EQUITY OR EQUALITY:

A QUESTION OF RELEVANT INPUTS AND NORMS

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ABSTRACT

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This study examined the role that different norms and potential co-worker inputs play in reward distribution decisions. Male and female subjects worked with a confederate on a functionally interdependent puzzle task. The confederate contributed either more or less to the puzzle solution than did the subject. One-half of the subjects rated on a pretest the importance of selected norms and inputs for reward distribution decisions. Allocators were expected to consider as relevant more than one norm and one input when allocating rewards. Results provided strong support for this hypothesis.

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CHAPTER I

Introduction

The just distribution of rewards among individuals in social systems has been the subject of a considerable amount of theorizing and research (c.f. Leventhal, 1976; Adams and Freedman, 1976; Berkowitz and Walster, 1976; Lerner, 1975). Despite this theoretical and empirical attention, however, researchers have yet to explore certain key issues in the area of distributive justice. This inattention, unfortunately, has led to questions about the appropriate interpretation of some of the research findings in this area. Thus, the purpose of this experiment is to study empirically some of these overlooked issues in order to provide a firmer basis for conclusions about people's reward allocation decisions.

Adams (1965), Cook (1975) and others propose that the distribution of valued outcomes is based upon dimensions of evaluation (i.e., inputs), including seniority, skill, level of education, level of need, age, and sex. Distribution rules are the specific relationships between a dimension of evaluation and the outcomes allocated. Although Deutsch (1975) notes there are a variety of possible distribution rules, Piaget (1965) argued that distributive justice can be reduced to the ideas of equality and equity. Many other authors also appear to adopt Piaget's position that individuals who distribute rewards to other persons (allocators) follow one of two norms of fairness--equality of equity (e.g., Sampson, 1975; Leventhal, Popp, & Sawyer, 1973). The equality norm states that an allocator should ignore differences in the member's task inputs and

divide the rewards equally. On the other hand, the equity norm prescribes that an allocator should reward individuals in proportion with their perceived task inputs.

With the exception of Vallacher, Messe´, and Fullerton (note 1) most research on reward distribution (c.f. Adams and Freedman, 1976) has examined reward distribution behavior under minimal social conditions. Typically, in these studies individuals work on a task, such as multiplication of a series of numbers, proof-reading, or essay writing, that requires little, if any, sharing of resources or coordination of activities. Thus, the typical research paradigm fails to attend to how reward distribution operates in social systems with functionally interdependent members.

Social psychologists investigating reward distribution primarily have given theoretical attention to the equity norm (c.f. Adams & Freedman, 1976) and to a lesser extent, the equality norm (c.f. Deutsch, 1975; Leventhal, 1976; Sampson, 1975). Recently, however, some theorists (Lerner, 1974 a, b; Leventhal, 1976) have suggested that an allocator may follow a number of alternative allocation rules: for example, an allocator may follow the rule of altruism and distribute rewards and resources to the recipients with the greatest need; he or she may follow the rule of equity and distribute rewards in proportion to recipients' contributions; the allocator could follow the rule of equality and distribute the same rewards regardless of contribution; or she or he might follow the rule of reciprocity and distribute rewards to reciprocate recipients' past favors and services. Thus, if one of the participants had the greatest need, had the best performance, and had allocated a large reward to the allocator in the past, the allocator could follow

a combination of norms and allocate a higher reward to that person. However, if the different allocation rules favor different reward distributions the allocator could utilize any one of the rules, or a weighted combination of norms, when making the reward distribution decision. Thus, if one participant had the best performance but another had more need, an allocator may weigh the norms equally and allocate a similar reward to both participants. This suggests that in situations of conflicting rules of justice, although a social system typically favors some allocation rule, the allocator can decide which rule or weighted combination of rules he or she will follow. For example, although many laboratory studies that utilize a task oriented setting link reward to contribution, the allocator still may have considerable freedom in deciding which allocation norm or norms he or she follows.

Despite the recent theoretical propositions that an allocator uses more than one norm, at the empirical level researchers primarily have examined under what conditions--experimental inductions or manipulations--the allocator favors equity or equality when dividing rewards. This research has focused on expectations of future interactions (Shapiro, 1975), task contingencies (Vallacher, Messe´, & Fullerton, note 1), secrecy (Leventhal, Michaels & Sanford, 1972), prevention of conflict (Leventhal, Michaels, & Sanford, 1972), and motivation for credit or money (Messe´ & Lichtman, note 2). However, except for post hoc explanations of results that do not fit completely either equity or equality predictions, the utilization of more than one norm has not been directly examined. The lack of research directly examining the use of more than one norm and the manner in which the typical experimenter determines which norm or norms an allocator utilized signals the need for research on multinorm reward decisions.

Typically equity and equality research examines the amount of rewards allocated and infers from that amount the norm used. If the allocator takes more or less (depending on the input level) than 50% of the reward she or he is presumed to be using the norm of equity. On the other hand, if the allocator allocates 50% of the reward, regardless of the "relevant input", he or she is presumed to be using the norm of equality. However, if the allocator is using another input or weighted sum of inputs rather than just the input the experimenter links to the reward, the comparison of amounts of reward to the "relevant input" may not present the total reward distribution decision. Thus, interpretations of norms used from the comparison of the experimenter's relevant input and the amount of reward allocated may not be accurate. This problem, i.e., only using the comparison of amount of reward allocated to the experimenter's relevant input, is discussed in greater detail later.

When an allocator does not divide the reward according to either exact equity or equality predictions, the researcher typically explains that both norms are providing incompatible response tendencies, which are reconciled by a compromise response that to some extent satisfies both norms. Leventhal, Michaels, and Sanford (1972) provide the most impressive support, up to now, for this view. In their first experiment the results of their manipulation of conflict prevention showed that allocators who are instructed to prevent conflict will give more reward to the worst performer and less to the best, while allocators who are told to disregard potential conflict allocated in accordance with equity predictions (and their previous allocation). Later, Leventhal (1976) speculated that this reward difference probably was a compromise between the opposing demands of equity and equality.

Theoretically, the equity and equality norms may not only have opposing effects on allocator's decisions but also may dictate the same allocation response and thus have mutually supportive effects. However, experimentally the concurrent use of the norms of equity and equality has not been adequately tested. In some studies (Lane and Messe´, 1971, 1972) the task inputs were equal and, therefore, equity and equality dictated the same response--the equal division of the reward. However, in these studies the norm used was determined by the amount of money allocated, and, therefore, whether subjects used both or either norm could not be determined (Leventhal, Popp, & Sawyer, 1973). The difficulty of determining whether an allocator is following the norm of equity or the norm of equality is also demonstrated by a comparison of the results and interpretations of studies by Lane and Coon (1972) and Leventhal and Anderson (1970). Lane and Coon found that preschool children tend to follow the norm of equality. They found that boys and girls with inferior performance divided the rewards equally because they were following the norm of equality, while boys with superior performance violated the norm of equality in order to maximize their own share of reward. Leventhal and Anderson obtained similar results for a comparable group. Leventhal and Anderson, however, concluded that boys with superior performance self-allocated more than half of the reward which suggests the boys were attempting to distribute rewards equitably, while boys and girls with inferior performance violated the norm of equity because they did not want to accept less than half of the reward. Generally, and specifically, in these two particular studies, the norm is inferred from the proportion of outcomes the allocator retains.

In the present research, the experimenters requested the subject to rate the importance of several norms (equity, equality, altruism, and

consideration) on his or her decision to distribute rewards. These four norms are of theoretical relevance and were evaluated by subjects' ratings of importance and the monetary distribution.

Equity. An equitable response is one in which a person divides the rewards according to differences between participants in levels of their (perceiver-defined) relevant input(s).

Equality. An equality response minimizes the difference in reward regardless of differences of relevant inputs.

Altruism. An altruistic response is one in which a person maximizes the amount of reward that the other person obtains.

Consideration. A considerate response is one which indicates compliance with co-workers' expectations.

Thus, one purpose of this study was to determine if allocators use more than one norm concurrently to decide how to allocate rewards.

Although the majority of research concerning reward distribution concentrates on equity (see, e.g., the review by Adams & Freedman, 1976), one key element, the perception of inputs, has not been adequately examined. A relationship is equitable when a person (either one of the participants or an outside observer) perceives that all the participants are receiving equal relative outcomes from the relationship (Walster, Berscheid, & Walster, 1973). Adams (1965) suggests that a difficulty in the evaluation of relationships as equitable or not is that the perception of one person, A, of his or her rewards, costs, and investments are not necessarily identical with another person's perception of A's situation (and vice versa). Inputs are defined as "what a person perceives is his contribution to the exchange, for which he expects a just return" (Walster & Walster, 1975, p. 21)--"Justice" requires that everyone receives outcomes proportional to his or her relevant inputs.

Equity theory is imprecise concerning the specification of what are potentially relevant inputs (Lerner, 1975). Is the relevant input (a) duration of work, (b) effort expended, (c) skill, (d) quantity of work, (e) quality of inputs, and/or (f) the number of decisions one was required to make? Adams (1963) suggests there are two conceptually distinct characteristics of inputs, recognition and relevance. Either party to the exchange or both may recognize the existence of the attribute (i.e., sex, age, effort, time spent, work units completed) in the possessor; if either does, the attribute has the potentiality of being an input. Whether or not an attribute having the potential of being an input is an input is dependent on the person's (either party or both) perception of its relevance to the exchange. In addition, perception of a relationship as equitable depends on the person's assessment of the relevance (recognition and relevance) and the value of the participant's inputs (and outcomes). Therefore, even if all members agree on what the relevant investments are, they may still weigh their own and other's inputs (and outcomes) differently. Adams (1965) states that the allocator who is evaluating recipients' inputs often gives weights to different aspects of their task behavior. In addition, Leventhal and Michaels (1969) propose that the allocator attributes to a member a weighted sum of behaviors (for example, effort, quantity of performance, and duration of performance). Typically, relevant inputs have been assumed to be the set of inputs that the experimenter attempted to link to reward, the set has included performance (Leventhal & Anderson, 1970; Reis & Gruzen, 1976; Lerner, 1974; Leventhal & Lane, 1970; Leventhal, 1976), time (Lane & Messe´, 1971, 1972; Lane, Messe´ & Phillips, 1971), difficulty of the task (Adams, 1961) quality of work (Leventhal & Michaels, 1969), or quantity and quality of work (Lane & Messe´, 1971). Both Walster et al.

(1973) and Adams and Freedman (1976) state that different persons--i.e., participants, "objective" outside observers (such as experimenters)--are likely to calculate inputs and outputs differently, and, therefore, the perception of the extent of the equitableness of a relationship can differ depending on who the perceiver is and his or her role.

Although the differential weighing of inputs is an element of Adams' (1965) theory, this proposition has not been directly examined empirically. However, there is some work that bears indirectly on this issue. For example, Zaleznik, Christensen, and Roethlisberger (1958) tested some equity predictions concerning reward and investments in an industrial setting. They compared an individual's pay (reward) to his or her rank in five social status factors--investments--(seniority, sex, age, education, and ethnicity). These authors proposed that respondents summed the five equally weighted inputs, but their data analyses did not substantiate this prediction. The lack of support for their hypothesis could indicate that inputs as diverse as seniority, sex, age, education, and ethnicity are not weighted equally or that a nonlinear, noncompensating model (or combination of models) is needed (Einhorn, 1971).

Leventhal, Popp, and Sawyer (1973) found that there was a disparity between relative inputs (pegs placed) and the manner in which subjects' distributed rewards, suggesting that they did not conform to the norm of equity precisely. They speculated that this deviation could be due to the norm of equality also influencing the subjects' allocation responses. They speculated further that the allocators may have taken into account other facets of a recipients' task behavior--such as time spent--when evaluating work inputs. This post hoc explanation is congruent with the results of Leventhal and Lane (1970), which show that females with superior performance were less likely than females with

inferior performance to indicate that they had taken into account performance--the relevant input--when dividing rewards. Taken together, then, past work does provide some indirect support for the proposition that allocators consider different inputs as relevant when allocating rewards.

Thus, the second purpose of the present study was to explore the extent to which allocators consider different inputs and/or their combination when allocating rewards by examining the possible relationship between allocators' ratings of the importance of different inputs and their reward distribution behavior. In addition, I examined two other variables that past research has indicated are related to the effects of the different reward distribution rules: the sex of the subject and their relative performance. Numerous studies have found that males and females apply reward distribution rules differently as a function of relative performance (Lane & Messé, 1971; Messé & Lichtman, note 2; Leventhal & Lane, 1970; Leventhal, 1975). Thus, this study explored whether male and female allocators utilized different inputs or combinations of norms. This study also explored whether relative performance would affect the use of inputs and/or norms.

Purpose and hypotheses

One purpose of the present study was to ascertain if allocators are influenced by more than one norm when deciding how to distribute rewards. Recent theorizing suggests that an allocator concurrently follows a number of allocation rules (for example, equity and equality) when dividing rewards (Pruit, 1972; Lerner, 1974 a, b; Leventhal, 1976). Moreover, the empirical data of typical equity (or equality) studies fail to follow completely the predictions of the equity (or equality) rules (Leventhal & Anderson, 1970; Lane & Messé, 1971; Lane & Coon,

1972; Leventhal, 1976); however, the use of a weighted combination of these rules is consistent with these data. Thus, the first hypothesis was that allocators will use more than one norm when distributing rewards.

A second purpose of this study was to determine if the allocators consider different inputs or their combination as relevant when allocating rewards. Theoretical articles suggest that allocators often give weights to different aspects of the task behavior and utilize a weighted sum of behaviors to allocate rewards (Adams, 1965; Leventhal & Michaels, 1969; Walster & Walster, 1975). The results of Leventhal and Lane (1970) support this theorizing at least for superior female performers. Thus, the second hypothesis is that the allocator will consider more than one input as relevant when distributing rewards. In addition, based on the prescriptions of the norms of equity and equality and the empirical data supporting the position that allocators use those rules, I hypothesized that subjects who perform superior (or inferior) to their co-workers and allocate more than 50% (or less than 50%) of the reward would rate performance (an input on which team members varied) as the most relevant input; inversely subjects who allocate 50% of the reward regardless of performance condition should rate time spent (an input on which team members did not vary) as the most relevant input.

CHAPTER II

Method

Overview of the Study

Male and female subjects attempted to finish a functionally interdependent jig-saw puzzle task with another participant (actually a confederate) whose sex was not specified. Beforehand, half the subjects, rated the importance of different inputs and norms on future reward allocation decisions. The subject and confederate in each dyad alternated working on the task for six five minute periods. At the end of the work session, subjects recorded their team's inputs, allocated the money, rated the importance of selected norms and inputs, and reported their perception of each participant's inputs, and the roles that luck, skill, and effort had on performances.

Subjects and Design

Subjects were 41 male and 43 female undergraduates at Michigan State University. Subjects participated in the study for pay.

Manipulations included the presence or absence of a pretest and the co-worker's performance. By pre-arrangement, the confederate either placed twice as many pieces in the puzzle (confederate superior performance) or half as many pieces (confederate inferior performance) as the subject did. Thus, the study was a 2 x 2 x 2 factorial, representing the combination of pretest/no pretest, confederate performance, and sex of the subject.

Task and materials

In a 2-person team, the subject and confederate individually worked to place 80 (40 per team member) preselected pieces of a 300 - piece jig-saw puzzle; 220 pieces were already correctly positioned in the puzzle.

A two question pretest questionnaire was used. One question assessed the importance of effort, time spent, partner's expectation of how the reward should be divided, and performance on the subject's future decisions of reward allocation. The second question assessed the importance of equity, equality, altruism, and consideration (compliance with partner's expectations) on future decisions of reward allocation (Appendix A presents the pretest questionnaire).

A 10 item post-experimental questionnaire also was used. One item assessed the importance of effort, time spent, partner's expectation of how rewards should be allocated, and performance on reward allocation. The second item measured the importance of equity, equality, altruism, and consideration on reward allocation. Three items were designed to assess the subject's ratings of own and co-worker's effort, time spent, and performance (number of pieces in the puzzle). An additional set of three items concerned the subject's ratings of the relationship of luck, effort, and ability to successful performance on the puzzle task. A final item concerned the amount of reward (money) the subject deserved relative to the amount his or her co-worker deserved. (Appendix B presents the postsession questionnaire).

Procedure

At each experimental session a male and female experimenter tested six or eight participants. The subjects were told that the study simulated conditions found in industry. Participants were informed that

the purpose of the study was to test the difference between face-to-face and non-face-to-face working conditions. However, all participants then were told that they had been assigned to the non-face-to-face condition. The experimenters explained further that while each subject would know that he or she was paired with one of the other participants, no one would ever know which one. The subjects were briefed in groups composed of equal numbers of males and females to emphasize that each was paired with a real person, but the identity and sex of each partner would remain unknown. The experimenters explained that the members of a pair would work on the same puzzle and the dyad would receive monetary reward for its work. After the work period was over one of the members of each dyad would be selected by chance to allocate the earnings of that pair.

After receiving the preliminary instructions the subjects were led to cubicles. At this point, one half of the groups were requested to complete the pretest. Then, in all conditions the experimenters gave the subjects the puzzle along with the 40 pieces that had been alloted to them as their task. After five minutes the experimenters took the puzzles to the confederates. The confederate recorded the subject's performance and, depending on the performance condition, placed a predetermined number of pieces in the puzzle. After exactly five minutes the experimenter returned the puzzle to the subject. On turns two and three the confederate continued to place one-half or twice as many pieces as the subject, as dictated by the condition.

The puzzles were collected after 30 minutes and the subjects were told that they had been randomly selected to be team recorder. The experimenters informed them that as the team recorders they were to

complete the confidential team reports, which consisted of the following information:

a. time each member worked

b. pieces completed by each member

c. the pair's earnings

d. each member of the pair's individual earnings

The experimenters gave the subjects the information that they needed for the first three items. Then, the subjects were handed three envelopes--one marked "my pay", a second marked "other's pay", a third marked "confidential team report"--and an amount of money in bills and coins (always $4.90). Subjects were requested to divide the money and record on the team report how they divided it. After they had chosen a division, a ten-item questionnaire was administered. Then, after a debriefing the session was terminated.

CHAPTER III

Results

Analyses of variance were performed on 18 dependent measures to assess the effects on them of Sex of the Subject, Performance of the Confederate, Pretest, and Reward Distribution Rule. Only eight of these 18 dependent measures are of particular relevance to the hypotheses and, therefore, are the primary focus of this section. These eight measures are the subject's ratings of the importance of four norms (equity, equality, altruism, and consideration) and four inputs (pieces, time spent, effort, and partner's expectation) to their reward distribution decision. For the purpose of this analysis, the Reward Distribution Rule used was defined as equality or equity. Equality was defined as dividing the reward ($4.90) so each co-worker received the same amount ($2.45) and relative equity was defined as dividing the reward ($4.90) so the worker who placed the most pieces received more of the reward than the performer who placed fewer of the pieces. All of the 84 subjects fit either into the equality (N=30) or the equity (N=54) category.

A second ANOVA was performed only on the data of the pretested subject, comparing the eight items of the pretest concerning the ratings of the importance of different norms and inputs to reward distribution decisions with the similar first eight items of the post test. Absence of significant interactions of pretest and Sex of Subject, Performance, or Reward Distribution Rule would minimize the likelihood that the ratings of inputs and norms (the eight major dependent measures) were only

after-the-fact justifications for the subject's division of the reward, or that the pretest responses determined the post session responses. The results of the ANOVA of the eight major repeated measures for pretested subjects indicated no pretest effects. In addition, the results of the first ANOVA on the data of all the subjects indicated few interactions involving pretest (only 2 of 13 significant results) for the eight major dependent measures. Thus, it seems reasonable to present only the results of the analyses of the data for all the subjects; these results are presented below in two sections. Separate ANOVA's were run for each of the dependent measures. The correlations among the dependent measures are presented in Table 1.

TABLE I

Correlations of Input and Norm Items

on the Post Test Questionnaire

	Effort	Time	Expectation	Pieces	Contribution	Same	Need
Time	.316						
Expectation	-.053	-.135					
Pieces	-.190	-.195	-.151				
Contribution	.015	-.108	-.151	.715			
Same	.115	.198	.191	-.596	-.656		
Need	.132	.235	.051	-.235	-.348	.369	
Consideration	.131	-.077	.609	.028	-.098	-.008	-.008

Tests of the hypotheses

Hypothesis 1. The first hypothesis predicted that allocators will use more than one norm when distributing rewards. In addition, I expected allocators who divided the rewards equally to rate same (Equality) as more important on their allocation decision than allocators who divided the reward so the superior performer--the worker who placed the most pieces--received more money than their co-worker. Conversely, I expected the subjects who had allocated more reward to the superior performer to rate contribution (Equity) as more important than subjects who allocated the rewards equally. The relevant ANOVAS, in fact, indicated this was the case.

Specifically, subjects were asked to indicate the importance of four rules: contribution, same pay to each person, helping the person with the larger need, partner's expectation of how the pay will be divided, they might have used in deciding how to divide the reward between themselves and their co-workers. A seven point respons[illegible]ale was provided, so that scores on this factor could range from 0 (not at all important) to 6 (very important). Results revealed three significant effects for the norm items. With regard to the contribution (Equity) rule, subjects who divided the rewards so the superior performer received more money rated contribution as more important ($\underline{M}$ = 4.25) than subjects who divided the rewards equally ($\underline{M}$ = 2.07), $\underline{F}$ (1,67) = 40.61, $p < .001$. In addition, two other items--same and need--were rated as more important in the reward distribution decision by subjects who divided the money equally than those who divided the money so the superior performer received more.

The subjects who divided the money equally rated the importance of paying each member the same ($\underline{M}$ = 4.79) higher than those who divided

the money so that the superior performer received more ($\underline{M}$ = 2.30), $\underline{F}$ (1,67) = 53.33, $p < .001$. Similarly, subjects who divided the pay equally rated the importance of helping the person with the larger need as more important than those who divided the money so the superior performer received more, $\underline{F}$ (1,67) = 3.98, $p < .05$.

Thus, subjects differentially rated contribution, same pay, and need as important to their reward distribution decision. Furthermore, subjects who allocated more than half of the reward to the person who placed more of the pieces rated pay according to contribution (Equity) as more important on their decision on how to divide rewards than allocators who divided the rewards equally, while these latter allocators rated same pay to each person (Equality) and helping the person with the larger need (Altruism) as more important than did their more equitable counterparts. In addition, subjects who allocated more to the superior performer rated contribution as more important to their reward distribution decision than same pay, while allocators who divided the rewards equally rated same pay as more important than contribution. Taken together, these findings support the position that different allocators use various normsto different degrees when deciding how to distribute rewards.

Hypotheses 2 and 3. The second hypothesis suggested that allocators consider more than one input as relevant when distributing rewards. The third hypothesis predicted that allocators who divided the rewards equally would rate time spent--an input on which team members did not vary--as the most important input for their reward distribution decision, while allocators who divided the rewards so the superior performer received more would rate pieces--an input on which team members varied--as most important.

Subjects were asked to rate the importance of four inputs: pieces, time spent, effort, and partner's expectations, they might have used in deciding how to divide the rewards. Subjects who allocated more to the superior performer rated pieces as a more important input ($\underline{M}$ = 3.85) than subjects who allocated the reward equally ($\underline{M}$ = 2.35), $\underline{F}$ (1,66) = 12.77, $p < .001$. This result is similar to that obtained for the variable of contribution (equity). In fact, as Table 1 shows, the correlation between pieces and contribution is high ($r = .72$). That is, subjects who rated pieces as important also rated contribution as important.

The ANOVA of input data also yielded a significant 2-way interaction for time spent, $\underline{F}$ (1,66) = 4.18, $p < .05$, involving Sex of Subject $\underline{x}$ Reward Distribution Rule. Post hoc comparisons of these effects using the Scheffe' method (Winer, 1962, p. 88) within conditions of Sex of the Subject revealed that female subjects who allocated rewards equally rated time spent as more important than those who allocated more to the superior performer, $\underline{p} < .05$. This result is similar to that with the variable same. However, in contrast to the high correlation between pieces and contribution, the correlation between same and time spent is not high ($r = .198$).

Similarly, there were two significant 2-way interactions for expectations, Pretest $\underline{x}$ Reward Distribution Rule, $\underline{F}$ (1,66) = 6.51, $p < .013$, and Performance of the Confederate $\underline{x}$ Reward Distribution Rule, $\underline{F}$ (1,66) = 6.48, $p < .013$. The Pretest $\underline{x}$ Reward Distribution Rule interaction revealed that pretested subjects who allocated the rewards equally rated the importance of partner's expectation lower ($\underline{M}$ = 2.5) than subjects who allocated more of the reward to the superior performer ($\underline{M}$ = 2.54); conversely, non-pretested subjects who allocated the rewards

equally rated the importance of expectation higher ($\underline{M}$ = 3.27) than subjects distributing the rewards more equitably ($\underline{M}$ = 1.81). Post hoc comparisons of the Performance of the Confederate $\underline{x}$ Reward Distribution Rule interaction within conditions of confederate performance demonstrated that for subjects working with an inferior inputs confederate, those allocators who divided the reward equally rated expectation as more important than allocators who divided the reward so the superior performer (i.e., themselves) received more, $\underline{p} < .05$.

Thus, subjects rated pieces, time spent, and expectations as important to their reward distribution decision. As predicted, subjects who allocated the reward so the superior performer received more reward rated the input pieces as more important on their decision on how to divide the reward than subjects who allocated the pay equally, while these subjects rated time spent as more important to their decisions. In addition, subjects who allocated the pay equally rated partner's expectations as more important to their decisions than subjects who allocated more to the superior performer. Also, as predicted, allocators who allocated more to the superior performer rated <u>pieces</u> as a more important input than time spent or expectations, while allocators dividing rewards equally rated <u>time spent</u> as a more important input than pieces. Taken together, these findings support both the second and third hypotheses.

<u>Other results</u>

The analyses also yielded a number of non-predicted results. While not a focus of this research, the results are briefly summarized here: (1) Female pretested subjects who allocated more money to the superior performer allocated an amount closer to equality than did their male counterparts; (2) superior performers who allocated more of the reward to themselves thought their co-worker possibly was a male, while superior

performers who divided the reward equally guessed their partner was a female; (3) subjects who placed one half (or twice as many) pieces as their co-worker rated they placed one half (or twice as many) pieces; (4) subjects who placed more pieces than their co-worker rated they deserved more money than their co-worker; (5) subjects who were outperformed by their co-worker rated luck as more important on puzzle performance than subjects who outperformed their co-worker; and (6) pretested subjects rated same amount of reward to each higher in importance, rated that their partner expended more effort, and allocated money closer to equality, than did non-pretested subjects.

CHAPTER IV

Discussion

The results of this study provide strong support for the hypothesized perception of more than one input as relevant and the existence of differential weightings of inputs for the reward distribution decision. The results, also, strongly support the hypothesized relationship between differential weightings of norms and different reward allocations. Thus, individuals may utilize weightings of more than one relevant input and more than one norm when distributing rewards. As such, the present study represents an empirical study of up-to-now untested theorizing regarding distributive justice.

It would be possible, of course, to discuss each effect that was obtained in the present study, applying post hoc interpretations when necessary; instead, this section focuses primarily on the findings that are relevant to the issues of multi-inputs and multi-norms. At the very least, the present findings have particular relevance for studies whose subjects were recruited for pay, worked on a task, and allocated rewards to themselves and others.

The results supported the hypothesis that allocators consider different inputs as relevant when deciding on the division of rewards. As predicted, subjects who divided the rewards so that the superior performer received more rated success at the task--i.e., puzzle pieces placed, the input linked to the reward and on which team members varied--as the most important input on their reward distribution decision; on

the other hand, subjects who divided the rewards equally rated time spent--an input on which team members did not vary--as the most important input. Thus, the results suggest that some subjects perceived not only pieces placed (the experimenter's relevant input) but also time spent, and need as relevant inputs. In addition, the results suggest that allocators differentially weighed the importance of inputs on reward distribution decisions, as theorized by Adams (1965) and Walster and Walster (1975). The differential weighting of inputs also supports Leventhal's theorizing concerning the confluence of norms (1976). If the input most heavily weighted (for example, time spent) is one on which the participants' inputs were the same, then both equity and equality dictate the same allocation response. The utilization of weighted combinations of inputs and/or inputs other than those directly linked to the reward (and typically assumed by experimenters to be the only relevant input) demands re-evaluation or qualification of results from reward distribution research that only used the ratio of the experimenter's relevant input to the reward allocated to identify what norms supposedly were utilized. Thus, a result indicating that a person does not allocate equitable (or equal) rewards in relation to the experimenter's relevant input, in fact, may not have indicated that the allocator was using equality (or equity or another norm), but may have indicated, instead, that the allocator was using another input or weighted combination of inputs in his or her reward distribution decision. Thus, other measures besides the amount of reward allocated are needed to ascertain what norms were utilized. This finding extends the studies that examined the quantity and quality of work (Lane & Messe´, 1971), quality and duration of work (Messe´ & Lichtman, note 2), and who might disregard the relevant inputs (Leventhal & Lane, 1970).

The results supported the hypothesis that allocators use more than one norm when distributing rewards. As predicted, subjects rated more than one norm as important on their reward distribution decision. Furthermore, allocators who rated contribution (Equity) as most important to their reward distribution decision divided the rewards so that the superior performer received more than half, while allocators who rated same pay (Equality) as most important divided the rewards equally. These results of the ratings of norms suggest that people differentially weigh the importance of norms on their reward allocation decisions. Thus, it is possible for allocators to weigh as important norms that arouse incompatible response tendencies in them; under such circumstances, allocators must reconcile these competing forces by a compromise response which partially satisfies each response. This interpretation is consistent with the results of many equity and equality studies in which subjects allocated rewards in a manner that fit exactly neither equity nor equality predictions (e.g., Lane & Coon, 1972; Leventhal & Anderson, 1970; Leventhal, Michaels, & Sanford, 1972).

This weighing of different norms and the weighing of combinations of inputs demonstrate the inherent problems of determining the norms that were operative by considering only the amount of reward allocated. Thus, a person's utilization of more than the experimenter's relevant input and more than one norm, while supporting recent theorizing, indicates that the examination of the reward distribution rules, especially equity and equality, requires a more complex perspective.

While not of particular relevance to the hypotheses the sex effects that were found were interesting in themselves. As noted earlier, female pretested subjects who allocated more money to the superior performer allocated an amount closer to equality than their male counterparts. Although this result held only for pretested subjects, it

nevertheless indicates that sex differences may even exist between allocators who allocate rewards so the better performer receives more reward. In addition, superior performers who allocated more of the reward to themselves were more likely to think that their partner was a male. These findings may reflect a tendency in allocators to allocate rewards more equitably or self-interestedly when their co-worker is a male. On the other hand, subjects who outperformed their co-worker and distributed rewards equally were more likely to guess that their co-worker was female. These results are consistent with the results of Callahan-Levy and Messé (note 3) and their "kinder to females" explanation.

Implications for Further Research

The further quantification of the magnitude of inputs and outputs is needed to advance our understanding of important components of the exchange process. In addition, the development of models is needed in order to understand the methods by which people combine this information to make evaluative decisions.

APPENDICES

APPENDIX A

Pretest Questionnaire

Now that you know something about the study that you are going to participate in, we would like some information about how you might come to some decision about dividing your team's earnings between yourself and your partner. At this time, of course, we have not determined which of you actually will be selected to divide the pay, but we want you to imagine that you were chosen.

We will give you a list of reasons that you might use in making your decision to divide the team's pay as you would. We would like you to indicate how important each of these reasons would be if you were to decide how to divide the pay.

In rating the importance of the reasons, you will be given a scale that looks like this:

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

What we would like you to do is write each reason above the line in a place that indicates how important that reason is.

Here is a simple example of how to use this scale.

Suppose we ask a respondent before he or she decides to buy a dog to rate how important these particular reasons for owning a dog would be for him or her. The reasons the respondent was asked to rate were: a dog would <u>protect</u> me, would be <u>friendly</u>, and would keep me <u>company</u>.

The respondent's task was to write protect, friendly, and company above the line on the scale in positions that indicate the importance of each reason.

protect			company		friendly
Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

As you can see from the answers the respondent did not think protection would be at all important, while company would be somewhat important, and friendly would be very important.

Now we would like you to consider a particular situation and rate the importance of a set of reasons in making this decision on a scale just like that shown above.

1. Suppose that after you and your co-worker complete the task you are the one selected to divide the group earnings. We would like you to rate four factors that you might use in deciding the amount of pay to give each member working on this task. These factors are:

    1. how hard you and your co-worker tried to complete the task (effort).
    2. the amount of time you and your co-worker spent working on the task.
    3. your co-worker's expectations of how the pay would be allocated.
    4. the number of pieces you and your co-worker placed in the puzzle.

Write effort, time, expectation, and pieces on the line above the scale in a way that indicates how important you think each of these factors would be in making the pay decision.

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

2. Now we would like you to use the same scale to indicate the importance of 4 different rules you might use in deciding how to divide pay between you and your co-worker. They are:

1. Pay each member according to his or her contribution to the work (contribution).
2. Pay each member the same pay (same).
3. Pay more to the member who has the greater need for the money (need).
4. Pay each member according to what your partner's expectations seem to be about how much he or she will receive (consideration).

Write contribution, same, need, and consideration on the line above the scale in a way that indicates how important you think each of these factors would be to you in making the pay decision.

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

Please knock on the door when you are done.

APPENDIX B

Post Session Questionnaire

Initials __ __

Last four digits of your phone number __ __ __ __ __

Sex _____

We are interested in your reactions to this puzzle study. Therefore, the following questions ask you to indicate your feelings about your experience today. Keep in mind there are no "right" or "wrong", "good" or "bad" answers; we are simply interested in your opinions. Please be candid and answer the questions truthfully--your answers of course, will be kept strictly confidential. To insure your anonymity write only the initials of your first and last name, the last four numbers of your telephone number, and your sex at the top of this page--do not write your name.

I. We will give you a list of reasons that you might have used in making your decision to divide the team's pay as you did. We would like you to indicate how important each of these reasons were to you when you made your decision on dividing the pay.

In rating the importance of the reasons, you will be given a scale that looks like this:

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

What we would like you to do is to write each reason above the line in a place that indicates how important that reason is.

Here is a simple example of how to use this scale. Suppose we ask a respondent to rate how important these three particular reasons for owning a dog were for him or her. The reasons the respondent was asked to rate were a dog protects me, keeps me company, and is friendly. The respondent's task was to write protect, friendly, and company above the line on the scale in positions that indicate the importance of each reason.

protects				company	friendly
Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

As you can see from the answers, the respondent did not think protection was at all important, while company was moderately important, and friendly was very important.

Now we would like you to consider a particular situation and rate the importance of a set of reasons in making a decision on a scale just like that shown above.

1. We are concerned with four factors you might have used in deciding the amount of pay to give each member working on this task. These four factors are:

    1. how hard you and your co-worker tried to complete the task (effort)
    2. the amount of time you and your co-worker spent on the task
    3. your co-worker's expectations of how the pay would be allocated
    4. the number of pieces you and your co-worker placed in the puzzle.

Write effort, time, expectation, and pieces on the line above the scale in a way that indicates how important you think each of these factors were in making your decision.

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

2. Now we would like you to use the same scale to indicate the importance of four different rules you might have used in deciding how to divide the pay between you and your co-worker. They are:

1. Pay each member according to his or her contribution to the work (contribution).
2. Pay each member the same amount (same).
3. Pay more to the member who has the greater need for the money (need).
4. Pay each member according to what your partner's expectations seem to be about how much he or she will receive (consideration).

Write contribution, same, need, and consideration on the line above the scale in a way that indicates how important you think each of these factors were in making your pay decision.

Not at all important	Barely important	Slightly important	Somewhat important	Moderately important	Very important

II. In this part of the questionnaire we would like you to use a somewhat different kind of scale to answer some additional questions. On this scale, you will place an X mark on a line to indicate your answer to a question.

Suppose we ask a respondent to indicate how much he or she likes his or her dog.

I like my dog

				X		
Not at all	Barely	Slightly	Somewhat	Moderately	Very much	

The respondent indicated by placing an "X" above the point on the scale that indicated how much he or she liked his or her dog. As you can see the respondent moderately likes his or her dog.

Please place X marks on the following scales to indicate your answers to these questions.

3. In comparison to your co-worker, how much effort did you expend?

Partner expended much more	Partner expended somewhat more	Partner expended slightly more	Both expended same	I expended slightly more	I expended somewhat more	I expended much more

4. In comparison to your co-worker, how much time did you spend working on the puzzle? I spent

Much more	Somewhat more	Slightly more	About the same	Slightly less	Somewhat less	Much less

5. In comparison to your co-worker, how many pieces did you place in the puzzle?

4 times as much or more	About 3 times as much	About twice as much	About the same	About ½ as much	About 1/3 as much	¼ as much or less

6. To what extent do you feel successful performance on puzzles of this kind is due to luck?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all										Very much

7. To what extent do you feel successful performance on puzzles of this kind is due to effort?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all										Very much

8. To what extent do you feel successful performance on puzzles of this kind is due to ability.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all										Very much

9. Compared to my partner, I deserved

A lot less money	Moderately less money	Somewhat less money	Slightly less money	About the same	Slightly more money	Somewhat more money	Moderately more money	A lot more money

10. How confident are you that you know the sex of your co-worker?

My coworker

Positively was a male	Probably was a male	Possibly was a male	No idea	Possibly was a female	Probably was a female	Positively was a female

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