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PERSONNEL TECHNOLOGY

AN EXAMINATION OF HISPANIC AND GENERAL POPULATION PERCEPTIONS OF ORGANIZATIONAL ENVIRONMENTS
(Harry C. Triandis, Principal Investigator)

AD-A143 801

THE EFFECTS OF PARTNER RELATIONSHIP, RESOURCE
AVAILABILITY, CULTURE AND COLLECTIVIST
TENDENCY ON REWARD ALLOCATION

C. Harry Hui
Harry C. Triandis

Technical Report No. ONR-32

July, 1984

**DEPARTMENT OF PSYCHOLOGY
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Abstract

Equity theory has been criticized for its lack of generality. This issue was examined by having subjects make monetary allocations to themselves and a partner in a scenario study. There was a stronger other-serving tendency in allocation between self and parents, than between self and friends or coworkers. When the resource to be divided was unlimited, the orientation toward equality was stronger than when the resource was limited. Chinese, as compared to Americans, were more equal (in unlimited resource, non-constant sum situations) and more other-serving (in limited resource, constant sum situations). The cross-cultural difference of equality orientation was reduced to non-significance when the variance of the dependent variable due to coworker-collectivism was statistically removed. Hence, resource allocation is a function of the individualism-collectivism (IC) dimension. As predicted, the difference in other-serving orientation was not reduced by the same procedure. The role of the IC construct in understanding social behaviors and cultural differences in such behaviors was discussed.

The Effects of Partner Relationship, Resource Availability, Culture and
Collectivist Tendency on Reward Allocation¹

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How is a reward resulting from the joint effort of members in a group to be divided? Homan's (1961) theory of distributive justice and Adams' (1965) equity make specific predictions that the parties will try to get a share of the rewards that is proportional to their input. According to this theory, people will feel most satisfied when their ratio of gain to their contributions is the same as the ratio of other peoples' gain to their contributions. If this ratio is larger than or smaller than the other's ratio, the person will experience guilt or anger. Efforts will be expended to regain equity, i.e. the equality of the ratios. As expected, this will often alter, directly or indirectly, the person's relationship with others within the social environment. Comprehensive literature reviews in this area have been published by Berkowitz and Walster (1976) and by Walster, Walster, and Berscheid (1978), echoing the considerable development in theory and research in the past two decades (see Pritchard, 1969; Walster, Berscheid & Walster, 1973).

Although numerous studies have supported the notion of distributive justice as proportionality to individual inputs, there is still a considerable number of studies (e.g., Morgan & Sawyer, 1967), which suggest that proportionality is not the only norm used in allocation decisions. "Need" and "equality" may be two of them. What then are the factors that may affect our deviation from the proportionality norm to other norms? Some limiting conditions of equity theory are discussed below.

¹ The Chinese data collections were supported by the University of Illinois Psychology Research Office.

Relationship with the Partner

Along with Lerner (1974), Deutsch (1975) set forth several situations in which a particular norm is adopted. He hypothesized that the equity norm would be the dominant principle in a "cooperative relation in which economic productivity is a primary goal" (p. 143). The equality norm, on the other hand, would prevail when the "fostering of maintenance of enjoyable social relations is the common goal" (p. 143). The same point was made in a more recent article (Deutsch, 1979).

Along these lines Austin (1980) asked female subjects who had contributed either much or little to a cooperative task to divide the monetary reward with their partners (allegedly the subjects' roommates or strangers). With strangers, low-performance subjects used the equality norm whereas high-performance subjects used the equity norm. In other words, the norm that maximized their own gain was adopted when they were dealing with a stranger with whom they did not have an ongoing interaction. On the other hand, a division rule that facilitated and maintained future interaction, namely equality, was preferred when dealing with roommates, regardless of performance. The motivation to promote friendliness, to be nice, and to maintain good relations overrode the motivation to be "fair" or to maximize one's own gain.

Among casually dating couples, equity was found to be a significant predictor of satisfaction. In intimate relationships, equality was an important predictor (Lloyd, Cate & Henton, 1982). A study of marital relationships likewise supported this idea. Peterson (1981) asked 127 married Australian students (aged 18.5 to 68) to describe their own contributions to and gains from (as compared with the spouse's) their marriage. Subjects who reported "equal input and equal output" in marriage also found their marriage happier and more stable than those who perceived the

equity principle as dominating their relationship, that is those who said that one who contributed more got more. These "equity" marriages were in turn rated happier and more stable than "inequity" marriages, where the ratio of a person's gain and contribution were different from that of the partner's. It should be noted that the "equal input and equal output" is a special case of both equity and equality. This special case produced happier marriages than the general cases of equity. Perhaps both equity and equality are important, and have additive effects on satisfaction in ongoing, close relationships. Unfortunately that study did not address this problem, nor did it examine the relative importance of equal input and equal output, or the question of which could be a major factor for satisfaction in marriage.

However, it can still be inferred from the above studies that the more intimate a relationship, the more likely it is that the resources will be divided equally. At the very least, the deviation from strict proportionality will be larger. While these investigations have addressed the difference between married or seriously dating couples and good friends on the one hand, and stranger or acquaintances on the other, few have examined non-romantic family relationships, and how they differ from relationships outside the family.

According to Deutsch's (1979) classification, the family usually falls in the category of "solidarity-oriented" groups and rarely in that of "economically-oriented" groups while many out-of-family relationships are economically-oriented. For this reason, we should observe a greater deviation from the proportionality norm within familial relationships, than in non-familial relationships. Moreover, this predicted deviation should be more pronounced when the allocator has contributed more to the task, as people should be more willing to sacrifice for a close family member

than someone outside the family. This constituted a hypothesis to be tested by the study described below.

Subjective Feeling of Solidarity and Cohesiveness

Turner (1975, 1978) theorized that division of a reward between two parties would be affected by group membership. This contention received partial support from Ancok and Chertkoff (1983), who found bias in favor of the ingroup member and against the outgroup member when subjects were asked to divide a reward between the two. Lerner (1974) discovered that people of different inputs ignored such input differences when allocating reward if they felt that they and their partners were part of a team. Bierhc. (1982) reported a preference for the equality norm over the proportionality norm, when the partners were described as a "team". But when the partners were described as independent coworkers, subjects exhibited the use of both norms. In his review of work done in the German-speaking countries, Mikula (1981) wrote: "the equality principle was chosen more frequently and the contribution principle less frequently as the basis for allocations in the condition of team work than in the condition of individual work" (p. 225).

Another study which may shed some light on the question was done by Bagarozzi (1982). The more cohesive was a group, the more likely it was that high-performers would share the reward equally, to benefit their partners. This finding is in line with the observation by Curtis (1979), that the "self-serving" principle of allocation was enhanced when the allocator held a negative attitude toward a partner.

Approaching the issue from the vantage point of individual difference, Swap and Rubin (1983) observed a tendency towards equality among subjects who were high in interpersonal orientation, whether they were the high- or low-performers. Major and Adams (1983) reported that the interpersonally

oriented (IO) individuals used the equality rule more than the low-IO individuals when they were anonymous. The researchers, however, did not manipulate the input level of the subjects. Hence it is unclear whether it was the equality orientation or mere altruism that was correlated with interpersonal orientation. In the study to be reported, input level was manipulated, and both equality and other-serving orientations were examined.

Cross-Cultural Differences

Equity research has been conducted in both Europe (e.g., Mikula, 1981; Pepitone, Fauchaux, Moscovici, Cesa-Bianchi, Magistretti, Iacono, Asprea & Villone, 1967; Pepitone, Maderna, Caporicci, Tiberi, Iacono, Dimajo, Perfetto, Asprea, Villone, Fua & Tonnucci, 1970; see also Gergen, Morse & Gergen, 1980, for a brief review), and other parts of the world (e.g., Aikawa, 1981, in Japan; Bond, Leung & Wan, 1982, in Hong Kong; Rodrigues, 1982, in Brazil; Winocur & Siegal, 1982, in Australia). Some of these studies have found that equity theory does not generalize to their cultures. Specifically, speaking of the failure to support American equity theory in Brazil, Rodrigues (1982) pointed out that in South America, "interpersonal relations are based more on sentiments than on logic, which makes it easier to find in such culture inequities in both directions, that is, either in the direction of taking advantage of others, or in the direction of providing more to others than what is equitable" (p. 98, emphasis added).

While the above group of studies looked at how people divide material resources or rewards, which were usually a sum of money, another group focused on all six categories of Foa's resources, namely love, status, information, money, goods, and services (Foa & Foa, 1974). According to Tornblom and Foa (1983), who reviewed studies conducted in Sweden, Germany, and the United States, the proportionality norm does not always hold for

all six categories. Americans preferred the proportionality rule or the equality rule, depending on the type of resources. "Swedish subjects consistently preferred equality for all resources and consistently rated the contribution rule [i.e. proportionality] as the least desirable one" (p. 116). For most resources, Germans considered either the need or equality norm as the most desirable.

Departures (regardless of direction) from the proportionality rule are more prominent in the East than in the West. A study conducted in Taiwan (Chu & Yang, 1976) found that Chinese subjects were more likely to divide rewards equally with their stranger partners when they had in fact contributed more, and chose to divide rewards proportionally when their contribution to the task was low. Leung and Bond (in press) also reported this pattern in the case of the Chinese, which is in sharp contrast with findings obtained from Americans. For instance, Austin (1980) found strangers in the United States using the rule (equality or equity) that would maximize their personal gain. The effect of a personal attribute is also apparent in Chu and Yang's (1976) study. The "choose the norm that benefits the other" phenomenon was more prominent among those subjects who scored low on an Individual Modernity scale than among those who were relatively "modern".

Despite inappropriate statistical analysis, Mahler, Greenberg and Hayashi's (1981) data have suggested that there is a greater tendency to use the equality norm in Japan than in the United States. Leung and Bond's (1982, in press) data also suggested that Chinese are more likely than Americans to prefer equal treatment of target persons. Along the same lines, using Indian and American subjects, Murphy-Berman, Berman, Singh, and Pachouri (in press) found that the former distributed resources more on the basis of need while the latter used merit.

In sum, there were two types of cross-cultural differences. First, Orientals were more inclined to use the equality norm whereas Westerners preferred the proportionality norm. Second, the Orientals were more other-serving (in the sense of using the allocation rule that is in the partner's advantage) than Westerners. It would be interesting and theoretically significant to explore the underlying causes for these differences. This may also result in a better understanding of the limitations involved in the extension of a primarily American or European psychological concept to societies in other parts of the world.

Individualism and Collectivism

One possible explanation for the East/West difference is that Orientals are mostly collectivists whereas the Westerners are mostly individualists. While this looks like a sweeping generalization, there are some supportive data. Hofstede (1980) asked employees of the international branches and subsidiaries of a large multi-national firm to respond to a work-value questionnaire. Of the four factors extracted from the mean responses of each country, one was individualism. The United States, Australia, and Great Britain were highest on this individualism dimension. Venezuela, Colombia, Pakistan, and various Asian countries were at the other end.

Individualism, according to Hofstede, is the individual's emotional independence of groups, organization, or other collectives. Hui (1984a, 1984b; Hui & Triandis, 1984) viewed individualism and collectivism as two poles of a continuum. Collectivism is a syndrome of feelings, emotions, attitudes, ideology, and actions related to the belief that the basic unit of survival is not an individual but a collective. It is concern for others, and is reflected in: (1) consideration of implications (cost and

benefits) of one's own decisions and/or actions for other people; (2) sharing of material resources; (3) sharing of non-material resources; (4) susceptibility to social influence; (5) self-presentation and face-work; (6) sharing of outcomes; and (7) feeling of involvement in others' lives. (For details, see Hui & Triandis, 1984).

Individualism-collectivism (IC) is better construed as target-specific. A person may be interdependent with family members, but not with those outside the family. Some people may be willing to conform more with those they meet at work than with their relatives. Empirical evidence was presented by Hui (1984) to demonstrate the need for a distinction among various kinds of collectivism. Spouse-collectivism, parent-collectivism, kin-collectivism, neighbor-collectivism, friend-collectivism, and coworker-collectivism were identified. The last one includes concern for classmates (if the person is in school). It pertains to relationship in a work-oriented or task-oriented situation. Hui also argued and provided empirical support that collectivism does NOT imply altruism or self-sacrifice. It is not hurting oneself in order that the other may be well. Instead, collectivism is sharing, being with the other results in joy as well as in predicament.

Consistent with this conceptualization of IC, we can hypothesize that, if there is any cross-cultural difference in reward allocation that can be due to IC, it would be the difference in the tendency to divide reward equally. The difference in other-serving orientation, the tendency to sacrifice the self so as to benefit the partner, requires explanations other than the IC construct. If the multidimensional IC is distinguishable according to the targets, we shall also see differential ability of the various kinds of collectivism to account for cross-cultural differences in reward allocation. Specifically, it was hypothesized that coworker-

collectivism, i.e., the scale closest to the work situation involved in the distribution of reward, should be most related to cross-cultural and individual differences in the tendency towards equal distribution.

Resource Availability

Most equity research requires subjects to divide a fixed amount of money (or other reward) among the participants. This can be described as a constant sum situation. When one takes more, the other gets less. Under this environmental constraint, a person cannot please both oneself and the partner. The person's response may therefore be more dependent on the struggle among various internal motives. If the allocator is primarily concerned with solidarity and the minimization of difference, the equality norm will be used. If the person is more concerned with courtesy or self-presentation, the other-serving norm (whatever it may be) will be used. Of course, the proportionality rule will apply if the allocator thinks only in terms of inputs and outcomes.

Such an environmental constraint is absent in a non-constant sum situation, in which the allocator can assign whatever amount of reward he wishes to oneself and the partners. Is the equality norm used more often in such situations? Is the culture difference in the choice of norms greater when resources are plentiful or when they are limited? These are two additional empirical questions to be answered by the present study.

Method

Participants

As part of a larger project, 108 Chinese students at the Chinese University of Hong Kong, and 132 American students at the University of Illinois at Urbana-Champaign participated in this study. The Chinese subjects were recruited by a Chinese experimenter, and paid HK\$30 (approximately US\$3) for their effort. The American subjects participated without

pay, but as partial fulfillment of requirements in an introductory psychology course.

Numerous studies have found sex differences in reward allocation. Men use the proportionality rule more often while women usually allocate resources equally or according to need (e.g., Lane & Meese, 1971; Mikula, 1974). But there are also exceptions (see Mikula, 1981), while more complex patterns have been revealed recently (Leung & Bond, in press). Since a sex effect is possible (although not of interest in the present study), for the purpose of generality of findings, and to be more comprehensive in scope, both sexes were included in the present investigation.

Materials

Participants responded first to the Individualism-Collectivism (INDCOL) Scale (Hui, 1984). Then, they were given a short scenario of two pages. On the first page the participants were asked to imagine that they had been summoned to work on a Sunday. They had begun working either in the morning or in the afternoon. Those who had gone to work in the morning contributed 80% to the total work done, whereas those who started late contributed only 20%. The other portion of the work had been done by one of three partners: the person's mother, a good friend, or a colleague whom the person did not know well.

Participants were then asked to indicate how much money they expected to be paid to them and to their partner. After answering this question, they turned the page, and were asked to divide a fixed sum. The amount to be divided by the Chinese subjects was HK\$150. Sixty U.S. dollars were to be divided by the American subjects. Pilot testing had shown these amounts to be somewhat below what these two samples expected on the average. Since the participants were asked to distribute the amount between the partner and

themselves, they did this under the condition best described by the term "limited resources".

The scenario was created with intentional ambiguity. Besides the information that one partner contributed 80% to the total work done, and the other 20%, the relative length of work was not mentioned. By this the participants were prevented from mechanically computing the expected pay for the number of hours worked. Instead, the allocator's own biases towards equality or selfishness were given more freedom. If the person was a strong adherent of equity, the only available piece of information was the relative amount of output. This would lead the allocator to choose the 80-20 split of the reward.

To sum up, five factors were involved. They were culture (Chinese, American), sex, partner (mother, good friend, coworker), performance level (high, low), and resource availability (non-constant sum, constant sum). The last factor was a within-subject factor, and all others were between-subject factors.

Dependent Measures

As it has been mentioned earlier, the measure of the dependent variable in this study was the amount of money one would allocate to oneself. Four different indices can be derived from the subjects' responses. While somewhat related, they can be conceptually distinguished:

1. Proportion. This is the simplest index, being the percentage of the total (in the constant sum situation, HK\$150 for the Chinese subjects, US\$60 for the Americans) the person would like to get. Popular among researchers as it is, the proportion index is somewhat remote from the equity questions of interest here.

2. Other-serving orientation. By a simple transformation of the proportion we can obtain an index that indicates the subject's intention to

maximize his or her own gain. In the present case, the high-performer's other-serving orientation index is obtained by subtracting the proportion index from 80, and the low-performer's index by subtracting the proportion index from 20. One can easily see that a value of zero on this index implies a distribution proportional to amount of work done. A positive value indicates an other-serving allocation, while a negative value indicates a self-serving tendency.

3. Non-proportionality. This index can be obtained by taking the absolute value of the other-serving orientation index. The higher the value of this index, the farther the departure from the proportionality norm. If all participants were other-serving and none sacrificial in reward allocation, the other-serving orientation index should be equal to the non-proportionality index. However, if this requirement is not met, this index cannot tell us whether an individual's departure is towards equality or something else.

4. Equality orientation. The primary theoretical question being asked in the present investigation is: How is the choice between the proportionality and equality norms affected by various factors? None of the three indices listed above directly indicate this, without requiring some additional mental "reshuffling" on the part of the researcher and readers. An equality orientation index can be easily derived by subtracting 20 from the proportion (1), for the low-performers. As for the high-performers, it is equal to the other-serving orientation index. A positive number (theoretical maximum = 30) implies preference for a distribution that tends toward equality. A negative number implies a discrepant allocation that goes beyond the 80-20 split.

Although the analyses were conducted with all four indices, to simplify the report and to facilitate theoretical formulation, analyses involving the equality orientation index will be covered in greater details.

Analyses and Results

Some subjects failed to complete the scenario. To avoid complexity in analyses (which involved analyses of covariance) and subsequent interpretation, it was decided that the cell sizes were to be equated by randomly deleting some data. The following describes the results of the 2 (culture) x 2 (sex) x 3 (partner) x 2 (performance level) ANOVAs with eight subjects in each cell. Unless otherwise stated, only the results based on the responses in the constant sum situation will be reported.

Effects Common to Both Cultures

Sex did not play any role in determining preference for equality or proportionality. Moreover, this variable was not involved in any significant interaction effects except one. This null effect is contrary to some previous findings (see, e.g., Leventhal & Anderson, 1970) but consistent with some others (e.g., Mikula, 1981).

The prediction that the partner would make a difference in equality orientation received some support, $F(2,168)=2.90$, $p<.06$. (We shall see shortly that this was primarily due to the effect within the Chinese sample.) But an even stronger interaction effect involving the partner and performance was also found, $F(2,168)=8.39$, $p<.005$. The equality norm was employed when dealing with one's mother, and when one had contributed more to a joint task. When one had contributed less, the proportionality norm was used (see upper half of Table 1). Another index was created by subtracting the percentage the participants allocated to themselves in the constant sum situation, from the percentage they expected in the non-constant sum situation. This index reflects a person's willingness to claim less (and to let the partner have a larger share) when the reward is not as big as expected. With the mother, the mean was 5.78. The means were 2.02 and 1.07 for friends and

coworkers, respectively. Perhaps the motive behind the behavior was self-sacrifice in the parent-child relationship.

Such self-sacrifice diminished in relationships with friends and coworkers. When there was a constraint in the available reward, the high-performer was not willing to deviate from the proportionality norm, when compared with the baseline (mean equality orientation for all subjects = 9.83). Dividing the reward proportionally means that the high-performer could get more. The low-performer, however, preferred a more equal division. This was clearly a self-serving orientation. That this effect is trans-cultural is supported by the lack of a three-way interaction among culture, partner, and performance, $F(2,168)=1.98$, n.s.

Effects of Culture

Under the constant sum condition, there was a weak and insignificant cultural difference in choice between the two norms. Yet the means suggested that Chinese tended to use the equality norm more often. While the cultural difference in equality orientation was insignificant, the Chinese were clearly more other-serving. Culture and performance had a strong interaction effect on the use of the equality vs. proportionality norms (Table 2). Although, as mentioned above, equality was more often used by high-performers than by low-performers, Chinese high-performers divided rewards more equally than American high-performers. On the other hand, Chinese low-performers were not as equal as their American counterparts in assigning rewards, when they had contributed only a small part to the task. The Chinese gradient between high- and low-performers was steeper than the American gradient. In short, compared to the Americans, the Chinese were more willing to adopt an allocation rule that increased their partners' share.

Did the subjects from the two cultures respond to the three different partners differently? A marginally significant interaction effect ($p < .10$) on equality orientation was obtained (Table 3). Americans did not distinguish among the three persons. They applied the proportionality rule (with some deviations towards equality, though) consistently with the three. On the other hand, the Chinese distinguished among the three persons, distributing rewards most casually with their mother, and least equally with a friend.

Situation of Unlimited Resources

The subjects were asked, before being presented with a constant amount of money to divide, how much they expected to get, and how much ought to be paid to their partners. A separate ANOVA was performed for this situation of unlimited resources, so that undue complexity in analysis and interpretation could be avoided.

As expected, results of the present analysis were not identical to the previous analyses. For example, the partner x performance interaction effect was no longer significant (see lower half of Table 1). When resources were plentiful, there was no need to reduce one's own outcome so as to increase the partner's. High-performers did not have to employ an equality norm that much to allocate rewards to self and mother. Similarly, low-performers when assigning rewards to self and mother could follow the proportionality norm more closely, if what they needed to do was to pay themselves a little more.

The interaction effect between culture and performance on the equality orientation also disappeared when resources were unlimited. Here the Chinese subjects did not have to alter the distribution rule as much as they had to do in the constant sum situation (see lower half of Table 2). Table 4 presents the other-serving and equality orientation indices in these

two situations. As it is obvious from this table, the Chinese did not "sacrifice" (in the sense of taking a less equitable reward) much, when the resources were plentiful (non-constant sum). However, in a situation when one's relative gain implied the other's loss (constant sum), the Chinese were more willing to sacrifice, that is to adopt an allocation rule which may increase the other's outcome. No such variation was seen among the Americans.

In the non-constant sum situation, however, there was a main effect of culture, $F(1,168)=7.18$, $p<.01$. In general, the Chinese employed a somewhat more equal (less proportional) outcome for self and partner, whereas the Americans used the proportionality norm. This effect was a departure from the null effect when a constant sum was to be distributed.

A repeated-measure ANOVA was performed, to examine the effect of culture and resource availability on the other-serving orientation. Besides confirming the interaction effect between culture and resource availability observed, $F(1,190)=11.41$, $p<.001$, the analysis revealed a significant difference between the two situations, $F(1,190)=16.51$, $p<.0001$. Subjects indicated a stronger other-serving tendency in the constant sum situation than the non-constant sum situation (Table 4, upper half). A similar repeated-measure ANOVA was done to examine the effects on the equality orientation (Table 4). It was found that the equality orientation was stronger in the constant sum situation than in the non-constant sum situation, $F(1,190)=4.38$, $p<.05$. It was also stronger among the Chinese than among the Americans, $F(1,190)=6.65$, $p<.05$. The culture x resource interaction was not significant.

Can Collectivism Account for the Culture Effects?

Is the Chinese's relative deemphasis of equity in reward allocation

(when resources are plentiful) due to differences in IC? If so, is it due to a certain kind of collectivism? By first removing the variance accountable for by collectivism before analyzing the culture's effect, an answer can be sought. A number of analyses of covariance (ANCOVA) were performed, each controlling for one kind of collectivism. Consistent with the reasoning presented earlier, when coworker-collectivism was statistically controlled, the culture effect disappeared, $F(1,167)=2.50$, $p<.10$. Table 5 shows the variance accounted for by each effect. The significant main effect of culture remained when the other INDCOL subscales and the GCI were used as covariates.

Another important cultural effect mentioned earlier was on the other-serving tendency. Recall that the Chinese were more willing to share a fixed amount of reward equally with their partners than were the Americans, when their contribution to the joint task was higher than that of their partners. To test whether IC could account for this effect on other-serving tendency, a series of ANCOVAs was again performed, each controlling for one type of collectivism. This effect was not eliminated, although in some cases (e.g., when the Coworker subscale score was used as a covariate) the variance accounted for by the cultural variable was sharply reduced (see Table 6). This effect remained even when all collectivisms (except spouse-collectivism) were controlled at the same time.

Discussion

Allocation and Partners

As predicted, there was a deviation from proportionality to equality when the person divided the reward with a close family member (mother). This tendency was more pronounced when the allocators were entitled to get more for their relatively higher input. Hence the deviation to equality was overshadowed by the motive to benefit the close family member. Note

that participants in the present study were anonymous, and there was no way for the experimenter to know who responded to the scenario. The self-presentational explanation for this effect does not have much credibility. Other explanations are that the participants were influenced by their role, or they were trying to maintain their own positive view of themselves. But none of these explanations can dismiss the assertion that the participants did perceive a difference among these three partners, and responded accordingly.

Resources Availability and Equity

When people are asked to divide a fixed amount of money which is below their initial level of expectation, there is a tendency towards equal division. On the other hand, when people can freely reward their partners, without the constraint of resources, each individual's amounts are proportional to that individual's inputs.

The interesting culture x resources interaction effect on the willingness to let the partner get a larger share (other-serving orientation) is revealing: When resources are abundant, Chinese and Americans are not different on this characteristic. When the situation is rough, and resources are insufficient, the Chinese adopt whatever rules may increase the partners' share, while the Americans are still best described by the equity theory.

Cultural Differences in Reward Allocation

The present study confirmed two major differences between Chinese and Americans. The first is their difference in self-serving orientation, or the converse, other-serving tendency. The second concerns preference for equality over proportionality in treating others.

First, as mentioned above, the Chinese are more willing to benefit their partners by allocating more to them. In doing so, they appear to adopt the distribution rule that is to their own disadvantage. This tendency

is even stronger when there is not too much to be divided. This phenomenon is further demonstrated by an ANOVA of the difference (non-constant sum proportion index minus constant sum proportion index). This indicated the degree of willingness to adjust the initial distribution ratio. A significant main effect of culture was again found, $F(1,168)=12.73$, $p<.001$. The Chinese took 5.42% (of total reward) less under the constant sum situation, so that the partner could have more. The American mean adjustment was only .50%. Even when coworker-collectivism was used as a covariate, the cultural difference remained significant, $F(1,167)=7.51$, $p<.01$. Empathy and courtesy seem to be an appropriate explanation of this difference.

The two cultures also differ in their preference for equality. Across all other conditions, the difference between Chinese and Americans in their mean equality orientation was small and statistically insignificant when resources were limited. When the allocators were not constrained in the total amount to be allocated to the parties involved, the Chinese exhibited a much stronger tendency towards equality than the Americans. Certainly merit or contribution is considered in dividing rewards, as evidenced by the big difference between a high- and a low-performer in percentage claimed for self (60.31 vs. 22.40). But the subjects did not consider the contribution factor only. Either contribution is not the major and sole factor for distribution decisions, or there are some other considerations which may have discounted or diluted the contribution factor. While the present study was not designed to identify the discounting or "equalizing" factors, it has nevertheless demonstrated cultural difference in the preference for equality, in addition to the difference in the other-serving orientation. Moscovici (1972) is correct in observing the geographical limitation of equity theory, although his prediction that equity is particular to capitalistic societies has to be qualified in the light of the data collected in Hong Kong.

Equity and Collectivism

Equity theory is not as universal as many have supposed it to be. There are not only cross-cultural differences in the use of proportionality as a principle for reward allocation, but also individual differences. Correlations between IC and the equality orientation suggested that collectivists deviate from proportionality toward equality more than do individualists. Moreover, the former are more flexible, in the sense that they may pick whatever rule, equality or proportionality, that benefits others. There seem to be other factors which are more important than equity or distributive justice, for the collectivists' consideration in reward allocation.

Can cultural differences in reward allocation be accounted for by the difference in collectivism? Based on the results reported in the last section, it is safe to say that cultural differences in preferences for equality are in fact due to differences in IC, particularly collectivism relevant to work settings. The same construct is insufficient to account for the cultural difference in the flexibility of the choice between the equality and proportionality norms. This is consistent with one finding reported in Hui (1984), that collectivism is more closely related to equality than to self-sacrifice and altruism. Consequently, some explanations other than IC have to be sought for the cultural difference in courtesy and altruism in reward allocation.

Using other INDCOL subscales as covariate in ANCOVAs did not reduce previously significant culture effects to insignificance. Hence it is useful to distinguish among different kinds of collectivism, for they are related only to specific settings and targets. A general label "collectivism" or "individualism" may be too global and non-specific when it comes to explanation or prediction of specific social behavior.

In short, IC has been demonstrated to be a useful variable for

understanding cultural variations in social behaviors. At the very least, we could expect the cultural difference in distributive behavior to be predictable from where the culture stands on the IC continuum. Studies can be designed and hypotheses constructed from the knowledge of a sample's mean level of collectivism. Moreover, this construct can perhaps be used to explain cultural differences in other domains (e.g., achievement motivation, conflict resolution, etc.). It is not unlikely that the construct will be instrumental in unlocking many mysteries of social behaviors and attitudes in the future.

Directions for Future Research

While the present study addressed some interesting questions, new questions arose as a result of this study. The following outlines two possible paths of inquiry to further our understanding of IC and equity theory.

1. Individualists and collectivists emphasize somewhat different distribution rules. A corollary to this problem is the relative impact (or salience) of different pieces of information such as need, contribution of outcome, efforts, personal qualities, and so forth, on the individualists and the collectivists. The present study and many previous ones at best led to qualitative inferences and conclusions. The next step should be a more precise and rigorous quantification of the usefulness of information to the allocators. Perhaps, using a regression approach, we might explore the individualist-collectivist differences in the use of rules such as proportionality, need, and equality.

2. Interaction between IC and resource availability on choice of division rules. Are individualists and collectivists different when allocating scarce resources as they are when allocating unlimited resources?

Who are better described by equity theory, and when? The present study examines only the situation when the available reward is less than what one expects. The finding is suggestive of an interaction between IC and resource availability. But what would happen when the available resources exceed prior expectation? Strong evidence is still lacking. Future research should investigate how IC acts on the choice of division rules at different affluence levels. This research question has close parallels in the real world, in which we can find places where overweight is a problem, and also places where getting enough food to survive another day is a luxury.

Table 1

Equality Orientation as a Function of Performance and Partner Relationship
in Two Situations (N = 192)

Situation	Performance	Partner			Mean
		Mother	Friend	Coworker	
Constant Sum	High	21.09	13.33	10.59	15.00
	Low	3.44	2.56	7.97	4.66
	Mean	12.27	7.95	9.28	9.83
Non- Constant Sum	High	11.77	8.97	9.47	10.07
	Low	5.68	2.25	8.99	5.64
	Mean	8.72	5.61	9.23	7.85

Table 2

Equality Orientation as a Function of Performance and Culture
in Two Situations (N = 192)

Situation	Performance	Culture	
		Chinese	Americans
Constant	High	19.69	10.32
Sum	Low	2.40	6.91
	Mean	11.04	8.61
Non-Constant	High	12.83	7.31
Sum	Low	6.38	4.90
	Mean	9.60	6.10

Table 3

Equality Orientation as a Function of Culture and PartnerRelationship (N = 192)

Culture	Partner		
	Mother	Friend	Coworker
Chinese	15.78	7.77	9.58
Americans	8.75	8.12	8.97

Table 4

Other-Serving Orientation and Equality Orientation as a Function
of Culture in Constant Sum and Non-Constant Sum Situations

Situation	Culture	
	Chinese	Americans
Other-Serving Orientation		
Constant Sum	8.64	1.71
Non-Constant Sum	3.22	1.21
Equality Orientation		
Constant Sum	1.11	.86
Non-Constant Sum	.96	.61

Table 5

ANOVA and ANCOVA Summary Table for Equality Orientation (Non-Constant Sum)

Effect	ANOVA			ANCOVA		
	Sum of Squares	df	F	Sum of Squares	df	F
Covariate: Co-worker Subscale				499.55	1	6.11*
Culture (C)	587.86	1	7.18*	204.38	1	2.50
Sex (S)	227.81	1	2.78	228.18	1	2.79
Partner Relationship (R)	492.02	2	3.00	529.28	2	3.24*
Performance (P)	941.64	1	11.50**	1063.96	1	13.01**
C x S	99.13	1	1.21	100.53	1	1.23
C x R	51.59	2	<1	45.29	2	<1
C x P	195.42	1	2.39	168.12	1	2.06
S x R	48.40	2	<1	40.47	2	<1
S x P	65.19	1	<1	75.00	1	<1
R x P	378.61	2	2.31	295.64	2	1.81
C x S x R	115.98	2	<1	131.84	2	<1
C x S x P	50.08	1	<1	45.84	1	<1
C x R x P	355.03	2	2.17	295.97	2	1.81
S x R x P	770.65	2	4.71*	732.01	2	4.48*
C x S x R x P	288.80	2	1.76	257.88	2	1.58
Error	13757.64	168		13658.35	167	
Total	18425.84	191		18425.84	191	

* $p < .01$ ** $p < .001$

Table 6

ANOVA and ANCOVA Summary Table for Other-Serving Orientation (Constant Sum)

Effect	ANOVA			ANCOVA		
	Sum of Squares	df	F	Sum of Squares	df	F
Covariate:						
Co-worker Subscale				510.96	1	4.76*
Culture (C)	2310.19	1	21.38**	1436.15	1	13.38*
Sex (S)	42.94	1	<1	43.06	1	<1
Partner Relationship (R)	1814.02	2	8.39**	1639.80	2	7.64**
Performance (P)	18551.18	1	171.64**	18726.27	1	174.40**
C x S	20.91	1	<1	20.42	1	<1
C x R	428.31	2	1.98	323.09	2	1.50
C x P	283.53	1	2.62	257.45	1	2.40
S x R	262.09	2	1.21	256.14	2	1.19
S x P	4.63	1	<1	2.87	1	<1
R x P	626.24	2	2.90	688.61	2	3.21*
C x S x R	94.73	2	<1	124.07	2	<1
C x S x P	36.82	1	<1	41.79	1	<1
C x R x P	515.90	2	2.39	579.29	2	2.70
S x R x P	11.31	2	<1	17.97	2	<1
C x S x R x P	49.79	2	<1	50.94	2	<1
Error	18157.48	168		17932.13	167	
Total	43210.05	191		43210.05	191	

* $p < .01$ ** $p < .001$

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