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Judgments Of Resource Distributions: The Role Of Long-term Outcomes

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JUDGMENTS OF RESOURCE DISTRIBUTIONS:

THE ROLE OF LONG-TERM OUTCOMES

by

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Submitted in partial fulfilment
of the requirements for the degree of
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ABSTRACT

Equity theory (Adams, 1965; Walster, Berscheid, & Walster, 1976) proposes that people will perceive a distribution of resources as fair when each person in the relationship receives outcomes in proportion to his/her contributions. While equity appears to be a very important determinant of perceived fairness, inequitable distributions may also be judged fair (Deutsch, 1985). For this dissertation, it was hypothesized that many apparently inequitable distributions are seen as fair because the relationship is expected to be equitable eventually. In such a case, equity is still the underlying principle of distributive fairness, though, on the surface, people appear to be defining distributive fairness in terms other than equity.

In two experiments, undergraduates were presented with a situation, either hypothetical or actual, in which they and another person made unequal contributions to a task. Expectations for long-term equity were manipulated, after which participants rated the fairness of and/or their preferences for an equitable vs. an equal distribution of rewards. Participants also completed individual difference measures thought to relate to expectations for eventual equity (namely, beliefs in a just world, locus of control, and endorsement of the Protestant ethic).

In both studies, equity was seen as the fairest distribution principle, in general. In Study 1, equality was perceived as more fair when eventual equity was probable than when it was not, but only for strong believers in a just world and participants with an internal locus of control. In Study 2, there was little evidence that expectations for long-term equity influenced fairness ratings. Fairness ratings in both

experiments appeared to be affected by motives in addition to fairness, such as politeness. The measures of distributive fairness in both studies yielded similar, but not identical, results to the preference measures.

These findings suggest that perceptions of distributions may be influenced by long-term expectations, at least in certain situations and for certain individuals. They also suggest that distributive justice researchers should be aware that perceived fairness and preferences may not be deemed equivalent. Finally, the findings appear to show that both distributive fairness and distributive preferences are influenced by a complex array of competing motivations.

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CHAPTER I - INTRODUCTION

Overview

In any organized group of people, from societies to dyadic relationships, there exist a number of material and nonmaterial resources that must be distributed in some way among the group's members. The _fairness_ of these distributions of resources is the central concern of "distributive justice" researchers (Deutsch, 1985). Many theorists have suggested that the perceived fairness of resource distributions is a powerful motivator of human behaviour (e.g., Hochschild, 1981; Lerner, 1977; Lerner & Lerner, 1981; Olson, Herman, & Zanna, 1986; Olson & Ross, 1984; Reis & Burns, 1982; Walster, Walster, & Berscheid, 1978). An important question for research, therefore, is what particular ways of allocating resources are seen as fair or unfair?

Equity theory is one attempt to address the question of what is considered fair in distributive behaviour. According to equity theory, a relationship will be perceived as fair when the proportions of inputs to outcomes for each person in the relationship are the same (Adams, 1965; Walster, Berscheid, & Walster, 1976). The division of resources in proportion to individual contributions is referred to as the principle of equity or merit.[1] Other principles of distributive justice have been hypothesized in

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[1] There has been some confusion in the distributive justice literature regarding the term "equity". Adams (1965) defined equity as an exchange relationship characterized by equal ratios of inputs to outcomes for each person in the relationship. Inputs referred to contributions to the exchange. These contributions could be any attributes relevant to the exchange, from ability, effort, and experience to demographic variables such as age, gender, and ethnicity (see also Homans, 1961).

Multiprinciple theorists saw this form of equity as one of many possible distributive justice principles. Resources could also be justly allocated in proportion to individual need (as opposed to individual merit), or equally, regardless of need, merit,

addition to equity; for example, equality, the equal distribution of resources regardless of individual contributions, and need, the distribution of resources according to individual need (Deutsch, 1985). In this dissertation, I argue that a concern with equity may sometimes underlie the acceptance of other distribution principles.

I propose that, consistent with equity theorists, equity is an important determinant of perceived fairness, at least within the relatively individualistic culture of North America (see Sampson, 1983, for a discussion of the limitation of the equity principle of distributive justice to current Western societies). I propose extending the concept of "fairness as equity", however, by hypothesizing that people often take into account long-term outcomes in judging the fairness of a current allocation. Given a system of allocations that is not equitable, people may often think about whether or not equity will be met in the long run. I predict that, when people judge an inequitable distribution to be fair, it is often because they expect that resources will eventually work out equitably. In such a case, fairness is still being defined in terms of equity, although the goal is <u>eventual</u> rather than <u>immediate</u> equity. For example,

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or any other differential characteristics of the recipients.

Equity theorists responded to this multiprinciple perspective by broadening the term "inputs" in the equity equation, so that the principles of equality and need could be viewed as special cases of equity. For example, need was seen as the division of outcomes in proportion to the "input" of individual need. Equality was also seen as a special case of equity, namely when the only relevant input was a person's status as a group member or even as a human being (Walster & Walster, 1975).

Several proponents of the multiprinciple view argue that this redefinition of "inputs" makes the term meaningless and equity theory virtually unfalsifiable (Folger, 1984; Leventhal, 1976; Reis, 1986). Consistent with this view, in the present paper, "equity" will be defined specifically as the division of rewards in proportion to individual merit or contributions.

given a relationship in which contributions are unequal, an <u>equal</u> distribution of rewards might be seen as fair because recipients expect to eventually make equal contributions to the relationship. In such a case, distributing rewards equally eventually works out to an overall distribution conforming to equity. The studies presented here attempt to show that departures from equity will sometimes be seen as fair because equity is expected to occur in the long run.

This dissertation is organized in the following manner. In the next section, I review evidence on the importance of distributive fairness as a motive in social behaviour. Equity theory, one perspective on how people think about fairness, is then summarized. Following this, I present evidence that people do consider long-term outcomes in their distributive justice judgments and I outline some of the implications long-term outcomes may have for the perceived fairness of inequitable distribution principles. Next, I discuss the relation between perceived <u>fairness</u> (the major concern of this dissertation) and previous literature on distributive <u>preferences.</u> Two studies by the current author that attempt to explore the ideas outlined in the introduction are then presented.

The Effects of the Perceived Fairness of Resource

Distributions on Behaviour

Several related areas of research have demonstrated an association between the perceived fairness of a distributive system and various behavioural responses. Most of these studies have been conducted within an organizational context or within the sphere of political activism and intergroup behaviour.

In the organizational domain, Pritchard, Dunnette, and Jorgenson (1972) found that workers who felt overpaid were more productive than those who felt that they were paid the "right" amount. Similarly, those who felt underpaid were less productive than those who were paid "fairly". The fairly paid workers were also more satisfied with their situation than either over- or underpaid workers. Presumably, the workers in the overpayment and underpayment groups were attempting to redress via productivity the unfairness of the wage system. Several other studies have found this relation between the perceived fairness of wage distributions and employee satisfaction and productivity (for a review, see Greenberg, 1982). Similar results have also been found in response to the perceived fairness of distributions of status in the workplace (Greenberg, 1988).

Studies of political activism and intergroup behaviour also show the motivating influence of distributive fairness. In laboratory experiments, the perceived fairness of resource allocations has been related to aggression against a superior via aversive white noise (Ross, Thibaut, & Evenbeck, 1971) and the formation of coalitions against authorities (Lawler, 1975; Michener & Lyons, 1972; Sell & Martin, 1983). A laboratory experiment by Taylor, Moghaddam, Gamble, and Zeller (1987, Exp. 1) examined the reactions of people in a disadvantaged group not only to distributive justice but also to "procedural justice", or the fairness of the process leading to a particular distribution (Lind & Tyler, 1988). Taylor et al. found that members of a disadvantaged group intended to take collective action (namely, organize a petition) to improve their lot when faced with both procedural and distributive injustice; when the

distribution was unfair and the procedures fair, however, disadvantaged individuals intended to take an individualistic route to improving their situation.

In summary, the desire for fairness can be an important motivator in several domains of human behaviour. Equity theory, reviewed in the following section, addresses the issue of how people define fairness in distributive situations.

Equity Theory

The concept of distributive fairness as outcomes proportional to inputs goes back to Aristotle's Nichomachean Ethics (Ross, 1964). Aristotle wrote that all persons should be rewarded in proportion to their individual merit. Aristotle believed that this is not only how people should behave but also how they try to behave.

In the social psychological literature, Homans (1961) was the first to address directly the problems of fairness in distributive behaviour. He hypothesized that two people in an exchange relationship expect that the rewards of each will be proportional to the costs of each, and that profits will be proportional to investments. This expectation was seen to be universal. Homans stressed that rewards, costs, profits, and investments are subjective in nature, and, thus, two people in the same relationship may not necessarily agree on the nature of these variables. Homans postulated that the perception that one is in an inequitable relationship is likely to lead to expressions of anger or guilt depending on whether one has been underbenefited or overbenefited, respectively.

Drawing on ideas from Homans, Adams (1963, 1965) postulated that an individual will see a situation as just only when his/her ratio of inputs or contributions

to outcomes or results is equal to the ratio of inputs to outcomes for a comparison other. This relationship is expressed as:

$$\frac{O_a}{I_a} = \frac{O_b}{I_b}$$

Inputs refer to contributions to the exchange. These contributions can be any attributes relevant to the exchange, from ability, effort, and experience, to demographic variables such as age, gender, and ethnicity. Outcomes are similarly broad, including material outcomes such as money and nonmaterial outcomes such as status, privileges, and affection. Adams proposed that each of the relevant perceived inputs is weighted according to their importance to the relationship and summed to create an overall estimation of inputs. The same process is used for determining outputs. Inequity and therefore injustice will be perceived when these ratios are unequal, i.e., when:

$$\frac{O_a}{I_a} > \frac{O_b}{I_b} \quad or \quad \frac{O_a}{I_a} < \frac{O_b}{I_b}$$

Like Homans, Adams emphasized that it is the perceived rather than the actual inputs and outcomes that make up these ratios; thus, people in the same relationship may disagree as to the nature of these variables. Adams's discussion of the consequences of perceived inequity is based on ideas from cognitive dissonance theory (Festinger, 1957) and is more detailed than Homans's. Inequity creates an unpleasant tension in the individual, which is proportional in magnitude to the intensity of the injustice. This tension motivates the individual to reduce the inequity. The strength of this motivation is also proportional to the intensity of the injustice.

Adams offers several ways in which an individual might attempt to reduce inequity, some of which were mentioned in the previous section on reactions to perceived unfairness. First, one's own inputs or outcomes can be altered, either actually or psychologically. Second, the inputs or outcomes of the other person in the relationship can be altered. Third, the comparison other can be changed. Finally, one may choose to leave the relationship altogether.

Walster, Berscheid, and Walster (1976) reformulated the equity equation to account for cases in which inputs are negative. An equitable relationship becomes one in which:

$$\frac{O_a - I_a}{(|I_a|)^{k_a}} = \frac{O_b - I_b}{(|I_b|)^{k_b}}$$

where k is the exponent +1 or -1, depending on whether (O-I) has a positive or negative sign.

Walster et al. (1976) also proposed some additional theoretical points, which attempted to integrate the popular view in psychological theory that people are motivated by self-interest and the apparent perspective of equity theory that people are motivated by fairness. They began with the axiom that individuals' basic motivation is to try to maximize their own rewards. In order to do this, however, people realize that they must conform to a common set of rules for the allocation of resources. If they did not do so, continual disorder and conflict would ensure that no one would maximize their outcomes (see Lerner, 1977, for a similar point). Walster et al. proposed, therefore, that groups of people will attempt to maximize collective rewards

by creating a system in which resources are distributed equitably. In order to maintain this system, the group will reward members who act equitably and punish those who do not act equitably.

Similar to Adams's version of equity theory, an individual experiencing inequity is presumed to feel tension proportional to the injustice. This tension motivates the individual to reduce the inequity.

Early empirical work on equity theory focused on laboratory experiments in which participants were paid for working on individualistic tasks such as interviewing or proofreading. The main concern was how overpayment and underpayment (according to equity criteria) influenced the quality and quantity of work produced as a function of piece-rate versus fixed pay systems (see Mowday, 1983, for a review). In general, participants acted in accordance with equity theory predictions, although this was more apparent in the underpayment than the overpayment conditions (see Vecchio, 1981, for evidence that individual differences moderate responses to overpayment inequity).

Since this early work, equity research has expanded in several directions. Some researchers have attempted to delineate the precise mathematical nature of the equity formula (see Harris, 1983, for a review) or have focused on the nature of "inputs" (e.g., Cook & Yamagishi, 1983) or "outcomes" (e.g., Folger, 1986). Others have applied equity theory to more intimate relationships, such as dating partners and spouses (for reviews, see Brehm, 1992; Hatfield, Traupmann, Sprecher, Utne, & Hay, 1985). Equity theory has also been used to shed light on contemporary organizational

issues such as performance appraisal (for a review, see Greenberg, 1982), pay equity (e.g., Hegtvedt, 1989), and two-tier wage sys .ems (Martin & Peterson, 1987).

Although each of these areas of research has led to some valuable findings, equity theory has not been without its critics. Deutsch (1985), for example, has criticized the rational perspective that equity theory takes on human cognition. He also criticized the vagueness of the concepts "outcomes" and "inputs", suggesting that this imprecision makes it difficult to predict whether an individual will perceive a particular situation as equitable or not.

In this dissertation, I address a criticism not just of equity theory but of the resource allocation literature in general. This literature has not typically investigated perceptions of a series of allocations and, thus, has not focused on how expectations about the long-term outcomes of a series of allocations may influence the perceived fairness of a current distribution.

The following section discusses how long-term expectations may affect the perceived fairness of distribution rules. First, I review evidence that people do sometimes consider long-term outcomes in their judgments regarding distributions. Then I discuss how the concept of equity or merit as distributive fairness can be extended by taking into account long-term expectations.

The Influence of Long-term Expectations on

Perceived Fairness

In the majority of distributive justice experiments, participants' responses to a single isolated distribution are measured. Alternatively, participants must actually

choose a method of distributing resources, again usually for a single isolated distribution. After the single distribution has been made and any relevant responses measured, the job is completed, and the workers go their separate ways. Outside of the laboratory, however, resources are often divided the same way between the same people several times over. For example, pay and benefits may be divided among plant workers several times, or a team of researchers may divide up credit for numerous studies. In such situations, people's expectations about the long-term consequences of repeatedly using the same distribution rule may affect their judgments of its current fairness.

Evidence of the Tendency to Consider the Long-term Consequences of

Distributive Systems

There is some evidence that long-term outcomes are considered in judgments of resource distributions. For example, Birnbaum (1983) found that, when given a description of employees' merit and current salaries at a hypothetical company and asked to assign raises on the basis of merit, participants preferred a system of "adjustment equity" in which raises were monotonically related to the amount that a person was currently underpaid. This system was also rated as more fair than "relative equity" (where people with equal merit received equal percentage raises) and "absolute equity" (where people of equal merit received equal raises). In the adjustment equity system, those who deserved equal salaries based on merit eventually ended up with equal salaries. Thus, it seems as if participants were assuring that some sort of long-term equity was met.

Research on distributive justice in intimate relationships suggests that people may tolerate short-term inequities with the belief that a fair distribution of rewards will result over time (Holmes, 1981; Holmes & Miller, 1976; Ueleke, Miller, Giesen, & Miles, 1983). For example, Ueleke et al. found that participants were less likely to compensate their partners for a current inequity if it was implied that this inequity would be compensated for in the future.

Antonucci and Akiyama (1987) argue that, with age, people begin to consider the exchange of support (both emotional support and health care) between themselves and their spouses and children within a long-term framework. Often, older adults are receiving more support than they are giving. When calculating the reciprocity of their relationships, they will take into account not only these current levels of support, but earlier periods as well, in which they may have given more support than they received. This long-term perspective on reciprocity may make it easier to live with a relationship that is currently inequitable in terms of support.

Empirical evidence of long-term perspectives on social exchange in older adults can be found in Beckman (1981). In this study, older women who were receiving support from their children experienced more well-being if they felt they had supported their children in the past. Similarly, results from Ingersoll-Dayton and Antonucci (1988) on the exchange of support between older adults and their spouses, friends, and children were interpreted by the authors in terms of this life-span perspective on reciprocity.

In summary, people do appear to consider the long-term outcomes of allocation strategies, whether in business relations, romantic partnerships, friendships, or family relations.

Long-term Expectations, Equity, and Distributive Fairness

Recognizing that long-term expectations influence judgments of distributions suggests a possible extension of the idea that people equate distributive fairness with equity. I begin with the assumption that, consistent with Walster et al.'s (1976) formulation of equity theory, people strive for fairness in their relationships, and that fairness is often defined as equity. I also assume in accordance with Walster et al. that this motivation for equity arises from the need for people to follow a common set of norms for fairness in order to maximize their own rewards.

In addition to these assumptions, I propose that people often think of fairness in a long-term sense. As already noted, outside of the laboratory, a single allocation is often part of a larger system of repeated distributions made over time. In such a case, it is possible that, even if no single distribution is equitable, an equitable distribution of resources will result in the long run. I am hypothesizing that people may sometimes find currently inequitable distributions fair because they expect equity will eventually occur.

This implies that any variable affecting one's expectations for eventual equity can influence the perceived fairness of a current allocation. These variables could include characteristics of the situation or characteristics of the individual. Some of the

variables that may affect expectations of achieving equity in the long run are discussed in the following sections.

Situational Variables Affecting Expectations for Eventual Equity

One aspect of the situation that may affect expectations for eventual equity is the amount of trust between people in the relationship. Given an inequitable distribution, individuals may believe equity more likely to occur in the future in a mutually trusting relationship than in one in which people are suspicious of one another. For example, two people may be working within a system in which resources are divided equally between them at several points in time, regardless of their relative contributions. In order for an egalitarian system to work out to equity in the long run, individuals must not take advantage of one another by deliberately contributing less than others with the knowledge that rewards will be distributed equally regardless of inputs. In a mutually trusting relationship, it is less likely that one or more persons in the relationship will take "free rides" on the system than when relations are characterized by suspicion (Deutsch, 1988). Thus, distributing resources equally may seem more fair in a positive, trusting relationship than in a negative, mistrusting one, partly because, in the positive relationship, it appears more likely that everything will work out to equity in the long run.

Another situational variable that may affect expectations for eventual equity is the duration of the relationship. As in positive, trusting relationships (and, indeed, the positive affect of a relationship and its longevity are probably correlated), equality may be considered fair in relatively long-term situations partly because there is

sufficient opportunity for inputs and outcomes to work out to equity eventually, even if at present they are inequitable. In very short-term relationships -- for example, ones in which only a single distribution of resources takes place, immediately after which the partners never see one another again -- there would be little opportunity for an inequitable distribution to average out to equity. Thus, the only way to ensure an acceptable distribution in a very brief relationship is to allocate directly according to inputs.

<p style="text-align:center"><u>Individual Differences and Expectations for Eventual Equity</u></p>

I also argue that the tendency to expect long-term outcomes to be equitable may vary with stable individual differences. Individual differences in distributive justice judgments have been relatively overlooked in the social psychological literature (Hafer & Olson, 1989; Major & Deaux, 1982). However, three individual difference variables seem especially likely to relate to such expectations: beliefs in a just world, locus of control, and endorsement of the Protestant ethic. Relevant research on these individual difference variables is reviewed in the following sections.

<u>Beliefs in a Just World</u>

Lerner (1970, 1977; Lerner & Miller, 1978) proposed that individuals need to believe that the world is just and people get what they deserve. In a series of laboratory experiments, Lerner and his colleagues demonstrated the tendency for people to derogate victims who were suffering and could not be compensated. For example, Lerner and Simmons (1966) led participants to believe that electric shocks were being administered to a confederate for making mistakes in a paired-associates

learning task. Participants evaluated a shocked confederate more negatively than a confederate who was either not shocked or who received compensation for being shocked. Other victim-derogation experiments have shown similar results (e.g., Jones & Aronson, 1973; Lerner & Mathews, 1967; Smith, Keating, Hester, & Mitchell, 1976). Presumably, participants in these experiments were protecting their belief in a just world by rationalizing that the victims deserved their fate.

Rubin and Peplau (1973, 1975) postulated that individuals differ in the extent to which they believe that the world is fair. They developed the Just World Scale to measure this individual difference variable. Scores on the Just World Scale are related in the expected manner to victim derogation and other justice-related attitudes (see Furnham & Procter, 1989, for a review of the literature on individual differences in just world beliefs). Recent research has also shown that individual differences in beliefs in a just world are relevant to perceptions of the fairness of one's own suffering (Bulman & Wortman, 1977; Hafer & Olson, 1989; Hafer & Olson, in press; Hafer & Roney, 1989) as well as the suffering of others. Thus, there is evidence for the construct validity of Rubin and Peplau's scale. There is also evidence that the scale has satisfactory internal consistency (Furnham & Procter, 1989).

Lerner, Miller, and Holmes (1976) state that children's behaviour is initially directed toward immediately gratifying their desires; over time, however, children begin to delay immediate gratification in the interest of greater long-term gain. During this process, children are thought to develop a "personal contract" with themselves to forestall immediate rewards in order to obtain these greater future

benefits. Thus, children come to believe that effort exerted and costs incurred now will pay off later. In order to maintain the personal contract, children need to believe that their contributions will ultimately be rewarded. If others seem not to be getting the outcomes they deserve, this belief will be threatened; thus, people have a general need to perceive others' outcomes as deserved. Long and Lerner (1974) obtained evidence for a link between children's ability to delay gratification and their concern for just outcomes. Lerner (1980) suggested that the easiest way for adults to maintain the belief in a just world is to assume that justice will occur ultimately and current instances of injustice are merely temporary -- everything will work out for everyone in the long run.

In short, beliefs in a just world seem to be related to a willingness to assume that long-term equity will be satisfied. Therefore, the Just World Scale, given that it is a valid measure of the beliefs described by Lerner et al. (1976; see Furnham & Procter, 1989, 1992, for discussions of this issue), will measure individual differences in expectancies for long-term equity. That is, in a currently inequitable situation, strong believers in a just world should have stronger expectations for long-term equity than weak believers. Thus, strong believers should be more willing than weak believers to tolerate violations of equity (e.g., equality), so long as situational factors imply that e⋅entual equity is plausible (e.g., the relationship is positive and involves several distributions).

Locus of Control

Internal-external locus of control refers to differences in the perceived causes of personal outcomes (Lefcourt, 1982; Phares, 1976; Rotter, 1966). Lefcourt (1982) describes internals as individuals who perceive that outcomes result from their own behaviours; therefore, outcomes are thought to be under their personal control. Externals, on the other hand, perceive outcomes to be noncontingent on their behaviour and, thus, outside of their personal control. Rotter (1966) developed the Internal-External Scale to measure this individual difference variable.

Internals may expect equity to occur in the long run, given a currently inequitable situation, more than externals. Consistent with this assumption are studies demonstrating an association between individual differences in the belief in a just world and locus of control (Furnham & Karani, 1985; Hafer & Olson, 1989; Lerner, 1978; Rubin & Peplau, 1973; Zuckerman & Gerbasi, 1975) or personal control (a subset of items from the Internal-External Scale; Boutilier, 1973, cited in Sorrentino, 1981), such that internals have stronger just world beliefs than externals. Factor-analytic studies by Collins (1974) and Zuckerman and Gerbasi (1975) demonstrate that the belief in a just world is one dimension underlying internal locus of control. It has been suggested that the belief in a just world represents a belief in personal efficacy (Lerner, 1974) and that this belief is necessary for internality. If one did not believe that the world was just, one could not believe that his/her own efforts affected outcomes (Rubin & Peplau, 1975). Thus, it seems reasonable to presume that

internals, like strong believers in a just world, may have a greater willingness to

assume that inequitable distributions can work out to equity over time than externals.

It is important to note here that it is possible to believe in a just world that is

controlled by external forces. For example, Rubin and Peplau (1973) found a

correlation of .31 between scores on the Just World Scale and the belief in a God who

actively influences the lives of individuals. Kübler-Ross (1969) gives examples of

both internally and externally controlled just worlds from people with fatal illnesses.

Thus, the two dimensions are not conceptually equivalent. Nevertheless, it seems

reasonable to presume that internals have high expectations for long-term equity, as do

strong believers in a just world, and, thus, will be more willing than externals to see

inequitable allocations as fair, given that eventual equity is possible.

Protestant Ethic

Mirels and Garrett (1971) developed the Protestant Ethic Scale to measure the

extent to which people value hard work as a goal in itself and as a means to future

success. Evidence for the validity of the Protestant Ethic Scale can be found in an

experiment by Garrett (1974, cited in Rubin & Peplau, 1975) in which strong

endorsers of the Protestant ethic worked harder on a monotonous task than did weak

endorsers. Similarly, scores on the Protestant Ethic Scale have been found to be

positively correlated with job involvement (Chonko, 1983), the values of salvation,

obedience, and self-control from the Rokeach Value Survey (Feather, 1984), negative

individualistic explanations for unemployment (Furnham, 1982), and anti-welfare

sentiments (Furnham, 1982). Belief in the Protestant ethic is correlated with an

internal locus of control (Furnham, 1986; Kleiber & Crandall, 1981; Mirels & Garrett, 1971), behavioural attributions for positive and negative outcomes (Feather, 1983a), and the Rokeach values of beauty, mature love, being broad-minded, and being imaginative (Feather, 1984).

Rubin and Peplau (1975) argue that the Protestant ethic's focus on the ultimate economic and spiritual pay-offs of hard work is similar to the belief in a just world where people get what they deserve. In support of this notion, MacDonald (1972) found that people scoring high on the Protestant Ethic Scale derogated victims more than did low scorers. Several studies have found significant positive correlations between individual differences in beliefs in a just world and endorsement of the Protestant ethic (e.g., Lerner, 1978; Ma, 1987; Ma & Smith, 1985; Wagstaff, 1983). Thus, belief in the Protestant ethic appears to be associated with expectations for ultimate equity (at least in terms of rewards for hard work). Therefore, strong endorsers of the Protestant ethic should tolerate inequitable distributions more than weak endorsers when long-term equity is plausible.

There has been some research on the Protestant ethic and preferences for specific allocation strategies. Although the data are not entirely consistent (cf. Feather, 1983b), in general, people scoring low on the Protestant Ethic Scale are more likely to value equality (MacDonald, 1972) and tend to allocate rewards more equally than do high scorers (Garrett, 1973, cited in Major & Deaux, 1982; Greenberg, 1978; MacDonald, 1972). Strong endorsers of the Protestant ethic allocate rewards equitably

more than do weak endorsers (Garrett, 1973, cited in Major & Deaux, 1982; Greenberg, 1978).

Individual differences in the endorsement of the Protestant ethic may also determine the types of contributions deemed important in equitable distributions. Greenberg (1978, 1979) and Sinclair and Mark (1991), for example, provided evidence that high Protestant ethic people prefer rewards to be allocated on the basis of hard work, effort, and accomplishments more than do low Protestant ethic people. Stake (1983) reported that male undergraduates who scored high on the Protestant Ethic Scale allocated pay and salary more on the basis of worker-controlled inputs than did low scorers. Thus, the endorsement of the Protestant ethic usually relates to allocation preferences.

Notice that, although some of these studies suggest that weak endorsers of the Protestant Ethic may typically prefer equality as an allocation strategy more than strong endorsers, the arguments outlined in this introduction suggest that strong endorsers may see equality as more fair than weak endorsers when the relationship allows for equity to be attained eventually (e.g., when the relationship is trusting and long-term). This reasoning underscores the need to distinguish between the perceived fairness of a particular distribution and allocation preferences. The next section discusses the difference between perceived distributive fairness and distributive preferences.

Fairness Versus Preference

To this point in the introduction, it has been argued that distributive fairness is an important motivator of human behaviour. Consistent with equity theory, it has been proposed that distributive fairness is typically equated with equity. It has also been proposed that an inequitable distribution may often be seen as fair because equity is expected to occur in the long run.

This reasoning would help explain why principles other than equity are seen as fair under certain conditions (because, under those conditions, expectations for eventual equity are strong); but, it would not explain why, under these conditions, inequitable principles such as equality and need may actually be preferred to equity.

The distributive justice literature offers many instances in which inequitable principles are preferred over equitable ones. However, proposing that equity underlies much of our fairness judgments, even the perceived fairness of inequitable distributions, is not incompatible with suggesting that inequitable distributions are often preferred. While fairness is one important motivator of human behaviour, as discussed previously, allocation preferences may reflect one or more of several motives, only one of which is fairness (see Lind & Tyler, 1988, for a similar argument regarding procedural justice).

For example, research has shown that equity may be preferred when the group is motivated to increase economic productivity (Deutsch, 1985; Leventhal, 1976; Schwinger, 1980). Equality may be preferred if the major goal of the group is to prevent interpersonal conflict (e.g., Austin & McGinn, 1977; Leventhal, Micheals, &

Sanford, 1972; Shapiro, 1975; Von Grumbkow, Deen, Steensma, & Wilke, 1976) or to promote good relationships, cooperation, or group solidarity (Deutsch, 1985; Lerner, 1974; Leventhal, 1976; Stake, 1983).

A more complex pattern of distribution preferences may result from the desire to appear generous or modest. When the allocator has contributed more to the relationship than his/her partner, he/she may prefer to distribute rewards equally; conversely, when the allocator has contributed less, he/she may prefer equity (Mikula & Schwinger, 1978; Shapiro, 1975). This tendency to choose the distribution which most benefits the partner has been referred to as the "politeness ritual" (Mikula & Schwinger, 1978). While Mikula and Schwinger (1978) refer primarily to absolute differences between equity and equality in their discussion of the "politeness ritual", note that a relative effect could also indicate the presence of politeness. For example, in some situations, the allocator may consistently prefer equity to equality; however, this difference might be greater when the allocator contributes less to the relationship than his/her partner than when he/she contributes more. Notice that a pattern of distributive preferences opposite to that of the politeness ritual, a preference for equality by low contribution allocators and a preference for equity by high contribution allocators, could reflect self-interest, or a desire to maximize one's own immediate outcomes. Again, the influence of self-interest could be reflected in either an absolute or relative manner.

Although there is little empirical work on the motivations behind the use of the need principle, it has been suggested that need may be preferred when the primary

motive is to foster personal growth and welfare (Deutsch, 1985) or to maintain minimal standards and prevent disaster (Greenberg, 1981; Murphy-Berman, Berman, Singh, Pachauri, & Kumar, 1984).

Research showing that different allocation principles are advocated depending on the nature of the situation and individuals involved has also been interpreted in terms of the goals that are relevant in particular situations and for particular people (for reviews, see Bierhoff, Buck, & Klein, 1986; Deutsch, 1985; Lerner, 1981; Leventhal, 1976; Major & Adams, 1983; Major & Deaux, 1982; Mikula, 1980; Mikula, 1981). For example, gender differences have often been found in distributive behaviour. Typically, when performing worse than a partner, females tend to divide rewards equally, whereas males tend to divide rewards equitably; when performing better than a partner, both males and females tend to divide rewards equitably, although females allocate fewer rewards to themselves than do males (Major & Adams, 1983). One interpretation of this gender difference is that women are more motivated by interpersonal goals than are men (e.g., Kahn, O'Leary, Krulewitz, & Lamm, 1980, but see, Major & Adams, 1983; Watts, Vallacher, & Messe, 1982). In the case of specifically monetary distributions, it has been suggested that women value money less than do men (Jackson, 1989); thus, their allocations may be less motivated by a desire to possess money.

Fairness can be viewed as another distinct goal underlying distributive preferences. Thus, while a principle other than equity may be seen as fair because it is expected to work out equitably in the long run, the principle may still be preferred

to equity because it helps satisfy a motive other than fairness. This implies that people may sometimes prefer a principle that is not fair, because their major concern is achieving a goal that cannot be fulfilled through a "fair" distribution of resources.

Several researchers have noted the need to distinguish between the perceived fairness of a distributive rule and distributive preferences (e.g., Keil & McClintock, 1983; Leventhal, 1976; Lind & Tyler, 1988, in the procedural justice literature; McClintock, 1978; Messick & Sentis, 1983; Reis, 1986). Unfortunately, perceptions of fairness are rarely measured in distributive justice studies, and very rarely are they assessed together with allocation preferences. For the present studies, therefore, both perceived fairness and distributive preferences were measured.

CHAPTER II - STUDY 1

Overview

In Study 1, participants read hypothetical scenarios about two co-workers (one of them the participant) who had made unequal contributions to a joint project. There were three manipulations: who had contributed more, the participant or the partner; the affective quality of the relationship, positive or negative; and the duration of the relationship, involving 10 joint projects over a period of two years, or just the one joint project mentioned in the scenario. Participants were told that they and their partner would receive a lump sum of $800 (or 10 lump sums of $800) and they had to decide how this money should be divided between the two of them. In the 10 distributions conditions they were told that the same principle would be used for each of the distributions.

Presumably, distributing the money according to a principle other than equity would seem most likely to work out equitably in the long run when the relationship involved 10 distributions and was positive. This is because there are several distributions over which contributions and outcomes can eventually work out equitably, and the partners trust one another to contribute an amount of work such that equity will be met. In the 1 distribution condition, on the other hand, there would be no opportunity for an inequitable distribution to work out equitably. In the negative relationship condition, equity in the long run would not seem likely as the partners do not trust one another to increase or decrease their contributions accordingly to make up for an inequitable distribution.

After reading the story, participants were asked to rate how fair they thought it would be if the payment(s) was(were) divided equally, according to contributions (equitably), or according to need and to explain their ratings. They were also asked to rank these three principles in order of preference and to explain these preferences. Participants also completed individual difference scales including a measure of their just world beliefs, locus of control, and endorsement of the Protestant ethic. People scoring high on these particular scales -- i.e., strong believers in a just world, internals, and those who strongly endorsed the Protestant ethic -- were thought to have a natural tendency to expect distributions to work out equitably in the long run, even if currently they were not equitable.

Hypotheses

Perceived Distributive Fairness

The logic articulated in the preceding chapter led to the following hypotheses:

1. Equity was expected to receive a relatively high average fairness rating compared to equality and need.

2. Equality would be seen as more fair in the positive/10 distributions condition than in any other condition, whereas equity would be seen as equally fair in all experimental conditions.

3a. Strong believers in a just world were thought to be more likely than weak believers to perceive equality as fairer in the positive/10 distributions condition relative to the other conditions. This individual difference variable was not expected to influence the perceived fairness of equity.

3b. Internals were expected to behave as predicted for strong believers in a just world and externals to behave like weak believers in a just world. Again, this measure was not expected to influence fairness ratings for equity.

3c. Similarly, those who strongly endorsed the Protestant ethic were expected to respond like strong believers in a just world and those who did not strongly endorse the Protestant ethic were predicted to respond like weak believers in a just world. I predicted that the perceived fairness of equity would not be affected by this individual difference variable.

No predictions were made regarding need. There is little research on this particular distribution rule, so it was not clear how attitudes toward need would or would not be affected by the manipulations.

Distributive Preferences

It is suggested here that distributive preferences and the perceived fairness of distributions are somewhat different concepts. Fairness may be an important motivator of distribution preferences; however, preferences may also reflect one or more motivations other than (or in addition to) fairness such as maintaining social harmony, appearing generous or polite, or maximizing immediate benefits. For the present study, it was difficult to predict which goal(s) would be most relevant to subjects in the various experimental conditions. Thus, two general hypotheses were proposed for distributive preferences.

4. The pattern of results for distributive preferences was expected to differ from the pattern of results obtained for perceived fairness.

5. The data were expected to indicate motivations for preferences in addition to fairness, and these motivations were expected to be more varied than those underlying fairness.

Just as it was not clear what goals would be most salient to participants in the different experimental conditions, it was also not clear what the primary goals of high vs. low believers in a just world, internals vs. externals, and high vs. low Protestant ethic individuals would be. However, the research reviewed earlier does suggest the following hypothesis with respect to endorsement of the Protestant ethic.

6. Participants who strongly endorse the Protestant ethic were hypothesized to be more likely to prefer equity and less likely to prefer equality than weak endorsers.

Method

Participants

Participants were 96 psychology undergraduates at the University of Western Ontario. Approximately two thirds of the sample were enrolled in a first year psychology course and participated in the study as part of the requirements for the course. The remaining participants were enrolled in a second year, introductory social psychology course and participated voluntarily. Forty-six participants were males; 50 were females.

Procedure

Participants were run in groups of 5 to 30. After reading and signing a consent form, they were asked to complete four individual difference scales. These scales were administered in random order.

Participants then read a scenario in which they were to imagine being a freelance journalist working on a project with a partner. At the end of the story, they were faced with dividing up money received for a co-written article. The following variables were manipulated: the affective quality of the relationship between the participant and the partner (positive vs. negative), the duration of the partnership (10 distributions over 2 years vs. 1 distribution for the current project), and the relative contributions of the partners (participant-more vs. partner-more). These variables ·ere crossed, resulting in eight different scenarios. Each participant was given only one scenario.

After reading the scenario, participants rated the perceived fairness of three different distribution strategies and wrote a brief explanation of their response for each strategy. Then, they ranked these strategies in order of preference and gave a written explanation of the ranking. Finally, participants completed four manipulation checks, without looking back at the story.

Materials

Individual Difference Measures

Four individual difference scales were used in this study. The Just World Scale (Rubin & Peplau, 1975) is based on Lerner's (1970) just world hypothesis and measures the extent to which individuals believe that people obtain their deserved outcomes. This scale consists of 20 statements to which the participant responds on a 6-point scale, where 1 is "disagree", and 6 is "agree". Eleven statements represent a belief in a just world, and 9 statements represent a belief in an unjust world. The 9

unjust world items were reverse keyed before scoring. Final scores could range from 20 (indicating a weak belief in a just world) to 120 (indicating a strong belief in a just world). The mean just world score for the present sample was 75.38, with a standard deviation of 8.86, and a range of 59 to 108. The distribution of scores is similar to distributions from past research with undergraduate samples (e.g., Hafer, 1986).

Locus of control was assessed using the forced choice version of Rotter's (1966) Internal-External Locus of Control Scale. Twenty-three pa rs of statements are interspersed with six fillers. Participants received one point for each time they chose the statement representing internality. Possible scores ranged from 0 (externality) to 23 (internality). It should be noted here that this scoring procedure diverges from the typical procedure for which high scores indicate externality and low scores indicate internality. The mean score on the Internal-External Locus of Control Scale for the present sample was 12.57, with a standard deviation of 3.68, and a range of 4 to 20. These values are similar to those found for university undergraduates in past research (e.g., Gozali, Cleary, Walster, & Gozali, 1973; Hafer, 1986; Lefcourt, 1982; Waters, Batlis, & Waters, 1975).

This study also included the Protestant Ethic Scale (Mirels & Garrett, 1971). This scale measures the extent to which people value hard work and endorse the tenet that hard work ensures success. Nineteen statements are responded to on 6-point scales ranging from -3, "strongly disagree", to +3, "strongly agree" (excluding 0). Agreement with 16 of these items indicates endorsement of the Protestant ethic; disagreement with the remaining 3 items indicates a strong Protestant ethic. These 3

items are reverse keyed before scoring. Following the procedure used by Mirels and Garrett, all items were scored from 1 to 7 (excluding 4) rather than from -3 to +3 in order to avoid negative scores. Thus, possible scores ranged from 19 (indicating a weak endorsement of the Protestant ethic) to 133 (indicating a strong endorsement of the Protestant ethic). The mean Protestant ethic score for the present sample was 85.37, with a standard deviation of 11.02, and a range of 58 to 114. The distribution of scores is similar to those found in previous research with university undergraduates (e.g., Feather, 1984; MacDonald, 1972; Mirels & Garrett, 1971; Waters et al., 1975).

For exploratory purposes, participants also completed a scale introduced by Rasinski (1987), which measures the tendency to value equity and the tendency to value egalitarianism. Since this variable was not hypothesized to influence the perceived probability of equity occurring in the long run and yielded no readily interpretable results, it will not be discussed further.

Independent Variables

Two major variables were manipulated in the scenarios. The duration of the relationship was manipulated in the first paragraph. In the 1 distribution condition, participants were told:

> Imagine that you are a freelance journalist. You and another journalist have recently been hired by a prominent magazine editor. The two of you have been asked to co-author an article on the concern with health in the 1980s. This article will be written over the next two weeks. During these two weeks, you and your partner will co-author only this one article.

The 10 distributions condition read as follows:

Imagine that you are a freelance journalist. You and another journalist have recently been hired by a prominent magazine editor. The two of you have been asked to co-author a series of several articles on the concern with health in the 1980s. These articles will be written over the next two years. During these two years, you and your partner will co-author about 10 articles in total.

The second paragraph of the scenario contained the manipulation of the affective quality of the relationship between the participant and the partner. In the positive condition, the paragraph read as follows:

You did not know the other journalist before you were put on this assignment. Once you start working with this person, however, you find that you have similar interests and attitudes and like one another quite a bit. Your views on the goals and current state of the journalism profession are similar, and your attitudes are similar on several other issues as well. Your relationship is a very trusting one and the two of you have a great deal of mutual respect.

In the negative condition, the paragraph read:

You did not know the other journalist before you were put on this assignment. Once you start working with this person, however, you find that you have dissimilar interests and attitudes and do not like one another. Your views on the goals and current state of the journalism profession are different, and your attitudes differ on several other issues as well. Your relationship is

not a very trusting one and the two of you do not respect one another.

Participants were asked to imagine that they had just completed the article (or the first article) that they and their partner were to write together. At this point, a third variable was manipulated, namely, the relative contributions of the partners. The participant-more condition was worded as follows:

Imagine now that you have just completed the (first) article that you and your partner are to write together. It turns out that you have done more work on the article than your partner. This may be because your partner has been busier recently than you. Therefore, your partner has had less time to devote to the article and, consequently, was not able to do as much work as you.

The partner-more condition was worded:

Imagine that you have just completed the (first) article that you and your partner are to write together. It turns out that your partner has done more work on the article than you. This may be because you have been busier recently than your partner. Therefore, you have had less time to devote to the article and, consequently, were not able to do as much work as your partner.

Each of the eight scenarios ended with the following:

When the two-week (two-year) contract is up, your partner plans to take a job in another city. Thus, you will not meet one another again.

You and your partner are being paid $800 for the article (per article). The editor has left it up to the two of you as to how the money for this article

(for this first article and for each of the following 10 articles) is to be divided.

This final section was included to reduce the likelihood of participants assuming there would be future interactions between themselves and their partners after the assignment described in the scenario was over in which inequitable distributions would have a chance to work out equitably. For example, if this paragraph had not been included, participants in the 1 distribution condition may have assumed that they and their partner would be working together on future projects (especially if the relationship was positive) and therefore there may have been little difference from the 10 distributions condition in the perceived number of opportunities for inequities to work themselves out.

Dependent Measures

After reading the scenario, participants rated the fairness of three methods of distributing the $800, given the situation in the story. The methods were described as follows: "You and your partner can divide the $800 for the article so that each person gets an amount that is in proportion to how much each of you contributed to the article" (equity principle); "You and your partner can divide the $800 for the article equally" (equality principle); and, "You and your partner can divide the $800 for the article according to how much money each of you needs" (need principle). Across subjects, the order of the statements was counterbalanced. Each item was answered on a 7-point scale where 1 was "very unfair", and 7 was "very fair". After each rating, participants made a written response to the question, "Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?)."

On a separate page, participants were asked to rank these three methods in order of preference, putting a 1 beside the method they would most prefer, a 2 beside the method they would prefer second best, and a 3 beside the method they would least prefer. The wording of the principles was identical to the corresponding fairness items. The statements were also arranged in the same order as the fairness items. It was made clear to the participants that the principle they preferred may or may not be the one they thought was most fair. Participants were then asked to explain in writing why they chose this ranking scheme.

Manipulation Checks

After completing the dependent measures, participants were asked to answer four additional questions that served as manipulation checks. In order to check the effectiveness of the manipulation of duration, participants were asked two questions; first, "To what extent do you think there would be additional opportunities for you and your partner to divide up money?" This item was answered on a 3-point scale where 1 was "no additional opportunities", 2 was "some additional opportunities", and 3 was "many additional opportunities". Second, participants were asked "To what extent would you describe the relationship between you and your partner as short-term or long-term?" This was answered on a 6-point scale where 1 was "very short-term", and 6 was "very long-term".

The effectiveness of the affect manipulation was assessed with two items. The item "To what extent would you describe the relationship between you and your

partner as positive or negative?" was answered on a 7-point scale where 1 was "very negative" and 7 was "very positive". Finally, participants responded to the question, "How much would you say you and your partner trust one another?". This was answered on a 4-point scale where 1 was "not at all" and 4 was "a great deal". All materials for this study are presented in Appendix A.

Results

The analyses of these data involved a large number of separate significance tests, thus increasing the experimentwise Type I error rate. Because of this inflated error rate, no marginal effects ($.05 \leq p < .10$) are mentioned in the following summary of results. Even effects significant at $p < .05$ should be interpreted with caution, although they are described here because of the exploratory nature of this initial study.

Manipulation Checks

Three-way analyses of variance (ANOVAs) were performed on the four manipulation checks, with affect, duration, and relative contributions as between-subjects variables. A reliable main effect for affect appeared on both manipulation checks for the affect variable. In response to "To what extent would you describe the relationship between you and your partner as positive or negative?", participants in the positive condition rated the relationship as significantly more positive ($M = 5.83$) than did participants in the negative condition ($M = 2.77$), $F(1,88) = 267.79$, $p < .001$. Similarly, participants in the positive condition perceived significantly more trust in

the relationship ($\underline{M}$ = 3.58) than participants in the negative condition ($\underline{M}$ = 2.17), $\underline{F}$(1, 88) = 198.04, $\underline{p}$ < .001. There were no other significant effects on the affect manipulation checks.

A significant main effect for duration was obtained on one of the two manipulation checks for the duration variable, "To what extent would you describe the relationship between you and your partner as short-term or long-term?", $\underline{F}$(1, 88) = 9.39, $\underline{p}$ < .01. Participants in the 10 distributions condition perceived the relationship in the scenario to be significantly more long-term ($\underline{M}$ = 3.24) than participants in the 1 distribution condition ($\underline{M}$ = 2.64). The duration main effect on the other manipulation check for duration, "To what extent do you think there would be additional opportunities for you and your partner to divide up money?", did not reach significance, although the means were in the expected direction (1 distribution, $\underline{M}$ = 1.55; 10 distributions, $\underline{M}$ = 1.65).

A main effect for affect was found on both manipulation checks for duration of the relationship. Participants in the positive relationship condition rated the relationship between themselves and their partner as significantly more long-term ($\underline{M}$ = 3.40) than did participants in the negative relationship condition ($\underline{M}$ = 2.50), $\underline{F}$(1, 88) = 19.85, $\underline{p}$ < .001. Similarly, participants in the positive relationship condition felt there would be more additional opportunities to divide up money with their partner ($\underline{M}$ = 1.75) than did participants in the negative relationship condition ($\underline{M}$ = 1.46), $\underline{F}$(1, 88) = 6.56, $\underline{p}$ < .05. These effects are not surprising because positive relationships $\underline{do}$ tend to be longer-lasting than negative relationships.

Reliabilities and Intercorrelations for the Individual

Difference Measures

Cronbach's alpha for reliability was calculated for each individual difference

scale. The alphas for the Just World Scale, the Internal-External Locus of Control

Scale, and the Protestant Ethic Scale were .70, .71, and .71, respectively. Thus, these

three scales achieved acceptable levels of reliability. It should be noted, however, that

these reliabilities are not extremely high and therefore may attenuate relations between

variables.

Correlations were computed among the individual difference measures. All

three measures correlated significantly with one another (using a one-tailed

significance test). Strong beliefs in a just world were correlated with an internal locus

of control, $r(92) = .31$, $p = .001$ and with strong endorsement of the Protestant ethic,

$r(91) = .33$, $p < .001$. Endorsement of the Protestant ethic was significantly correlated

with an internal locus of control, $r(91) = .18$, $p < .05$.

Exclusion of Need from Analyses

The perceived fairness of a distribution based on need and the preference rating

of the need principle were not included in the analyses to be reported in subsequent

sections. The primary purpose of the study was to show that a current distribution that

violates the equity principle will be perceived as fair if contributions end up being

proportional to outcomes (i.e., if equity is met) over time. In the scenarios, there was

no information given about the relative needs of the partners; thus, it was not clear

how much money each person would get if a need principle was used, and therefore

the extent to which such an allocation actually violated equity was ambiguous. Because the extent to which participants saw need as violating equity in these scenarios was unknown, the fairness ratings and preference ranks for distributing the money according to need were excluded from all analyses.

Need was initially included only for exploratory purposes, so no clear predictions were made. The only prediction involving need was that both need and equality would be seen as less fair than equity, which would receive a relatively high average fairness rating. In order to test this main effect before discarding the need measure from further analyses, a one-way repeated measures ANOVA was conducted, with the three levels of distribution strategy (equity vs. equality vs. need) as the independent variable. The analysis was significant, $F(2, 190) = 129.05$, $p < .001$. Newman-Keuls tests of means showed that equity was rated as significantly more fair ($M = 5.85$) than equality ($M = 4.20$), which was seen as more fair than need ($M = 2.20$).

Perceived Distributive Fairness

Relationship Affect, Duration, Relative Contributions, and Perceived Distributive Fairness

The primary analysis used to test Hypotheses 1 and 2 was a four-way mixed ANOVA. In this analysis, affect (positive vs. negative), duration (10 distributions vs. 1 distribution), and relative contributions (participant-more vs. partner-more) were between-subjects variables, and distribution strategy (equity vs. equality) was a within-subjects variable. To further explore evidence for the predictions, secondary analyses

were conducted consisting of separate between-subjects ANOVAs (i.e., Affect X

Duration X Relative Contributions) for the fairness of equity and the fairness of

equality.[2] All significant effects reported in this section are accompanied by a statistic

describing the proportion of variance accounted for (i.e., η^2). Appendix B provides

complete summaries of the primary and secondary ANOVAs.

Primary analysis. Consistent with Hypothesis 1, the four-way mixed ANOVA

produced a main effect for distribution strategy such that equity was perceived as more

fair ($\underline{M}$ = 5.85) than equality ($\underline{M}$ = 4.20), $\underline{F}(1, 88)$ = 37.96, $\underline{p} < .001$, $\eta^2 = .23$. The

interaction between affect, duration, and distribution strategy was not significant; thus,

Hypothesis 2 was not supported by this analysis.

A significant three-way interaction between duration, relative contributions, and

distribution strategy was found, $\underline{F}(1, 88)$ = 4.39, $\underline{p} < .05$, $\eta^2 = .03$. Table 1 shows the

cell means for this effect. Newman-Keuls tests of means indicated that, in the 10

distributions condition, equity was rated as more fair than equality when the

participant contributed more to the relationship (equity, $\underline{M}$ = 6.14; equality, $\underline{M}$ = 4.12)

but not when the partner contributed more (equity, $\underline{M}$ = 5.63; equality, $\underline{M}$ = 4.54). In

the 1 distribution condition, equity was seen as more fair than equality when the

partner contributed more (equity, $\underline{M}$ = 6.04; equality, $\underline{M}$ = 3.63) but not when the

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[2] Because null results were predicted for the between-subjects ANOVA on the perceived fairness of equity, power analyses were conducted for all effects in this analysis (Cohen, 1988). The average power of the tests for all effects was .15. Cohen (1988) suggests that power be at least .80 to imply from a failure to reject the null hypothesis that there is no nontrivial effect in the population. Thus, the failure to find significant effects for the perceived fairness of equity, although consistent with expectations, may well reflect Type II error.

Table 1

Mean Fairness Ratings as a Function of Relationship Duration,

Relative Contributions, and Distribution Strategy

	Distribution Strategy	
Condition (n = 30)	Equity	Equality
10 distributions		
Partner-more	$5.63_{b,c}$	$4.54_{a,b}$
Participant-more	6.14_c	4.12_a
1 distribution		
Partner-more	6.04_c	3.63_a
Participant-more	$5.61_{b,c}$	$4.51_{a,b}$

Note. Means with different subscripts differ significantly.

participant contributed more (equity, $\underline{M}$ = 5.61; equality, $\underline{M}$ = 4.51). This pattern of results suggests the influence of self-interest in the 10 distributions condition, and a politeness principle in the 1 distribution condition.

Secondary analyses. Hypothesis 2 received little support from the between-subjects ANOVAs conducted on the perceived fairness of equity and the perceived fairness of equality. These analyses yielded no significant effects for the fairness of equity, as predicted. However, there were also no significant effects for the fairness of equality, contrary to hypotheses.

Gender and Perceived Distributive Fairness

The influence of gender and the experimental manipulations on distributive fairness judgments was also assessed. The number of participants did not allow a single mixed ANOVA involving all three manipulations and the participants' gender (cell sizes fell as low as 2). Therefore, a separate mixed ANOVA was conducted for each pair of the three manipulations. This led to three four-way mixed ANOVAs: Affect X Duration X Gender X Distribution Strategy, Affect X Relative Contributions X Gender X Distribution Strategy, and Duration X Relative Contributions X Gender X Distribution Strategy. Because the previously reported mixed ANOVAs tested the impact of the experimental manipulations on fairness judgments, only significant effects involving gender are discussed in this section (see Appendix B for a complete summary of these analyses).

Only one significant effect involving gender occurred in these analyses. The Affect X Relative Contributions X Gender X Distribution Strategy mixed ANOVA

yielded a significant three-way interaction between relative contributions, gender, and distribution strategy, $F(1, 88) = 5.94$, $p < .05$, $\eta^2 = .04$. Table 2 shows the means for this interaction. Newman-Keuls tests of means demonstrated that, for females, equity was rated as significantly more fair than equality when their partner contributed more work (equity, $M = 5.98$; equality, $M = 3.94$); the two distribution strategies were reported as equally fair when they contributed more work (equity, $M = 5.31$; equality, $M = 5.03$). For males, equity was rated as more fair than equality when they had done more work (equity, $M = 6.20$; equality, $M = 3.72$) but not when their partner had done more (equity, $M = 5.68$; equality, $M = 4.24$). This suggests that females were influenced by a desire to be polite, whereas males were influenced by self-interest.

Neither the Affect X Duration X Gender X Distribution Strategy nor the Duration X Relative Contributions X Gender X Distribution Strategy mixed ANOVA revealed significant effects involving gender. In summary, very little was found with regards to gender effects.

Individual Differences and Perceived Distributive Fairness

To test Hypotheses 3a, 3b, and 3c, a series of multiple regression analyses were performed. The number of participants in the experiment did not allow including three manipulations (affect, duration, relative contributions), distribution strategy, an individual difference measure, and all the possible interactions as predictors in a single regression equation. Therefore, the primary analyses consisted of nine multiple regressions, each using 15 predictors: two of the three experimental manipulations, one of the three individual difference measures, the within-subjects variable

Table 2

Mean Fairness Ratings as a Function of Relative Contributions,

Gender, and Distribution Strategy

| | Distribution Strategy | |
Condition (n = 30)	Equity	Equality
Females		
Partner-more	5.98_c	$3.94_{a,b}$
Participant-more	$5.31_{b,c}$	$5.03_{a,b,c}$
Males		
Partner-more	$5.68_{b,c}$	$4.24_{a,b}$
Participant-more	6.20_c	3.72_a

Note. Means with different subscripts differ significantly.

distribution strategy -- and all possible interactions between these variables. Thus, three analyses were conducted for each individual difference measure (each involving a different pair of the three experimental manipulations).

Secondary analyses were also conducted, wherein regressions were performed separately for the perceived fairness of equity and the perceived fairness of equality. These secondary analyses involved seven predictors: two of the three experimental manipulations, one of the three individual difference measures, and the interactions between the three variables.[3]

In both the primary and secondary analyses, the experimental manipulations were represented with effect coding (i.e., categorical variables are coded using 0s, 1s, and -1s). A model of multiple regression was then applied in which each effect is estimated in relation to its unique variance (i.e., each effect is assessed controlling for all other effects). This model is appropriate when cell sizes are unequal because it ensures that variance due to the effects is unrelated to cell size (Spinner & Gabriel, 1981).

Because the previously reported mixed and between-subjects ANOVAs tested the impact of the manipulations on perceived fairness, only effects that involved one of the individual difference variables are described (see Appendix B for a complete summary of these analyses). To interpret significant effects, predicted means were

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[3] Null results were expected for the regressions predicting the perceived fairness of equity. Thus, power analyses were performed for all regressions predicting this dependent measure. The average power for all effects was .14, well below Cohen's (1988) suggested value of .80. Thus, null results for the perceived fairness of equity, although consistent with hypotheses, may reflect Type II error.
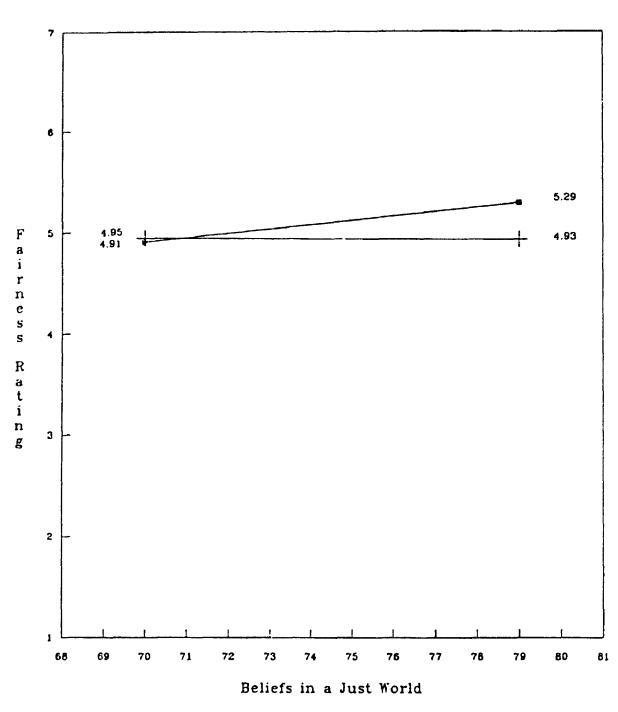
calculated using the unstandardized regression coefficients for the equation in which all predictors were used (there are no actual cell means for such an analysis because of the inclusion of a continuous predictor variable). The codes for the various experimental conditions were entered into the equation as well as high and low values of the individual difference measure: high and low values were defined as values corresponding to the 75th and 25th percentiles respectively (Gardner & MacIntyre, 1990). These predicted means were plotted to help interpret significant effects. All significant effects reported in the text are accompanied by the proportion of variance accounted for (i.e., R^2change).

Primary analyses for beliefs in a just world and perceived distributive fairness. The primary regression analyses involving beliefs in a just world did not yield the pattern of results predicted in Hypothesis 3a. Several significant effects, however, were found.

Multiple regression analyses predicting distributive fairness judgments from affect, duration, beliefs in a just world, distribution strategy, and the interactions between these variables revealed two effects involving beliefs in a just world. A main effect showed that strong believers in a just world gave higher fairness ratings than weak believers in a just world, $F(1, 86) = 5.05$, $p < .05$, R^2change $= .01$. There was also a Duration X Beliefs in a Just World interaction, $F(1, 86) = 6.28$, $p < .05$, R^2change $= .01$. As shown in Figure 1, strong believers in a just world gave higher fairness ratings in the 10 distributions than in the 1 distribution condition, whereas
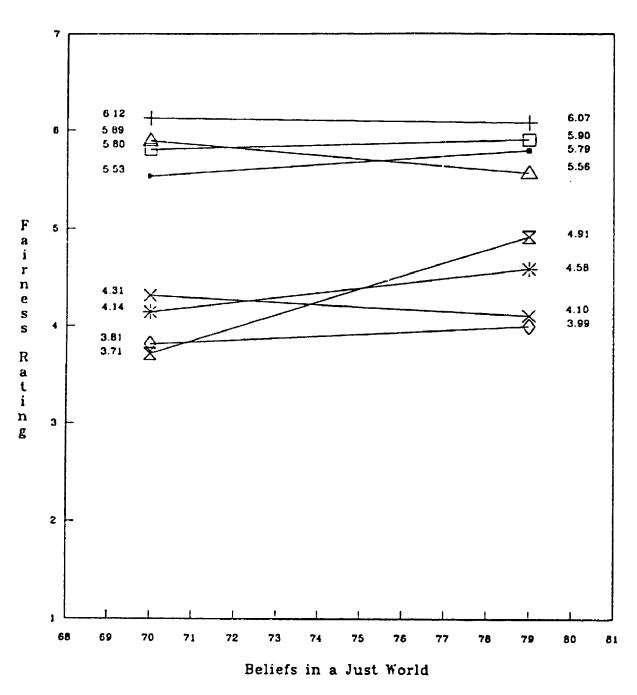
Figure 1. The interaction between duration and beliefs in a just world in predicting fairness ratings.

fairness ratings (collapsed across equity and equality) for weak believers were similar across these two conditions.

The regression with affect, relative contributions, beliefs in a just world, distribution strategy, and the relevant interactions produced a main effect for beliefs in a just world similar to that mentioned above, $F(1, 86) = 5.38$, $p < .05$, R^2change $= .01$. A significant four-way interaction was also found, $F(1, 86) = 4.51$, $p < .05$, R^2change $= .03$ (see Figure 2). Strong believers in a just world seemed to be influenced by a politeness ritual when the relationship between themselves and their partner was positive: Equality was seen as more fair when the participant contributed more than when the partner contributed more; there was little difference in ratings for equity between these two conditions, but the ratings are in the direction predicted by a politeness ritual (i.e., equity was reported as slightly more fair when the partner had contributed more than when the participant had contributed more). Strong believers in a just world appeared to be more influenced by self-interest, however, when the relationship was negative: Equality was perceived as more fair when the partner contributed more than when the participant contributed more; again, there was less of a difference in the perceived fairness of equity between these two conditions, but the predicted means are in the direction predicted by self-interest.

The pattern of predicted means for weak believers in a just world was not as clear. Weak believers showed fairness ratings more in line with a politeness ritual in the negative relationship condition (although the predicted means for equality did not differ substantially), whereas in the positive relationship condition, weak believers in a

Figure 2. The interaction between affect, relative contributions, beliefs in a just world, and distribution strategy in predicting fairness ratings.

just world saw equity as slightly more fair when the partner had contributed more than when they had contributed more, and equality as similarly fair regardless of who had contributed more.

The regression with duration, relative contributions, beliefs in a just world, distribution strategy, and the interactions between these variables as predictors yielded a Beliefs in a Just World main effect, $F(1, 86) = 5.01$, $p < .05$, R^2change $= .01$, and a Duration X Beliefs in a Just World interaction, $F(1, 86) = 7.36$, $p < .01$, R^2change $= .03$, similar to those mentioned in the first regression involving beliefs in a just world.

Secondary analyses for beliefs in a just world and perceived distributive fairness. Hypothesis 3a received somewhat more support from the secondary analyses. Regressions predicting the perceived fairness of equity yielded no significant results; thus, as predicted in Hypothesis 3a, beliefs in just world did not influence fairness ratings for equity.

Hypothesis 3a was partially supported by the regression predicting the perceived fairness of equality from affect, duration, beliefs in a just world, and the interactions. This analysis yielded an interaction between duration and beliefs in a just world, $F(1, 86) = 4.84$, $p < .05$, R^2change $= .05$, paralleling the Duration X Beliefs in a Just World interaction noted in the primary analyses. As shown in Figure 3, strong believers rated equality as more fair in the 10 distributions than in the 1 distribution condition, whereas there was little difference in the fairness ratings of equality between the 10 and 1 distribution conditions for weak believers. Although the affective quality of the relationship did not interact with duration and beliefs in a just
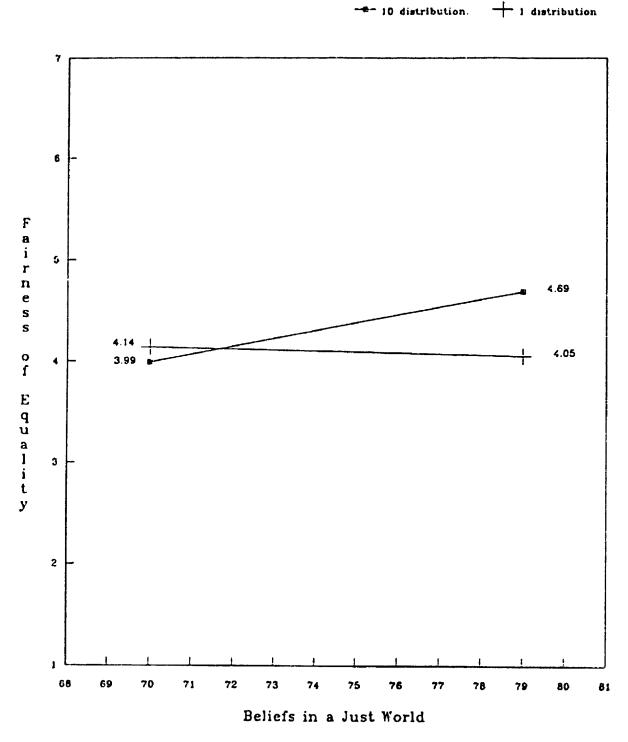
Figure 3. The interaction between duration and beliefs in a just world in predicting the fairness of equality.

world as hypothesized, the interaction supports the notion that strong believers judge

equality as more fair if the duration of the relationship is long-term than if it is short-

term.

Regressing the perceived fairness of equality onto affect, relative contributions,

beliefs in a just world, and the relevant interactions resulted in a significant main

effect for beliefs in a just world, $\underline{F}(1, 86) = 4.57$, $\underline{p} < .05$, $\underline{R}^2$change $= .05$, such that

strong believers rated equality as more fair than weak believers.

When the perceived fairness of equality was regressed onto duration, relative

contributions, beliefs in a just world, and the appropriate interactions, a Duration X

Beliefs in a Just World interaction occurred, $\underline{F}(1, 86) = 5.18$, $\underline{p} < .05$, $\underline{R}^2$change $= .05$.

The pattern of this interaction was similar to the one plotted in Figure 3.

Primary analyses for locus of control and perceived distributive fairness. A

regression analysis predicting fairness ratings from affect, duration, locus of control,

distribution strategy, and the interactions between these variables yielded a Duration X

Locus of Control interaction similar to the Duration X Beliefs in a Just World

interactions mentioned above, $\underline{F}(1, 87) = 5.42$, $\underline{p} < .05$, $\underline{R}^2$change $= .01$. As shown in

Figure 4, internals gave higher fairness ratings (collapsed across equity and equality)

in the 10 distributions condition than in the 1 distribution condition, whereas externals'

ratings were about the same for the two groups. There was also a three-way

interaction between affect, duration, and locus of control, $\underline{F}(1, 87) = 4.72$, $\underline{p} < .05$,

$\underline{R}^2$change $= .01$. Internals gave the highest fairness ratings in the positive-10
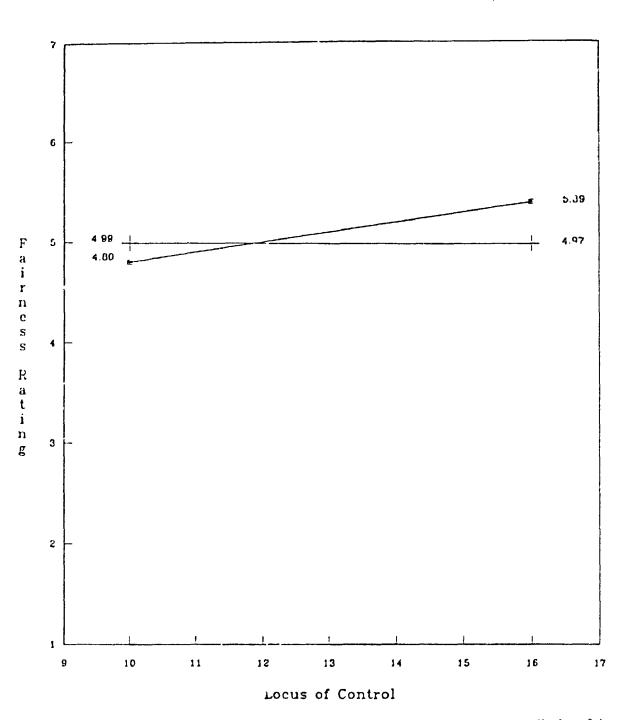
Figure 4. The interaction between duration and locus of control in predicting fairness ratings.

distributions condition, whereas externals gave about equal fairness ratings across experimental groups (see Figure 5).

The regression with affect, relative contributions, locus of control, distribution strategy, and the appropriate interactions yielded a four-way interaction similar to the four-way interaction involving beliefs in a just world, $F(1, 87) = 6.45$, $p < .05$, R^2change = .04. As shown in Figure 6, internals seemed to be influenced by politeness when the relationship was positive: Equity was rated as more fair when the partner had contributed more than when the participant had contributed more, and equality was rated as more fair when the participant had contributed more than when the partner had contributed more. Internals seemed to be influenced by self-interest, however, when the relationship was negative: Equity was rated as slightly more fair when the participant had contributed more than when the partner had contributed more, whereas equality was seen as slightly more fair when the partner had contributed more than when the participant had contributed more. The pattern for externals was not as clear In the negative relationship condition, externals seemed to be more influenced by politeness rather than self-interest, although the relevant differences in fairness ratings were not as great as for internals; and, in the positive relationship condition, equity was rated as more fair when the participant contributed more than when the partner contributed more, whereas equality was rated about equally fair regardless of who contributed more.

The regression analysis with duration, relative contributions, locus of control, distribution strategy, and the interactions between these variables as predictors yielded
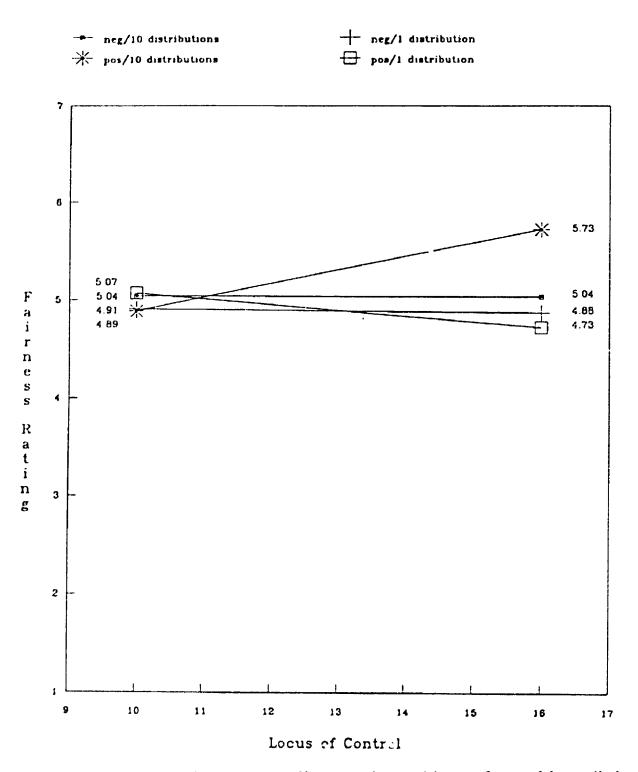
Figure 5. The interaction between affect, duration, and locus of control in predicting

fairness ratings.
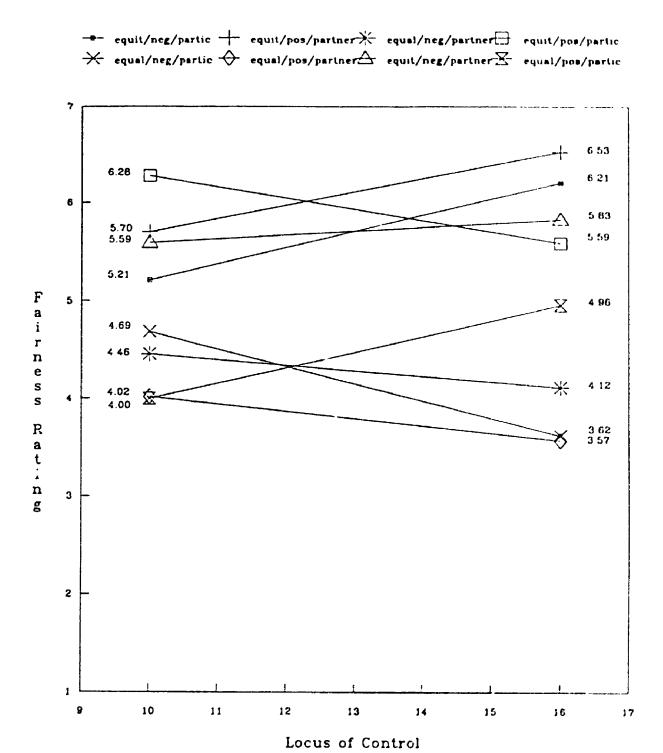
Figure 6. The interaction between affect, relative contributions, locus of control, and distribution strategy in predicting fairness ratings.

a Duration X Locus of Control interaction similar to the one presented in Figure 4, $\underline{F}(1, 87) = 5.58$, $\underline{p} < .05$, $\underline{R}^2$change $= .01$.

Secondary analyses for locus of control and perceived distributive fairness. Hypothesis 3b was partially supported in these analyses. One significant effect involving locus of control was found for the regressions predicting the perceived fairness of equity. This effect was an interaction between affect, relative contributions, and locus of control, $\underline{F}(1, 87) = 6.64$, $\underline{p} < .05$, $\underline{R}^2$change $= .07$, which reflected the Affect X Relative Contributions X Locus of Control X Distribution Strategy interaction described in the previous section (see the top half of Figure 6). Thus, the perceived fairness of equity was influenced by locus of control, contrary to predictions.

However, the regression predicting the fairness ratings for equality from affect, duration, locus of control, and the interactions between these variables yielded a significant three-way interaction conforming to Hypothesis 3b, $\underline{F}(1, 87) = 5.47$, $\underline{p} < .05$, $\underline{R}^2$change $= .06$ (see Figure 7). As predicted, internals rated equality as most fair in the positive-10 distributions condition, whereas the same was not true for externals. Externals gave equality the lowest fairness ratings in the positive-10 distributions condition.

There were no reliable effects involving locus of control when the perceived fairness of equality was regressed onto either affect, relative contributions, locus of control, and the relevant interactions, or onto duration, relative contributions, locus of control, and the interactions.
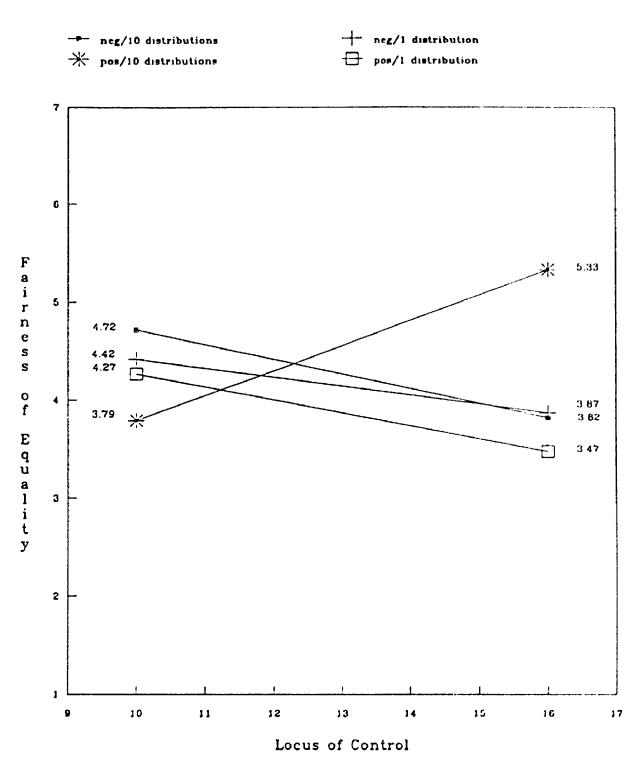
Figure 7. The interaction between affect, duration, and locus of control in predicting the fairness of equality.

Primary analyses for Protestant ethic and perceived distributive fairness.

Hypothesis 3c was not supported. None of the primary regression analyses yielded significant effects involving Protestant ethic.

Secondary analyses for Protestant ethic and perceived distributive fairness.

There was also little support for Hypothesis 3c in the secondary analyses. Consistent with predictions, no significant effects involving Protestant ethic emerged from regressions predicting the perceived fairness of equity. However, contrary to hypotheses, none of the regressions predicting the perceived fairness of equality yielded reliable effects involving Protestant ethic.

Distributive Preferences

Relationship Affect, Duration, Relative Contributions, and Distributive Preferences

Mixed ANOVAs were not possible on the preference data because they consisted of ranks (which were therefore dependent on one another, e.g., a high rank for one strategy meant a low rank for other strategies). Therefore, Duration X Affect X Relative Contributions between-subjects ANOVAs were conducted separately on the preference ranks for equity and equality. Notice that, because these analyses do not use distribution strategy as a within-subjects variable (as was possible in analysing distributive fairness), preferences for equity vs. equality can not be compared directly; therefore, evidence for certain patterns of results that necessitate this sort of comparison, such as an absolute politeness effect (in which equity is preferred over equality in some conditions, whereas equality is preferred over equity in others), would be indirect. Note also that in comparing results from the preference measure to

results for the fairness ratings (required for investigating Hypothesis 4), it is most appropriate to compare analyses of preferences to the secondary analyses of fairness ratings.

The results from these ANOVAs on distributive preferences did not simply mirror effects found in the fairness data, consistent with Hypothesis 4. No significant effects were found for equity, which was ranked relatively highly in all experimental conditions (M = 1.43). However, when the dependent measure was the preference rank for equality, a main effect for relative contributions emerged, $F(1, 87) = 7.87$, $p <$ .01, η^2 = .08. When participants were told to imagine that they had done more work than their partner, they preferred equality significantly less (M = 1.98) than when their partner had supposedly done the most work (M = 1.62), consistent with a self-interest bias. This result was not found for fairness ratings. See Appendix B for a complete summary of these ANOVAs.

Gender and Distributive Preferences

Six between-subjects ANOVAs, three for preference for equity and three for preference for equality, were used to test the relation between gender and distributive preferences. Unlike the results for distributive fairness, there were no significant effects involving gender (see Appendix B for a complete summary of these analyses).

Individual Differences and Distributive Preferences

Again, because the preference measure consisted of ranks, it was not possible to conduct regression analyses using distribution strategy (i.e., equity vs. equality) as a within-subjects variable. Thus, for each individual difference measure, six regressions

were conducted; three predicting preference for equity and three predicting preference for equality. As in the secondary analyses for distributive fairness, each equation involved seven predictors: two of the three experimental manipulations, one of the three individual difference measures, and the interactions between the three variables. Each effect was estimated in relation to its unique variance. Significant effects were plotted in the manner described previously for the fairness data. Only effects involving an individual difference measure are discussed. The R^2 changes for these effects are reported as for the regressions involving distributive fairness. Appendix B presents a complete summary of these regressions.

Beliefs in a just world and distributive preferences. Results for this set of analyses were similar to results for the fairness data, although, as predicted in Hypothesis 4, they were not an exact reproduction.

One significant effect emerged from the three regressions predicting pref. ence for equity. This was a main effect for beliefs in a just world, $F(1, 85) = 5.26$, $p < .05$, R^2 change $= .06$, showing that participants who scored high on the Just World Scale preferred equity less than low scorers. This is in contrast to regressions on the fairness data, which yielded no reliable effects in predicting the fairness of equity.

The regression of preference for equality on affect, duration, beliefs in a just world, and the corresponding interactions revealed an interaction between duration and just world scores, $F(1, 85) = 8.47$, $p < .01$, R^2 change $= .09$, similar to the Duration X Beliefs in a Just World interaction found in the regressions predicting the perceived fairness of equality. As shown in Figure 8, strong believers in a just world preferred
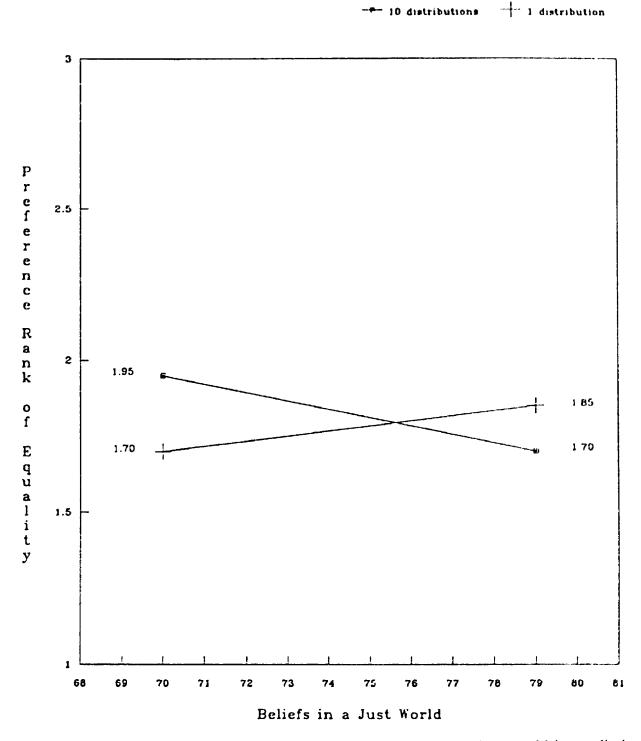
Figure 8. The interaction between duration and beliefs in a just world in predicting the preference for equality.

equality (as reflected by a <u>low</u> ranking value) slightly more in the 10 distributions than in the 1 distribution condition, whereas weak believers showed the opposite trend.

No reliable effects were found when the preference for equality was regressed onto affect, relative contributions, beliefs in a just world, and the interactions.

The regression of preference for equality on duration, relative contributions, beliefs in a just world, and the associated interactions produced a significant Duration X Beliefs in a Just World interaction, $F(1, 85) = 9.79$, $p < .01$, R^2change $= .09$. The pattern here was the same as for the Duration X Beliefs in a Just World interaction plotted in Figure 8.

<u>Locus of control and distributive preferences.</u> The results for distributive preferences were similar but not identical to those for distributive fairness when locus of control was included as a predictor.

No reliable effects were found in any of the analyses involving preference for equity, unlike the regressions on the perceived fairness of equity.

The regression predicting preference for equality from affect, duration, locus of control, and the associated interactions yielded a significant three-way interaction similar to that found for the fairness data, $F(1, 87) = 4.49$, $p < .05$, R^2change $= .05$. As illustrated in Figure 9, internals preferred equality most when the relationship was positive and involved 10 distributions; they preferred equality least when the relationship was negative and involved 10 distributions. Externals did not show as much variation in preferences for equality between the four conditions.
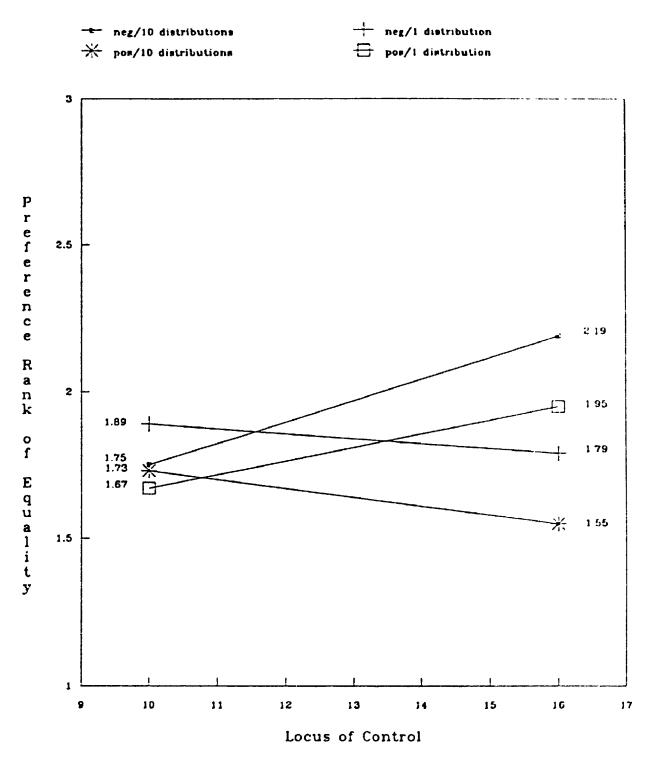
Figure 9. The interaction between affect, duration, and locus of control in predicting the preference for equality.

Paralleling results for the fairness data, no significant effects emerged when preference for equality was regressed onto either affect, relative contributions, locus of control, and the interactions, or duration, relative contributions, locus of control, and the interactions.

Protestant ethic and distributive preferences. Again, results for distributive preferences were similar to results for distributive fairness, although there was some divergence, as hypothesized. Similar to the fairness data, no significant effects were obtained for any of the three regressions involving preference for equity. These null results are contrary to the prediction in Hypothesis 6 that high Protestant ethic participants would prefer equity more than low Protestant ethic participants.

When preference for equality was predicted from affect, duration, Protestant ethic, and the associated interactions, a reliable Affect X Protestant Ethic interaction was found, $F(1, 85) = 7.41$, $p < .01$, R^2change = .08. As seen in Figure 10, in the negative relationship condition, those who strongly endorsed the Protestant ethic preferred equality less than weak endorsers. Little relationship between the preference for equality and endorsement of the Protestant ethic was found in the positive relationship condition.

Unlike the results for perceived fairness, the regression predicting preference for equality from affect, relative contributions, Protestant ethic, and their interactions resulted in a main effect for Protestant ethic, $F(1, 85) = 4.11$, $p < .05$, R^2change = .04. As predicted in Hypothesis 6, strong believers in the Protestant ethic preferred equality
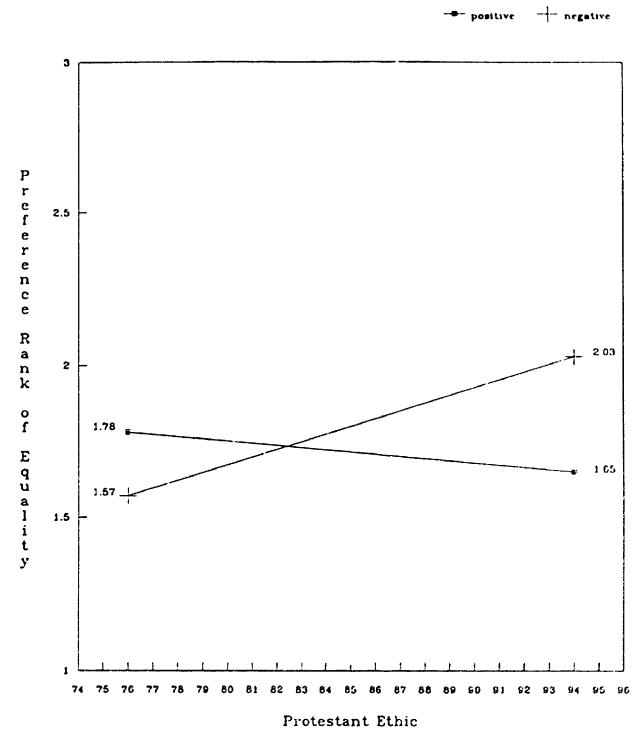
Figure 10. The interaction between affect and Protestant ethic in predicting the preference for equality.

less than weak believers. There was also an Affect X Protestant Ethic interaction similar to that described al ove, $F(1, 85) = 5.67$, $p < .05$, R^2change $= .05$.

The regression of preference for equality on duration, relative contributions, Protestant ethic, and the interactions between these variables, produced a significant Relative Contributions X Protestant Ethic interaction, $F(1, 85) = 4.19$, $p < .05$, R^2change $= .04$, which was not mirrored in the fairnes; lata. Figure 11, which plots this interaction, shows that strong endorsers of the Protes.ant ethic preferred equality less when they had con.ributed more to the relationship than when their partner had contributed more, suggesting the influence of self-interest; weak endorsers of the Protestant ethic preferred equality about the same, regardless of who had contributed more to the relationship.[4]

Responses to Open-ended Questions

Based on an initial examination of participants' written responses to their fairness ratings and preference ranks, 12 categories of explanations for these judgments were developed. The 12 categories were as follows: affective quality of the relationship, equal long-term contributions, prior agreement between the two people on a distribution, the magnitude of the difference between contributions, attributions

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[4] Each regression invn'ving one of the individual difference measures w's also conducted with the other individual differences ac covariates. For example, the regression predicting fairness ratings from affect, duration, beliefs in a just world, distribution stra: ?gy, and the interactions was conducted controlling for Protestant ethic and locus of control scores. These analyses produced similar results to those for the primary and secondary analyses reported here. Thus, the significant effects involving individual differences reported in the text cannot be attributed to overlapping variance with the other individual differences in the study.
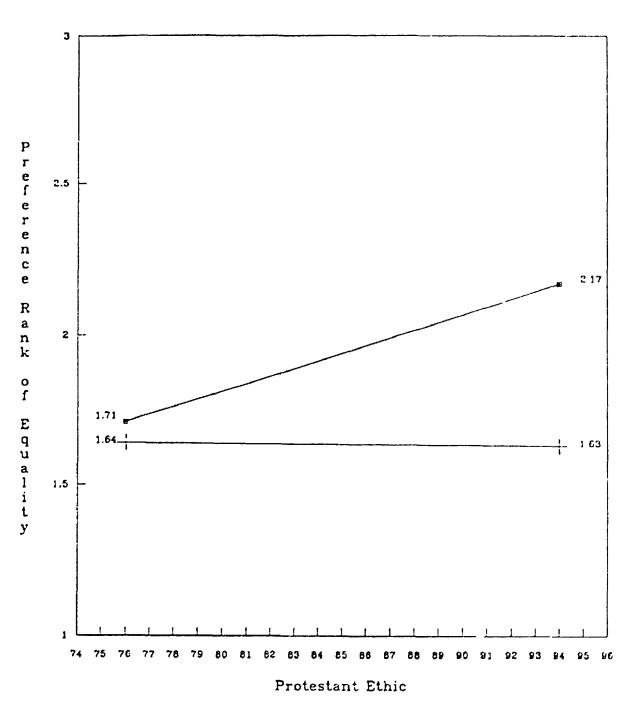
Figure 11. The interaction between relative contributions and Protestant ethic in predicting the preference for equality.

regarding differential contributions, maintaining or creating a positive relationship, avoiding guilt, self-interest, fairness (coded for preferences only), convenience, stating the equity or equality principle, and other explanations. Examples of each of these explanations are shown in Table 3. The experimenter divided all written explanations into individual arguments for or against a particular principle. Each argument was placed into one of the 12 categories (a few were classed as "uninterpretable"). Each participant's response could be coded for more than one explanation, though most responses mentioned only one of the 12 rationales. A second rater who was blind to the purposes and the hypotheses of the study coded a random sample of 25 arguments. The second rater agreed with the experimenter on 84% of the arguments.

Table 4 summarizes the arguments used to explain the fairness of equity and of equality, the unfairness of equality, and a preference for equity and for equality. Only 8 arguments explained why equity was unfair, so this information is not included in the table. Also, only 20 arguments explained why a particular strategy was not preferred; therefore, these explanations are not reported. Percentages in each column do not necessarily add up to 100 because of rounding errors and because a few arguments were uninterpretable (i.e., they were not placed in any of the 12 explanation categories).

Of all the arguments mentioned by participants, 81 explained the fairness of equity. Of these explanations, 80.2% fell into the "stating equity/equality" category. All of these arguments simply restated the equity principle (e.g., "each person gets paid for the work he did"). This is in sharp contrast to the explanations for the

Table 3   70

Typical Responses for Each of the Explanation Categories (Excluding "Other")

Explanation category	Typical response
Affect	we like each other, thus this is the best way
Equal long-term contributions	there will be another article where I do more (partner-more condition)
Agreement	we agreed to co-author, thus expect equal
Difference	may have done less work but more planning
Attribution	it's not your fault you were busy
Maintain positive relationship	avoid disagreement
Avoid guilt	if a partner did more, I'd feel too guilty getting equal pay
Self-interest	prefer the one that pays [me] the most
Fairness	it's fair to divide equally
Convenience	it's the easiest way in the end
State equity/equality	each person gets paid for the work he did (for perceived fairness of equity)

Table 4   71

Percent of Explanations for Fairness Ratings and Preference Ranks

Explanation category	Equity fair	Equality fair	Equality unfair	Equity preferred	Equality preferred
Affect	1.2	9.4	0.0	4.4	10.0
Equal 1-t contrib.	2.5	20.3	2.4	0 0	16.0
Agreement	3.7	37.5	2.4	5.8	12.0
Difference	2.5	7.8	0.0	0.0	4.0
Attribution	6.2	14.1	0.0	0.0	10.0
Maintain pos. relationship	2.5	1.6	0.0	5.8	10.0
Avoid guilt	0.0	0.0	0.0	10.0	0.0
Sc.f-interest	0.0	0.0	0.0	4.4	10.0
Fa.rness	-	-	-	26.1	16.0
Convenience	1.2	0.0	0.0	0.0	10.0
State equity/ equality	80.2	3.1	87.8	37.7	2.0
Other	0.0	4.7	7.3	5.8	0.0
Total number of explanations	81	64	41	69	50

fairness of equality; only 3.1% of these fell into the ";tating equity/equality" category. All of these arguments merely restated the equality principle. These results are consistent with the idea that people often equate fairness with equity and consequently have difficulty explaining why it is fair (except to say "because it is merit-based").

Of the explanations for the fairness of equality, 37.5% mentioned an implicit agreement between "partners" that rewards will be split equally; 14.1% referred to attributions for the contribution discrepancy (e.g., "circumstances were out of your control or you would have done more work"). A further 20.3% of arguments for the fairness of equality explained that the person having done less work thus far would most likely make up for this discrepancy in the future. This result is evidence that some participants considered long-term consequences in their judgments of fairness and that eventual equity was their goal.

Of the 41 arguments explaining the unfairness of equality, 87.8% fell into the "state equity/equality" category. These arguments stated that equity was the fair distribution. Again, this is evidence that fairness is readily equated with equity.

The next two columns in Table 4 show arguments for allocation preferences. Of those explaining a preference for equity, 37.7% fell into the "state equity/equality" category (all merely restating the equity principle) whereas 26.1% mentioned a desire to be fair. The major explanations for the preference for equality were fairness (16%), the assumption that long-term contributions would be equal (16%), and the presence of an implied agreement · split rewards equally (12%).

Overall, unlike rationales for perceived fairness, every explanation category was endorsed at least once in written rationales for distributive preferences. The explanations for preferences are also more variable than the explanations for fairness. These data support Hypothesis 5 -- motivations for preferences included fairness as well as several other goals, and these motivations were more varied than those reported for perceived fairness.

Unfortunately, there was an insufficient number of participants to divide the responses into groups based on the cells representative of significant effects (e.g., in order to analyze the explanations underlying the Affect x Relative Contributions X Locus of Control X Distribution Strategy interaction on fairness ratings, participants would have to be divided into positive vs. negative affect, partner-more vs. participant-more, internal vs. external, and ratings indicating fair vs. unfair principles).

Discussion

Manipulation Checks

Analyses of the manipulation checks demonstrated that, in general, both the affective quality of the hypothetical relationship between the participants and their partner, as well as the duration of the relationship, were effectively manipulated. However, one of the manipulation checks for duration, "To what extent do you think there would be additional opportunities for you and your partner to divide up money?", did not reach significance. The mean response for this item was approximately half way between "no additional opportunities" and "some additional opportunities". It is possible that many participants thought "additional opportunities"

meant opportunities that would occur <u>after</u> the current partnership had ended instead of from the time they had completed the single task mentioned in the scenario. If this was the case, it is not surprising that participants saw few additional opportunities regardless of the condition they were in, since it was stated in all eight scenarios that the partner and the participant would not see one another again once the project was completed.

A main effect for affect appeared on the manipulation checks for duration, indicating that these two manipulations were not entirely independent. Participants in the positive relationship condition saw the relationship as more long-term and as involving more additional opportunities to divide up money with their partner than participants in the negative relationship condition. Throughout the rest of the discussion, then, it should be kept in mind that effects involving the affective quality of the relationship may at least partly be due to different perceptions of relationship duration.

<center>Perceived Distributive Fairness</center>

<u>Support for Perceived Distributive Fairness Hypotheses</u>

<u>Relationship affect, duration, and perceived distributive fairness</u>. I proposed for this thesis that equity is an important determinant of perceived fairness, and distribution principles other than equity will often be considered fair because consistent use of the principle eventually works out equitably. Hypothesis 1, therefore, was that equity would receive higher fairness ratings than both equality and need.

Certain variables will influence the perceived probability of achieving equity in the long run. In the present study, participants were asked to imagine a situation in which they and another person had contributed unequally to a task. Two situational variables thought to affect the perceived probability of achieving long-term equity were manipulated -- the duration (10 distributions vs. 1 distribution) and the affective quality (positive vs. negative) of the relationship. When participants were told that the relationship involved not only the current assignment (for which the partners had contributed unequally), but a total of 10 distributions for 10 different joint assignments over a period of two years, there was presumably a chance for the currently unequal contributions to average out equally, unlike participants who were told that the working relationship was over as soon as the pay for the current assignment was distributed. The probability that both people would eventually contribute the same amount of work is even greater in a positive long-term relationship than in a negative one, as in the former it is less likely that one person will take advantage of the other. Thus, when a relationship involves several distributions and is positive (i.e., involves mutual liking and trust), distributing rewards equally or according to equity for each assignment should work out approximately the same in the long run. Therefore, Hypothesis 2 was that equality would receive higher fairness ratings when the relationship was positive and involved several distributions than in any other condition.

Hypothesis 1 was supported. Before need was excluded from further analyses, a one-way ANOVA yielded evidence for the first part of this prediction; equity was seen as more fair than equality, and equality was seen as more fair than need.

Hypothesis 1 was further supported by mixed ANOVAs on the fairness ratings of equity and equality. Equity was rated as more fair than equality and was not qualified by a higher-order interaction. The mean fairness rating for equity was very high (M = 5.85 on a 7-point scale). This pattern of results suggests that, regardless of whether the relationship is positive or negative, short-term or long-term, people perceive equity as fair, at least in work situations like the one used in this study.

The written explanations of fairness ratings also offer evidence for Hypothesis 1. In arguing for the fairness of equity, participants had difficulty explaining exactly why the equity principle was fair. The great majority simply restated the principle as a rationalization for its appropriateness. Similarly, when equality was rated as unfair, most of the explanations involved stating the fairness of equity.

Hypothesis 2 was not supported. The only result consistent with predictions was the failure to find significant effects for the between-subjects ANOVA on the fairness of equity. However, low statistical power suggests that this finding may reflect Type II error. It seems possible to dismiss at least one potential explanation for the failure to support Hypothesis 2. One might argue that the context in which subjects judged these allocation principles (i.e., an economic exchange) is so inherently associated with equity in the real world that any deviation from this strategy is implausible or unfair. However, past research has obtained differences in perceived fairness with similar work-related paradigms (e.g., Deutsch, 1985). As well, there was substantial variability in the perceived fairness of equality, suggesting that this

particular deviation from equity presents an acceptable alternative in some circumstances.

A more plausible explanation for the failure to support Hypothesis 2 is that only specific types of individuals expect long-term outcomes to conform to equity, given an inequitable distribution strategy such as equality. The manipulations of relationship affect and duration may have left the probability of long-term equity ambiguous enough that such individual differences had an opportunity to influence the variability in responses. I predicted that beliefs in a just world, an internal locus of control, and endorsement of the Protestant ethic would be associated with a belief that equity will occur in the long run. Thus, only these people might think equality is more fair under conditions that increase the probability of long-term equity. Evidence for this possibility is discussed in the next section.

Individual differences and perceived distributive fairness. Hypothesis 3a stated that strong believers in a just world, more than weak believers, would perceive equality to be fairer when the relationship was described as positive and involving several distributions as opposed to negative and/or involving only 1 distribution of resources; beliefs in a just world were not expected to influence the perceived fairness of equity.

Support for this prediction was not found in the regression analyses including distribution strategy (equity vs. equality) as a within-subjects predictor. When regressions were used to predict the fairness of equality and equity separately, however, support for at least part of Hypothesis 3a was evident. As predicted, beliefs

in a just world did not qualify the high fairness ratings for equity. Statistical power, however, was low, and therefore this failure to reject the null hypothesis could reflect Type II error. Although they did not interact with the manipulation of affect, beliefs in a just world did interact with the duration of the relationship in the predicted manner to influence fairness ratings for equality. Strong believers in a just world saw equality as more fair when the relationship involved several distributions of money than when it consisted of only 1 distribution. In contrast, weak believers tended to rate equality about the same whether the relationship consisted of several distributions or 1 distribution. Presumably, equality seemed more fair to strong believers when the relationship involved several distributions because this situation allowed greater opportunities for contributions to average out equally and, therefore, a greater probability that equity would be met in the long run.

One reason that the expected interaction between affect and duration did not occur may be that individuals who believe strongly that the world is just also score highly on Rotter's (1967) Interpersonal Trust Scale (Fink & Guttenplan, 1975, cited in Rubin & Peplau, 1975). One aspect of interpersonal trust is the belief that one will not be taken advantage of. One of the goals of the affect manipulation was to manipulate the perceived probability that one might be taken advantage of. If strong believers in a just world are not particularly susceptible to this perception, then it is reasonable that they would not be influenced by the affect manipulation in this manner (although they may still see the partner as less liked and trusted in general in the negative than in the positive condition).

Hypothesis 3b was that individuals with an internal locus of control, more than externals, would see equality as most fair when the relationship involved 10 distributions and was positive; however, the fairness of equity would not be qualified by locus of control.

Support for this hypothesis was found in the secondary but not the primary analyses involving locus of control. Two of the three analyses predicting the perceived fairness of equity produced no significant effects involving locus of control. It should be noted, however, that these null results could reflect Type II error. When predicting the perceived fairness of equality, the predicted interaction was obtained. Internals saw equality as more fair in the positive-10 distributions condition than in any other condition. The fairness ratings for equality among externals were less variable than among internals, although there was a tendency for externals to see equality as less fair in the positive-10 distributions condition than in any other condition. Presumably, these trends reflect that internals are more likely than externals to expect equity in situations in which long-term equity is possible, namely in positive relationships involving several distributions.

Hypothesis 3c stated that individuals who strongly endorse the Protestant ethic, more than weak endorsers, would see equality as more fair when the relationship was positive and involved several distributions of resources than in any of the other conditions; again, I did not expect the perceived fairness of equity to be affected by endorsement of the Protestant ethic.

Little support was found for this hypothesis. There were no significant effects involving Protestant ethic in either the primary or secondary regression analyses. Thus, the only result conforming to Hypothesis 3c was that the perceived fairness of equity was not affected by endorsement of the Protestant ethic. Again, however, low statistical power limits the interpretability of these null results.

It is possible that certain qualities associated with the Protestant ethic prevented the hypothesized interaction from emerging. In this study, it was assumed that individuals would assess the fairness of various distributions only in terms of the contributions and rewards associated with the task and the relationship mentioned in the scenario. Thus, long-term outcomes referred to the final ratios of rewards to contributions for the 1 or 10 assignments the two journalists completed. However, people may differ in the "range" of their perspective on long-term fairness. Thus, for some individuals, a distributive system is fair only if each separate allocation in the relationship is fair. For other individuals, as long as resources in a particular relationship are distributed fairly by the end of that relationship, then the distributive system is considered fair (this is the perspective assumed to be typically true in the present study). Yet other people may assess fairness in an even broader sense, in terms of rewards and contributions across several relationships. Strong believers in the Protestant ethic may fall into the latter category. For example, high Protestant ethic individuals believe that hard work is to be valued, not just as a means to financial success, but also as a way of achieving spiritual salvation. What may be

more relevant to these people, then, is attaining equity in terms of ultimate salvation and not necessarily in terms of each exchange relationship.

Wentowski (1981) has proposed three types of reciprocity that incorporate the notion of differing perspectives in assessing long-term outcomes: immediate, deferred, and generalized. With deferred reciprocity, repayment may not occur for some time after the debt has ensued. With generalized reciprocity, people assume that they will ultimately receive services in proportion to their contributions, but benefits will not necessarily come from those whom they have served in the past. Perhaps people's perspectives on long-term outcomes differ depending on the strength of their beliefs in the Protestant ethic.

In summary, the hypotheses regarding perceptions of fairness were only partially supported. Some reasons for the lack of support for specific predictions have already been discussed. A more general reason for the failure to fully support the fairness hypotheses may be that participants were not motivated solely by fairness, even though the questionnaire items asked them to rate how "fair" the different distributions were. The following section, which discusses significant effects from analyses on perceived fairness that did not conform to predictions, shows further evidence of such alternative motivations.

Other Results for Perceived Distributive Fairness

Relationship affect, duration, relative contributions, and perceived distributive fairness. The mixed ANOVA including all three experimental manipulations and distribution strategy produced, as well as the main effect for distribution strategy

mentioned previously, a significant interaction between duration, relative contributions, and distribution strategy. When the relationship involved only one distribution of money, people seemed to be influenced by the politeness ritual (Mikula & Schwinger, 1978), in which distributions that benefit the allocator the least (i.e., equity for a relatively low performer and equality for a relatively high performer) are advocated. Equity was seen as significantly more fair than equality when the partner contributed more to the relationship, whereas the difference between these two strategies was not significant when the participant had contributed more.

Notice that this effect represents a "relative" and not an "absolute" politeness effect. In an absolute politeness effect, the allocator would judge equality more favourably than equity when he/she had contributed more; however, participants in the present study never rated equality as more fair than equity, presumably because they were also partly motivated by a desire to be fair (and therefore consistently gave equity a high rating).

When the relationship involved several distributions, the pattern of fairness ratings seemed to be influenced by a self-interest motive. Equity was rated as more fair than equality when the participant contributed more to the assignment, whereas there was no difference between these two strategies when the partner had contributed more.

Just as the pattern of ratings in the 1 distribution condition does not represent an absolute politeness effect, the pattern of ratings in the 10 distributions condition represents a relative, and not an absolute, self-interest effect. If participants were

motivated purely by self-interest they would have rated equality as more fair than equity when they had contributed less. However, equality was never seen as more fair than equity, perhaps again showing that participants were partly motivated by a desire to be fair.

Why would people be influenced by self-interest in the 10 distributions condition and politeness in the 1 distribution condition? One possibility is that participants felt they had little to lose by being generous in the 1 distribution condition compared to the 10 distributions condition. After all, the distribution represented only one two-week assignment out of their whole careers, for which they would get less than $800, so, why not be generous? Perhaps the participants were more motivated to maximize their benefits when money was to be divided several times between the participant and the partner over a period of two years, i.e., when there was more at stake. Thus, when there are fewer concrete benefits at stake, politeness may be more likely to influence judgments of resource distributions.

This interaction between duration, relative contributions, and distribution strategy suggests that participants' assessments of distributive fairness were motivated partly by goals in addition to fairness, namely politeness (in the 1 distribution condition) and self-interest (in the 10 distributions condition). Although other motivations were expected to influence the preference measure, they were not expected to influence fairness ratings.

As alluded to earlier, the existence of self-interest and politeness, in addition to a fairness motive, may have obscured the pattern of fairness judgments predicted in

Hypothesis 2. Elliot and Meeker (1986) have presented evidence suggesting that allocations often represent a compromise between competing concerns and, therefore, a particular pattern of allocations may not conform to any one clear distributive rule. Thus, another reason that perceptions of fairness in the present study did not conform to predictions may be that fairness ratings reflected a compromise between fairness and other goals, such as self-interest and politeness.

Gender and perceived distributive fairness. Further analyses seemed to suggest that females' fairness judgments were influenced by politeness; they rated equity as more fair than equality when their partner contributed more work, yet these two strategies were rated as equally fair when participants had done more themselves. Males appeared to be influenced more by self-interest, rating equity as fairer than equality when they contributed more but not when their partner put in more work. The pattern of means obtained here is consistent with past research on allocation behaviour, which shows a tendency for women to be less "self-serving" and more "generous" than men in their allocations (see Kahn, O'Leary, Krulewitz, & Lamm, 1980; Major & Deaux, 1982, for reviews). Several theories have been proposed to account for these gender differences, including the socialization of sex-roles, differences in interpersonal goals, differences in the cognitive evaluation of performance, and differences in the meaning attached to monetary rewards (Jackson, 1989; Major & Adams, 1983). More research is needed to better understand such gender effects.

Individual differences and perceived distributive fairness. In all three of the primary regressions involving beliefs in a just world, a main effect showed that strong believers in a just world gave higher fairness ratings overall than weak believers. Any effects from these primary analyses not involving the within-subjects variable (i.e., distribution strategy) are difficult to interpret. However, this main effect may suggest that strong believers not only believe the world is more fair in a general sense than weak believers, but also that they have a bias toward perceiving specific situations in which they are personally involved as fair. Recent studies by Hafer and Olson (1989; in press) show a similar bias for strong believers in a just world.

In the regressions involving duration as one of the predictors, an interaction between beliefs in a just world and duration showed that this tendency for strong believers in a just world to give higher fairness ratings than weak believers was more apparent in the 10 distributions condition than in the 1 distribution condition. A similar interaction was found between locus of control and duration, although this was qualified by a three-way interaction including the affect of the relationship. Again, these effects are difficult to interpret as they do not involve distribution strategy. The meaning of these effects may be more clear, however, in light of the regressions predicting the fairness of equity and of equality separately. The Duration X Beliefs in a Just World interaction and the Affect X Duration X Locus of Control interaction both emerged in predicting the fairness of equality, but not the fairness of equity. Such a pattern is consistent with hypotheses described in the previous section.

More immediately interpretable were two four-way interactions involving the within-subjects variable -- one between affect, relative contributions, beliefs in a just world, and distribution strategy, and the other between affect, relative contributions, locus of control, and distribution strategy. The four-way interaction involving locus of control was reflected in a three-way interaction in a regression analysis predicting the perceived fairness of equity.

In the first interaction, strong believers in a just world seemed to be influenced by politeness when the relationship between themselves and their partner was positive, and self-interest when the relationship was negative; for weak believers, the pattern was less clear, if anything showing the influence of politeness when the relationship was negative. A similar pattern of results occurred for internals vs. externals, where internals behaved like strong believers in a just world and externals like weak believers.

Both strong believers in a just world and internals, through slightly different processes, may have believed that they were merely treating their partners as they deserved to be treated. A belief in a just world leads to the conviction that people get what they deserve and deserve what they get; thus, the liked and trusted person must deserve these positive reactions (e.g., he/she is truly a good person) and in turn he/she deserves generous treatment, whereas a mistrusted, disliked person must deserve others' disdain (e.g., he/she is a bad person) and therefore also deserves to be treated with less generosity. The weak believers may be more willing to try to change a negative relationship by being polite (see Hafer & Olson, in press, for evidence that

strong believers in a just world are less likely to attempt changing a negative situation). Similarly, internals tend to believe that people control and are responsible for their own outcomes; thus, the liked and trusted person is probably responsible for these positive reactions (e.g., he/she worked hard at being loyal and pleasant) and in turn he/she deserves generous treatment, whereas a mistrusted, disliked person is probably responsible for these negative reactions (e.g., he/she did not try to establish a good relationship) and therefore deserves to be treated less generously. Externals, being not as quick to believe that the mistrusted other is personally responsible for this negative situation, may have been more motivated to be polite.

Summary of Perceived Distributive Fairness Results

As predicted, equity was seen as more fair than equality or need and appeared to be little affected by either the type of relationship outlined in the scenario or by individual differences. Equity, then, appears to be a basic rule of distributive fairness, at least in work situations such as that used for this study.

Contrary to hypotheses, equality was not perceived as significantly more fair when long-term equity was most attainable (i.e., in relationships involving mutual trust and liking, and several distributions of rewards). I suggested that this hypothesis was not supported because only particular individuals believe long-term equity is actually likely when it is possible.

Strong believers in a just world, internals on Rotter's Locus of Control Scale, and those who strongly endorse the Protestant ethic were thought to expect long-term equity in mutually trusting, long-term relationships, and thus to rate equality as more

fair in the positive/10 distributions condition than in any other condition. Limited support was found for these ideas. Beliefs in a just world interacted with only the duration of the relationship in the expected direction. Locus of control interacted with both affect and duration in the predicted direction, but only in one set of analyses. Protestant ethic did not interact with the affect or duration of the relationship in the hypothesized manner. It was postulated that these different effects were in part due to the influence of personality on whether or not the experimental variables affected the perceived probability of eventual equity and how they did so. For example, the affect manipulation may not have influenced strong just world believers' estimation of long-term equity because these people may assume that they will not be taken advantage of. High Protestant ethic people may not have been affected in the expected manner by the manipulations because they view equity in a broader sense than assumed in this study; that is, they may be less concerned with achieving equity within every relationship and more concerned that ultimate spiritual rewards be proportional to contributions.

Finally, an investigation of significant results that did not conform to predictions suggested that participants were influenced by motives other than fairness. It is unclear, however, whether participants conceptualized fairness in terms of these other concerns or whether their reports of fairness were contaminated by alternative motivations.

Distributive Preferences

Support for Distributive Preference Hypotheses

In this dissertation, it is suggested that distributive fairness is not the same as distributive preferences. Preferences are assumed to be based on whatever goals are most prominent for particular individuals in particular situations. One of these goals might be fairness, but other possible goals include maintaining interpersonal harmony, self-interest, appearing polite, etc. In Study 1, it was difficult to predict what goals would be most salient in the various experimental situations. Thus, Hypothesis 4 was simply that the pattern of results for preferences would differ from the pattern of results for perceived fairness. Hypothesis 5 was that the data would demonstrate that preferences are motivated by several goals in addition to fairness, and these goals would be more varied than motivations for fairness judgments.

Results for the preference ranks did not simply mirror results for the fairness ratings, supporting Hypothesis 4, although they often showed similar trends. The overall between-subjects analyses on preference for equality yielded only one significant effect, which was consistent with a self-interest bias. Participants preferred equality less when they had done more work than when their partner had done more. Thus, preferences seemed to be influenced by self-interest. For the fairness ratings, there was no such overall trend for self-interest; the influence of self-interest was shown only in certain conditions and for certain people. This pattern of findings suggests that self-interest was more of a motivator for preferences than for fairness ratings.

Unlike analyses for the fairness data, there were no effects involving gender in any of the analyses for distributive preferences. Again, then, the preference results did not simply replicate the results for perceived fairness.

The analyses predicting distributive preferences from the experimental manipulations and the individual difference measures yielded several results that were not reflected in the fairness data. First, strong believers in a just world preferred equity less than weak believers. The reason for this is not immediately obvious. Using equity for every distribution of resources involves keeping careful track of individual inputs and outcomes. Perhaps people who have a particularly strong belief in justice also have a stronger need to maintain their vision of a just world. As Lerner (1980) proposed, one of the best ways to uphold this belief is never to confront it. If one does not keep careful track of inputs and outcomes, one is never faced with the possibility of "injustice".

A second significant effect not found in the fairness data showed that strong endorsers of the Protestant ethic preferred equality less than weak endorsers. This finding supports part of Hypothesis 6 and is compatible with past research (e.g., Garret, 1973, cited in Major & Deaux, 1982; Greenberg, 1978; MacDonald, 1972). Analyses did not support the prediction that strong endorsers of the Protestant ethic would prefer equity more than weak endorsers, contrary to previous research (Garret, 1973, cited in Major & Deaux, 1982; Greenberg, 1978).

The tendency for high Protestant ethic participants to prefer equality less than low Protestant ethic participants was qualified by the affect of the relationship, another

effect not reflected in the fairness ratings. When the relationship was described as negative, high Protestant ethic individuals preferred equality less than low Protestant ethic individuals. There was little association between Protestant ethic and the preference for equality in the positive relationship condition. This finding may reflect the different goals of high vs. low Protestant ethic people who find themselves in a negative relationship. People who do not strongly endorse the Protestant ethic may be less concerned, in this situation, with making sure hard work pays off (either immediately or in the long run) and more concerned with creating positive social relationships, possibly through an equal distribution strategy.

Another interaction that appeared on preferences but not on fairness was between relative contributions and Protestant ethic in predicting perceptions of equality. Strong endorsers of the Protestant ethic appeared to be more influenced by self-interest -- preferring equality less when they had contributed more work to the relationship than when their partner had contributed more -- than weak endorsers. Although there is no direct evidence from past research that high Protestant ethic individuals are more motivated by self-interest than other people, their focus on hard work and success as a means to salvation may lead to less of a need to appear generous toward others.

These different trends in the fairness vs. preference data may indicate that fairness and preference are conceptually distinct. Perhaps, as suggested by Hypothesis 5, fairness is just one of the motives underlying distributive preferences. An examination of the table of open-ended explanations of the fairness ratings and

preference ranks supports the hypothesis that goals in addition to fairness motivated participants' distributive preferences, and that these goals were more varied than those reported for fairness. All categories were endorsed at least once in justifying distributive preferences; however, the desire to avoid guilt and self-interest were not mentioned in the fairness explanations, and convenience was only mentioned in 1% of explanations for the fairness of equity.

It is difficult to say how much these explanations are affected by social desirability. For example, perhaps avoiding guilt and self-interest were never mentioned as explanations for fairness because they are not seen as legitimate motivations when one is asked to be fair; yet, it certainly seems from the pattern of results presented earlier that self-interest did play some role in fairness ratings. Similarly, so many people may have claimed that fairness motivated their preferences because this is a socially desirable motivation. Despite the possible influence of social desirability, these results still suggest a distinction between what is fair and what is preferred.

Despite different trends in the fairness vs. preference data, however, results for these two judgments did overlap to a large extent. Of course, such overlap would be expected if fairness is one of the motivations underlying preferences. For example, no significant effects emerged from the between-subjects ANOVA on the preference for equity. Equity was ranked as the number one preference in 63.2% of the cases. These findings are consistent with the fairness data. Also, the regressions predicting distributive preferences from the experimental manipulations and individual differences

yielded several results consistent with the fairness data. There was a significant interaction between beliefs in a just world and duration on preference for equality, and a significant interaction between affect, duration, and locus of control on preference for equality. The patterns for these effects were similar to the patterns of fairness ratings found in the primary analyses for fairness and the secondary analyses for the perceived fairness of equality.

Problems with the Preference Measure

There are at least two characteristics of the preference data that make interpretation equivocal, especially in comparison to the results for the fairness measures. First, since preferences were measured in a different manner than fairness judgments (the former utilizing a ranking scheme, and the latter a rating on a 7-point scale), it is unclear whether differences in significant effects between these two sets of dependent measures were due to actual phenomenological differences experienced by the participants (as proposed in this dissertation) or to the varying modes of measurement. Second, participants always gave their preferences after their fairness ratings; thus, it may be that the preference data were often similar to the fairness data because participants did ·t want to say they preferred a distribution they did not think was fair. It is reasonable to assume, on the basis of past research, that fairness is an important motivator of allocation preferences; however, given the limitations of the preference data in the present study, the extent to which preferences are determined by fairness is unclear.

Summary of Distributive Preference Results

As hypothesized, the preference data did not exactly mirror the results for perceived fairness. Also, participants claimed a greater variety of motivations for their distributive preferences than for their fairness judgments. These data suggest that fairness is only one of the motivations that can underlie the preference for a particular distribution and, thus, preferences and fairness may be perceived differently. The preference results are somewhat difficult to interpret, however, for the reasons mentioned above.

CHAPTER III - STUDY 2

Overview

The general purpose of Study 2 was to investigate the ideas addressed in Study 1 within a more involving experimental paradigm. In Study 1, participants made judgments about hypothetical resource allocations; in Study 2, participants were put in a situation in which they believed rewards would actually be distributed between themselves and another person.

Another purpose of Study 2 was to address some of the limitations of Study 1. First, the affective quality of the relationship and its duration were manipulated in Study 1 with the hypothesis that dividing pay equally would seem more fair in the positive, long-term relationship, because equity would likely be met in the long run. Participants in Study 1 did not, in general, see equality as more fair in this condition, although there was evidence that certain types of people may have had greater expectations for long-term equity in the positive-10 distributions condition. In Study 2, the probability that eventual equity would occur was more directly manipulated: Participants were explicitly told what the future contributions or future performances of each partner in a relationship would be, thus making it less ambiguous whether eventual equity would occur given an egalitarian distribution system.

A second limitation of Study 1 was that distributive preferences were assessed in a different manner than fairness judgments, and participants reported preferences after reporting their perceptions of fairness. In Study 2, both fairness and preferences were assessed in a similar manner, and different participants completed each measure.

Another problem with measuring preferences in terms of ranks was that it was difficult to statistically compare ranks for equity vs. equality in each condition (which is necessary for investigating the politeness ritual and other patterns of distributive judgments). In Study 2, preferences were assessed in terms of independent ratings for each of the distribution strategies, allowing comparisons between equity and equality to be made within conditions.

Finally, the results of Study 1 suggested that fairness judgments were influenced by motivations such as self-interest and politeness. Whether or not such motivations actually underlie people's concept of what is fair, or whether fairness judgments in this study were "contaminated" by other goals is not entirely clear. In Study 2, participants were more clearly told to give their perceptions of what seemed "fair", which may or may not be the same as what they desired.

Participants were told they would perform six trials of a computer task at the same time as another student (who did not actually exist). They were supposedly to meet this student at the completion of the task; the purpose of this alleged meeting was to give participants a clear goal, other than fairness, on which to base preferences. At the end of each trial, points would be divided between the two students. At the end of the first trial, participants were given false performance feedback indicating that they had performed either better or worse than the other student. Participants were also randomly assigned to one of three expected final performances conditions. In one group, they were told that total scores for each student by the end of the 6 trials would most likely be about equal. Because contributions from the partners would eventually

be the same, dividing the points equally after each trial would work out the same, in the long run, as dividing the points equitably after each trial; thus, in this condition, equity could be achieved in the long run through a series of egalitarian distributions. A second group of participants were told that final scores for each student would likely remain unequal (such that the high scorer on the first trial would probably remain the better performer). Because long-term contributions were expected not to be the same in this condition, dividing the points equally after each trial would not work out equitably in the long run. A third group was given no information regarding expected final performances. All participants were then asked to rate either the fairness of or their preference for dividing the points at the end of each of the six trials according to individual scores (i.e., equity) or equally regardless of score (i.e., equality). Participants also completed measures of their belief in a just world, locus of control, and belief in the Protestant ethic.

Hypotheses

Perceived Distributive Fairness

The following hypotheses were made regarding perceptions of fairness:

1. Participants were expected to view equity as more fair, overall, than equality.

2. Equity was expected to receive consistently high fairness ratings in all experimental conditions, whereas equality was hypothesized to be perceived as more fair in the equal expected scores condition than in the unequal expected scores condition.

When participants were given no information regarding expectations for final performances, individual differences were presumed to determine the perceived probability of an equal distribution strategy working out to equity in the long run, and thus the perceived fairness of equality.

3. Individual differences were expected to interact with the manipulation of expected final performances. When given no specific information regarding expected final performances, strong believers in a just world, internals, and those who strongly endorsed the Protestant ethic were hypothesized to be more likely than people at the opposite end of these continua to expect long-term equity, given a currently inequitable situation; thus, these individuals should be more likely, in this condition, to perceive equality as fair. Individual differences were <u>not</u> expected to be related to perceived fairness when participants <u>were</u> given information regarding final performances (i.e., in the equal or unequal expected performances conditions).

The manipulation of who performed better on the first trial was not expected to influence perceived fairness.

Distributive Preferences

When participants were told to base their ratings of equity and equality on personal preferences (and, therefore, not necessarily on what they considered to be fair in an absolute sense), the results were expected to reflect the most salient goal(s). The motive to maintain positive relations with another person was made salient in this experiment by telling participants that they would be meeting their partner at the end

of the six trials. This was expected to result in a "politeness ritual" (i.e., the preferred distribution strategy is one which is more beneficial to the other person in the relationship than to the allocator). The use of a politeness ritual in the face of experimentally induced expected future interaction has been found by Shapiro (1975). This reasoning led to Hypothesis 4.

4. Participants with the better performance on the first trial would prefer equality more than equity, whereas participants with the worse performance on the first trial would prefer equity more then equality.

Individual differences were expected to influence distributive preferences depending on what goals were chronically salient to various people. As there is a lack of research on allocation goals among people with varying beliefs in a just world or locus of control, no predictions were made about how these individual differences would be related to distributive preferences. Past research, however, has examined the Protestant ethic in the context of resource distributions.

5. Based on previous research, strong endorsers of the Protestant ethic were expected to prefer equity more than weak endorsers, whereas weak endorsers were expected to prefer equality more than strong endorsers.

Note that the manipulation of expected final performances (and therefore expectations for eventual equity) were presumed to have no effect on participants' distribution preferences.

Method

Participants

Participants were 240 undergraduates (120 males and 120 females) enrolled in an introductory psychology course at the University of Western Ontario. All took part in the study for course credit.

Procedure

Participants were run individually. After showing up for the experiment, they were told that two students were taking part in the session and, since the other student arrived early, he/she had been taken to a different room and given the initial instructions. This alleged student was referred to as he or she, whichever was the gender of the real participant. The purpose of referring to the alleged student as the same sex as the participant was to control for motives that might be specific to opposite sex interactions. The experimenter explained that the two students would be completing the experiment in separate rooms so that they would not disturb one another's performance.

Participants were taken to a small computer room and given a consent form. They were then given the three individual difference questionnaires to complete: the Just World Scale, the Spheres of Control subscales (Paulhus, 1983), and the Protestant Ethic Scale.

The following instructions were then administered by audiotape while the participant followed along on a written copy. The experimenter left the room during these instructions, presumably to take care of the other student.

Very often in our daily lives, we receive resources that have been divided up between ourselves and other people. For example, you and another person might have to divide up money you both earned for working on a project together such as painting a house or operating a summer car wash business; or, a professor might have to divide up his or her office hours between you and 25 or 30 other students. There are lots of different ways in which resources like money, time, etc. can be divided up. We are interested in peoples' opinions about some of the different ways of dividing up resources. In this experiment, the resources will be points. You will be asked to give your opinion on various ways of dividing up points between yourself and another person.

For this experiment, you will be asked to work on a computer task for six trials. At the same time, another student in a separate room will be working on the same task, also for six trials. At the end of each trial, you will be told what both you and the other student have scored. The scores for you and the other student for each trial will be recorded by the experimenter on the Tally Sheet posted on the wall.

At the end of each of the six trials, you and the other student will receive 10 points that must be divided between the two of you in some way. In a few minutes, one of you will be randomly chosen to be the person who divides the 10 points after each trial.

Points, of course, aren't as meaningful as some other resources, such as money for example; so, in order to make these points more meaningful to you

and the other student, the total number of points you receive at the end of the six trials will be tied to how long you have to stay for this experiment. At the end of the six trials, there are some counting and memorization problems to do for a different study we are conducting on counting skills. The more points you have by the end of the six trials, the fewer of these counting problems you have to do and the earlier you can leave.

You will meet with the other student immediately after the six trials so you can get to know one another a little. Your discussion will be helpful to us in planning further studies of this type. The experimenter will return shortly, and you may ask any questions you have about the instructions so far.

The experimenter returned to the laboratory soon after the audiotaped instructions ended, asked if there were any questions about the instructions so far, then said:

We have to randomly choose who will be the person to divide up the 10 points after each of the six trials. There's a number between 1 and 100 on a slip of paper in my hand. The other student has already guessed which number it is, now I want you to take a guess. Whoever is closest will be the one who will divide the points after each trial.

The number on the piece of paper was always 50. After the participant gave his/her guess, the experimenter showed him/her the piece of paper, said that he/she had guessed closest, and made up a number for the alleged other student which was farther away (this was always possible, because no participants guessed the number 1 or 100).

After participants had been assigned to their role as allocator, the following instructions were then given verbally:

>After each trial is over, I will let you know your own score as well as the score of the other student. After the first trial, both of you will answer some questions about different ways of dividing up the points. Since you're the allocator, you'll also actually choose how the points are to be divided for each of the six trials. Now, whichever way you choose to divide the 10 points for the first trial will be the way in which the points are divided for all the trials. After this first division of points, you and the other student will continue to complete the rest of the trials, dividing 10 points between you after each trial according to the method you have chosen. I'll keep track of your scores on this Tally Sheet. So, after the first trial I'll get you to choose how you would like to divide up the 10 points between yourself and the other student. Remember that whatever way you choose to divide these points will be the way in which the points are divided after each of the six trials. Also remember that however many points you have at the end of the six trials will determine how long you have to stay to work on the counting and memorization problems; the more points you have, the fewer problems you have to do and the earlier you can leave. At the end of the six trials, before working on these extra problems, you'll be meeting with the other student. Any questions?

>The experimenter then demonstrated the computer task. The task involved

repeating progressively longer sequences of random numbers that appeared on the screen (originally used in Hafer & Olson, 1989). Participants were told:

> You'll work on the number sequences for 3 min. The scoring is based on both accuracy (how many numbers in a sequence you get correct) and speed (how many milliseconds it takes you to respond). The scores are calculated in such a way that the higher the score, the better the performance. While you are working on the first trial, I'll go get the score for the other student's first trial. When I get back, I'll tell you when to stop and I'll get the computer to calculate your score.

> The experimenter started a stopwatch, told the participant to begin, then left the room. In approximately 2 min 50 s, the experimenter returned, waited until the stopwatch showed 3 min, then told the participant to stop. At this point, the first-trial performance of the participant relative to the alleged student was manipulated. The experimenter first gave the participant a score for the alleged student, and recorded this score on a Tally Sheet posted on the wall beside the participant. She then pressed a few computer keys, causing the disk drive to engage two times as if the computer was calculating the participant's score. The expression "Your score for the first trial is 42" appeared on the screen. In the better condition, the alleged student's score was 34. In the worse condition, the alleged student scored 53.[5]

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[5] The scores for the alleged student were selected so that the low scoring member of the pair scored 20% lower than the high scoring member. Thus, 34 is 20% lower than 42, and 42 is 20% lower than 53. Pretesting showed that this difference between scores was such that participants could just as easily imagine the low scorer performing as well or better than the high scorer on later trials as the low scorer

After recording the participant's score on the Tally Sheet and verbally repeating the scores for the first trial, expected final performances (equal vs. unequal vs. unspecified) were manipulated. In the equal expected performances condition, participants were told:

> I've done a lot of studies in which students do this number sequence task, and it turns out, not surprisingly, that people have a fair amount of control over their performance.
>
> Despite the fact that your performance is basically under your own control, minor changes in concentration affect performance, so students' scores do change from trial to trial; sometimes one person does better, and sometimes the other person does better. Most of the time, at the end of the six trials, each person seems to get about the same total score.
>
> As I said, I've done a lot of similar studies with this number sequence task and that's usually what happens. At the end of the six trials, each person gets about the same total score.

In the unequal expected performances condition, participants were told:

> I've done a lot of studies in which students do this number sequence task, and it turns out, not surprisingly, that people have a fair amount of control over their performance.

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remaining the lower performer on subsequent trials (i.e., the manipulation of long-term scores, described next, was plausible).

Because of the fact that your performance is basically under your own control, scores don't change a lot from trial to trial; whoever does better on the first trial continues to do better on later trials. Most of the time, at the end of the six trials, the person who does better on the first trial seems to get the highest total score.

As I said, I've done a lot of similar studies with this number sequence task and that's usually what happens. At the end of the six trials, the person who does better on the first trial seems to get the highest total score.

In the unspecified condition, the experimenter merely mentioned that she had done this type of study in the past and had found that people have a fair amount of control over their performance; she did not comment on the expected performances. The information on controllability was included in each condition because pretesting indicated that the manipulation of expected final performances, without this information, affected participants' assessment of how much control they and the alleged student had over their performances (participants in the equal expected performances condition reported that performance on the number sequence task was less controllable than did participants in the unequal expected performances condition).

After the manipulation of expected performances, participants were given instructions about how to complete the questionnaire they had been informed of earlier. Half the participants received "fairness" instructions; half received "preference" instructions. The instructions were as follows:

Okay, before we go on to the next trial, I'm going to give you that questionnaire I told you about. Let me first explain a little about it. The questionnaire asks you about possible ways of dividing the points between yourself and the other student for each of the six trials. It also asks a few questions about what you think of the experiment so far. What we're mostly interested in is finding out what particular distributions people see as fair [people prefer]. So, this questionnaire explains a couple of different ways of dividing the points. One of those ways is to divide the points between yourself and the other student equally, so you would both get five points after each trial, no matter how you each score on the trials. Another way is to divide the points according to how much you each score on a trial, or proportional to how much you each score. For example, if one person scored twice as high as the other person on a particular trial, he or she would get twice as many points for that trial as the other person. You will have to rate how fair you think each of these methods is [how much you would prefer each method], assuming it's used every time the points are divided. That is, you'll have to rate how fair you think each method is [how much you would prefer each method] if it were used to divide the 10 points after each of the six trials. It is very important that you honestly tell us what you think is fair [what you prefer]. There's no right or wrong answer, just consider what you, personally, feel is fair [what you, personally, prefer].

Similar instructions appeared on the actual questionnaire containing the dependent measures.

Participants then completed a questionnaire containing the dependent measures (i.e., perceptions of equity and equality), manipulation checks and some ancillary items. Because all participants gave their perceptions of both equity and equality, distribution strategy was a within-subjects variable.

Immediately after completing these items, participants were told that the experiment was over, suspicion was assessed, and the true purposes of the experiment including the reasons for the deceptions were outlined. This debriefing followed the method suggested by Aronson, Brewer, and Carlsmith (1985). This procedure assesses suspicion and reveals deception gradually through a series of increasingly specific questions about participants' perceptions of the experiment. Aronson et al. claim that such a debriefing decreases the chances that participants will claim awareness of deception merely to save face, as well as generally decreasing their uneasiness with the experimental procedure. Using this process, 11 participants were found to be suspicious of there being another student in the experiment. These individuals' data were discarded, and 11 more participants were recruited to make up the final sample of 240 students.

Materials

Individual Difference Measures

Participants completed three individual difference scales. The Just World Scale and the Protestant Ethic Scale were described in Study 1. The means, standard

deviations, and ranges of scores for these two measures were similar to those reported for Study 1.

Paulhus's (1983) Spheres of Control subscales were used as a measure of locus of control instead of Rotter's Internal-External Locus of Control Scale as in Study 1. The Spheres of Control subscales assess control beliefs within three domains: the nonsocial environment (e.g., achievement situations), interpersonal interactions, and political and social systems. Control in each of these domains is referred to as personal efficacy, interpersonal control, and sociopolitical control, respectively. This measure was used instead of Rotter's scale as it seemed that control in specific spheres would be more relevant to the present study than control in other spheres. For example, sociopolitical control may have less to do with judgments about distributing resources in a dyad than interpersonal control or personal efficacy. Paulhus (1983) has shown high reliability and validity for his measure, and has shown that it is less contaminated by social desirability than the Internal-External Scale. The entire questionnaire consists of 30 statements (10 for each sphere of control) to which participants must respond on a 7-point scale ranging from -3, "disagree", to +3, "agree". Half of the items for each sphere are reverse keyed before summing. Possible scores for each of the three subscales range from -30 (external locus of control) to +30 (internal locus of control). The subscale means, standard deviations, and ranges for participants in the present study were as follows: personal efficacy, M = 13.55, SD = 5.78, range = -7 to 26; interpersonal control, M = 10.26, SD = 8.26, range = -11 to 30; and sociopolitical control, M = -1.44, SD = 8.22, range = -25 to 25.

These values are similar to those reported in other research with university undergraduates (e.g., Jeffries, 1992). See Appendix A for a copy of the Spheres of Control subscales.

Dependent Measures

On the first page of the final questionnaire, the perceived fairness of/preference for equality and equity was assessed. Participants completing the fairness measures were asked, "To what extent do you think it is fair to divide the 10 points for each trial equally between yourself and the other student?" and "To what extent do you think it is fair to divide the 10 points for each trial according to (i.e., in proportion to) how much you and the other student score?".

Participants completing the preference measures were asked, "To what extent do you prefer to divide the 10 points for each trial equally between yourself and the other student?" and "To what extent do you prefer to divide the 10 points for each trial according to (i.e., in proportion to) how much you and the other student score?". These items were answered on 7-point scales where 1 was "not at all" and 7 was "a great deal". Each of these ratings was followed with the statement, "Please explain why you chose the above rating." The order of the equality and equity items was counterbalanced across participants.

On the second page of the final questionnaire, participants were asked to "Choose one of the following two methods for dividing the 10 points between you and the other student after each of the 6 trials." The following choices were presented, each preceded by a blank on which to place a checkmark: "For every trial, I choose

to divide the 10 points between myself and the other student _equally_"; "For every trial, I choose to divide the 10 points between myself and the other student _according_ to (i.e., in proportion to) _how_ _much_ each of us scores." The participant was again asked to explain his/her decision. The major purpose of these two measures was to make the questionnaire consistent with the cover story (i.e., that participants were actually in charge of allocating the points).

Manipulation Checks

After the measures of distributive fairness/preference and distribution choice were completed, participants answered three manipulation checks. To test the manipulation of expected final performances, participants were asked, "Do you think it is likely that, by the end of the 6 trials, you and the other student will have about the same total score?" and "Do you think that you and the other student will continue to perform at the same level as you did in the first trial?". These questions were answered on 7-point scales, where 1 was "not at all" and 7 was "definitely". To test the manipulation of first-trial performance in combination with expected performances, participants were asked to indicate who they thought would have scored higher by the end of the 6 trials -- themselves, the other student, or both about the same.

Ancillary Items

Six ancillary items were included after the manipulation checks. Four items assessed how controllable participants perceived performances on the number sequence task to be: "To what extent do you think that any differences in performance (if there are any) are due to how much _effort_ you and the other student put into the task?", "To

what extent do you think that any differences in performance (if there are any) are due to how much ability you and the other student have for this type of task?", "How much control do you and the other student have over how well you perform this task?", and "How responsible do you think that you and the other student are for your performance on this task?". Each of these items was answered on a 7-point scale, where 1 was "not at all" and 7 was "a great deal".

Finally, participants were asked, "To what extent were your opinions about the different ways of dividing the 10 points influenced by a desire to develop a pleasant relationship between yourself and the other student?" and "To what extent were your opinions about the different ways of dividing the 10 points influenced by a desire to be fair?". The responses to these two items were given on 7-point scales, where 1 was "not at all" and 7 was "a great deal". All dependent measures, manipulation checks, and ancillary items are presented in Appendix A.

Results

Manipulation Checks

Initial Performance (better vs. worse) X Expected Final Performances (equal vs. unequal vs. unspecified) ANOVAs (N = 240) were performed on the two manipulation checks for expected final performances: "Do you think it is likely that, by the end of the 6 trials, you and the other student will have about the same total score?" and "Do you think it is likely that you and the other student will continue to perform at the same level as you did in the first trial?".

A significant main effect for expected final performances occurred on the first manipulation check. As anticipated, participants in the equal expected performances condition thought it was more likely that they and the other student would have about the same final score (M = 4.57) than did participants in the unequal expected performances condition (M = 3.05); the average rating on this item for participants in the unspecified condition was between those for the equal and unequal conditions (M = 3.63), $F(2, 234)$ = 47.45, p < .001. Newman-Keuls multiple comparisons indicated that all three means were significantly different from one another, ps < .05. No other effects were reliable in the ANOVA.

Participants in all three expected performances conditions thought it about equally likely that they and the other student would continue to perform at the same level as they did on the first trial (equal scores, M = 3.30; unequal scores, M = 3.54; unspecified, M = 3.31). The differences between these means, though, were in the predicted direction.

As a check on the manipulation of initial performance in combination with expected final performances, participants were asked to indicate who they thought would have scored higher by the end of the six trials: themselves, the other student, or both about the same. The number of participants in each of the expected final performances conditions (equal vs. unequal vs. unspecified) who endorsed each of these three options was calculated, resulting in a 3 (equal vs. unequal vs. unspecified) X 3 (themselves, the other student, both about the same) contingency table (see Table

5). Chi-square tests for independence were performed on this contingency table, controlling for the initial performance manipulation.

The chi-square analysis for those participants told they had performed better than the other student on the first trial revealed that the expected final performances manipulation and responses on the manipulation check were not independent, $\chi^2(4, \underline{N} = 120) = 21.74$, $\underline{p} < .001$. Eighty-five percent of those who were told that total scores would be about the same by the end of the six trials expected these total scores to be about equal; 77.5% of those told that whoever had a higher score on the first trial was likely to have a higher total score at the end of the six trials indicated that the initial high performer would have a higher total score. When subjects were given no information about expected total scores, 52.5% of those scoring higher on the first trial indicated that they would also have a higher total score by the end of the six trials, whereas the remaining 47.5% reported that they and the other student would have about the same total score.

The chi-square analysis for those participants told they had performed worse than the other student on the first trial also revealed that the expected final performances manipulation and responses on the manipulation check were not independent, $\chi^2(4, \underline{N} = 120) = 18.36$, $\underline{p} = .001$. Of these participants, 82.5% of those who were told that total scores would be about the same by the end of the six trials expected these total scores to be about equal; 77.5% of those told that whoever had a higher score on the first trial was likely to have a higher total score at the end of the six trials indicated that the initial high performer would have a higher total score.

Table 5   115

Percentages of Participants Reporting Different Expectations for Final

Performances as a Function of the Manipulations of Expected

Final Performances, and Initial Peformance

	Reported Expectations		
Condition ($\underline{n}$ = 40)	Self higher	Other higher	Same
Better initial peformance			
Equal expected perf.	15	0	85
Unequal expected perf.	77.5	5	17.5
Unspecified	52.5	0	47.5
Worse initial performance			
Equal expected perf.	5	12.5	82.5
Unequal expected perf.	12.5	77.5	10
Unspecified	7.5	45	47.5

When participants were given no information about expected final performances, 45% of those scoring lower on the first trial indicated that they would also have a lower total score by the end of the six trials, 7.5% reported that they would have a higher total score, and the remaining 47.5% expected the total scores to be about the same.[6]

These analyses suggest that the manipulations were generally effective (the failure to achieve the anticipated effect for the second manipulation check will be addressed in the discussion for Study 2).

Reliabilities and Intercorrelations for the Individual

Difference Measures

Cronbach's alpha for reliability was calculated for the Protestant Ethic Scale, the Just World Scale, and each of the Spheres of Control subscales. Cronbach's alphas for the Just World Scale and the Protestant Ethic Scale were .70 and .72, respectively. Thus, the reliabilities for these scales were acceptable, though moderate. The reliabilities for the interpersonal control, personal efficacy, and sociopolitical control subscales were .76, .42, and .70, respectively. The personal efficacy subscale will not be discussed further because of its low reliability.

Correlations among the individual difference measures, along with the one-tailed significance levels, are shown in Table 6. Beliefs in a just world were significantly correlated with overall internality on the Spheres of Control subscales,

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[6] The chi-square analysis reported here involves some expected frequencies < 5. Because the distribution of χ^2 for expected frequencies < 5 tends to diverge from the theoretical continuous curve (becoming discontinuous), the results should be interpreted with caution.

Table 6 117

Correlations Among the Individual Difference Measures and Measures

of the Belief in and Importance of Long-term Equity

Measure	2	3	4	5	6	7
1. Beliefs in a just world	.22***	.17**	.11*	.25***	.20**	.03
2. Total locus of control	.--	.76***	.72***	.17**	.14*	.07
3. Interpersonal control		.--	.23***	.05	.05	-.07
4. Sociopolitical control			.--	.08	.17**	.04
5. Protestant ethic				.--	.18**	.16*
6. Belief in long-term equity					.--	.28***
7. Importance of long-term equity						.--

Note. $\underline{N}$ = 240.

*$\underline{p}$ < .05, one-tailed.

**$\underline{p}$ < .01, one-tailed.

***$\underline{p}$ < .001, one-tailed.

$r(238) = .22$, $p < .001$, internal interpersonal control, $r(238) = .17$, $p < .01$, and internal sociopolitical control, $r(238) = .11$, $p < .05$. Endorsement of the Protestant ethic was significantly correlated with overall internality, $r(238) = .17$, $p < .01$, but was not related to either interpersonal control or sociopolitical control. Strong beliefs in a just world were significantly correlated with endorsement of the Protestant ethic, $r(238) = .25$, $p < .001$.

These particular individual difference measures were chosen for Study 1 and Study 2 because of their assumed association with the belief that inequitable distributive systems will work out equitably in the long run. In this study, participants were asked the extent to which they held this belief (for people in general) as well as the extent to which achieving equity in the long run (for people in general) was important to them. Correlations among these two items and the individual difference measures are included in Table 6. The belief in long-term equity was significantly correlated with the belief in a just world, $r(238) = .20$, $p < .01$, endorsement of the Protestant ethic, $r(238) = .18$, $p < .01$, an overall internal locus of control, $r(238) = .14$, $p < .05$, and internal sociopolitical control, $r(238) = .17$, $p < .01$. The importance of long-term equity was significantly correlated only with endorsement of the Protestant ethic, $r(238) = .16$, $p < .05$, and the belief in long-term merit, $r(238) = .28$, $p < .001$.

Analyses of Distribution Judgments

Mixed ANOVAs were used to assess the effects of the manipulations, gender, distribution strategy, and their interactions on the ratings of equity and equality. Cell

means for reliable effects were tested for significant differences using Newman-Keuls multiple comparisons. Fairness and preference ratings were analyzed separately. The fairness vs. preference instructions were not treated as a between-subjects variable because direct comparisons between means on the two sets of 7-point scales would not have been meaningful. For example, a rating of 3 on the fairness scale meant that the distribution strategy was "somewhat unfair", whereas a rating of 3 on the preference scale meant the strategy was "a little" preferred (not that it was "somewhat unpreferred"). Hence, it seemed conceptually most reasonable to treat fairness and preference ratings as different dependent variables. As in Study 1, multiple regression analyses were used to assess the impact of the manipulations, individual differences, distribution strategy, and their interactions on distributive ratings. Separate analyses were conducted for each individual difference variable: beliefs in a just world, Protestant ethic, overall locus of control, interpersonal control, and sociopolitical control. Again, analyses were conducted separately for fairness and preference ratings. Because the mixed ANOVAs tested the effects of the manipulations across individual difference variables, only significant effects from these regressions that involved the individual differences will be reported here. These effects were investigated further by using the regression equation to calculate predicted means for high and low values of the individual difference measure for each of the relevant experimental groups, as in Study 1. Significant effects reported in the text are accompanied by a measure of the proportion of variance accounted for (i.e., η^2 or $\underline{R}^2$change). Complete summaries of

the ANOVAs and regressions for the preference and fairness data in Study 2 are presented in Appendix B.

Perceived Distributive Fairness

Initial performance, expected final performances, gender, and perceived distributive fairness. An Initial Performance (better vs. worse) $\times$ Expected Final Performances (equal vs. unequal vs. unspecified) X Gender (male vs. female) X Distribution Strategy (equity vs. equality) mixed ANOVA was performed on distributive fairness ratings, with distribution strategy as a within-subjects variable.

Two main effects arose from this analysis. As predicted in Hypothesis 1, a main effect for distribution strategy showed that equity was seen as more fair ($\underline{M}$ = 4.60) than equality ($\underline{M}$ = 3.56), $\underline{F}(1, 108) = 78.31$, $\underline{p} < .001$, $\eta^2 = .31$. A main effect for gender revealed that females gave higher fairness ratings on the 7-point scale ($\underline{M}$ = 4.75) than did males ($\underline{M}$ = 4.46), $\underline{F}(1, 108) = 4.04$, $\underline{p} < .05$, $\eta^2 = .01$.

Contrary to Hypothesis 2, there was a significant interaction between initial performance and distribution strategy, $\underline{F}(1, 108) = 4.04$, $\underline{p} < .05$, $\eta^2 = .02$. Table 7 displays the cell means for this effect. Both fairness ratings for equity were significantly higher than both ratings for equality. However, the overall pattern suggests the influence of a politeness ritual. Equity was rated as more fair than equality especially when it benefited the partner (i.e., when the partner scored higher than the participant; equity, $\underline{M}$ = 5.83 vs. equality, $\underline{M}$ = 3.27), compared to when it benefited the participant (i.e., when the participant scored higher than the partner; equity, $\underline{M}$ = 5.47 vs. equality, $\underline{M}$ = 3.85).

Table 7   121

Mean Fairness Ratings as a Function of Initial Performance

and Distribution Strategy

	Distribution Strategy	
Condition (n = 60)	Equity	Equality
Better initial performance	5.47_b	3.85_a
Worse initial performance	5.83_b	3.27_a

Note. Means with different subscripts differ significantly.

Finally, there was a significant Initial Performance X Expected Final Performances X Gender interaction, $F(2, 108) = 6.18$, $p < .01$, $\eta^2 = .02$. The means for this effect are shown in Table 8. None of these means differed significantly using Newman-Keuls multiple comparisons.[7]

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[7] Internal analyses were conducted for the fairness data to further look for evidence for Hypothesis 2. Correlations were computed between scores on the manipulation checks for expected final performances ("Do you think it is likely that, by the end of the 6 trials, you and the other student will have about the same total score?", and "Do you think it is likely that, by the end of the 6 trials, you and the other student will continue to perform at the same level as you did in the first trial?") and the perceived fairness of equity and of equality. Consistent with the idea that equity will be seen as fair regardless of long-term outcomes, there was no significant correlation between the perceived fairness of equity and scores on either of the two manipulation checks. As would be expected, according to Hypothesis 2, equality was seen as more fair the more participants believed that final performances for themselves and their partner would be the same by the end of the 6 trials, $r(118) = .30$, $p = .001$. Contrary to Hypothesis 2, participants saw equality as more fair the more they perceived that they and their partner would continue to score at the same level as they did in the first trial, $r(118) = .17$, $p < .05$. Given the possible confusion surrounding this latter question, however (see this discussion), this correlation is difficult to interpret.

The manipulation check for first-trial performance in combination with expected performances ("Who do you think will have scored higher by the end of the 6 trials?") was also used in internal analyses on the fairness data. Two oneway ANOVAs were conducted with the responses to the manipulation check as the independent variable (self vs. partner vs. both about the same), and the perceived fairness of equity and equality as the dependent variables. There was no reliable effect for this manipulation check when the dependent measure was the perceived fairness of equity. This is consistent with the notion that equity will be seen as fair regardless of long-term expectations. A main effect for this manipulation check did occur when the dependent measure was the perceived fairness of equality, $F(2, 117) = 5.47$, $p < .01$, $\eta^2 = .09$. Newman-Keuls multiple comparisons revealed that, in accordance with Hypothesis 2, participants who thought that final performances would be about the same rated equality as more fair ($M = 3.99$) than participants who thought that either their partner would have the higher final score ($M = 3.08$) or they would have the higher final score ($M = 2.80$). No other comparisons were significant. Thus, internal analyses show some support for Hypothesis 2.

Table 8

Mean Fairness Ratings as a Function of Initial Performance,

Expected Final Performances, and Gender

Group ($\underline{n}$ = 30)	Initial Performance	
	Better	Worse
Females		
Equal expected performances	5.10	4.20
Unequal expected performances	4.60	4.70
Unspecified	5.00	4.90
Males		
Equal expected performances	4.35	5.20
Unequal expected performances	4.70	4.10
Unspecified	4.20	4.20

Individual differences and perceived distributive fairness. Hypothesis 3 was not supported by the data. Multiple regression analyses predicting distributive fairness judgments from initial performance, expected final performances, one of the individual difference measures, distribution strategy, and the interactions between these variables revealed no reliable effects involving individual differences.

Distributive Preferences

Initial performance, expected final performances, gender, and distributive preferences. A four-way mixed ANOVA (Initial Performance X Expected Final Performances X Gender X Distribution Strategy) performed on the preference ratings revealed several reliable effects.

A main effect for distribution strategy revealed that equity was preferred more ($\underline{M}$ = 5.03) than equality ($\underline{M}$ = 3.19), $\underline{F}(1, 108) = 40.82$, $\underline{p} < .001$, $\eta^2 = .20$.

There was also a significant interaction between initial performance and distribution strategy, $\underline{F}(1, 108) = 4.13$, $\underline{p} < .05$, $\eta^2 = .02$, as predicted in Hypothesis 4. As shown in Table 9, the only significant differences between cell means were that the two mean preference ratings for equity were significantly different from the two mean preference ratings for equality. The overall pattern of distributive preferences, however, suggests the influence of politeness. Although equity was consistently preferred more than equality, the difference between these two principles was greater when equity benefited the partner (i.e., when the partner performed better than the participant; equity, $\underline{M}$ = 5.28 vs. equality, $\underline{M}$ = 2.87) than when equity was of greater benefit to the participant (i.e., when the participant performed better than the partner;

Table 9 125

Mean Preference Ratings as a Function of Initial Performance

and Distribution Strategy

	Distribution Strategy	
Condition (n = 60)	Equity	Equality
Better initial performance	4.77$_b$	3.52$_a$
Worse initial performance	5.28$_b$	2.87$_a$

Note. Means with different subscripts differ significantly.

equity, $\underline{M}$ = 4.77 vs. equality, $\underline{M}$ = 3.52). Thus, although the differences between cell

means did not conform to an absolute politeness effect as predicted in Hypothesis 4,

they still suggest the influence of this motive. There were also two three-way

interactions.

An Initial Performance X Gender X Distribution Strategy interaction was

found, $\underline{F}$(1, 108) = 4.13, $\underline{p}$ < .05, η^2 = .02. The influence of politeness appeared to be

limited to males. Table 10 presents the cell means for this interaction. For males,

equity was preferred significantly more than equality in the worse initial performance

condition (equity, $\underline{M}$ = 5.53 vs. equality, $\underline{M}$ = 2.30), whereas there was no significant

difference in preferences for these two strategies in the better initial performance

condition (equity, $\underline{M}$ = 4.67 vs. equality, $\underline{M}$ = 3.80). Females showed an equally

strong preference for equity over equality in both the worse initial performance

(equity, $\underline{M}$ = 5.03 vs. equality, $\underline{M}$ = 3.40) and the better initial performance conditions

(equity, $\underline{M}$ = 4.87 vs. equality, $\underline{M}$ = 3.23). The overall pattern of means for females,

therefore, did not suggest a politeness ritual.

Another three-way interaction was found between initial performance, expected

final performances, and distribution strategy, $\underline{F}$(2, 108) = 4.10, $\underline{p}$ < .05, η^2 = .04. The

means for this interaction, shown in Table 11, suggest the influence of politeness in

both the equal and unequal expected performances groups, but not in the unspecified

group. Using Newman-Keuls multiple comparisons to test differences between means,

in the unequal expected performances condition, equity was preferred significantly

more ($\underline{M}$ = 5.45) than equality ($\underline{M}$ = 2.50) when participants performed worse than the

Table 10 127

Mean Preference Ratings as a Function of Initial Performance,

Gender, and Distribution Strategy

	Distribution Strategy	
Group ($\underline{n}$ = 30)	Equity	Equality
Females		
Better initial performance	$4.87_{c,d}$	$3.23_{a,b}$
Worse initial performance	$5.03_{c,d}$	$3.40_{a,b}$
Males		
Better initial performance	$4.67_{b,c,d}$	$3.80_{a,b,c}$
Worse initial performance	5.53_d	2.30_a

<u>Note</u>. Means with different subscripts differ significantly.

Table 11   128

Mean Preference Ratings as a Function of Initial Performance,

Expected Final Performances, and Distribution Strategy

	Distribution Strategy	
Condition (n = 20)	Equity	Equality
Unequal expected performances		
Better initial performance	$4.95_{b,c}$	$2.90_{a,b}$
Worse initial performance	5.45_{c}	2.50_{a}
Equal expected performances		
Better initial performance	$3.95_{a,b,c}$	$4.50_{a,b,c}$
Worse initial performance	5.70_{c}	$2.95_{a,b}$
Unspecified		
Better initial performance	5.40_{c}	$3.15_{a,b}$
Worse initial performance	$4.70_{a,b,c}$	$3.15_{a,b}$

Note. Means with different subscripts differ significantly.

other student; when they performed better, there was no significant difference between their preference ratings for these two distribution strategies (equity, $\underline{M}$ = 4.95 vs. equality, $\underline{M}$ = 2.90). The results were similar in the equal expected performances condition: Equity was preferred significantly more ($\underline{M}$ = 5.70) than equality ($\underline{M}$ = 2.95) when participants performed worse than the other student on the first trial, but not when they performed better (equity, $\underline{M}$ = 3.95 vs. equality, $\underline{M}$ = 4.50). In contrast, when the expected final performances were not specified by the experimenter, equity received higher preference ratings ($\underline{M}$ = 5.40) than equality ($\underline{M}$ = 3.15) when the participants' initial performance was better than the other student's but not when their initial performance was worse (equity, $\underline{M}$ = 4.70 vs. equality, $\underline{M}$ = 3.15). It should be noted that, although the difference was not significant according to Newman-Keuls criteria, equality received higher absolute preference ratings than equity in the condition in which participants (a) performed better than the alleged student on the first trial and (b) believed total scores at the end of the task would be the same for each person. This trend is of interest because it is the only comparison in this experiment where equality actually received higher ratings (though not reliably so) than equity. Also, the pattern conformed to Hypothesis 4, although it was not predicted that this trend would be qualified by the manipulation of expected final performances.

Individual differences and distributive preferences. Multiple regression analyses predicting distributive preferences from initial performance, expected final performances, beliefs in a just world, distribution strategy, and the interactions

between these variables revealed a Beliefs in a Just World X Distribution Strategy interaction, $F(1, 108) = 4.79$, $p < .05$, R^2change $= .02$. As shown in Figure 12, strong believers in a just world preferred equity more than weak believers, and equality less than weak believers.

Only one effect involving an individual difference measure resulted from the regression analyses including either overall scores on the Spheres of Control subscales, interpersonal control, or sociopolitical control: This was a significant Expected Final Performances X Interpersonal Control interaction, $F(2, 108) = 3.15$, $p < .05$, R^2change $= .01$. The relevant regression lines are plotted in Figure 13. There was a strong trend in the equal expected performances condition for interpersonal internals to give lower preference ratings (collapsed across equity and equality) than interpersonal externals. The relation between preference ratings and interpersonal control was not as strong in the other two expected performances conditions. This interaction is not readily interpretable.

The regression analysis involving Protestant ethic scores revealed a two-way interaction between Protestant ethic and distribution strategy conforming to Hypothesis 5, $F(1, 108) = 10.57$, $p < .01$, R^2change $= .05$. Participants who strongly endorsed the Protestant ethic preferred equity more than weak endorsers and preferred equality less than weak endorsers (see Figure 14).[8,9]

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[8] As for Study 1, each regression involving an individual difference variable was also conducted with the other individual differences as covariates. Results were similar to those for the regressions reported here. Therefore, significant effects involving individual differences are not attributable to shared variance with the other individual differences measured in this study.
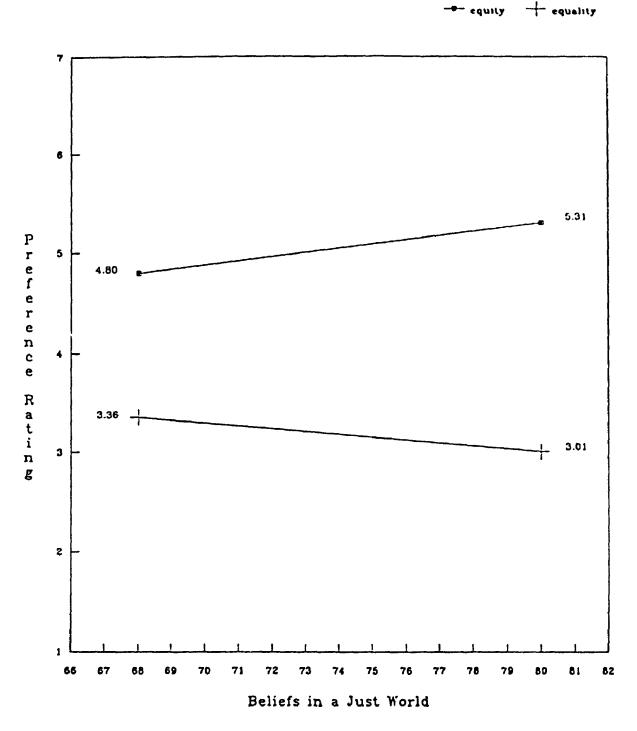
Figure 12. The interaction between beliefs in a just world and distribution strategy in predicting preference ratings.
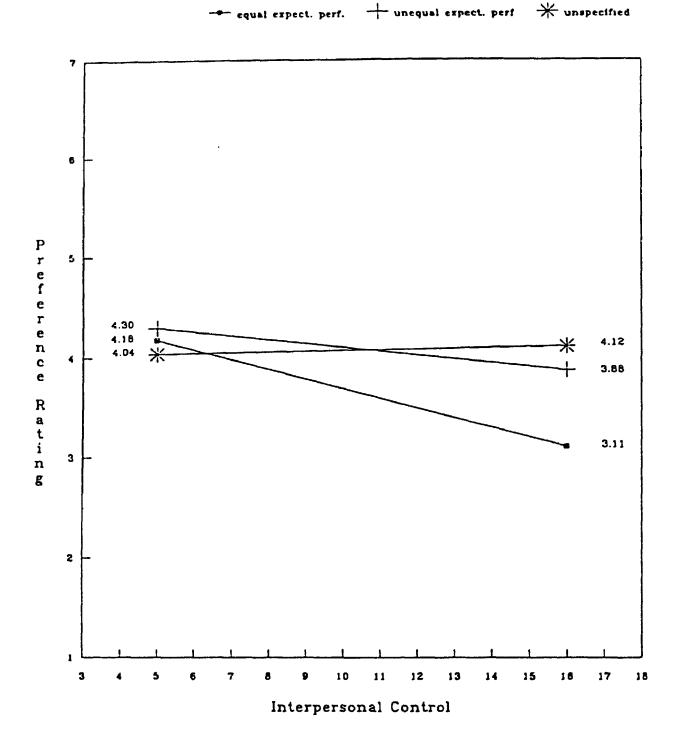
Figure 13. The interaction between interpersonal control and expected final

performances in predicting preference ratings.
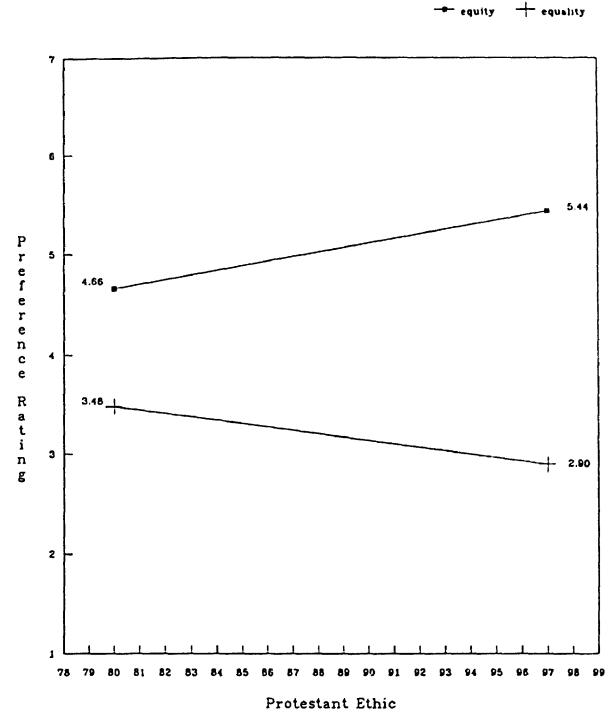
Figure 14. The interaction between Protestant ethic and distribution strategy in predicting preference ratings.

Distribution Choices

After rating equity and equality for either fairness or preference, participants were asked to check off the distribution they would like to have implemented for the duration of the experiment (consistent with the cover story that points would actually be distributed between themselves and another person). The great majority of participants chose the distribution they rated as more fair or preferred (94% of 222; 18 participants gave equity and equality the same rating). Thus, actual choices appear to have been largely redundant with participants' fairness or preference ratings. Participants were also asked to explain, in writing, why they had chosen equity or equality. The distribution choices and the written rationales for these choices are not discussed here because their primary function was to make the questionnaire

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[9] For exploratory purposes, a set of analyses was conducted for which the type of ratings requested from participants (i.e., fairness vs. preference ratings) was treated as a between-subjects variable. First, a five-way mixed ANOVA was conducted on the distribution ratings, with initial performance, expected final performances, gender, and rating type (fairness vs. preferences) as between-subjects variables and distribution strategy as a within-subjects variable.

Regression analyses were also conducted for which the predictors were: initial performance, expected final performances, one of the individual difference variables, rating type, distribution strategy, and all possible interactions between these five variables (for a total of 31 predictors). Five regression analyses were performed, one for each of the individual difference measures (beliefs in a just world, total locus of control, interpersonal control, sociopolitical control, and Protestant ethic).

Results from the mixed ANOVA and regression analyses were generally similar to the results reported for the analyses conducted separately on fairness and preference ratings. Few interpretable effects involving rating type were found (some effects involving rating type did not interact with distribution strategy and, thus, are not easily understood). Because no new information was gained from these analyses, the results are not reported here. Appendix B, however, presents a complete summary of the mixed ANOVA and regression analyses involving rating type as a between-subjects variable.

compatible with the cover story; the fairness/preference ratings are the measures of most concern.[10]

Ancillary Items

To check for possible confounds of the manipulations, the participants were asked to what extent differences in performances on the experimental task were due to effort, to what extent differences in performances were due to ability, how much control they thought they and the other student had over their performance, and how responsible they and the other student were for their performance. Each of these items was subjected to a 2 (initial performance) X 2 (expected final performances) between-subjects ANOVA (N = 240). As hoped, there were no reliable main effects or interactions. Overall, participants reported that performance differences were about equally due to effort (M = 4.30 on a 7-point scale) and ability (M = 4.27 on a 7-point scale). Participants reported that they and the other student had quite a bit of control

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[10] An Initial Performance X Expected Final Performances X Gender ANOVA was performed on the measure of distribution choice (N = 240). Also, five multiple regressions were conducted predicting distribution choice from the two manipulations, one of the five individual difference variables, and the relevant interactions (N = 240). Most of the interpretable trends from Study 1 were replicated. Only two effects from these six analyses were not reflected in the analyses for the fairness/preference ratings. A main effect for interpersonal control revealed that participants high in interpersonal control had less of a tendency to choose equity than participants low in interpersonal control, $F(1, 228)$ = 3.94, p < .05, R^2change = .02. An Expected Final Performances X Sociopolitical Control interaction showed that, for participants high in sociopolitical control, the tendency to choose equity was not influenced by the information regarding final performances. For participants low in sociopolitical control, however, the tendency to choose equity in the unequal expected performances condition was greater than this tendency in the unspecified condition, which was greater than this tendency in the equal expected performances condition, $F(1, 228)$ = 6.73, p = .01, R^2change = .04. These effects do not seem readily interpretable. Thus, the choice measure added no new information to that gained from previously described analyses.

over their own performances ($\underline{M}$ = 4.57 on a 7-point scale) and that they and the other

student were quite responsible for their own performances ($\underline{M}$ = 4.79 on a 7-point

scale).

Participants were also asked to what extent their distribution judgments were

motivated by the desire to develop a pleasant relationship with the other student and to

what extent these judgments were motivated by a desire to be fair. Responses to these

two items were subjected to Initial Performance X Expected Final Performances X

Motive (pleasant relationship vs. fairness) mixed ANOVAs. Separate ANOVAs were

conducted for the fairness versu the preference ratings. A main effect for motive

occurred in the analyses of both distributive fairness, $\underline{F}$(1, 114) = 208.33, $\underline{p}$ < .001,

and distributive preferences, $\underline{F}$(1, 114) = 188.28, $\underline{p}$ < .001. Whether they were asked

to give their perceptions of fairness or their distributive preferences, participants

reported being only a little influenced by a desire to develop a pleasant relationship

with the other student (fairness participants, $\underline{M}$ = 2.90; preference participants, $\underline{M}$ =

3.10, on a 7-point scale) and quite a bit influenced by a desire to be fair (fairness

participants, $\underline{M}$ = 5.68; preference participants, $\underline{M}$ = 5.63, on a 7-point scale). This

finding is contrary to the idea that fairness and preferences would be motivated by

somewhat different concerns.

Responses to Open-ended Questions

Participants' written explanations of their fairness and preference ratings were

divided into separate arguments and coded according to 10 categories. Seven of these

categories were used in Study 1: equal long-term contributions, the magnitude of the

difference between contributions, attributions regarding differential contributions, self-interest, fairness (coded for preferences only), stating the equity or equality principle, and "other" explanations. A preliminary examination of the written reponses in Study 2 led to the creation of three new categories of explanations: incentive/competition (e.g., "there is no incentive to do better", "it takes away the competition"), anxiety (e.g., "less pressure to do well", "lowers anxiety"), and the importance of the situation (e.g., "it's not important who gets what in this context", "doesn't really matter how well we do here"). Five categories of explanations from Study 1 were not used for the Study 2 data because they were endorsed infrequently or not at all. These categories were: prior agreement between the two people on a distribution, maintaining or creating positive relations, avoiding guilt, the affective quality of the relationship, and convenience. Endorsements of these five types of explanations were included in the "other" category. Each participant's response could be coded for more than one explanation. The experimenter and a second rater agreed on 90% of a random sample of 60 participants' arguments.

Table 12 summarizes the written explanations for the fairness data. Ninety-five arguments addressed the fairness of equity. Almost a third (31.6%) of these explanations stated that an equitable distribution provided an incentive to perform well or increased competition. However, the majority of arguments for the fairness of equity (54.7%), as in Study 1, fell into the "state equity/equality" category and merely restated the equity principle. In comparison, only 14.3% of the explanations for the fairness of equality fell into the "state equity/equality" category. All these arguments

Table 12   138

Percent of Explanations for Fairness Ratings

Explanation category	Equity fair	Equality fair	Equity unfair	Equality unfair
Equal long-term contributions	0.0	4.1	0.0	0.0
Difference	1.1	22.5	14.3	0.0
Attribution	1.1	18.4	23.8	4.3
Self-interest	1.1	2.0	0.0	1.4
Fairness	-	-	-	-
Incentive/competition	31.6	6.1	4.8	34.3
Anxiety	0.0	0.0	0.0	0.0
Importance	0.0	6.1	9.5	0.0
State equity/equality	54.7	14.3	14.3	45.7
Other	7.4	24.5	28.6	11.4
Total number of explanations	95	49	21	70

restated the equality principle. These findings support the idea that equity is seen as a basic rule of distributive fairness.

Forty-nine arguments explained the fairness of equality. Almost a quarter (24.5%) of these fell into the "other" category. Thus, arguments for the fairness of equality were quite varied. Popular explanations included: that the difference between the students' contributions was small or nonexistent (22.5%), that the lower score could be attributed to factors beyond the performer's personal control (18.4%), and, as mentioned previously, merely restating the equality principle.

Twenty-one arguments explained why equity was unfair. Many of these (28.6%) fell into the "other" category, showing that these arguments were quite varied. Other categories endorsed relatively frequently included attributions for performances (23.8%), the magnitude of the difference in contributions (14.3%), and stating the equity or the equality principle (14.3%; all arguments stated the equity rule, indicating that it was unfair).

Seventy arguments addressed the unfairness of equality. About a third of the explanations (34.3%) mentioned that equality was unfair because it offered no incentive for better performance or removed competition. Arguments in the "other" category accounted for 11.4% of the explanations. Similar to the arguments for the fairness of equity, 45.7% fell into the "state equity/equality" category, stating that equity was fair. This result offers further evidence that equity is seen as an underlying distributive fairness principle.

Table 13 summarizes the explanations for distributive preferences. Of the 86

explanations for preferring equity, 38.4% mentioned that equity provides incentive or

competition, 30.2% restated the equity principle (none stated the equality rule), and

19.8% stated that equity is fair. The 54 arguments for preferring equality were

extremely varied (every category was endorsed at least once); however, the arguments

used most often mentioned the difference between contributions (24.1%), self-interest

(16.7%), and other explanations (11.1%).

Twenty-three arguments explained why equity was not preferred. Almost a

third of these (30.4%) referred to performance attributions (e.g., "it is no-one's fault if

they do bad"). Other explanations included fairness (17.4%), self-interest (17.4%), the

difference between contributions (13.1%), and other explanations (13.1%). Of the 63

arguments for not preferring equality, 36.5% referred to a lack of incentives or

competition, 34.9% stated the equity rule (none restated equality), and 14.3%

mentioned fairness.

Very few arguments referred to expectations about eventual equity or long-term

contributions (3 out of all explanations given). This is contrary to the expectation that

participants, at least in some conditions, would consider the long-term consequences of

the distributive systems offerred to them.

Discussion

Manipulation Checks

Analyses of two of the three manipulation checks suggested that the

manipulations of initial performance (participants scored either higher or lower than

Table 13   141

Percent of Explanations for Preference Ratings

Explanation category	Equity preferred	Equality preferred	Equity not pref.	Equality not pref.
Equal long-term contributions	0.0	1.9	0.0	0.0
Difference	0.0	24.1	13.1	0.0
Attribution	0.0	9.3	30.4	1.6
Self-interest	4.7	16.7	17.4	3.2
Fairness	19.8	7.4	17.4	14.3
Incentive/competition	38.4	5.6	4.3	36.5
Anxiety	1.2	9.3	0.0	0.0
Importance	0.0	5.6	4.3	0.0
State equity/equality	30.2	7.4	0.0	34.9
Other	5.8	11.1	13.1	9.5
Total number of explanations	86	54	23	63

the alleged student on the first trial) and expected final performances (participants were told they and the alleged student would have equal final scores, unequal final scores, or were not told anything) were effective. Analysis of a third manipulation check did not reveal the expected result. When asked "Do you think it is likely that you and the other student will continue to perform at the same level as you did in the first trial?", participants were expected to perceive greater likelihood in the unequal expected performances condition (in which they were told that they and the other student would continue to perform at the same level for all six trials) than in the equal expected performances condition (in which they were told that scores for both partners would fluctuate over the six trials). Overall, participants thought it only somewhat likely that they and the other student would continue to perform at the same level, and this belief was no stronger in the unequal expected performances than in the equal expected performances condition. Perhaps participants had difficulty believing that they and the other student would continue to perform at the same level, even when explicitly told this, because they assumed there would be a practice effect, such that both individuals would increase their scores somewhat over the six trials. If this reasoning is correct, then the failure of the manipulation check assessing perceptions of future performance level does not invalidate the manipulation of expected final performances. Participants in the unequal expected performances condition could have thought final scores would be unequal in the direction of current performance differences, even though each individual would improve over the six trials, so long as they believed that both people would improve to a similar degree. Given that results

for the other two manipulation checks were as expected, this explanation for the failure of the check on perceptions of future performance level seems plausible.

Perceived Distributive Fairness

Support for Perceived Distributive Fairness Hypotheses

Initial performance, expected final performances, and perceived distributive fairness. The main argument in this thesis is that an expectation for eventual equity may often underlie the perceived fairness of an inequitable distribution. In Study 2, participants were faced with a situation in which they and an alleged other student working in another room did not perform at the same level. Expectations for long-term equity under a series of egalitarian distributions were then varied through the manipulation of expected final performances. In one condition, even though current performances were unequal, participants presumably believed that the total performances across several trials would be the same, and thus dividing points for each trial equally or according to equity (in this case, performance) would work out the same. In another condition, participants were led to believe that total scores would reflect the current difference in performance; thus, dividing points equally for each trial would not result in the same overall distribution as dividing points according to equity. Finally, some participants were given no information about final scores.

Hypothesis 1 was that dividing the points for each trial equitably (i.e., according to performance) would be seen as more fair, overall, than an egalitarian distribution system. Hypothesis 2 was that participants would see equality as more fair when total performance levels were expected to be the same than when they

were not, whereas equity would consistently be seen as fair. That is, equality would be seen as fair only when it was equivalent to equity in the long run.

Supporting Hypothesis 1, and in agreement with results from the first study, equity was seen as more fair, overall, than equality. Also consistent with Hypothesis 1, some participants had difficulty explaining why equity was fair and why equality was unfair, often resorting to a restatement of equity (e.g., "this is fair because points are based on what we put in", "not fair; should be rewarded due to performance"). This finding supports the view that people often define fairness in terms of equity.

Hypothesis 2 was not supported. The predicted interaction between expected final performances and distribution strategy was not significant. Also, only three of the arguments given in the open-ended explanations referred explicitly to long-term contributions or eventual equity; thus, participants did not spontaneously think their ratings were influenced by such considerations.

One possible reason why the perceived fairness of equality was not influenced by the plausibility of long-term equity is that, as suggested in Study 1, only certain individuals may have strongly believed that long-term equity would occur, even when the experimenter gave instructions suggesting that it was likely. In the equal expected performances condition (i.e., the condition in which expectations for long-term equity would presumably be highest), the experimenter said that "usually" performances worked out "about" the same by the end of the six trials. Although these instructions were meant to suggest that eventual equity was highly likely, they were ambiguous enough that stable individual differences could have influenced the extent to which

participants believed eventual equity would actually occur in this particular instance. However, the regression analyses predicting perceived fairness from the manipulations, individual differences, distribution strategy, and the relevant interactions, yielded no significant effects involving individual differences. The lack of effects involving individual difference variables is discussed in more detail in the next section.

Individual differences and perceived distributive fairness. Hypothesis 3 was that, when no explicit information was given to participants regarding expected future performances, strong believers in a just world, internals, and strong believers in the Protestant ethic, having a chronic tendency to expect long-term equity, would be more likely to see equality as fair than individuals at the opposite ends of these continua. When participants were given explicit information about future performances, individual differences were not expected to relate to perceived fairness. Contrary to these predictions, no effects involving the individual differences were found.

One explanation for this lack of results is that beliefs in a just world, locus of control, and Protestant ethic are not associated with the belief that outcomes, even if not equitable now, will work out that way in the long run. This does not seem to be the case. The individual difference measures (excepting interpersonal control) correlated significantly with general expectations for long-term equity in the expected direction. Moreover, these measures yielded some interpretable findings in Study 1. However, in order for strong believers in a just world, internals, and strong believers in the Protestant ethic to believe in Study 2 that an equal distribution system would work out equitably, they had to assume that total scores for themselves and their

partner at the end of the six trials would be the same. If final scores for the two individuals will be the same, then dividing the points equally after each trial is equivalent, in the long run, to dividing the points equitably after each trial (i.e., according to performance). Unfortunately, supplementary analyses (not reported in the results section) did not give overwhelming support that, when total scores were unspecified by the experimenter, strong believers in a just world, internals, and strong endorsers of the Protestant ethic assumed these scores would be equal. Within the unspecified condition, there was a significant correlation between strong beliefs in a just world and agreement with the item "Do you think it is likely that, by the end of the 6 trials, you and the other student will have about the same total score?", $r(78) = .26$, $p < .05$; however, none of the other individual differences correlated significantly with this item. In another supplementary analysis, answers to the item assessing who participants expected to have a higher score by the end of the 6 trials were coded as a "1" if the participants checked off "both you and the other student will have scored about the same", and a "0" if they checked off either "yourself" or "the other student"; the correlations between this dichotomous variable and each individual difference measure, within the unspecified condition, were then assessed. Internals were more likely than externals to state that they and their partner would perform about the same, $r(78) = .35$, $p = .001$; a similar relation was found between responses on the dichotomous measure and interpersonal control, $r(78) = .32$, $p < .01$, and sociopolitical control, $r(78) = .23$, $p < .05$. However, beliefs in a just world and Protestant ethic were unrelated to statements about who would have the higher final score. Thus,

although strong believers in a just world, internals, and those who strongly endorse the Protestant ethic may believe that people in general receive rewards proportional to their contributions in the long run, they did not firmly believe this would happen within this particular experiment.

It is also possible that fairness ratings reflected a synthesis of several motives, as suggested in Study 1. Evidence of such alternative motivations can be found in the following section.

Other Results for Perceived Distributive Fairness

Initial performance, expected final performances, gender, and perceived distributive fairness. The mixed ANOVA yielded an unexpected interaction between initial performance and distribution strategy. This interaction suggested that people's ratings of fairness were influenced by more than one motive, perhaps partly accounting for the failure to support Hypothesis 2. Equity was consistently seen as more fair than equality; however, this difference in perceived fairness was more pronounced when equity was of greater benefit to the partner than when it was of greater benefit to the participant. This result conforms to a relative politeness effect.

As in Study 1, equality was never seen as more fair than equity; thus, an absolute politeness effect was not found. This absence of an absolute politeness effect may again reflect participants' desire to be fair (the instructions explicitly told them to be fair) as well as polite. In support of this interpretation, participants reported being strongly motivated by fairness and mildly motivated by the desire to develop a positive relationship with the other student. Participants reported being significantly

more motivated by fairness than by the desire for social harmony; however, the difference between the reports of these two motivations should be interpreted with caution as the former motivation is probably more socially desirable within an experiment than the latter.

The open-ended explanations of the fairness ratings provided some evidence that other motivations lay behind participants' perceptions of fairness. Although merely stating the equity or equality principle was a popular rationale, many participants mentioned that equity was fair because it encouraged efforts to improve performance and increased competition, and that equality was unfair for similar reasons.

Obviously, then, other motivations besides fairness per se were seen as important. As discussed in Study 1, participants may have been trying to balance competing concerns in their distribution judgments; thus, they endorsed a pattern of distributions that only partly satisfied each motivation. Perhaps a compromise between fairness and the politeness ritual is partially responsible for the failure to support Hypothesis 2.

The mixed ANOVA also produced two significant effects involving gender. Females tended to give higher fairness ratings overall than males. There was also a higher-order interaction between initial performance, expected final performances, and gender. Unfortunately, these effects did not involve the within-subjects variable of distribution strategy (equity vs. equality) and are, therefore, difficult to interpret.

Summary of Perceived Distributive Fairness Results

In summary, the fairness data in Study 2 showed that, congruent with Study 1, equity is seen as consistently more fair than equality. Thus, equity appears to be an important principle of fairness, at least for situations in which contributions are performance-based.

Contrary to predictions, equality was not perceived as more fair when long-term equity was most likely. This prediction may not have been supported because other motives, most notably a desire to appear polite or generous, competed with fairness, causing participants to settle for a compromise in allocation judgments which fully satisfied neither motivation.

Individual differences did not influence perceived fairness, contrary to hypotheses. Strong believers in a just world, internals, and those who strongly endorsed the Protestant ethic did have a general tendency to expect equity in the long run more than individuals at the other end of these continua; however, there was only weak evidence that these beliefs were associated with the assumption that equity would eventually occur within this particular experiment.

Distributive Preferences

Support for Distributive Preference Hypotheses

Initial performance, expected final performances, and distributive preferences. In this thesis, I have suggested that distributive fairness is not the same as distributive preferences. Although an individual may often prefer a particular distribution because it is fair, there are other motivations that could underlie preferences (e.g., ma...enance

of interpersonal harmony, self-interest). In Study 2, a motivation other than fairness was made salient. Participants thought they would be meeting the other student at the end of the main experimental task to discuss various aspects of the experiment, such as how points were distributed between them. It was assumed that participants would be somewhat motivated to have this encounter run smoothly. I predicted that this motivation would lead to preferences conforming to a "politeness ritual". Thus, Hypothesis 4 was that participants would prefer equality more than equity when they performed better than the other student on the first trial, but would prefer equity more than equality when they performed worse than this student on the first trial.

Congruent with past research, Hypothesis 5 stated that high Protestant ethic individuals would prefer equality less and equity more than low Protestant ethic individuals.

Hypothesis 4 received some support from the data. As predicted, initial performance interacted with distribution strategy. Similar to the results for perceived fairness, equity was always preferred more, on average, than equality; however, equity was preferred the most, relative to equality, when it was of greater benefit to the partner than to the participant. The absence of the predicted absolute politeness effect may again indicate competing desires -- politeness and fairness. As with the fairness data, participants given the preference instructions reported being strongly motivated by fairness and mildly motivated by the desire to have a pleasant relationship with the other student. The difference between these two motivations was significant.

There was also a higher order interaction between initial performance, expected final performances, and distribution strategy, which offered some support for Hypothesis 4. A pattern of means similar to that described in the two-way interaction occurred both when participants thought that total scores for themselves and their partner would not be the same, and when they thought they would be the same.

Participants who were given no information about expected final performances did not appear to be influenced by politeness. Perhaps when the experimenter commented on final performances (in the equal and unequal expected performances conditions), she made it more salient to the participants that they would probably be discussing with the alleged student their own and the alleged student's performance as well as the distribution of points. When the expected final performances were not commented on (in the unspecified condition), this aspect of the experiment may have been less sa.ient to participants and, therefore, they may have felt less of a need to appear polite.

This three-way interaction offered some evidence of an absolute politeness ritual in the equal expected performances condition. Here, allocators preferred equity over equality when it benefited the other person more than themselves (i.e., when they had performed worse), but, when equality benefited the other person more than themselves (i.e., when they had performed better), allocators actually gave this strategy higher preference ratings than equity (though not significantly higher). Participants in this condition presumably believed that the use of an egalitarian or equitable distribution strategy would lead to the same outcomes in the long run; therefore, in

terms of who ends up with what rewards, it did not matter which distribution was implemented. These participants were careful to make a generous impression when they had nothing to lose.

Thus, there was some evidence for the idea underlying Hypothesis 4, i.e., that preferences can reflect a desire to appear polite or generous, even though the pattern of means was not identical to predictions. Just as with the results for perceived fairness, participants seemed to manifest the influence of both a desire to be fair and a desire to appear polite.

Individual differences and distributive preferences. Hypothesis 5 was supported by the data. Consistent with past research (Garrett, 1973, cited in Major & Deaux, 1982; Greenberg, 1978; MacDonald, 1972), people who strongly endorsed the Protestant ethic rated equity more favourably and equality less favourably than weak endorsers. Presumably, a person who strongly believes that hard work pays off in terms of success and in terms of spiritual salvation should advocate a distributive system that recognizes individual efforts.

Other Results for Distributive Preferences

Initial performance, expected final performances, gender, and distributive preferences. There were two effects from the mixed ANOVA on distributive preferences that did not address the hypotheses. First, this analysis revealed that equity, overall, was preferred more than equality. This makes sense if a major underlying motive for participants was fairness and fairness was defined in terms of

equity. Supporting this notion were the written explanations for distributive preferences, which mentioned a desire for fairness quite frequently.

An interaction between initial performance, distribution strategy, and gender suggested that males were more influenced by a politeness ritual than were females. Males had a tendency to prefer equity significantly more than equality when it benefited the other person and equality the same as equity when equality benefited the other person. Females, on the other hand, preferred equity over equality no matter whom it benefited the most. Why politeness might be more relevant to males in this situation is unclear. Clearly, researchers need to investigate variables that modify the "typical" gender differences in distributive behaviour.

Individual differences and distributive preferences. The pattern of results involving Protestant ethic were mirrored in a significant effect involving beliefs in a just world. Strong believers preferred equity more than weak believers; they also preferred equality less than weak believers. People with strong just world beliefs, similar to high Protestant ethic individuals, probably prefer a distributive system which, assuming equity is equated with fairness, serves justice immediately rather than in the long run. These findings appear to contradict results from Study 1 showing a tendency for strong believers in a just world to prefer equality more than weak believers. This discrepancy will be addressed in the general discussion.

Summary of Distributive Preference Results

In this study, I expected preferences to be motivated mainly by a desire to appear polite. There was some evidence that politeness affected distributive

preferences, especially when people had little to lose by being "generous". Fairness and incentive/competition also appeared to be major motives underlying distributive preferences.

Individual differences -- namely, Protestant ethic, interpersonal control, and belief in a just world -- and gender were also important in participants' allocation preferences. For example, strong believers in a just world preferred equity more and equality less than weak believers. Similarly, individuals who strongly endorsed the Protestant ethic preferred equity more and equality less than weak endorsers. Finally, the politeness ritual appeared to be limited to males.

Perceived Distributive Fairness vs. Distributive Preferences

In Study 1, the pattern of results for perceived fairness was compared to the pattern of results for distributive preferences. The results were similar but not identical. For the present study, results for the fairness and preference measures were also compared.

There was some overlap in the pattern of results for perceived fairness and preferences. Overall, equity was thought more fair than equality and preferred to equality. Again, this is consistent with the idea that fairness is one motive (and perhaps often an important motive) underlying distributive preferences.

The results for distributive fairness and distributive preferences showed the influence of similar motives. For example, a politeness ritual appeared to influence both the perceived fairness of and preferences for equity and equality. Similar motives in preference and fairness ratings can also be seen in the open-ended

explanations of the ratings for equity and equality. Participants often argued that a particular principle was fair/unfair, preferred/not preferred, because of the effect it had on competition and the motivation to improve performance (especially in relation to the other person in the experiment). It was not hypothesized that diverse motives, such as politeness and the desire to encourage or discourage competition, would influence fairness ratings (this was expected only for preferences); however, the presence of various motives in fairness ratings is consistent with the findings of Study 1.

Despite these commonalities between the preference and the fairness data, the preference data did yield several results not found for perceived distributive fairness. For example, the only time any evidence for an absolute politeness ritual occurred was when people were asked what they preferred (in the equal expected performances condition). Nowhere in the fairness data was equality rated higher than equity. This suggests that people told to be fair felt somewhat more constrained to adhere to equity.

Two effects on preferences involving gender were not mirrored in the fairness data. Also, whereas there were three significant effects involving the individual differences in predicting preferences, individual differences were not significant predictors of perceived fairness.

In the written explanations for distribution ratings, some goals were mentioned more often for preferences than they were for fairness. For example, self-interest was used as a rationale for preferences much more than for fairness. Also, the reduction of

anxiety was not mentioned at all in explaining the fairness of equity or equality, whereas it was used to explain distributive preferences.

Thus, fairness appeared to be one motive underlying distributive preferences, although fairness also reflected alternative goals. These results suggest that people may distinguish between the two concepts. Whatever the reason for differential results, it is clear that researchers should be careful when choosing a measure of perceived distributive "justice".

CHAPTER IV - GENERAL DISCUSSION

Summary of Major Hypotheses and Findings

Throughout this dissertation, I have argued that, consistent with equity theory (Adams, 1965; Walster, Berscheid, & Walster, 1976), the division of resources in proportion to contributions (i.e., equity or merit) is seen by people as an important principle of distributive fairness. The research presented in this dissertation supports this argument. In Study 1, participants found an equitable distribution to be more fair, in general, than both an egalitarian and a need principle. Similarly, in Study 2, participants perceived equity to be more fair, in general, than equality. In both studies, participants often had difficulty explaining why equity is fair or equality is not fair and, therefore, often resorted to merely restating the equity rule. These results suggest that equity was seen by many people as a basic rule of distributive fairness.

I have also argued here that, as distributions in the real world often involve a series of allocations over time (e.g., weekly paycheques), the long-term outcomes of a system of distributions may be important in assessing the fairness of a current allocation. Several studies reviewed in the introduction to this dissertation suggest that such future outcomes are sometimes considered (Antonucci & Akiyama, 1987; Beckman, 1981; Birnbaum, 1983; Holmes, 1981; Holmes & Miller, 1976; Ingersoll-Dayton & Antonucci, 1988; Ueleke et al., 1983). In the first study in this dissertation, at least some individuals reported that long-term outcomes motivated their judgments of a particular allocation. Also, some of the significant effects arising out of analyses for Study 1 are interpretable in terms of the tendency to focus on the long-term

outcomes of a system of distributions. In contrast, long-term outcomes were rarely mentioned in the written explanations for distribution judgments in Study 2; however, the manipulation of eventual equity did significantly interact with other variables to influence perceptions of t e distribution strategies.

Given that, at least in some situations, equity is a basic rule of distributive fairness, and long-term outcomes are sometimes taken into account in distributive justice judgments, I proposed that principles other than equity will often be seen as fair because eventual equity is likely. In the studies presented here, there was weak evidence for this argument.

In Study 1, expectations for eventual equity were manipulated indirectly by varying the affective quality of the relationship (positive vs. negative) and the length of the relationship (10 distributions over a period of two years vs. 1 distribution for a two week assignment). People with an internal locus of control saw equality (which was, in this case, an inequitable distribution) as more fair when long-term equity was presumed to be most probable -- in a trusting relationship involving several distributions of resources over a long period of time. Similarly, strong believers in a just world saw equality as more fair in the long-term relationship. Presumably, these findings occurred because internals and strong believers in a just world have a chronic tendency to expect currently inequitable outcomes to approximate equity over time, so long as situational factors make long-term equity possible.

In Study 2, expectations for eventual equity were manipulated more directly than in Study 1. Participants were told that currently unequal contributions would or

would not be equal in the long run. It was predicted that, when long-term contributions were expected to be equal, a series of egalitarian distributions would be seen as fair because the partners would eventually receive rewards in proportion to their performances; that is, dividing rewards for each distribution equally would be the same, eventually, as dividing the rewards equitably. Like the results for Study 1, there was no support for this general hypothesis. Unlike the results for Study 1, there was no evidence of this reasoning even after individual difference variables were considered. Strong beliefs in a just world, overall internality, sociopolitical internality, and a strong endorsement of the Protestant ethic were correlated with a general belief that people will eventually be rewarded in proportion to their contributions (i.e., equitably), as expected, but this belief did not appear to greatly affect participants' perceptions of fairness in this experiment.

The types of relationships featured in the two studies may help to explain these contradictory findings between studies. In Study 1, participants gave their opinions about a relationship lasting from two weeks to two years. This relationship, though revolving around specific tasks, was relatively unstructured. In Study 2, the relationship was perceived as lasting for less than a few hours, and was highly structured. Fairness may be more relevant to some types of relationships than to others (Brehm, 1992). Perhaps "fairness" is not extremely relevant to such short-term, structured situations as that experienced by participants in Study 2. Evidence that fairness was somewhat less relevant in Study 2 comes from the written explanations for distributive preferences; references to fairness were less frequent in the data for

Study 2 than in the data for Study 1 (although it is important to remember that participants in Study 1 completed this measure after indicating their perceptions of fairness and, thus, may have mentioned fairness to appear consistent). If fairness was less relevant in Study 2 than in Study 1, then competing motives (such as those discussed in the following paragraph), which could be met only through a different pattern of distributions than those expected to occur under a fairness norm, may have had a greater influence on fairness ratings in Study 2. This reasoning may partly explain why there was some evidence for the expected pattern of fairness ratings in Study 1, but not in Study 2.

For these studies, measures of distributive preferences were taken as well as the measures of perceived fairness. I reasoned that asking people what they prefer and asking what they believe is fair are not the same. Fairness is one of many motives that, alone or in combination, may underlie the preference for a particular distribution of resources.

The data in this dissertation support this reasoning. In Study 1, people reported several reasons for their distributive preferences in addition to fairness, including self-interest, maintaining positive social relations, allaying guilt, and convenience. Several significant interactions on the preference measure also suggested the impact of other motives besides fairness, such as self-interest and politeness. The trends in Study 2 were similar. Open-ended explanations of the preference ratings revealed such motivations as fairness, self-interest, the reduction of anxiety, and either promoting incentives or increasing/decreasing competition. Significant interactions on the

preference measures in Study 2 appeared to reflect both the influence of fairness and the desire to be polite.

Distributive preferences, therefore, were expected to and did reflect many different goals; however, unexpectedly, fairness also appeared to reflect various other concerns. In Study 1, the written explanations of fairness ratings revealed goals such as maintaining positive social relations. In Study 2, other goals were also common explanations for fairness ratings, especially the desire to increase or decrease competition or to provide an incentive for improving performance. In both Studies 1 and 2, significant interactions on the perceived fairness measures appeared to reflect the influence of other desires. In Study 1, the influence of both self-interest and politeness appeared for different groups of people in different situations. In Study 2, politeness seemed to be an especially important motivation, perhaps because participants believed they would actually have to justify their distributive choices to their partner in a face-to-face discussion. Thus, several motivations seemed to underlie both distributive preferences and distributive fairness judgments.

There were other similarities between the preference and fairness data. Several significant main effects and interactions were found for both sets of measures. This was not only true for Study 1, in which the same participants made preference judgments immediately after completing fairness ratings, but also in Study 2, in which different participants were given fairness vs. preference measures.

Despite the commonalities in distributive fairness and distributive preferences in Studies 1 and 2, the two concepts were not regarded as isomorphic; results for the

two sets of measures within each study did differ. In Study 1, for example, the overall analyses of preference ranks (i.e., not involving the individual difference variables) showed a general self-interest bias not found in the fairness data. Also, some significant effects involving beliefs in a just world and the Protestant ethic were found for the preference data, but not for the fairness data. In Study 2, several effects involving either gender, beliefs in a just world, the Protestant ethic, or interpersonal control (although this last effect was not interpretable) were found only for distributive preferences. In summary, the preference and fairness data in both studies paralleled each other to some extent, but did not produce identical findings. These results suggest that people may distinguish between distributive fairness and distributive preferences.

Two apparent inconsistencies between the results of Study 1 and Study 2 have not yet been discussed. First, beliefs in a just world affected distributive preferences differently in the two studies. In Study 2, strong believers in a just world tended to prefer equity more and equality less than weak believers. As reasoned earlier, if equity is a basic rule of distributive fairness, individuals with a strong belief in the justice of the world should prefer distributions that are equitable now as opposed to distributions that will "probably" be equitable in the long run. A similar argument seems logical for high Protestant ethic individuals, who preferred equality less than low Protestant ethic individuals in Study 1 and Study 2, and preferred equity more than low Protestant ethic individuals in Study 2. Strong believers in a just world in Study 1, however, preferred equality more than weak believers. This trend was

explained in terms of a tendency for strong believers in a just world to avoid threats to their belief by extending the time frame of justice -- by convincing themselves that "in the end" fairness will always prevail. How are these apparently contradictory results involving just world beliefs and the two rationales used to explain them to be reconciled? Lerner (1980) explains that there are several ways in which a person can maintain his/her belief that people get what they deserve. A particularly easy method is to merely avoid ever having to test the hypothesis, as suggested in Study 1; however, this strategy may not always be possible. In Study 2, the contributions were less ambiguous (there were well defined performance differences between the two people in the relationship), and the relationship was more short-term and more structured than in Study 1. Thus, there may have been less room to reason that fairness would eventually be met. It is also possible that when participants are directly threatened with personal injustice, it is more desirable to make sure that one gets what one deserves immediately. In Study 1, participants responded to hypothetical scenarios and were, therefore, perhaps less involved in the situation and less threatened than in Study 2. Thus, it was more important for strong believers in a just world in Study 2 than in Study 1 to advocate immediate justice (i.e., equity).

Another difference between the results of Study 1 and Study 2 involves the influence of gender on distribution judgments. In Study 1, females' fairness ratings reflected a politeness ritual, whereas males' reflected self-interest; however, there were no gender effects on the preference measure. In Study 2, there were no interpretable gender effects on the fairness measures; however, males' preference ratings appeared

to be influenced by politeness, whereas females consistently preferred equity over equality. The complex nature of these results suggests that the "typical" gender differences in distribution judgments, which were manifested in Study 1, may depend on the presence of certain factors. Some of these factors may be ones that varied between the two studies presented here; for example, type of task, personal involvement in the task, nature of the reward, type of relationship, etc. It will remain for future research to clarify which of these possibilities might underlie the divergent results for gender obtained in the present studies.

Before discussing more general issues raised by the studies presented here, the relevance of these studies and their generalizability to the real world need to be addressed. The finding in these experiments may help to elucidate perceptions of distributions in the real world. Study 1, for example, suggests that, under certain conditions, some individuals may perceive equality as fair because equity is expected to occur in the long run. This could help explain the research finding that disadvantaged individuals often do not perceive their situations as unfair (Crosby, 1984; Martin, 1986; Taylor, Wright, Moghaddam, & Lalonde, 199J). Perhaps these people presume that equity or justice will be met in the long run.

Several characteristics of these experiments may limit the generalizability of the results. First, most participants were in their early 20s and likely had little experience with the distribution of resources in the work world; thus, they may not have responded as would an individual who better identifies with the employees in the hypothetical scenarios of Study 1. Second, many relationships in which resources

must be distributed are probably more meaningful than the hypothetical or relatively short-term relationships investigated in these experiments. Third, the resources in Study 1 and Study 2 were probably relatively unimportant to participants compared to many resources in the real world that are more valuable or have longer lasting consequences (e.g., _actual_ money, good grades, etc.).

It is possible that the nature of the participants and the relatively trivial nature of the relationships and resources in these studies served to overestimate the extent to which politeness influenced distribution judgments. However, Mikula and Schwinger (1973, cited in Mikula & Schwinger, 1978) found the politeness ritual to be pervasive when members of the same military unit were faced with distributing actual monetary resources among themselves. The resources and relationships in this study are certainly less trivial than those in the present experiments; yet, politeness was a common distribution rule. There is a need for more research investigating distribution judgments in existing relationships that involve the allocation of highly meaningful resources.

Broader Issues

The results presented in this dissertation and the interpretations of these results raise a number of broader issues regarding the way researchers conceptualize and investigate distributive justice. Some of these issues are addressed in this final section.

Equity as Distributive Fairness

I have stated throughout the discussions of Study 1 and Study 2 that many people see equity as a basic rule of distributive fairness. This finding must be considered in context, however. In Study 1, distribution judgments were made regarding two employees working on a common project; in Study 2, the recipients were students working on a computer task along with an alleged partner. Thus, the relationships in both studies could be construed as productivity-based or at least performance-based (although, in Study 2, I attempted to make another aspect of the situation salient, namely getting along with another person). Perhaps the tendency to equate distributive fairness with the equity principle does not extend past such situations. For example, in a romantic partnership, is equity seen as the underlying principle of fairness? Unfortunately, although many studies on resource distributions within such relationships have been conducted (for reviews, see Brehm, 1992; Hatfield et al., 1985), rarely is the perceived fairness of these distributions measured.

The Meaning of the "Long-term Consequences" of Distributive Systems

An issue that has been alluded to several times while discussing the results of Studies 1 and 2 is the problem of defining "long-term outcomes". Participants in these studies were expected to assess the fairness of various distributions only in terms of the contributions and rewards within the experimental relationship. Thus, long-term outcomes referred to the final ratios of rewards to contributions for the two people highlighted in the experiment. In the discussion of Study 1, however, I conjectured that high Protestant ethic participants may have had a more extended perspective on

long-term outcomes, focusing on achieving equity across several different relationships or across their lifetime and not necessarily within the single partnership described in the scenario. Similarly, I have suggested that, in particular situations, some individuals may maintain a belief that the world is fair by deliberately avoiding a concrete definition of "long run"; thus, justice can always be something that will "eventually" occur. It is clear from these interpretations and from the suggestions of other researchers (see the discussion of Study 1) that, in the assessment of distributive fairness, long-term outcomes do not necessarily refer to the final allocation of resources at the end of a particular relationship, as tested in the studies conducted for this dissertation. Exactly what "long-term justice" means to particular individuals and how or why the meaning of this concept may change within an individual are interesting avenues for future research.

Long-term Expectations, Equity, and Distributive Fairness

The results presented in this dissertation raise the possibility of other variables affecting long-term expectations for equity and, therefore, the perceived fairness of currently inequitable situations. Other personality variables besides beliefs in a just world and locus of control, for example, may affect these expectations. Protestant ethic is one of these. Although the results involving this individual difference variable in the present experiments were difficult to interpret in terms of expectations for eventual equity, endorsement of the Protestant ethic was positively correlated in Study 2 with both expectations for eventual equity and the importance of achieving equity in the long run.

Perhaps there are also cultural differences in expectations for long-term equity. For example, particular cultural groups may see an egalitarian distribution as equivalent in fairness to equity, because there is a belief that everyone will make comparable contributions to the society in the long run.

Situational factors can also influence perceptions that justice will be met in the long run. In Study 1, it was presumed that eventual equity would appear more probable in long-term than in short-term relationships and more in relationships characterized by mutual liking and trust than in ones characterized by dislike and mistrust. These variables did interact with at least one individual difference measure to affect the perceived fairness of equality. Other situational variables may also be important. For example, if current performance differences are attributed to stable causes (e.g., "natural ability"), then it would seem doubtful that people would eventually contribute in proportion to the benefits they are receiving, and therefore an egalitarian system of distributions would appear unfair.

Studies 1 and 2 focus on equality as an alternative principle to equity; however, the logic presented in this dissertation should apply to principles other than equality as well. Need, for example, should be perceived as more fair if it is believed that people will eventually contribute in proportion to the resources they accrued when they needed them. A good example of this is the welfare system. People who are in favour of social welfare may believe that those who receive welfare when they need it will eventually "get back on their feet" and pay back society. Those who are against the system may believe that equity is not met in the long run; that is, most people who

receive welfare when they need it do not end up contributing to society in proportion to the benefits they have gained.

Although the idea that people may often assess a distributive system by whether or not equity is met in the long run is compelling, the evidence in the two experiments presented here was not strong. One of the reasons for the limited support may have to do with the problem of defining "long-term outcomes", as discussed in the previous section. Another problem, which seemed to characterize many of the results found in both Study 1 and Study 2, is that reports of fairness seemed to be influenced by concerns other than an abstract definition of justice. This problem raises the broader issue of what "fairness" means to individuals.

The Problem of Fairness

What is distributive fairness? In the data gathered for this dissertation, fairness judgments appeared to be influenced by many different competing concerns. If one could create an artificial environment in which no other concerns were relevant to an individual, then perhaps distributive fairness, as suggested in this dissertation, would be greatly determined by perceived equity (whether reached immediately or in the long run). Future research will be required to determine whether such an environment is possible. Although it is important to try to isolate such concepts as distributive fairness and preferences, if these notions are rarely isolated in people's everyday experiences, it also becomes important to investigate more closely the phenomenology of fairness in everyday life (see Mikula, Petri, & Tanzer, 1990, for a recent example of such research). Too often, authors have let their own abstract notions of justice

guide the questions they ask and thus the results obtained (Harris & Joyce, 1980), rather than allowing participants to give their own understanding of what it means to be fair.

In everyday life, fairness probably represents a mixture of abstract notions about what we believe we morally ought to do, together with personal biases based on our own motivations, attitudes, and behaviours (see Messick & Sentis, 1983, for a similar perspective). Can it unequivocally be said, then, that "fairness" is an important motive in human social behaviour? Evidence from past research reviewed in the introduction and from the new studies presented here suggest that the answer may be yes; however, the interaction between fairness and other motivations remains little understood.

REFERENCES

Adams, S. J. (1963). Toward an understanding of inequity. Journal of Abnormal and Social Psychology, 67, 422-436.

Adams, S. J. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 2, pp. 267-299). New York: Academic Press.

Antonucci, T. C., & Akiyama, H. (1987). Social networks in adult life and a preliminary explanation of the convoy model. Journal of Gerontology, 42, 519-527.

Aronson, E., Brewer, M., & Carlsmith, J. M. (1985). Experimentation in social psychology. In G. Lindzey & E. Aronson (Eds.), Handbook of social psychology (3rd ed., Vol. 1, pp. 1-46). New York: Random House.

Austin, W., & McGinn, N. C. (1977). Sex differences in choice of distribution rules. Journal of Personality, 45, 379-394.

Beckman, L. J. (1981). Effects of social interaction and children's relative inputs on older women's psychological well-being. Journal of Personality and Social Psychology, 41, 1075-1086.

Bierhoff, H. W., Buck, E., & Klein R. (1986). Social context and perceived justice. In H. W. Bierhoff, R. L. Cohen, & J. Greenberg (Eds.), Justice in social relations (pp. 165 - 185). New York: Plenum Press.

Birnbaum, M. H. (1983). Perceived equity of salary policies. Journal of Applied Psychology, 68, 49-59.

Brehm, S. S. (1992). Intimate relationships. New York: McGraw-Hill.

Bulman, R. J., & Wortman, C. B. (1977). Attributions of blame and coping in the "real world": Severe accident victims react to their lot. Journal of Personality and Social Psychology, 35, 351-363.

Chonko, L. B. (1983). Job involvement as obsession-compulsion: Some preliminary empirical findings. Psychological Reports, 53, 1191-1197.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Collins, B. E. (1974). Four components of the Rotter Internal-External Scale: Belief in a difficult world, a just world, a predictable world, and a politically responsive world. Journal of Personality and Social Psychology, 29, 381-391.

Cook, K. S., & Yamagishi, T. (1983). Social determinants of equity judgments: The problem of multidimensional input. In D. M. Messick & K. S. Cook (Eds.), Equity theory: Psychological and sociological perspectives (pp. 95-126). New York: Praeger.

Crosby, F. (1981). The denial of personal discrimination. American Behavioral Scientist, 27, 371-386.

Deutsch, M. (1985). Distributive justice. New Haven: Yale University Press.

Deutsch, M. (1988). The psychological consequences of different forms of societal organizations. Distinguished scientific contribution award address presented at the annual meeting of the American Psychological Association, Atlanta, Georgia.

Elliott, G. C., & Meeker, B. F. (1986). Achieving fairness in the face of competing

concerns: The different effects of individual and group characteristics. Journal

of Personality and Social Psychology, 50, 754-760.

Feather, N. T. (1983a). Some correlates of attributional style: Depressive symptoms,

self-esteem, and Protestant Ethic values. Personality and Social Psychology

Bulletin, 9, 125-135.

Feather, N. T. (1983b). Observers' reactions to allocations in relation to input of

allocator, type of distribution, and Protestant Ethic values. Australian Journal of

Psychology, 35, 61-70.

Feather, N. T. (1984). Protestant Ethic, conservatism, and values. Journal of

Personality and Social Psychology, 46, 1132-1141.

Festinger, L. (1957). A theory of cognitive dissonance. Evanston, IL: Row, Peterson.

Folger, R. (Ed.). (1984). The sense of injustice: Social psychological perspectives.

New York: Plenum.

Folger, R. (1986). Rethinking equity theory: A referent cognitions model. In H. W.

Bierhoff, R. L. Cohen, & J. Greenberg (Eds.), Justice in social relations (pp.

145-162). New York: Plenum Press.

Furnham, A. F. (1982). The Protestant work ethic and attitudes toward unemployment.

Journal of Occupational Psychology, 55, 277-285.

Furnham, A. F. (1986). Economic locus of control. Human Relations, 39, 29-43.

Furnham, A. F., & Karani, R. (1985). A cross-cultural study of attitudes to women,

just world, and locus of control beliefs. Psychologia: An International Journal

of Research in the Orient, 28, 11-20.

Furnham, A. F., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. British Journal of Social Psychology, 28, 365-384.

Furnham, A. F., & Procter, E. (1992). Sphere-specific just world beliefs and attitudes to AIDS. Manuscript submitted for publication.

Gardner, R. C., & MacIntyre, P. D. (1990). A primer on the analysis of variance using a continuous independent factor in conjunction with a repeated measures factor (Research Bulletin No. 694). London, Ont: University of Western Ontario.

Gozali, H., Cleary, T. A., Walster, G. W., & Gonzali, J. (1973). Relationship between the Internal-External Control construct and achievement. Journal of Educational Psychology, 64, 9-14.

Greenberg, J. (1978). Equity, equality, and the protestant ethic: Allocating rewards following fair and unfair competition. Journal of Experimental Social Psychology, 14, 217-226.

Greenberg, J. (1979). Protestant ethic endorsement and the fairness of equity inputs. Journal of Research in Personality, 13, 81-90.

Greenberg, J. (1981). The justice of distributing scarce and abundant resources. In M. J. Lerner & S. C. Lerner (Eds.), The justice motive in social behavior (pp. 289-316). New York: Plenum Press.

Greenberg, J. (1982). Approaching equity and avoiding inequity in groups and organizations. In J. Greenberg & R. L. Cohen (Eds.), Equity and justice in

social behavior (pp. 389-435). New York: Academic Press.

Greenberg, J. (1988). Equity and workplace status: A field experiment. Journal of

Applied Psychology, 73, 606-613.

Hafer, C. L. (1986). [Factors in relative deprivation]. Unpublished raw data.

Hafer, C. L., & Olson, J. M. (1989). Beliefs in a just world and reactions to personal

deprivation. Journal of Personality, 57, 799-823.

Hafer, C. L., & Olson, J. M. (in press). Discontent, beliefs in a just world, and

assertive actions in working women. Personality and Social Psychology

Bulletin.

Hafer, C. L., & Roney, C. J. R. (1989, June). Affective responses to relative

deprivation: A factor analytic study. Poster presented at the meeting of the

Canadian Psychological Association, Halifax, Canada.

Harris, R. J. (1983). Pinning down the equity formula. In D. M. Messick & K. S.

Cook (Eds.), Equity theory: Psychological and sociological perspectives (pp.

207-241). New York: Praeger.

Harris, R. J., & Joyce, M. A. (1980). What's fair? It depends on how you phrase the

question? Journal of Personality and Social Psychology, 38, 165-179.

Hatfield, E., Traupmann, J., Sprecher, S., Utne, M., & Hay, J. (1985). Equity and

intimate relations: Recent research. In W. Ickes (Ed.), Compatible and

incompatible relationships (pp. 91-117). New York: Springer-Verlag.

Hegtvedt, K. A. (1989). Fairness conceptualizations and comparable worth. Journal of

Social Issues, 45, 81-97.

Hochschild, J. (1981). What's fair? American beliefs about distributive justice. Cambridge: Harvard University Press.

Holmes, J. G. (1981). The exchange process in close relationships: Microbehavior and macromotives. In M. J. Lerner & S. C. Lerner (Eds.), The justice motive in social behavior (pp. 261-284). New York: Plenum Press.

Holmes, J. G., & Miller, D. T. (1976). Interpersonal conflict. In J. W. Thibaut, J. T. Spence, & R. C. Carson (Eds.), Contemporary topics in social psychology (pp. 265-208). Morristown, NJ: General Learning Press.

Homans, G. C. (1961). Social behavior: Its elementary forms. London: Routledge and Kegan Paul.

Ingersoll-Dayton, B., & Antonucci, T. C. (1988). Reciprocal and nonreciprocal social support: Contrasting sides of intimate relationships. Journal of Gerontology, 43, 65-73.

Jackson, L. A. (1989). Relative deprivation and the gender wage gap. Journal of Social Issues, 45(4), 117-133.

Jeffries, L. (1992). Predicting responses to personal deprivation from beliefs in a just world and locus of control . Unpublished honour's thesis, Brock University, St. Catharines, Ontario.

Jones, C., & Aronson, E. (1973). Attribution of fault to a rape victim as a function of respectability of the victim. Journal of Personality and Social Psychology, 26, 415-419.

Kahn, A., O'Leary, V. E., Krulewitz, J. E., & Lamm, H. (1980). Equity and equality:

Male and female means to a just end. Basic and Applied Social Psychology, 1, 173-197.

Keil, L., & McClintock, C. G. (1983). A developmental perspective on distributive justice. In D. M. Messick & K. S. Cook (Eds.), Equity theory: Psychological and sociological perspectives (pp. 13-46). New York: Praeger.

Kleiber, D. A., & Crandall, R. (1981). Leisure and work ethics and locus of control. Leisure Sciences, 4, 477-485.

Kubler-Ross, E. (1969). On death and dying. New York: Macmillan.

Lawler, E. J. (1975). An experimental study of factors affecting the mobilization of revolutionary coalitions. Sociometry, 38, 163-179.

Lefcourt, H. M. (1982). Locus of control. Hillsdale: Erlbaum.

Lerner, M. J. (1970). The desire for justice and reactions to victims. In J. Macaulay & L. Berkowitz (Eds.), Altruism and helping behavior (pp. 205-229). New York: Academic Press.

Lerner, M. J. (1974). The justice motive: "Equity" and "parity" among children. Journal of Personality and Social Psychology, 29, 539-550.

Lerner, M. J. (1977). The justice motive: Some hypotheses as to its origins and forms. Journal of Personality, 45, 1-52.

Lerner, M. J. (1978). "Belief in a just world" versus the "authoritarian" syndrome...but nobody liked the Indians. Ethnicity, 5, 229-237.

Lerner, M. J. (1980). The belief in a just world: A fundamental delusion. New York: Plenum.

Lerner, M. J. (1981). The justice motive in human relations: Some thoughts on what we know and need to know about justice. In M. J. Lerner & S. C. Lerner (Eds.), The justice motive in social behavior (pp. 11-35). New York: Plenum Press.

Lerner, M. J., & Lerner, S. C. (Eds.). (1981). The justice motive in social behavior: Adapting to times of scarcity and change. New York: Plenum.

Lerner, M. J., & Matthews, G. (1967). Reactions to the suffering of others under conditions of indirect responsibility. Journal of Personality and Social Psychology, 5, 319-325.

Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process. Looking back and ahead. Psychological Bulletin, 85, 1030-1051.

Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster, Advances in experimental social psychology (Vol. 9, pp. 134-162). New York: Academic Press.

Lerner, M. J., & Simmons, C. H. (1966). Observers' reaction to the "innocent victim": Compassion or rejection? Journal of Personality and Social Psychology, 4, 203-210.

Leventhal, G. (1976). The distribution of rewards and resources in groups and organizations. In L. Berkowitz & E. Walster (Eds.), Advances in experimental social psychology (Vol. 9, pp. 91-131). New York: Academic Press.

Leventhal, G., Micheals, J. W., & Sanford, C. (1972). Inequity and interpersonal conflict: Reward allocation and secrecy about reward as methods of preventing

conflict. Journal of Personality and Social Psychology, 23, 88-102.

Lind, E. A., & Tyler, T. R. (1988). The social psychology of procedural justice. New York: Plenum.

Long, G. T., & Lerner, M. J. (1974). Derserving, the "personal contract", and altruistic behavior by children. Journal of Personality and Social Psychology, 29, 551-556.

Ma, L. (1987). The Protestant Ethic among Taiwanese college students. Journal of Psychology, 120, 219-224.

Ma, L., & Smith, K. B. (1985). Individual and social correlates of the Just World Belief: A study of Taiwanese college students. Psychological Reports, 57, 35-38.

MacDonald, A. P. (1972). More on the protestant ethic. Journal of Consulting and Clinical Psychology, 39, 116-122.

Major, B., & Adams, J. B. (1983). Role of gender, interpersonal orientation, and self-presentation in distributive-justice behavior. Journal of Personality and Social Psychology, 45, 598-608.

Major, B., & Deaux, K. (1982). Individual differences in justice behavior. In J. Greenberg & R. Cohen (Eds.), Equity and justice in social behavior (pp. 43-76). New York: Academic Press.

Martin, J. (1986). The tolerance of injustice. In J. M. Olson, C. P. Herman, & M. P. Zanna (Eds.), Relative deprivation and social comparison: The Ontario symposium (Vol. 4, pp. 217-242). Hillsdale, NJ: Erlbaum.

Martin, J. E., & Peterson, M. M. (1987). Two-tier wage structures: Implications for equity theory. Academy of Management Journal, 30, 297-315.

McClintock, C. G. (1978). Social values: Their definition, measurement and development. Journal of Research and Development in Education, 12, 121-136.

Messick, D. M., & Sentis, K. (1983). Fairness, preference, and fairness biases. In D. M. Messick & K. S. Cook (Eds.), Equity theory: Psychological and sociological perspectives (pp. 61-94). New York: Praeger.

Michener, H. A., & Lyons, M. (1972). Perceived support and upward mobility as determinants of revolutionary coalitional behavior. Journal of Experimental Social Psychology, 8, 180-195.

Mikula, G. (1980). On the role of justice in allocation decisions. In G. Mikula (Ed.), Justice and social interaction (pp. 127-166). New York: Springer-Verlag.

Mikula, G. (1981). Concepts of distributive justice: A review of research in German-speaking countries. The German Journal of Psychology, 5, 222-236.

Mikula, G., Petri, B, & Tanzer, N. (1990). What people regard as unjust: Types and structures of everyday experiences of injustice. European Journal of Social Psychology, 20, 133-149.

Mikula, G., & Schwinger, T. (1978). Intermember relations and reward allocation. In H. Brandstatter, J. H. Davis, & H. Schuler (Eds.), Dynamics of group decisions (pp. 396-407). Beverly Hill: Sage.

Mirels, H. L., & Garrett, J. B. (1971). The Protestant Ethic as a personality variable. Journal of Consulting and Clinical Psychology, 36, 40-44.

Mowday, R. T. (1983). Equity theory predictions of behavior in organizations. In R. M. Steers & L. W. Porter (Eds.), Motivation and work behavior (pp. 91-113). New York: McGraw-Hill.

Murphy-Berman, V., Berman, J. J., Singh, P., Pachauri, A., & Kumar, P. (1984). Factors affecting allocation to needy and meritorious recipients: A cross cultural comparison. Journal of Personality and Social Psychology, 46, 1267-1272.

Olson, J. M., Herman, C. P., & Zanna, M. P. (Eds.).(1986). Relative deprivation and social comparison: The Ontario symposium (Vol. 4). Hillsdale, NJ: Erlbaum.

Olson, J. M., & Ross, M. (1984). Perceived qualifications, resource abundance, and resentment about deprivation. Journal of Experimental Social Psychology, 20, 425-444.

Paulhus, D. (1983). Sphere-specific measures of perceived control. Journal of Personality and Social Psychology, 44, 1253-1265.

Phares, E. J. (1976). Locus of control in personality. Morristown, NJ: General Learning Press.

Pritchard, R. D., Dunnette, M. D., & Jorgenson, D. O. (1972). Effects of perceptions of equity and inequity on worker performance and satisfaction. Journal of Applied Psychology, 56, 75-94.

Rasinski, K. A. (1987). What's fair is fair--or is it? Value differences underlying public views about social justice. Journal of Personality and Social Psychology, 53, 201-211.

Reis, H. T. (1986). Levels of interest in the study of interpersonal justice. In H. W.

Bierhoff, R. L. Cohen, & J. Greenberg (Eds.), Justice in social relations (pp.

187-209). New York: Plenum.

Reis, H. T., & Burns, L. (1982). The sense of injustice in responses to inequity.

Journal of Experimental Social Psychology, 18, 464-478.

Ross, W. D. (1964). Aristotle (5th ed.). London: Methuen & Co.

Ross, M., Thibaut, J., & Evenbeck, S. (1971). Some determinants of the intensity of

social protest. Journal of Experimental Social Psychology, 7, 401-418.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of

reinforcement. Psychological Monographs, 80 (Whole No. 609).

Rubin, Z., & Peplau, L. A. (1973). Belief in a just world and reactions to another's

lot: A study of participants in the national draft lottery. Journal of Social

Issues, 29, 73-93.

Rubin, Z., & Peplau, L. A. (1975). Who believes in a just world? Journal of Social

Issues, 31, 65-89.

Sampson, E. E. (1983). Justice and the critique of pure psychology. New York:

Plenum.

Schwinger, T. (1980). Just allocations of goods: Decisions among three principles. In

G. Mikula (Ed.), Justice and social interaction (pp. 95-125). New York:

Springer-Verlag.

Sell, J., & Martin, M. W. (1983). The effects of group benefits and type of distribution

rule on noncompliance to legitimate authority. Social Forces, 61, 1168-1185.

Shapiro, E. G. (1975). The effects of expectations of future interaction in reward

allocations in dyads: Equity or equality. Journal of Personality and Social

Psychology, 31, 873-880.

Sinclair, R. C., & Mark, M. M. (1991). Mood and the endorsement of egalitarian

macrojustice versus equity-based microjustice principles. Personality and Social

Psychology Bulletin, 17, 369-375.

Smith, K. B., Keating, J. P., Hester, R. K., & Mitchell, H. E. (1976). Role and justice

considerations in the attribution of responsibility to a rape victim. Journal of

Research in Personality, 10, 346-357.

Spinner, B., & Gabriel, R. M. (1981). Factorial analysis of variance with unequal cell

frequencies. Canadian Psychology, 22, 260-270.

Sorrentino, R. M. (1981). Derogation of an innocently suffering victim: So who's the

good guy"? In J. P. Rushton & R. M. Sorrentino (Eds.), Altruism and helping

behavior (pp. 267-283). Hillsdale, NJ: Erlbaum.

Stake, J. E. (1983). Factors in reward distribution: Allocator motive, gender, and

Protestant ethic endorsement. Journal of Personality and Social Psychology, 44,

410-418.

Taylor, D. M., Moghaddam, F. M., Gamble, I., & Zeller, E. (1987). Disadvantaged

group responses to perceived inequity: From passive acceptance to collective

action. Journal of Social Psychology, 127, 259-272.

Taylor, D. M., Wright, S. C., Moghaddam, F. M., & Lalonde, R. N. (1990). The

personal/group discrimination discrepancy: Perceiving my group, but not

myself, to be a target of discrimination. Personality and Social Psychology Bulletin, 16, 254-262.

Ueleke, W., Miller, D., Giesen, M., & Miles, S. (1983). Inequity resolving behavior as a response to inequity in a hypothetical marital relationship. Psychology: A Quarterly Journal of Human Behavior, 20, 4-8.

Vecchio, R. P. (1981). An individual-differences interpretation of the conflicting predictions generated by equity theory and expectancy theory. Journal of Applied Psychology, 66, 470-481.

Von Grumbkow, J., Deen, E., Steensma, H., & Wilke, H. (1976). The effect of future interaction on the distribution of rewards. European Journal of Social Psychology, 6, 119-123.

Wagstaff, G. F. (1983). Correlates of the just world in Britain. Journal of Social Psychology, 12, 145-146.

Walster, E., & Walster, G. W. (1975). Equity and social justice. Journal of Social Issues, 31, 21-43.

Walster, E., Berscheid, E., & Walster, G. W. (1976). New directions in equity research. In L. Berkowitz & E. Walster (Eds.), Advances in experimental social psychology (Vol. 9, pp. 1-42). New York: Academic Press.

Walster, E., Walster, G. W., & Berscheid, E. (1978). Equity: Theory and research. Boston: Allyn & Bacon.

Waters, L. K., Batlis, N., & Waters, C. W. (1975). Protestant ethic attitudes among college students. Educational and Psychological Measurement, 35, 447-450.

Watts, B. L., Vallacher, R. R., & Messe, L. A. (1982). Toward understanding sex

differences in pay allocation: Agency, communion, and reward distribution. Sex

Roles, 8, 1175-1187.

Wentowski, G. (1981). Reciprocity and the coping strategies of older people: Cultural

dimensions of network building. The Gerontologist, 21, 600-609.

Zuckerman, M., & Gerbasi, K. C. (1975). Belief in internal control or belief in a just

world: The use and misuse of the I-E scale in prediction of attitudes and

behavior. Journal of Personality, 45, 356-378.

APPENDIX A

Materials for Study 1 and Study 2

A-1 SCENARIOS FOR STUDY 1

Positive Relationship/10 Distributions/Participant-More

Imagine that you are a freelance journalist. You and another journalist have recently been hired by a prominent magazine editor. The two of you have been asked to co-author a series of several articles on the concern with health in the 1980s. These articles will be written over the next two years. During these two years, you and your partner will co-author about 10 articles in total.

You did not know the other journalist before you were put on this assignment. Once you start working with this person, however, you find that you have similar interests and attitudes and like one another quite a bit. Your views on the goals and current state of the journalism profession are similar, and your attitudes are similar on several other issues as well. Your relationship is a very trusting one and the two of you have a great deal of mutual respect.

Imagine now that you have just completed the first article that you and your partner are to write together. It turns out that you have done more work on the article than your partner. This may be because your partner has been busier recently than you. Therefore, your partner has had less time to devote to the article and, consequently, was not able to do as much work as you. When the two-year contract is up, your partner plans to take a job in another city. Thus, you will not meet one another again.

You and your partner are being paid $800 per article. The editor has left it up to the two of you as to how the money is to be divided.

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You did not know the other journalist before you were put on this assignment. Once you start working with this person, however, you find that you have dissimilar interests and attitudes and do not like one another. Your views on the goals and current state of the journalism profession are different, and your attitudes differ on several other issues as well. Your relationship is not a very trusting one and the two of you do not respect one another.

Imagine now that you have just completed the first article that you and your partner are to write together. It turns out that you have done more work on the article than your partner. This may be because your partner has been busier recently than you. Therefore, your partner has had less time to devote to the article and, consequently, was not able to do as much work as you. When the two-year contract is up, your partner plans to take a job in another city. Thus, you will not meet one another again.

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You and your partner are being paid $800 for the article. The editor has left it up to the two of you as to how the money is to be divided.

Positive Relationship/10 Distributions/Partner-More

Imagine that you are a freelance journalist. You and another journalist have recently been hired by a prominent magazine editor. The two of you have been asked to co-author a series of several articles on the concern with health in the 1980s. These articles will be written over the next two years. During these two years, you and your partner will co-author about 10 articles in total.

You did not know the other journalist before you were put on this assignment. Once you start working with this person, however, you find that you have similar interests and attitudes and like one another quite a bit. Your views on the goals and current state of the journalism profession are similar, and your attitudes are similar on several other issues as well. Your relationship is a very trusting one and the two of you have a great deal of mutual respect.

Imagine now that you have just completed the first article that you and your partner are to write together. It turns out that your partner has done more work on the article than you. This may be because you have been busier recently than your partner. Therefore, you have had less time to devote to the article and, consequently, were not able to do as much work as your partner. When the two-year contract is up, your partner plans to take a job in another city. Thus, you will not meet one another again.

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You and your partner are being paid $800 for the article. The editor has left it up to the two of you as to how the money is to be divided.

A-2 DEPENDENT MEASURES AND MANIPULATION CHECKS
FOR STUDY 1

There are several ways to divide the money. Below are three ways this can be done. Think about the information given on the previous page. Then, please rate how fair you think each of these methods is for dividing the money. You may think all of these methods are fair, all are unfair, or some are fair while others are not. When rating each item, please do not consider whether or not you would prefer the method, but simply whether or not the method is fair. For each item, circle the number on the scale that best represents your opinion, then explain your answer in the space provided.

(1)   You and your partner can divide the $800 for the article so that each person gets an amount that is in proportion to how much each of you contributed to the article.

1	2	3	4	5	6	7
very unfair	quite unfair	somewhat unfair	neither fair nor unfair	somewhat fair	quite fair	very fair

Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?).

(2)   You and your partner can divide the $800 for the article equally.

1	2	3	4	5	6	7
very unfair	quite unfair	somewhat unfair	neither fair nor unfair	somewhat fair	quite fair	very fair

Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?).

(3)   You and your partner can divide the $800 for the article according to how much money each of you <u>needs</u>.

1	2	3	4	5	6	7
very unfair	quite unfair	somewhat unfair	neither fair nor unfair	somewhat fair	quite fair	very fair

Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?).

<u>Note</u>. The order of these three items was counterbalanced across participants.

On this page are the same three methods by which you and your partner can divide the money for the article. Again, think of the information given on the first page. This time, instead of indicating how fair you think each method is, think of which method you would prefer to use. The method that you prefer may or may not be the one you rated as most fair. Thus, please do not consider whether you think the method is fair, but simply whether you would want the method to be used under these circumstances. Rank the three methods below, putting a "1" beside the method you would most prefer, a "2" beside the method you would prefer second best, and a "3" beside the method you would least prefer. Finally, explain your ranking in the space provided.

_____   You and your partner can divide the $800 for the article so that each person gets an amount that is in proportion to how much each of you contributed to the article.

_____   You and your partner can divide the $800 for the article equally.

_____   You and your partner can divide the $800 for the article according to how much money each of you needs.

Please explain why you chose the above ranking.

Note. These three items were presented in the same order as the fairness items.

Please answer the following questions by circling the number on the scale that best represents your opinion.

(1) To what extent do you think there would be <u>additional</u> opportunities for you and your partner to divide up money?

1	2	3
no additional opportunities	some additional opportunities	many additional opportunities

(2) To what extent would you describe the relationship between you and your partner as short-term or long-term?

1	2	3	4	5	6
very short-term	quite short-term	somewhat short-term	somewhat long-term	quite long-term	very long-term

(3) To what extent would you describe the relationship between you and your partner as positive or negative?

1	2	3	4	5	6	7
very negative	quite negative	somewhat negative	neutral	somewhat positive	quite positive	very positive

(4) How much would you say you and your partner trust one another?

1	2	3	4
not at all	very little	somewhat	a great deal

A-3 DEPENDENT MEASURES, MANIPULATION CHECKS, AND ANCILLARY MEASURES FOR STUDY 2

3-1 MEASURES OF DISTRIBUTIVE FAIRNESS

There are many possible ways to divide the points. Below are two common ways this can be done. Please rate how fair you think each of the methods would be if the method were used each time the points are divided (i.e., after each of the six trials). You may think both of these methods are fair, both are unfair, or one is fair whereas the other is not. It is very important that you honestly tell us what you think is fair only in a general and abstract sense. There's no right or wrong answer, just consider what you, personally, feel is fair.

(1)   To what extent do you think it is fair to divide the 10 points for each trial equally between yourself and the other student?

1	2	3	4	5	6	7
very unfair	quite unfair	somewhat unfair	neither fair nor unfair	somewhat fair	quite fair	very fair

Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?).

(2)   To what extent do you think it is fair to divide the 10 points for each trial according to (i.e., in proportion to) how much you and the other student score?

1	2	3	4	5	6	7
very unfair	quite unfair	somewhat unfair	neither fair nor unfair	somewhat fair	quite fair	very fair

Please explain why you chose the above rating (i.e., why do you think the method is fair or unfair?).

Note. The order of these items was counterbalanced across participants.

3-2 MEASURES OF DISTRIBUTIVE PREFERENCES

There are many possible ways to divide the points. Below are two common ways this can be done. Please rate to what extent you <u>prefer</u> each of the methods if the method were used each time the points are divided (i.e., after <u>each</u> of the six trials). It is very important that you honestly tell us what you prefer. There's no right or wrong answer, just consider what you, personally, prefer.

(1)   To what extent do you <u>prefer</u> to divide the 10 points for each trial <u>equally</u> between yourself and the other student?

1	2	3	4	5	6	7
not at all		a little		quite a bit		definitely

Please explain why you chose the above rating (i.e., why do you prefer or not prefer this method?).

(2) To what extent do you <u>prefer</u> to divide the 10 points for each trial <u>according</u> to (i.e., in proportion to) <u>how much</u> you and the other student score?

1	2	3	4	5	6	7
not at all		a little		quite a bit		definitely

Please explain why you chose the above rating (i.e., why do you prefer or not prefer this method).

<u>Note</u>. The order of these items was counterbalanced across participants.

3-3 MANIPULATION CHECKS AND ANCILLARY MEASURES

Choose one of the following two methods for dividing the 10 points between you and the other student after each of the 6 trials. Place a checkmark in the appropriate space. The computer will divide up the points between you and the other student according to the method you have chosen.

_____   For every trial, I choose to divide the 10 points between myself and the other student equally.

_____   For every trial, I choose to divide the 10 points between myself and the other student according to (i.e., in proportion to) how much each of us scores.

Please explain why you made the above choice.

Below are some general questions concerning what you think of the experiment so far.

(1) Do you think it is likely that, by the end of the 6 trials, you and the other student will have about the same total score?

1	2	3	4	5	6	7
not at all likely		somewhat likely		quite likely		very likely

(2) Do you think it is likely that you and the other student will continue to perform at the same level as you did in the first trial?

1	2	3	4	5	6	7
not at all likely		somewhat likely		quite likely		very likely

(3) Who do you think will have scored higher by the end of the 6 trials? (place a checkmark in the appropriate space).

_____ yourself

_____ the other student

_____ both you and the other student will have scored about the same

(4) To what extent do you think that any differences in performance (if there are any) are due to how much effort you and the other student put into the task?

1	2	3	4	5	6	7
not at all		a little		quite a bit		definitely

(5) To what extent do you think that any differences in performance (if there are any) are due to how much ability you and the other student have for this type of task?

1	2	3	4	5	6	7
not at all		somewhat		quite a bit		definitely

(6) How much <u>control</u> do you think that you and the other student have over how well you perform this task?

1	2	3	4	5	6	7
none		a little		quite a bit		a great deal

(7) How <u>responsible</u> do you think that you and the other student are for your own performances on this task?

1	2	3	4	5	6	7
not at all		a little		quite a bit		a great deal

(8) To what extent were your opinions about the different ways of dividing the 10 points influenced by a desire to develop a <u>pleasant relationship</u> between yourself and the other student?

1	2	3	4	5	6	7
not at all		a little		quite a bit		a great deal

(9) To what extent were your opinions about the different ways of dividing the 10 points influenced by a desire to be <u>fair</u>?

1	2	3	4	5	6	7
not at all		a little		quite a bit		a great deal

A-4 INDIVIDUAL DIFFERENCE MEASURES FOR STUDY 1 AND STUDY 2

4-1 JUST WORLD SCALE (RUBIN & PEPLAU, 1975)

Please answer the following items by circling the number on the scale that best approximates your attitude.

1. I've found that a person rarely deserves the reputation he/she has.

1	2	3	4	5	6
Disagree					Agree

2. Basically, the world is a just place.

1	2	3	4	5	6
Disagree					Agree

3. People who get "lucky breaks" have usually earned their good fortune.

1	2	3	4	5	6
Disagree					Agree

4. Careful drivers are just as likely to get hurt in traffic accidents as careless ones.

1	2	3	4	5	6
Disagree					Agree

5. It is a common occurrence for a guilty person to get off free in Canadian courts.

1	2	3	4	5	6
Disagree					Agree

6. Students almost always deserve the grades they receive in school.

1	2	3	4	5	6
Disagree					Agree

7. People who keep in shape have little chance of suffering a heart attack.

1	2	3	4	5	6
Disagree					Agree

8. The political candidate who sticks up for his/her principles rarely gets elected.

1 2 3 4 5 6
Disagree   Agree

9. It is rare for an innocent person to be wrongly sent to jail.

1 2 3 4 5 6
Disagree   Agree

10. In professional sports, many fouls and infractions never get called by the referee.

1 2 3 4 5 6
Disagree   Agree

11. By and large, people deserve what they get.

1 2 3 4 5 6
Disagree   Agree

12. When parents punish their children, it is almost always for good reasons.

1 2 3 4 5 6
Disagree   Agree

13. Good deeds often go unnoticed and unrewarded.

1 2 3 4 5 6
Disagree   Agree

14. Although evil people may hold political power for a while, in the general course of history good wins out.

1 2 3 4 5 6
Disagree   Agree

15. In almost any business or profession, people who do their job well rise to the top.

1 2 3 4 5 6
Disagree   Agree

16. Canadian parents tend to overlook the things most to be admired in their children.

   | 1 | 2 | 3 | 4 | 5 | 6 |
   Disagree   Agree

17. It is often impossible for people to receive a fair trial in Canada.

   | 1 | 2 | 3 | 4 | 5 | 6 |
   Disagree   Agree

18. People who meet with misfortune have often brought it on themselves.

   | 1 | 2 | 3 | 4 | 5 | 6 |
   Disagree   Agree

19. Crime doesn't pay.

   | 1 | 2 | 3 | 4 | 5 | 6 |
   Disagree   Agree

20. Many people suffer through absolutely no fault of their own.

   | 1 | 2 | 3 | 4 | 5 | 6 |
   Disagree   Agree

Note. Items 1, 4, 5, 8, 10, 13, 16, 17, and 20 are reverse keyed before scoring.

4-2 Internal-External Locus of Control Scale (Rotter, 1966)

Please indicate which of the two statements in each of the items below <u>BETTER</u> represents your attitude.

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 work often passes unrecognized no matter how hard he/she tries.

5.   *a.   The idea that most 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 determine 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 and bad fortune anyway.

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 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 politics 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 is really no such thing as "luck".

19. a. One should always be willing to admit his/her 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 on 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 control over things politicians do in office.

23. a. Sometimes I can't understand how supervisors arrive at work evaluations.

*b. There is a direct connection between how hard I work and the evaluations 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 basis.

Note. Items 1, 8, 14, 19, 24, and 27 are fillers. Asterices denote internal choices.

4-3 PROTESTANT ETHIC SCALE (MIRELS & GARRETT, 1971)

For each item below, please circle the number on the **answer sheet** that best represents your opinion.

1. Most people spend too much time in unprofitable amusements.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

2. Our society would have fewer problems if people had less leisure time.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

3. Money acquired easily (e.g., through gambling or speculation) is usually spent unwisely.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

4. There are few satisfactions equal to the realization that one has done his/her best at a job.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

5. The most difficult college courses usually turn out to be the most rewarding.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

6. Most people who don't succeed in life are just plain lazy.

   | -3 | -2 | -1 | +1 | +2 | +3 |
   Strongly   Strongly
   Disagree   Agree

7. The self-made person is likely to be more ethical than the person born to wealth.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

8. I often feel I would be more successful if I sacrificed certain pleasures.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

9. People should have more leisure time to spend in relaxation.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

10. Any person who is able and willing to work hard has a good chance of succeeding.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

11. People who fail at a job have usually not tried hard enough.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

12. Life would have very little meaning if we never had to suffer.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

13. Hard work offers little guarantee of success.

-3	-2	-1	+1	+2	+3
Strongly Disagree					Strongly Agree

14. The credit card is a ticket to careless spending.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

15. Life would be more meaningful if we had more leisure time.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

16. The person who can approach an unpleasant task with enthusiasm is the person who gets ahead.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

17. If one works hard enough he/she is likely to make a good life for him/herself.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

18. I feel uneasy when there is little work for me to do.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

19. A distaste for hard work usually reflects a weakness of character.

    -3   -2   -1   +1   +2   +3
    Strongly   Strongly
    Disagree   Agree

Note. Items 9, 13, and 15 are reverse keyed before scoring.

4-4 SPHERES OF CONTROL SUBSCALES (PAULHUS, 1983)

For each of the following statements, please circle the number on the scale that best represents your attitude.

1. When I get what I want it's usually because I worked hard for it.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

2. I have no trouble making and keeping friends.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

*3. It is difficult for people to have much control over the things politicians do in office.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

*4. It's pointless to keep working on something that's too difficult for me.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

*5. In attempting to smooth over a disagreement I usually make it worse.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

*6. When I look at it carefully I realize it is impossible to have any really important influence over what big businesses do.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

7. I find it easy to play an important part in most group situations.

| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| Disagree | | | | | | Agree |

8. When I make plans I am almost certain to make them work.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

9. By taking an active part in political and social affairs we, the people, can control world events.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

*10. Even when I'm feeling self-confident about most things, I still seem to lack the ability to control social situations.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

11. The average citizen can have an influence on government decisions.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

12. On any sort of exam or competition I like to know how well I do relative to everyone else.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

*13. I'm not good at guiding the course of a conversation with several others.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

14. In the long run we, the voters, are responsible for bad government on a national as well as a local level.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

*15. I prefer games involving some luck over games requiring pure skill.

-3   -2   -1   0   +1   +2   +3

Disagree   Agree

*16. I often find it hard to get my point of view across to others.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*17. I prefer to concentrate my energy on other things rather than on solving the world's problems.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

18. I can usually establish a close personal relationship with someone I find attractive.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

19. I can learn almost anything if I set my mind to it.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*20. Bad economic conditions are caused by world events that are beyond our control.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*21. Often people get ahead just by being lucky.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

22. With enough effort we can wipe out political corruption.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

23. My major accomplishments are entirely due to my hard work and ability.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

24. When being interviewed I can usually steer the interviewer toward the topics I want to talk about and away from those I wish to avoid.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*25. I usually don't set goals because I have a hard time following through on them.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

26. One of the major reasons we have wars is because people don't take enough interest in politics.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

27. If there's someone I want to meet I can usually arrange it.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*28. Competition discourages excellence.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*29. There is nothing we, as consumers, can do to keep the cost of living from going higher.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

*30. If I need help in carrying off a plan of mine, it's usually difficult to get others to help.

-3	-2	-1	0	+1	+2	+3
Disagree						Agree

Note. The interpersonal control scale consists of items 2, 5, 7, 10, 13, 16, 18, 24, 27, 30. The personal efficacy scale consists of items 1, 4, 8, 12, 15, 19, 21, 23, 25, 28. The sociopolitical control scale consists of items 3, 6, 9, 11, 14, 17, 20, 22, 26, 29. Asterices denote items that are reverse keyed before scoring.

4-5 ITEMS ASSESSING THE BELIEF IN AND IMPORTANCE
OF EVENTUAL EQUITY

1. In the long run, people usually end up getting rewards that correspond to (i.e., are in proportion to) how much they contributed to relationships (business relationships, romantic relationships, etc.).

	-3	-2	-1	0	+1	+2	+3	
Disagree								Agree

2. It is important to me that, in the long run, people get rewards that correspond to (i.e., are in proportion to) their contributions.

	-3	-2	-1	0	+1	+2	+3	
Disagree								Agree

Note. These items were appended to the Spheres of Control subscales.

APPENDIX B

Analyses on Fairness and Preference Data for Study 1 and Study 2

B-1 SUMMARY TABLES FOR ANOVAS ON FAIRNESS DATA, STUDY 1

Table 1-1

Summary Table for the Affect X Duration X Relative Contributions

X Distribution Strategy Mixed ANOVA on Fairness Ratings

Effect	F	p
Between-subjects effects (d.f. = 1, 88, MSE = 1.27)		
Affect	.49	.486
Duration	.95	.333
Relative contributions	.70	.406
Aff X Dur	.00	.961
Aff X RC	1.47	.229
Dur X RC	.31	.577
Aff X Dur X RC	.31	.577
Within-subjects effects (d.f. = 1, 88, MSE = 3.45)		
Distribution strategy	37.96	.000
Aff X DS	.45	.503
Dur X DS	.15	.697
RC X DS	.13	.718
Aff X Dur X DS	.01	.937
Aff X RC X DS	.32	.570
Dur X RC X DS	4.39	.039
Aff X Dur X RC X DS	1.02	.315

Table 1-2

Summary Table for the Affect X Duration X Relative Contributions

Between-subjects ANOVAs on the Fairness of Equity and the

Fairness of Equality

Effect	F	p
Fairness of equity (d.f. = 1, 88, MSE = 1.79)		
Affect	1.15	.286
Duration	.04	.846
Relative contributions	.02	.882
Aff X Dur	.01	.917
Aff X RC	.04	.849
Dur X RC	2.98	.088
Aff X Dur X RC	1.76	.188
Fairness of equality (d.f. = 1, 88, MSE = 2.93)		
Affect	.03	.871
Duration	.54	.465
Relative contributions	.41	.524
Aff X Dur	.00	.970
Aff X RC	.98	.325
Dur X RC	3.49	.070
Aff X Dur X RC	.265	.610

Table 1-3

Summary Table for the Affect X Duration X Gender X Distribution

Strategy Mixed ANOVA on Fairness Ratings

Effect	F	p
Between-subjects effects (d.f. = 1, 88, MSE = 1.27)		
Affect	.33	.566
Duration	.69	.408
Gender	.70	.404
Aff X Dur	.04	.844
Aft X Gen	.26	.613
Dur X Gen	1.79	.184
Aff X Dur X Gen	.32	.570
Within-subjects effects (d.f. = 1, 88, MSE = 3.57)		
Distribution strategy	34.80	.000
Aff X DS	.81	.371
Dur X DS	.37	.546
Gen X DS	1.38	.243
Aff X Dur X DS	.01	.944
Aff X Gen X DS	.37	.544
Dur X Gen X DS	.33	.566
Aff X Dur X Gen X DS	1.57	.452

Table 1-4

Summary Table for the Affect X Relative Contributions X Gender

X Distribution Strategy Mixed ANOVA on Fairness Ratings

Effect	F	p
Between-subjects effects (d.f. = 1, 88, MSE = 1.28)		
Affect	.12	.725
Relative contributions	.35	.558
Gender	.35	.558
Aff X RC	.68	.413
Aff X Gen	.12	.725
RC X Gen	.35	.558
Aff X RC X Gen	.12	.725
Within-subjects effects (d.f. = 1, 88, MSE = 3.36)		
Distribution strategy	29.38	.000
Aff X DS	2.56	.113
RC X DS	.39	.533
Gen X DS	1.93	.169
Aff X RC X DS	.15	.701
Aff X Gen X DS	.73	.395
RC X Gen X DS	5.94	.017
Aff X RC X Gen X DS	.20	.652

Table 1-5

Summary Table for the Duration X Relative Contributions X Gender

X Distribution Strategy Mixed ANOVA on Fairness Ratings

Effect	F	p
Between-subjects effects (d.f. = 1, 88, MSE = 1.25)		
Duration	.99	.322
Relative contributions	.81	.371
Gender	.99	.323
Dur X RC	.18	.673
Dur X Gen	1.76	.188
RC X Gen	.90	.345
Dur X RC X Gen	.01	.926
Within-subjects effects (d.f. = 1, 88, MSE = 3.33)		
Distribution strategy	38.85	.000
Dur X DS	.37	.547
RC X DS	.08	.772
Gen X DS	.90	.344
Dur X RC X DS	3.83	.054
Dur X Gen X DS	.43	.513
RC X Gen X DS	3.92	.051
Dur X RC X Gen X DS	.02	.898

B-2 SUMMARY TABLES FOR REGRESSIONS ON FAIRNESS DATA, STUDY 1

Table 2-1

Summary Table for the Regression of Fairness Ratings on Affect, Duration,

Beliefs in a Just World, Distribution Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.08)		
Affect	1.33	.252
Duration	5.50	.021
Beliefs in a just world	5.05	.027
Aff X Dur	.05	.817
Aff X BJW	1.38	.243
Dur X BJW	6.28	.014
Aff X Dur X BJW	.06	.814
Within-subjects effects (d.f. = 1, 86, MSE = 3.57)		
Distribution strategy	2.27	.135
Aff X DS	.21	.649
Dur X DS	1.65	.203
BJW X DS	.74	.391
Aff X Dur X DS	1.01	.317
Aff X BJW X DS	.12	.728
Dur X BJW X DS	1.80	.183
Aff X Dur X BJW X DS	1.06	.305

Table 2-2

Summary Table for the Regression of Fairness Ratings on Affect,

Relative Contributions, Beliefs in a Just World,

Distribution Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.14)		
Affect	3.19	.078
Relative contributions	.12	.735
Beliefs in a just world	5.38	.023
Aff X RC	.19	.664
Aff X BJW	3.43	.067
RC X BJW	.17	.683
Aff X RC X BJW	.34	.560
Within-subjects effects (d.f. = 1, 86, MSE = 3.49)		
Distribution strategy	4.03	.048
Aff X DS	.90	.346
RC X DS	.00	.978
BJW X DS	1.90	.172
Aff X RC X DS	4.15	.045
Aff X BJW X DS	.76	.386
RC X BJW X DS	.00	.950
Aff X RC X BJW X DS	4.51	.037

Table 2-3

Summary Table for the Regression of Fairness Ratings on Duration,

Relative Contributions, Beliefs in a Just World,

Distribution Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.09)		
Duration	6.38	.013
Relative contributions	.00	.999
Beliefs in a just world	5.01	.028
Dur X RC	.02	.901
Dur X BJW	7.36	.008
RC X BJW	.00	.955
Dur X RC X BJW	.04	.848
Within-subjects effects (d.f. = 1, 86, MSE = 3.45)		
Distribution strategy	2.00	.161
Dur X DS	1.55	.216
RC X DS	.03	.869
BJW X DS	.56	.457
Dur X RC X DS	.43	.515
Dur X BJW X DS	1.73	.192
RC X BJW X DS	.02	.894
Dur X RC X BJW X DS	.17	.686

Table 2-4

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Duration, Beliefs in

a Just World, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.89)		
Affect	.03	.864
Duration	.00	.995
Beliefs in a just world	.13	.717
Aff X Dur	.73	.396
Aff X BJW	.08	.773
Dur X BJW	.00	.972
Aff X Dur X BJW	.77	.383
Fairness of equality (d.f. = 1, 86, MSE = 2.76)		
Affect	.77	.383
Duration	4.28	.042
Beliefs in a just world	2.85	.095
Aff X Dur	.83	.365
Aff X BJW	.64	.426
Dur X BJW	4.84	.032
Aff X Dur X BJW	.87	.353

Table 2-5

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Relative Contributions,

Beliefs in a Just World, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.84)		
Affect	.01	.942
Relative contributions	.03	.871
Beliefs in a just world	.00	.963
Aff X RC	3.02	.856
Aff X BJW	.03	.854
RC X BJW	.03	.868
Aff X RC X BJW	3.03	.085
Fairness of equality (d.f. = 1, 86, MSE = 2.79)		
Affect	2.43	.123
Relative contributions	.03	.861
Beliefs in a just world	4.57	.035
Aff X RC	3.27	.074
Aff X BJW	2.33	.130
RC X BJW	.06	.814
Aff X RC X BJW	3.77	.055

Table 2-6

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Duration, Relative Contributions,

Beliefs in a Just World, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.85)		
Duration	.03	.868
Relative contributions	.03	.874
Beliefs in a just world	.24	.623
Dur X RC	.49	.486
Dur X BJW	.04	.842
RC X BJW	.03	.873
Dur X RC X BJW	.25	.621
Fairness of equality (d.f. = 1, 86, MSE = 2.69)		
Duration	4.56	.036
Relative contributions	.02	.894
Beliefs in a just world	2.58	.112
Dur X RC	.22	.641
Dur X BJW	5.18	.025
RC X BJW	.01	.935
Dur X RC X BJW	.06	.812

Table 2-7

Summary Table for the Regression of Fairness Ratings on Affect,

Duration, Locus of Control, Distribution Strategy,

and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 87, MSE = 1.13)		
Affect	.61	.436
Duration	3.36	.070
Locus of control	.79	.376
Aff X Dur	3.74	.056
Aff X LOC	1.05	.308
Dur X LOC	5.42	.022
Aff X Dur X LOC	4.72	.033
Within-subjects effects (d.f. = 1, 87, MSE = 3.40)		
Distribution strategy	.15	.699
Aff X DS	3.89	.052
Dur X DS	.52	.471
LOC X DS	1.67	.200
Aff X Dur X DS	2.43	.123
Aff X LOC X DS	3.39	.069
Dur X LOC X DS	.73	.395
Aff X Dur X LOC X DS	2.98	.091

Table 2-8

Summary Table for the Regression of Fairness Ratings on Affect,

Relative Contributions, Locus of Control, Distribution

Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 87, MSE = 1.26)		
Affect	.32	.571
Relative contributions	.06	.805
Locus of control	.20	.657
Aff X RC	.15	.702
Aff X LOC	.58	.448
RC X LOC	.01	.934
Aff X RC X LOC	.01	.910
Within-subjects effects (d.f. = 1, 87, MSE = 3.26)		
Distribution strategy	.23	.631
Aff X DS	3.75	.056
RC X DS	.41	.526
LOC X DS	1.71	.194
Aff X RC X DS	5.09	.027
Aff X LOC X DS	3.01	.086
RC X LOC X DS	.70	.406
Aff X RC X LOC X DS	6.45	.013

Table 2-9

Summary Table for the Regression of Fairness Ratings on Duration,

Relative Contributions, Locus of Control, Distribution

Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 87, MSE = 1.18)		
Duration	3.69	.058
Relative contributions	.36	.552
Locus of control	1.29	.260
Dur X RC	.89	.349
Dur X LOC	5.58	.020
RC X LOC	.35	.557
Dur X RC X LOC	.54	.466
Within-subjects effects (d.f. = 1, 87, MSE = 3.47)		
Distribution strategy	1.19	.279
Dur X DS	.94	.334
RC X DS	.01	.921
LOC X DS	.22	.642
Dur X RC X DS	.01	.925
Dur X LOC X DS	1.18	.280
RC X LOC X DS	.01	.909
Dur X RC X LOC X DS	.40	.527

Table 2-10

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Duration, Locus of

Control, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 87, MSE = 1.80)		
Affect	2.19	.143
Duration	.10	.748
Locus of control	3.07	.083
Aff X Dur	.19	.666
Aff X LOC	1.48	.227
Dur X LOC	.22	.639
Aff X Dur X LOC	.20	.657
Fairness of equality (d.f. = 1, 87, MSE = 2.72)		
Affect	3.66	.059
Duration	1.97	.164
Locus of control	.38	.540
Aff X Dur	4.46	.038
Aff X LOC	3.69	.058
Dur X LOC	3.00	.087
Aff X Dur X LOC	5.47	.022

Table 2-11

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Relative Contributions,

Locus of Control, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 87, MSE = 1.67)		
Affect	2.44	.122
Relative contributions	.61	.437
Locus of control	2.45	.121
Aff X RC	6.07	.016
Aff X LOC	1.55	.217
RC X LOC	.77	.383
Aff X RC X LOC	6.64	.012
Fairness of equality (d.f. = 1, 87, MSE = 2.85)		
Affect	3.00	.087
Relative contributions	.13	.716
Locus of control	.61	.437
Aff X RC	2.33	.130
Aff X LOC	2.79	.098
RC X LOC	.35	.555
Aff X RC X LOC	3.49	.065

Table 2-12

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Duration, Relative Contributions,

Locus of Control, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 87, MSE = 1.79)		
Duration	.02	.885
Relative contributions	.19	.660
Locus of control	1.23	.270
Dur X RC	.40	.529
Dur X LOC	.08	.777
RC X LOC	.20	.653
Dur X RC X LOC	1.10	.298
Fairness of equality (d.f. = 1, 87, MSE = 2.86)		
Duration	2.65	.107
Relative contributions	.04	.848
Locus of control	.02	.880
Dur X RC	.12	.725
Dur X LOC	3.67	.059
RC X LOC	.03	.859
Dur X RC X LOC	.03	.871

Table 2-13

Summary Table for the Regression of Fairness Ratings on Affect,

Duration, Protestant Ethic, Distribution Strategy,

and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.27)		
Affect	.91	.342
Duration	.25	.619
Protestant ethic	.33	.568
Aff X Dur	.01	.936
Aff X PE	1.01	.317
Dur X PE	.44	.511
Aff X Dur X PE	.01	.943
Within-subjects effects (d.f. = 1, 86, MSE = 3.41)		
Distribution strategy	.00	.997
Aff X DS	3.17	.079
Dur X DS	.06	.801
PE X DS	.51	.478
Aff X Dur X DS	.15	.704
Aff X PE X DS	2.95	.089
Dur X PE X DS	.04	.833
Aff X Dur X PE X DS	.15	.703

Table 2-14

Summary Table for the Regression of Fairness Ratings on Affect,

Relative Contributions, Protestant Ethic, Distribution

Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.23)		
Affect	1.05	.309
Relative contributions	2.43	.122
Protestant ethic	.87	.353
Aff X RC	.86	.356
Aff X PE	1.12	.293
RC X PE	2.11	.150
Aff X RC X PE	1.08	.302
Within-subjects effects (d.f. = 1, 86, MSE = 3.36)		
Distribution strategy	.00	.980
Aff X DS	4.08	.047
RC X DS	.03	.860
PE X DS	.49	.484
Aff X RC X DS	.66	.419
Aff X PE X DS	3.83	.054
RC X PE X DS	.02	.879
Aff X RC X PE X DS	.84	.362

Table 2-15

Summary Table for the Regression of Fairness Ratings on Duration,

Relative Contributions, Protestant Ethic, Distribution

Strategy, and the Interactions

Effect	F	p
Between-subjects effects (d.f. = 1, 86, MSE = 1.22)		
Duration	.16	.690
Relative contributions	2.59	.111
Protestant ethic	1.10	.296
Dur X RC	.61	.435
Dur X PE	.28	.599
RC X PE	2.29	.134
Dur X RC X PE	.78	.379
Within-subjects effects (d.f. = 1, 86, MSE = 3.30)		
Distribution strategy	.01	.943
Dur X DS	.02	.875
RC X DS	.21	.651
PE X DS	.66	.420
Dur X RC X DS	.23	.636
Dur X PE X DS	.02	.894
RC X PE X DS	.21	.651
Dur X RC X PE X DS	.03	.861

Table 2-16

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Duration, Protestant

Ethic, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.72)		
Affect	1.42	.236
Duration	.31	.580
Protestant ethic	.13	.718
Aff X Dur	.11	.741
Aff X PE	1.21	.275
Dur X PE	.37	.543
Aff X Dur X PE	.11	.736
Fairness of equality (d.f. = 1, 86, MSE = 2.96)		
Affect	3.22	.076
Duration	.00	.969
Protestant ethic	.65	.422
Aff X Dur	.11	.744
Aff X PE	3.14	.080
Dur X PE	.02	.890
Aff X Dur X PE	.10	.750

Table 2-17

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Affect, Relative Contributions,

Protestant Ethic, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.72)		
Affect	1.92	.169
Relative contributions	.57	.452
Protestant ethic	.02	.891
Aff X RC	.06	.803
Aff X PE	1.70	.196
RC X PE	.51	.476
Aff X RC X PE	.08	.775
Fairness of equality (d.f. = 1, 66, MSE = 2.87)		
Affect	4.07	.047
Relative contributions	.73	.394
Protestant ethic	.94	.335
Aff X RC	1.10	.296
Aff X PE	3.95	.050
RC X PE	.62	.433
Aff X RC X PE	1.40	.241

Table 2-18

Summary Table for the Regression of the Fairness of Equity and

the Fairness of Equality on Duration, Relative Contributions,

Protestant Ethic, and the Interactions

Effect	F	p
Fairness of equity (d.f. = 1, 86, MSE = 1.66)		
Duration	.23	.632
Relative contributions	.22	.639
Protestant ethic	.00	.978
Dur X RC	4.53	.036
Dur X PE	.52	.472
RC X PE	.30	.588
Dur X RC X PE	.50	.479
Fairness of equality (d.f. = 1, 86, MSE = 2.86)		
Duration	.00	.948
Relative contributions	1.18	.280
Protestant ethic	1.21	.274
Dur X RC	.00	.999
Dur X PE	.02	.888
RC X PE	1.09	.300
Dur X RC X PE	.08	.785

B-3 SUMMARY TABLES FOR ANOVAS ON PREFERENCE DATA, STUDY 1

Table 3-1

Summary Table for the Affect X Duration X Relative Contributions

Between-subjects ANOVAs on the Preference for Equity and the

Preference for Equality

Effect	F	p
Preference for equity (d.f. = 1, 87, MSE = .38)		
Affect	.14	.707
Duration	1.05	.309
Relative contributions	3.61	.061
Aff X Dur	.13	.716
Aff X RC	.62	.432
Dur X RC	.73	.394
Aff X Dur X RC	.75	.388
Preference for equality (d.f. = 1, 87, MSE = .39)		
Affect	1.18	.281
Duration	.05	.818
Relative contributions	7.87	.006
Aff X Dur	.49	.487
Aff X RC	1.37	.246
Dur X RC	1.36	.247
Aff X Dur X RC	.04	.844

Table 3-2

Summary Table for the Affect X Duration X Gender Between-subjects

ANOVAs on the Preference for Equity and the

Preference for Equality

Effect	F	p
Preference for equity (d.f. = 1, 87, MSE = .39)		
Affect	.33	.569
Duration	1.13	.290
Gender	.76	.386
Aff X Dur	.01	.927
Aff X Gen	1.12	.292
Dur X Gen	.76	.385
Aff X Dur X Gen	.00	.993
Preference for equality (d.f. = 1, 87, MSE = .37)		
Affect	.53	.468
Duration	.06	.807
Gender	2.13	.148
Aff X Dur	.43	.516
Aff X Gen	2.15	.146
Dur X Gen	.05	.829
Aff X Dur X Gen	.89	.519

Table 3-3

Summary Table for the Affect X Relative Contributions X Gender

Between-subjects ANOVAs on the Preference for Equity

and the Preference for Equality

Effect	F	p
Preference for equity (d.f. = 1, 87, MSE = .37)		
Affect	.36	.549
Relative contributions	3.81	.054
Gender	.81	.370
Aff X RC	.40	.531
Aff X Gen	.29	.593
RC X Gen	.19	.664
Aff X RC X Gen	3.06	.084
Preference for equality (d.f. = 1, 87, MSE = .38)		
Affect	.58	.450
Relative contributions	7.88	.006
Gender	2.06	.155
Aff X RC	.29	.595
Aff X Gen	.60	.439
RC X Gen	.95	.332
Aff X RC X Gen	2.51	.117

Table 3-4

Summary Table for the Duration X Relative Contributions X Gender

Between-subjects ANOVAs on the Preference for Equity

and the Preference for Equality

Effect	F	p
Preference for equity (d.f. = 1, 87, MSE = .38)		
Duration	1.16	.284
Relative contributions	3.73	.057
Gender	.70	.404
Dur X RC	.75	.390
Dur X Gen	.58	.448
RC X Gen	.10	.748
Dur X RC X Gen	.19	.663
Preference for equality (d.f. = 1, 87, MSE = .38)		
Duration	.12	.732
Relative contributions	7.88	.006
Gender	2.74	.101
Dur X RC	1.10	.297
Dur X Gen	.02	.882
RC X Gen	1.61	.208
Dur X RC X Gen	1.51	.223

B-4 SUMMARY TABLES FOR REGRESSIONS ON PREFERENCE DATA, STUDY 1

Table 4-1

Summary Table for the Regression of the Preference for Equity and the Preference for

Equality on Affect, Duration, Beliefs in a Just World, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .38)		
Affect	.32	.571
Duration	1.27	.262
Beliefs in a just world	3.18	.078
Aff X Dur	.25	.620
Aff X BJW	.39	.533
Dur X BJW	.99	.323
Aff X Dur X BJW	.23	.636
Preference for equality (d.f. = 1, 85, MSE = .40)		
Affect	.00	.969
Duration	8.44	.005
Beliefs in a just world	.56	.458
Aff X Dur	.38	.540
Aff X BJW	.02	.893
Dur X BJW	8.47	.005
Aff X Dur X BJW	.26	.611

Table 4-2

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Affect, Relative Contributions,

Beliefs in a Just World, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .37)		
Affect	.26	.613
Relative contributions	.02	.885
Beliefs in a just world	5.26	<u>.024</u>
Aff X RC	2.18	.144
Aff X BJW	.34	.560
RC X BJW	.00	.974
Aff X RC X BJW	1.97	.164
Preference for equality (d.f. = 1, 85, MSE = .40)		
Affect	.19	.660
Relative contributions	.23	.631
Beliefs in a just world	1.70	.196
Aff X RC	1.00	.320
Aff X BJW	.33	.565
RC X BJW	.04	.842
Aff X RC X BJW	1.28	.261

Table 4-3

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Duration, Relative Contributions,

Beliefs in a Just World, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .37)		
Duration	1.57	.214
Relative contributions	.01	.909
Beliefs in a just world	3.34	.071
Dur X RC	.04	.844
Dur X BJW	1.29	.258
RC X BJW	.01	.936
Dur X RC X BJW	.01	.918
Preference for equality (d.f. = 1, 85, MSE = .37)		
Duration	9.53	.003
Relative contributions	.32	.573
Beliefs in a just world	.70	.404
Dur X RC	.07	.797
Dur X BJW	9.79	.002
RC X BJW	.06	.803
Dur X RC X BJW	.16	691

Table 4-4

Summary Table for the Regression of the Preference for Equity

and the Preference for Equality on Affect, Duration,

Locus of Control, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .39)		
Affect	.01	.921
Duration	.37	.547
Locus of control	.57	.454
Aff X Dur	1.25	.266
Aff X LOC	.00	.972
Dur X LOC	.₁1	.742
Aff X Dur X LOC	1.59	.210
Preference for equality (d.f. = 1, 85, MSE = .42)		
Affect	.03	.866
Duration	.05	.821
Locus of control	.94	.334
Aff X Dur	.28	.060
Aff X LOC	.28	.597
Dur X LOC	.03	.860
Aff X Dur X LOC	4.49	.029

Table 4-5

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Affect, Relative Contributions,

Locus of Control, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .38)		
Affect	.03	.857
Relative contributions	1.77	.187
Locus of control	.18	.672
Aff X RC	2.88	.093
Aff X LOC	.01	.924
RC X LOC	.82	.367
Aff X RC X LOC	2.55	.114
Preference for equality (d.f. = 1, 85, MSE = .40)		
Affect	.03	.857
Relative contributions	.01	.910
Locus of control	.45	.505
Aff X RC	.78	.381
Aff X LOC	.01	.921
RC X LOC	.41	.526
Aff X RC X LOC	1.58	.212

Table 4-6

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Duration, Relative Contributions,

Locus of Control, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .37)		
Duration	1.36	.246
Relative contributions	2.24	.139
Locus of control	.08	.784
Dur X RC	.17	.680
Dur X LOC	.69	.408
RC X LOC	.95	.333
Dur X RC X LOC	.41	.524
Preference for equality (d.f. = 1, 85, MSE = .40)		
Duration	.44	.511
Relative contributions	.06	.809
Locus of control	.04	.848
Dur X RC	.00	.976
Dur X LOC	.66	.421
RC X LOC	1.13	.291
Dur X RC X LOC	.11	.742

Table 4-7

Summary Table for the Regression of the Preference for Equity

and the Preference for Equality on Affect, Duration,

Protestant Ethic, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .39)		
Affect	.08	.783
Duration	.05	.820
Protestant ethic	.00	.975
Aff X Dur	1.94	.168
Aff X PE	.11	.742
Dur X PE	.02	.891
Aff X Dur X PE	2.14	.147
Preference for equality (d.f. = 1, 85, MSE = .38)		
Affect	6.74	.011
Duration	.50	.482
Protestant ethic	2.32	.131
Aff X Dur	.56	.455
Aff X PE	7.41	.008
Dur X PE	.58	.450
Aff X Dur X PE	.77	.382

Table 4-8

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Affect, Relative Contributions,

Protestant Ethic, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .38)		
Affect	.05	.830
Relative contributions	1.63	.205
Protestant ethic	.03	.875
Aff X RC	.59	.443
Aff X PE	.08	.782
RC X PE	1.15	.287
Aff X RC X PE	.73	.394
Preference for equality (d.f. = 1, 85, MSE = .35)		
Affect	5.20	.025
Relative contributions	1.50	.224
Protestant ethic	4.11	.046
Aff X RC	.12	.735
Aff X PE	5.67	.019
RC X PE	2.40	.125
Aff X RC X PE	.08	.781

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Table 4-9

Summary Table for the Regression of the Preference for Equity and

the Preference for Equality on Duration, Relative Contributions,

Protestant Ethic, and the Interactions

Effect	F	p
Preference for equity (d.f. = 1, 85, MSE = .38)		
Duration	.00	.976
Relative contributions	1.21	.275
Protestant ethic	.02	882
Dur X RC	.12	.734
Dur X PE	.02	.894
RC X PE	.82	.368
Dur X RC X PE	.18	.670
Preference for equality (d.f. = 1, 85, MSE = .38)		
Duration	.04	.843
Relative contributions	3.01	.086
Protestant ethic	3.84	.053
Dur X RC	.03	.868
Dur X PE	.04	.840
RC X PE	4.19	.044
Dur X RC X PE	.10	.750

B-5 SUMMARY TABLES FOR ANALYSES ON FAIRNESS DATA, STUDY 2

Table 5-1

Summary Table for the Initial Performance X Expected Performances

X Gender X Distribution Strategy Mixed ANOVA on Fairness Ratings

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.26)			
Initial performance	1, 108	.56	.457
Expected performances	2, 108	.60	.552
Gender	1, 108	4.04	.047
IP X EP	2, 108	.24	.787
IP X Gen	1, 108	1.74	.189
EP X Gen	2, 108	3.05	.051
IP X EP X Gen	2, 108	6.18	.003
Within-subjects effects (MSE = 3.35)			
Distribution strategy	1, 108	78.31	.000
IP X DS	1, 108	4.04	.047
EP X DS	2, 108	1.18	.311
Gen X DS	1, 108	3.76	.055
IP X EP X DS	2, 108	.34	.713
IP X Gen X DS	1, 108	.03	.860
EP X Gen X DS	2, 108	2.15	.122
IP X EP X Gen X DS	2, 108	.02	.984

Table 5-2

Summary Table for the Regression of Fairness Ratings on Initial

Performance, Expected Performances, Beliefs in a Just World,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.46)			
Initial performance	1, 108	.20	.654
Expected performances	2, 108	.80	.454
Beliefs in a just world	1, 108	1.97	.163
IP X EP	2, 108	1.04	.357
IP X BJW	1, 108	.31	.580
EP X BJW	2, 108	.70	.497
IP X EP X BJW	2, 108	1.11	.332
Within-subjects effects (MSE = 3.28)			
Distribution strategy	1, 108	1.55	.216
IP X DS	1, 108	.51	.476
EP X DS	2, 108	1.96	.146
BJW X DS	1, 108	.09	.767
IP X EP X DS	2, 108	1.76	.176
IP X BJW X DS	1, 108	.81	.369
EP X BJW X DS	2, 108	2.24	.111
IP X EP X BJW X DS	2, 108	1.81	.169

Table 5-3

Summary Table for the Regression of Fairness Ratings on Initial

Performance, Expected Performances, Overall Locus of Control,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.48)			
Initial performance	1, 108	.00	.992
Expected performances	2, 108	1.53	.221
Overall locus of control	1, 108	1.47	.228
IP X EP	2, 108	.76	.472
IP X OLOC	1, 108	.44	.511
EP X OLOC	2, 108	1.35	.264
IP X EP X OLOC	2, 108	.90	.410
Within-subjects effects (MSE = 3.44)			
Distribution strategy	1, 108	27.88	.000
IP X DS	1, 108	.05	.818
EP X DS	2, 108	2.43	.093
OLOC X DS	1, 108	.00	.991
IP X EP X DS	2, 108	.05	.954
IP X OLOC X DS	1, 108	1.85	.177
EP X OLOC X DS	2, 108	1.63	.201
IP X EP X OLOC X DS	2, 108	.11	.892

Table 5-4

Summary Table for the Regression of Fairness Ratings on Initial

Performance, Expected Performances, Interpersonal Control.

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.48)			
Initial performance	1, 108	.05	.825
Expected performances	2, 108	1.14	.324
Interpersonal control	1, 108	.87	.353
IP X EP	2, 108	.13	.882
IP X IC	1, 108	.57	.451
EP X IC	2, 108	1.43	.244
IP X EP X IC	2, 108	.28	.755
Within-subjects effects (MSE = 3.48)			
Distribution strategy	1, 108	31.87	.000
IP X DS	1, 108	.18	.673
EP X DS	2, 108	1.76	.178
IC X DS	1, 108	.30	.587
IP X EP X DS	2, 108	.31	.735
IP X IC X DS	1, 108	.85	.359
EP X IC X DS	2, 108	.75	.475
IP X EP X IC X DS	2, 108	.46	.634

Table 5-5

Summary Table for the Regression of Fairness Ratings on Initial

Performance, Expected Performances, Sociopolitical Control,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.46)			
Initial performance	1, 108	.15	.701
Expected performances	2, 108	.60	.551
Socio-political control	1, 108	1.32	.253
IP X EP	2, 108	.23	794
IP X SC	1, 108	.15	.696
EP X SC	2, 108	.28	.760
IP X EP X SC	2, 108	2.18	.118
Within-subjects effects (MSE = 3.47)			
Distribution strategy	1, 108	77.69	.000
IP X DS	1, 108	4.62	.034
EP X DS	2, 108	.82	.444
SC X DS	1, 108	.16	.687
IP X EP X DS	2, 108	.20	.821
IP X SC X DS	1, 108	1.05	.309
EP X SC X DS	2, 108	1.67	.193
IP X EP X SC X DS	2, 108	.07	.935

Table 5-6

Summary Table for the Regression of Fairness Ratings on Initial

Performance, Expected Performances, Protestant Ethic,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.50)			
Initial performance	1, 108	1.68	.198
Expected performances	2, 108	.20	.821
Protestant ethic	1, 108	.97	.327
IP X EP	2, 108	.31	.731
IP X PE	1, 108	1.44	.232
EP X PE	2, 108	.15	.865
IP X EP X PE	2, 108	.27	.767
Within-subjects effects (MSE = 3.54)			
Distribution strategy	1, 108	.54	.462
IP X DS	1, 108	.03	.863
EP X DS	2, 108	.38	.683
PE X DS	1, 108	.14	.707
IP X EP X DS	2, 108	.44	.645
IP X PE X DS	1, 108	.18	.669
EP X PE X DS	2, 108	.26	.775
IP X EP X PE X DS	2, 108	.52	.595

B-6 SUMMARY TABLES FOR ANALYSES ON PREFERENCE DATA, STUDY 2

Table 6-1

Summary Table for the Initial Performance X Expected Performances

X Gender X Distribution Strategy Mixed ANOVA on Preference Ratings

Effect	d.f.	F	p
Between-subjects effects (MSE = .999)			
Initial performance	1, 108	.27	.607
Expected performances	2, 108	2.12	.125
Gender	1, 108	.15	.699
IP X EP	2, 108	1.22	.300
IP X Gen	1, 108	3.27	.073
EP X Gen	2, 108	.35	.705
IP X EP X Gen	2, 108	.12	.890
Within-subjects effects (MSE = 4.94)			
Distribution strategy	1, 108	40.82	.000
IP X DS	1, 108	4) 3	.045
EP X DS	2, 108	2.00	.141
Gen X DS	1, 108	.49	.487
IP X EP X DS	2, 108	4.10	.019
IP X Gen X DS	1, 108	4.13	.045
EP X Gen X DS	2, 108	.98	.378
IP X EP X Gen X DS	2, 108	1.99	.142

Table 6-2

Summary Table for the Regression of Preference Ratings on Initial

Performance, Expected Performances, Beliefs in a Just World,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = .991)			
Initial performance	1, 108	.16	.693
Expected performances	2, 108	2.14	.122
Beliefs in a just world	1, 108	.92	.339
IP X EP	2, 108	.84	.433
IP X BJW	1, 108	.12	.731
EP X BJW	2, 108	1.84	.163
IP X EP X BJW	2, 108	.76	.471
Within-subjects effects (MSE = 5.05)			
Distribution strategy	1, 108	2.01	.159
IP X DS	1, 108	.38	.540
EP X DS	2, 108	.93	.399
BJW X DS	1, 108	4.79	.031
IP X EP X DS	2, 108	.90	.410
IP X BJW X DS	1, 108	.14	.712
EP X BJW X DS	2, 108	1.28	.283
IP X EP X BJW X DS	2, 108	1.01	.369

Table 6-3

Summary Table for the Regression of Preference Ratings on Initial

Performance, Expected Performances, Overall Locus of Control,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.01)			
Initial performance	1, 108	.53	.469
Expected performances	2, 108	.17	.847
Overall locus of control	1, 108	.28	.595
IP X EP	2, 108	1.23	.297
IP X OLOC	1, 108	.67	.414
EP X OLOC	2, 108	.73	.486
IP X EP X OLOC	2, 108	.54	.586
Within-subjects effects (MSE = 5.14)			
Distribution strategy	1, 108	9.97	.002
IP X DS	1, 108	.74	.393
EP X DS	2, 108	.40	.674
OLOC X DS	1, 108	.01	.904
IP X EP X DS	2, 108	3.15	.047
IP X OLOC X DS	1, 108	.07	.789
EP X OLOC X DS	2, 108	.26	.769
IP X EP X OLOC X DS	2, 108	2.17	.119

Table 6-4

Summary Table for the Regression of Preference Ratings on Initial

Performance, Expected Performances, Interpersonal Control,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = .95)			
Initial performance	1, 108	.60	.441
Expected performances	2, 108	1.29	.280
Interpersonal control	1, 108	.36	.550
IP X EP	2, 108	1.58	.210
IP X IC	1, 108	.75	.388
EP X IC	2, 108	3.15	<u>.047</u>
IP X EP X IC	2, 108	2.11	.126
Within-subjects effects (MSE = 4.98)			
Distribution strategy	1, 108	22.75	<u>.000</u>
IP X DS	1, 108	1.43	.234
EP X DS	2, 108	.02	.978
IC X DS	1, 108	2.67	.106
IP X EP X DS	2, 108	2.67	.074
IP X IC X DS	1, 108	01	.921
EP X IC X DS	2, 108	1.50	.228
IP X EP X IC X DS	2, 108	.85	.432

Table 6-5

Summary Table for the Regression of Preference Ratings on Initial

Performance, Expected Performances, Sociopolitical Control,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.00)			
Initial performance	1, 108	.00	.959
Expected performances	2, 108	1.52	.224
Sociopolitical control	1, 108	.45	.502
IP X EP	2, 108	.37	.695
IP X SC	1, 108	.00	.951
EP X SC	2, 108	.01	.991
IP X EP X SC	2, 108	2.09	.129
Within-subjects effects (MSE = 5.18)			
Distribution strategy	1, 108	34.79	.000
IP X DS	1, 108	5.96	.016
EP X DS	2, 108	1.64	.198
SC X DS	1, 108	.19	.665
IP X EP X DS	2, 108	3.18	.045
IP X SC X DS	1, 108	.48	.489
EP X SC X DS	2, 108	.76	.472
IP X EP X SC X DS	2, 108	1.42	.247

Table 6-6

Summary Table for the Regression of Preference Ratings on Initial

Performance, Expected Performances, Protestant Ethic,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = .99)			
Initial performance	1, 108	2.08	.152
Expected performances	2, 108	.62	.538
Protestant ethic	1, 108	1.18	.280
IP X EP	2, 108	.51	.599
IP X PE	1, 108	2.38	.126
EP X PE	2, 108	.47	.627
IP X EP X PE	2, 108	.43	.651
Within-subjects effects (MSE = 4.80)			
Distribution strategy	1, 108	5.77	.018
IP X DS	1, 108	.08	.774
EP X DS	2, 108	1.43	.244
PE X DS	1, 108	10.57	.002
IP X EP X DS	2, 108	.27	.763
IP X PE X DS	1, 108	.00	.970
EP X PE X DS	2, 108	1.85	.162
IP X EP X PE X DS	2, 108	.45	.640

B-7 SUMMARY TABLES FOR ANALYSES WITH RATING TYPE AS A BETWEEN-SUBJECTS VARIABLE, STUDY 2

Table 7-1

Summary Table for the Initial Performance X Expected Performances

X Gender X Rating Type X Distribution Strategy Mixed ANOVA

on Distribution Judgments

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.31)			
Initial performance	1, 216	.81	.369
Expected performances	2, 216	2.36	.097
Gender	1, 216	3.10	.080
Rating type	1, 216	26.08	.000
IP X EP	2, 216	.50	.606
IP X Gen	1, 216	.05	.830
IP X RT	1, 216	.05	.830
EP X Gen	2, 216	2.13	.121
EP X RT	2, 216	.18	.837
Gen X RT	1, 216	1.55	.215
IP X EP X Gen	2, 216	3.08	.048
IP X EP X RT	2, 216	.84	.432
IP X Gen X RT	1, 216	4.79	.030
EP X Gen X RT	2, 216	1.58	.208
IP X EP X Gen X RT	2, 216	3.92	.021

Within-subjects effects (MSE = 4.15)

Distribution strategy	1, 216	111.47	.000
IP X DS	1, 216	8.10	.005
EP X DS	2, 216	2.00	.138
Gen X DS	1, 216	3.14	.078
RT X DS	1, 216	.48	.488
IP X EP X DS	2, 216	1.81	.166
IP X Gen X DS	1, 216	2.83	.094
IP X RT X DS	1, 216	.08	.771
EP X Gen X DS	2, 216	1.60	.205
EP X RT X DS	2, 216	1.33	.266
Gen X RT X DS	1, 216	.48	.488
IP X EP X Gen X DS	2, 216	1.23	.296
IP X EP X RT X DS	2, 216	3.35	.037
IP X Gen X RT X DS	1, 216	2.12	.147
EP X Gen X RT X DS	2, 216	1.31	.271
IP X EP X Gen X RT X DS	2, 216	1.16	.317

Table 7-2

Summary Table for the Regression of Distribution Judgments on Initial

Performance, Expected Performances, Beliefs in a Just World,

Rating Type, Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.23)			
Initial performance	1, 216	.02	.901
Expected performances	2, 216	2.44	.090
Beliefs in a Just World	1, 216	.30	.584
Rating type	1, 216	5.06	.026
IP X EP	2, 216	1.77	.173
IP X BJW	1, 216	.06	.811
IP X RT	1, 216	.36	.547
EP X BJW	2, 216	2.07	.129
EP X RT	2, 216	.32	.723
BJW X RT	1, 216	2.94	.088
IP X EP X BJW	2, 216	1.70	.185
IP X EP X RT	2, 216	.12	.885
IP X BJW X RT	1, 216	.43	.512
EP X BJW X RT	2, 216	.37	.693
IP X EP X BJW X RT	2, 216	.20	.821

Within-subjects effects (MSE = 4.16)

Distribution strategy	1, 216	.05	.816
IP X DS	1, 216	.00	.988
EP X DS	2, 216	2.60	.076
BJW X DS	1, 216	2.05	.154
RT X DS	1, 216	3.49	.063
IP X EP X DS	2, 216	.09	.915
IP X BJW X DS	1, 216	.10	.752
IP X RT X DS	1, 216	.86	.356
EP X BJW X DS	2, 216	3.16	<u>.045</u>
EP X RT X DS	2, 216	.04	.964
BJW X RT X DS	1, 216	3.31	.070
IP X EP X BJW X DS	2, 216	.18	.838
IP X EP X RT X DS	2, 216	2.32	.101
IP X BJW X RT X DS	1, 216	.75	.387
EP X BJW X RT X DS	2, 216	.05	.951
IP X EP X BJW X RT X DS	2, 216	2.34	.099

Table 7-3

Summary Table for the Regression of Distribution Judgments on Initial

Performance, Expected Performances, Overall Locus of Control,

Rating Type, Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.24)			
Initial performance	1, 216	.27	.606
Expected performances	2, 216	1.22	.297
Overall Locus of Control	1, 216	1.45	.230
Rating type	1, 216	4.62	.033
IP X EP	2, 216	.09	.915
IP X OLOC	1, 216	1.05	.306
IP X RT	1, 216	.25	.616
EP X OLOC	2, 216	1.34	.263
EP X RT	2, 216	.64	.530
OLOC X RT	1, 216	.21	.639
IP X EP X OLOC	2, 216	.48	.618
IP X EP X RT	2, 216	1.89	.154
IP X OLOC X RT	1, 216	.01	.903
EP X OLOC X RT	2, 216	1.06	.348
IP X EP X OLOC X RT	2, 216	1.15	.318

Within-subjects effects (MSE = 4.29)

Distribution strategy	1, 216	31.97	<u>.000</u>
IP X DS	1, 216	.74	.390
EP X DS	2, 216	2.13	.122
OLOC X DS	1, 216	.01	.913
RT X DS	1, 216	.07	.794
IP X EP X DS	2, 216	2.43	.090
IP X OLOC X DS	1, 216	.98	.322
IP X RT X DS	1, 216	.36	.547
EP X OLOC X DS	2, 216	.98	.376
EP X RT X DS	2, 216	.28	.753
OLOC X RT X DS	1, 216	.01	.923
IP X EP X OLOC X DS	2, 216	1.87	.157
IP X EP X RT X DS	2, 216	1.69	.186
IP X OLOC X RT X DS	1, 216	.29	.594
EP X OLOC X RT X DS	2, 216	.66	.520
IP X EP X OLOC X RT X DS	2, 216	1.67	.190

Table 7-4

Summary Table for the Regression of Distribution Judgments on Initial

Performanre, Expected Performances, Interpersonal Control,

Rating Type, Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.22)			
Initial performance	1, 216	.46	.498
Expected performances	2, 216	1.82	.164
Interpersonal Control	1, 216	.09	.767
Rating type	1, 216	3.49	.063
IP X EP	2, 216	.87	.419
IP X IC	1, 216	1.28	.260
IP X RT	1, 216	.13	.720
EP X IC	2, 216	3.13	.046
EP X RT	2, 216	.68	.510
IC X RT	1, 216	1.17	.280
IP X EP X IC	2, 216	.85	.429
IP X EP X RT	2, 216	.78	.461
IP X IC X RT	1, 216	.00	.993
EP X IC X RT	2, 216	1.62	.200
IP X EP X IC X RT	2, 216	1.29	.276

Within-subjects effects (MSE = 4.23)

Distribution strategy	1, 216	52.75	<u>.000</u>
IP X DS	1, 216	1.52	.219
EP X DS	2, 216	.58	.559
IC X DS	1, 216	2.71	.101
RT X DS	1, 216	.33	.566
IP X EP X DS	2, 216	.89	.411
IP X IC X DS	1, 216	.23	.632
IP X RT X DS	1, 216	.54	.465
EP X IC X DS	2, 216	1.01	.367
EP X RT X DS	2, 216	.82	.443
IC X RT X DS	1, 216	.97	.327
IP X EP X IC X DS	2, 216	.18	.838
IP X EP X RT X DS	2, 216	2.64	.074
IP X IC X RT X DS	1, 216	.41	.522
EP X IC X RT X DS	2, 216	1.69	.187
IP X EP X IC X RT X DS	2, 216	1.33	.267

Table 7-5

Summary Table for the Regression of Distribution Judgments on Initial

Performance, Expected Performances, Sociopolitical Control,

Rating Type, Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.23)			
Initial performance	1, 216	.10	.747
Expected performances	2, 216	1.77	.173
Sociopolitical Control	1, 216	1.63	.203
Rating type	1, 216	23.53	.000
IP X EP	2, 216	.37	.691
IP X SC	1, 216	.10	.748
IP X RT	1, 216	.07	.798
EP X SC	2, 216	.10	.905
EP X RT	2, 216	.17	.847
SC X RT	1, 216	.13	.719
IP X EP X SC	2, 216	.01	.987
IP X EP X RT	2, 216	.22	.803
IP X SC X RT	1, 216	.06	.813
EP X SC X RT	2, 216	.20	.823
IP X EP X SC X RT	2, 216	4.18	.017

Within-subjects effects (MSE = 4.33)

Distribution strategy	1, 216	102.43	.000
IP X DS	1, 216	10.63	.001
EP X DS	2, 216	1.25	.289
SC X DS	1, 216	.36	.552
RT X DS	1, 216	.62	.432
IP X EP X DS	2, 216	1.56	.214
IP X SC X DS	1, 216	1.38	.242
IP X RT X DS	1, 216	.36	.548
EP X SC X DS	2 216	2.17	.117
EP X RT X DS	2, 216	1.36	.259
SC X RT X DS	1, 216	.02	.902
IP X EP X SC X DS	2, 216	1.11	.333
IP X EP X RT X DS	2, 216	2.60	.076
IP X SC X RT X DS	1, 216	.00	.981
EP X SC X RT X DS	2, 216	.00	.996
IP X EP X SC X RT X DS	2, 216	.83	.436

Table 7-6

Summary Table for the Regression of Distribution Judgments on Initial

Performance, Expected Performances, Protestant Ethic, Rating Type,

Distribution Strategy, and the Interactions

Effect	d.f.	F	p
Between-subjects effects (MSE = 1.25)			
Initial performance	1, 216	.01	.913
Expected performances	2, 216	.71	.493
Protestant Ethic	1, 216	.01	.943
Rating type	1, 216	4.26	.040
IP X EP	2, 216	40	.671
IP X PE	1, 216	.00	.959
IP X RT	1, 216	3.67	.057
EP X PE	2, 216	.53	.590
EP X RT	2, 216	.02	.979
PE X RT	1, 216	2.10	.149
IP X EP X PE	2, 216	.38	.686
IP X EP X RT	2, 216	.38	.683
IP X PE X RT	1, 216	3.63	.058
EP X PE X RT	2, 216	.02	.980
IP X EP X PE X RT	2, 216	.28	.754

Within-subjects effects (MSE = 4.17)

Distribution strategy	1, 216	1.76	.186
IP X DS	1, 216	.01	.918
EP X DS	2, 216	.57	.567
PE X DS	1, 216	7.42	.007
RT X DS	1, 216	5.26	.023
IP X EP X DS	2, 216	.33	.720
IP X PE X DS	1, 216	.06	.804
IP X RT X DS	1, 216	.11	.742
EP X PE X DS	2, 216	.71	.491
EP X RT X DS	2, 216	1.38	.253
PE X RT X DS	1, 216	5.00	.026
IP X EP X PE X DS	2, 216	.29	.747
IP X EP X RT X DS	2, 216	.36	.697
IP X PE X RT X DS	1, 216	.09	.760
EP X PE X RT X DS	2, 216	1.65	.194
IP X EP X PE X RT X DS	2, 216	.67	.512

APPENDIX C

Cell Means for Study 1 and Study 2

C-1 CELL MEANS FOR STUDY 1

Table 1-1

Cell Means for the Fairness of Equity

Duration/Relative contributions	Affect	
	Positive	Negative
Males		
10 distributions		
Partner-more	5.00 (6)	5.60 (5)
Participant-more	6.50 (4)	6.00 (10)
1 distribution		
Partner-more	6.50 (6)	5.60 (5)
Participant-more	6.00 (2)	6.13 (8)
Females		
10 distributions		
Partner-more	6.17 (6)	5.71 (7)
Participant-more	6.50 (8)	5.00 (3)
1 distribution		
Partner-more	6.17 (6)	5.86 (7)
Participant-more	5.50 (10)	4.33 (3)

Note. Cell sizes are in parentheses.

Table 1-2

Cell Means for the Fairness of Equality

	Affect	
Duration/Relative contributions	Positive	Negative
Males		
10 distributions		
Partner-more	4.33 (6)	5.00 (5)
Participant-more	3.75 (4)	3.60 (10)
1 distribution		
Partner-more	3.83 (6)	3.80 (5)
Participant-more	3.50 (2)	4.00 (8)
Females		
10 distributions		
Partner-more	4.50 (6)	4.43 (7)
Participant-more	4.38 (8)	5.67 (3)
1 distribution		
Partner-more	2.83 (6)	4.00 (7)
Participant-more	5.00 (10)	5.00 (3)

Note. Cell sizes are in parentheses.

Table 1-3

Cell Means for the Preference for Equity

Duration/Relative contributions	Affect	
	Positive	Negative
Males		
10 distributions		
Partner-more	1.67 (6)	1.40 (5)
Participant-more	1.25 (4)	1.20 (10)
1 distribution		
Partner-more	2.00 (6)	1.40 (5)
Participant-more	1.00 (2)	1.63 (8)
Females		
10 distributions		
Partner-more	1.50 (6)	1.57 (7)
Participant-more	1.25 (8)	1.00 (3)
1 distribution		
Partner-more	1.33 (6)	1.50 (7)
Participant-more	1.40 (10)	1.33 (3)

Note. Cell sizes are in parentheses.

Table 1-4

Cell Means for the Preference for Equality

	Affect	
Duration/Relative contributions	Positive	Negative

	Males	
10 distributions		
Partner-more	1.50 (6)	1.80 (5)
Participant-more	2.00 (4)	2.20 (10)
1 distribution		
Partner-more	1.50 (6)	1.80 (5)
Participant-more	2.50 (2)	2.13 (8)
	Females	
10 distributions		
Partner-more	1.50 (6)	1.33 (7)
Participant-more	1.75 (8)	2.33 (3)
1 distribution		
Partner-more	2.00 (6)	1.57 (7)
Participant-more	1.70 (10)	1.67 (3)

Note. Cell sizes are in parentheses.

C-2 CELL MEANS FOR STUDY 2

Table 2-1

Cell Means for the Fairness of Equity

| | Initial Performance | |
Expected final performances/Gender	Better	Worse
Unequal expected performances		
Males	5.70	5.90
Females	4.80	5.50
Equal expected performances		
Males	5.00	6.10
Females	6.00	5.30
Unspecified		
Males	5.60	6.10
Females	5.70	6.10

Note. n = 10.

Table 2-2

Cell Means for the Fairness of Equality

Expected final performances/Gender	Initial Performance	
	Better	Worse
Unequal expected performances		
Males	3.70	2.30
Females	4.⁄0	3.90
Equal expected performances		
Males	3.70	4.30
Females	4.20	3.10
Unspecified		
Males	2.80	2.30
Females	4.30	3.70

Note. $n = 10$.

Table 2-3

Cell Means for the Preference for Equity

Expected final performances/Gender	Initial Performance	
	Better	Worse
Unequal expected performances		
Males	4.70	5.60
Females	5.20	5.30
Equal expected performances		
Males	3.40	6.20
Females	4.50	5.20
Unspecified		
Males	5.90	4.80
Females	4.90	4.60

Note. n = 10.

Table 2-4

Cell Means for the Preference for Equality

Expected final performances/Gender	Initial Performance	
	Better	Worse
Unequal expected performances		
Males	3.40	2.30
Females	2.40	2.70
Equal expected performances		
Males	5.20	2.10
Females	3.80	3.80
Unspecified		
Males	2.80	2.60
Females	3.50	3.70

Note. n = 10.