais, déjà, on m'arrachait l'aumônier des mains et les gardiens me menaçaient. Lui, cependant, les a calmés et m'a regardé un moment en silence. Il avait les yeux pleins de larmes. Il s'est détourné et il a disparu.

Lui parti, j'ai retrouvé le calme. J'étais épuisé et je me suis jeté sur ma couchette. Je crois que j'ai dormi parce que je me suis réveillé avec des étoiles sur le visage. Des bruits de campagne montaient jusqu'à moi. Des odeurs de nuit, de terre et de sel rafraîchissaient mes tempes. La merveilleuse paix de cet été endormi entraînait en moi comme une marée. A ce moment, et à la limite de la nuit, des sirènes ont hurlé. Elles annonçaient des départs pour un monde qui maintenant m'était à jamais indifférent. Pour la première fois depuis bien longtemps, j'ai pensé à maman.

APPENDIX C

Data Form

Data Form - Task 17

Material Identification _____ Page _____

[illegible]

APPENDIX D

"Operational Specification"

Operational Specification

Task 17

- A) Notice the word immediately preceding the 5-letter one. If it contains three or more letters, write Y in this column. Otherwise write N.
- B) Put down Y if the preceding word to the 5-letter one contains two vowels or more. Otherwise write N.
- C) Put down Y if the 5-letter word appears as the first or second word in the sentence. Otherwise write N.
- D) Put down Y if a comma follows the 5-letter word. Otherwise write N.
- E) Notice the immediately preceding and following words to the 5-letter one. If any is a 2-letter word, write it down in the appropriate column. Otherwise leave the space blank.
- F) If the sentence in which the 5-letter word appears contains more than 10 words, put down Y. If it contains 10 or less words, write down the exact number of words.
- G) Put down a check mark if there are more than one 5-letter words in the sentence. Otherwise leave the space blank.

APPENDIX E

"Worker's Job Evaluation Questionnaire"

Worker's Job Evaluation Questionnaire

Task No. 17

Instructions: Please place a check mark (✓) at the position on the scale you consider to represent your judgment regarding the problems listed below.

1. Rate the degree of your qualifications to perform this task.

2. Considering your general needs at the present time, how useful and valuable to you are the following amounts of money?

a) \$0.75

b) \$4.00

c) \$6.00

3. Rate the amount of effort you feel you put in the task.

4. Rate the degree you feel the job was interesting.

5. Rate the degree of complexity of this job.

6. Rate the extent you liked working on the job.

7. Rate the extent you felt that doing well on the job was important to you personally.

8. The pay for the job is:

APPENDIX F

"Test of Insight" (French's Achievement Motivation Test)

TEST OF INSIGHT

Instructions: This is a test of your understanding of the reasons why people behave as they do. You will be given a characteristic behavior of each of a number of men. Your task is to explain why each man behaves as he does. Read each description and then decide what you think would usually be the reason why a man does what this man does. Decide what this man is like, what he wants to have or do, and what the results of his behavior are apt to be. If you think of more than one explanation give only the one you think is most likely. Write your answers in the spaces provided.

1. Ted never hesitates to express an opinion.
2. Dave likes a good argument.
3. Jerry never keeps anything to himself.
4. John said, "Look what I've done."
5. Sam worries a lot about how he has done on examinations.
6. Peter cares very little about what other people think of him.
7. Larry gives lots of parties.
8. Ray works much harder than most people.
9. Jack enjoys being a member of a large family.
10. George will usually volunteer for a difficult task.

APPENDIX G

Opinion and Reaction Inventory
(Rotter's "Locus of Control Test")

Name _____

Date _____

Male _____ Female _____

OPINIONS AND REACTION INVENTORY II

QUESTIONNAIRE

This questionnaire is designed to measure some attitudes of college students. For each question, circle the alternative ("a" or "b") which most nearly represents your views. For some questions you may agree or disagree with both alternatives, but in either case, circle the one with which you are in closest agreement. Please answer all questions. There are no right or wrong answers.

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
b. People who can't get others to like them don't understand how to get along with others.

8.
 - a. Heredity plays the major role in determining one's personality.
 - b. It is one's experiences in life which determines what they're like.
9.
 - a. I have often found that what is going to happen will happen.
 - b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.
 - a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
 - b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.
 - a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
 - b. Getting a good job depends mainly on being in the right place at the right time.
12.
 - a. The average citizen can have an influence in government decisions.
 - b. This world is run by the few people in power, and there is not much the little guy can do about it.
13.
 - a. When I make plans, I am almost certain that I can make them work.
 - b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14.
 - a. There are certain people who are just no good.
 - b. There is some good in everybody.
15.
 - a. In my case getting what I want has little or nothing to do with luck.
 - b. Many times we might just as well decide what to do by flipping a coin.
16.
 - a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
 - b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17.
 - a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
 - b. By taking an active part in political and social affairs the people can control world events.
18.
 - a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as "luck".

19.
 - a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
20.
 - a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends upon how nice a person you are.
21.
 - a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.
 - a. With enough effort we can wipe out political corruption.
 - b. It is difficult for people to have much control over the things politicians do in office.
23.
 - a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
24.
 - a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
25.
 - a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck plays an important role in my life.
26.
 - a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.
27.
 - a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
28.
 - a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29.
 - a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

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