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The impact of culture and personal value on distributive behavior

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THE IMPACT OF CULTURE AND PERSONAL VALUE
ON DISTRIBUTIVE BEHAVIOR

A Thesis

Presented to

the Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirement for the Degree

Master of Science

By

Crystal Ho-Fung Yu

May 2007

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ABSTRACT

THE IMPACT OF CULTURE AND PERSONAL VALUE ON DISTRIBUTIVE BEHAVIOR

By Crystal Ho-Fung Yu

The purpose of this study was to examine the relationships between culture, personal value, and distributive behavior. First, it was hypothesized that the more collective the individuals are, the more likely they would use the equality rule over the equity rule to distribute rewards. Second, the relationships of personal values and allocation behavior were addressed. Individuals endorsing self-enhancement or openness-to-change were more likely to distribute rewards equitably, whereas those endorsing self-transcendence or conservation were more likely to allocate equally. Third, the influences of culture and personal value on allocation behavior were compared. Schwartz's value system was hypothesized to be the better predictor than the individualism-collectivism dimension. Two experiments were conducted. A total of 171 undergraduates participated. Although the hypotheses were not supported, the results enhanced our understandings on culture, personal value, and distributive behavior.

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Introduction

Reward allocation refers to the way of dividing goods and resources among two or more individuals. Employers use rewards as motivational tools to retain and attract the right employees (Mikula, 1980). Differentiating assets has been a challenge for many organizations since the available resources are often not enough to satisfy all the wishes and needs of employees. Given the impact of the reward decisions on employees' productivity and satisfaction with the employer, numerous studies have been conducted to identify factors affecting allocation behaviors (Adams, 1965; Bond, Leung, & Wan, 1982; Giacobbe-Miller, Miller, & Victorov, 1998).

Among a large variety of factors affecting reward allocation, culture is an important aspect to consider due to our culturally diverse workplace and the increasing global operation of companies (James, 1993). Culture, which implies a shared system of beliefs, attitudes, and values that shapes and influences perceptions and behaviors, has been addressed in many allocation studies since researchers questioned the applicability of the U.S. theories in multicultural settings (Sama & Papamarcos, 2000). Early allocation studies, which were mostly conducted in the U.S.A., showed that employers made their reward allocation decisions on the basis of performance and distributed greater portions of rewards to those with high performance and less to those with poor performance (Adams, 1965; Deutsch, 1975). This style of reward allocation is known as the equity rule. However, several researchers argued that people from different cultures do not hold the same preference for allocating rewards; some individuals from non-U.S.A. countries prefer an equal allocation, which means distributing the same amount of

a reward to each recipient (e.g., Bond, Leung, & Wan, 1982; Rusbult, Insko, & Lin, 1995). These researchers used Hofstede's (1980) individualism-collectivism dimension to explain that people from individualistic cultures (e.g., U.S.A., France) prefer the equity rule, whereas those from collectivistic cultures (e.g., China, India) favor the equality rule. Although there is evidence of culture's influence on individuals' allocation behaviors, researchers could not draw a conclusion since the findings were not found in all cross-cultural studies. Hence, more investigations are needed to clarify the linkage between the individualism-collectivism dimension and allocation behaviors.

While many investigators were focusing on the impact of the individualism-collectivism dimension in reward allocation, a few researchers suggested that personal value, which refers to the aspect of life spirituals and objectives, might be more sufficient in explaining and predicting allocation preferences (Fischer & Smith, 2003; Schwartz, 1994b). One possible explanation is that members within each national culture hold values that are different from one another, and the individualism-collectivism dimension could not capture these differences on the individual level (Schwartz, 1992). Therefore, Schwartz (1992) developed a personal value system to distinguish individual differences. Schwartz's value system was used by Fischer and Smith (2004) to demonstrate the impact of the system and in shaping people's justice perceptions in reward allocation.

Previous research indicated that the individualism-collectivism dimension and Schwartz's value system might influence allocation behaviors; however, there was no direct comparison of these factors in the reward allocation research. Although the Schwartz's value system has been suggested as a more sufficient measurement in

assessing the behavioral differences in reward allocation, this argument needs further support. Given the questions that are unanswered by the preceding research, the present study will examine the relationships between the individualism-collectivism dimension, Schwartz's value system, and actual reward distribution. In other words, both the individualism-collectivism dimension and Schwartz's value system will be used to measure allocation behaviors. This research could provide useful information for employers who want to determine the best ways to allocate rewards in the work setting. Also, practitioners could gain better sense to whether or not their culture and personal value is related to their allocation decisions. This research could also highlight the importance of knowing organizational members' allocation preferences and provide some evidence for other organizational behaviors.

Allocation Principles

There are numerous ways in which rewards can be distributed (Berman, Murphy-Berman, & Singh, 1985; Fischer & Smith, 2003). Equity and equality are the major principles used in reward allocation. Equity rule states that resources are distributed on the basis of each group member's contribution; individuals with a high contribution will receive a larger portion of the reward than the low contributors (Adams, 1965). The premise is that differentiated reward allocation will facilitate performance and increase economic efficiency (He, Chen, & Zhang, 2004; Tanaka, 1991). Equity rule is believed to maximize performance, though it could also raise jealousy and reduce collaboration among group members (Bloom, 1999; Cowherd & Levine, 1992).

Equality rule means distributing the same amount of rewards among each member of a group despite each group member's input (Pandey & Singh, 1997). Egalitarian reward allocation is expected to encourage social harmony and minimize conflicts (Deutsch, 1975). The equality rule is also believed to be useful when establishing a team-based structure, but it neglects individual contributions to the group and fails to increase productivity, particularly in cultures which prefer individual reward system (Bloom, 1999; Giocobbe-Miller, Miller, & Victorov, 1998; Milkovich & Newman, 2002; Wagner, 1995).

Hofstede's Individualism-Collectivism and Allocation Behaviors

Psychological studies on reward allocation research began in the U.S.A. (Adams, 1965). Survey studies, which have examined allocation preferences, demonstrated that both employees and students in the U.S.A. allocated equitably (Berkowitz & Walter, 1976; Greenberg & Cohen, 1982; Lane & Messe, 1971; Leventhal & Lane, 1970; Leventhal & Michaels, 1969). These findings indicated that Americans' allocation behavior is parallel to American ideology, which focuses on economic success and individual achievement (Kroeck, Avolio, Small, & Einstein, 1987). In fact, Americans perceive equity (vs. equality) as the fairest justice principal when determining one's compensation (Greenberg, 1990).

Since the earliest allocation studies were mainly developed and supported by researchers who were grounded in American culture, a question emerged as to whether or not their findings were applicable to other cultures (Bond, Kwok, & Wan, 1982). Several researchers argued that the early U.S. findings were limited in their applicability and only

reflected the U.S. experience (Leung & Bond, 1984; Mahler, Greenberg, & Hayashi, 1981). Culture, which was under-emphasis in the early studies, should be recognized for its impact since it could possibly affect the compensation system and lead to employee resistance and inefficiency (Beatty, McCune, & Beatty, 1988). According to McFarlin and Sweeney (2000), culture is defined as beliefs, attitudes, and values that are developed over time, shared by a group of people, and typically passed on from one generation to another. It influences one's world perception and provides justification for one's behaviors, attitudes, and beliefs. Hofstede's (1980) seminal work on more than 117,000 employees of IBM in over 40 countries has had the greatest influence on people's understanding of cultural differences. He differentiated cultures into individualism and collectivism, which describes whether personal or group goals dominate. Individuals who are from an individualistic culture are purported to be economic-oriented and put their own goals ahead of social responsibilities, whereas those who are from a collectivistic culture focus on group interest, group cohesiveness, and group goals (James, 1993).

As the individualism and collectivism dimension is used in describing national culture, countries are categorized into the dimension by their scores on Hofstede's culture scale. For instance, China, Japan, and Mexico are collectivistic nations, whereas the U.S.A., U.K., and Germany are individualistic nations. Individualism and collectivism are also presented as completely opposite on the culture scale. Someone from the individualistic country is likely to emphasize on individual goals as opposed to collective goals, whereas the opposite holds for an individual from the collectivist society.

The individualism-collectivism dimension has been consistently identified as a useful indicator of differences among societies (Ralston, Holt, Terpstra, & Yu, 1997; Ronen & Shenkar, 1985). Probably for this reason, it has been used by many researchers to predict and/or explain allocation behaviors (Hui, Triandis, & Yee, 1991; Wade-Benzoni et al., 2002). Several researchers claimed that allocation decisions vary across cultures (Hunger & Wheelen, 1996; McFarlin & Sweeney, 2000). Therefore, equity is not a universally accepted principle in reward allocation since people adopt different distribution rules to be consistent with their culture's preferences. The meta-analysis of Sama and Papamarcos (2000) demonstrated that members from the individualistic societies were likely to choose the equity rule to distribute rewards (e.g., U.S.A., U.K.), whereas those from the collectivistic societies selected the equality rule (e.g., China, India, Hong Kong, Taiwan, & Turkey; Bond, Kwok, & Wan, 1982; Hui, et al., 1991; Mahler et al., 1981; Murphy-Berman, Cukur, & Berman, 2002; Rusbult, Insko, & Lin, 1995; Tower, Kelly, & Richards, 1997; Wade-Benzoni et al., 2002).

Although there is evidence of allocation differences between countries, the individualism-collectivism dimension did not differentiate all allocation patterns (Bond, Kwok, & Wan, 1982; Chen, 1995; Fadil et al., 2004; Hunger and Wheelen, 1996; McFarlin & Sweeney, 2000; Sama & Papamarcos, 2000). There is considerable amount of evidence that state the equity rule is preferred over equality rule by collectivistic cultures (Chen, Meindl, & Hunt, 1997; Kim, Park, & Suzuki, 1990). According to Fischer and Smith's (2003) meta-analysis, workers in collectivist societies favored equity over equality when they were not recipients of the reward (e.g., Russia, Mexico, and

China). On the other hand, there is also evidence in support of the equality rule in the individualistic culture (Chen, 1995). These findings are opposed to the cultural view that equity rule is an individualistic preference, but equality rule is a collectivistic preference.

The existing studies on individualism-collectivism and reward allocation showed mixed results. Some research demonstrated that the equity rule is exclusively used by individualistic countries and the equality rule by collective nations, whereas other research supported the use of these rules across all populations. The inconsistency of these findings revealed that researchers were unsure for whether or not the individualism-collectivism dimension could explain people's way of distributing compensations. Therefore, more empirical investigations are needed to clarify the relationship between the individualism-collectivism dimension and allocation behaviors.

Schwartz's Value System in Relation to Allocation Behaviors

While the empirical literature focused on the impact of individualism-collectivism on reward allocation primarily, Fischer and Smith (2003) indicated that Schwartz's (1992) value system is also associated with allocation behaviors. Value is defined as individual goals that operate as guiding principles in people's lives (Schwartz & Bilsky, 1987). Some investigators preferred studying personal value over national culture because it is a finer measurement in assessing individual differences (Schwartz, 1994a). Fischer and Smith argued that personal value might have a stronger influence on allocation behavior than culture because the use of a specific allocation principle might be a human preference instead of a cultural preference. Therefore, the examination of

Schwartz's value system and allocation behavior could give researchers an explanation for the inconsistency of the existing cultural findings on allocation behaviors.

The concept of personal values is based on three types of universal human requirements: (1) biological needs (organisms), (2) social interaction, and (3) survival and welfare needs of groups (Schwartz & Bilsky, 1987). Schwartz (1992) used a set of 56 single values (e.g., wisdom, health, security) to represent ten types of basic human values. These value types include: hedonism, achievement, self-direction, power, stimulation, universalism, benevolence, conformity, security, and tradition (see Table 1, Schwartz, 1994b). They are distinguished from each other by their motivational concerns. For example, people who place value on power are motivated by group status and control over people and resources.

Schwartz (1990; 1992; 1994a) further explains that some values are compatible with each other while others conflict with each other. For example, universalism and benevolence are compatible with each other and conflict with achievement, power, and hedonism values (See Figure 1, Schwartz, 1994b). Also, tradition, security, and conformity relate with each other but conflict with self-direction, stimulation, and hedonism. These four sets of values were then categorized into a system of four higher-order values: openness-to-change, conservation, self-enhancement, and self-transcendence. Openness-to-change, which refers to the extent to which individuals have the autonomy to pursue their personal interests and desires, is made up of hedonism, stimulation, and self-direction value types. In contrast, conservation, the degree to which people are motivated to preserve the status quo and avoid the disturbance of traditional

Table 1.

Definitions of the Ten Individual-Level Types of Values^{Note}

Value	Motivational goal
Power	Social status and prestige, control or dominance over people and resources
Achievement	Personal success through demonstrating competence according to social standards
Hedonism	Pleasure or sensuous gratification for oneself
Stimulation	Excitement, novelty, and challenge in life
Self-direction	Independent thought and action-choosing, creating, exploring
Universalism	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide to the self
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Security	Safety, harmony, and stability of society, of relationships, and of self

^{Note} From Journeys into cross-cultural Psychology: Selected papers from the 11th International Conference of the International Association for Cross-Cultural Psychology (IACCP) (p. 240), by S. H. Schwartz, 1994b, Lisse: Swets & Zeitlinger. Copyright 2006 by Crystal H. Yu. Adapted with permission.

Figure 1. Higher-order value types and polar value dimensions.^{Note}

^{Note} From Journeys into cross-cultural Psychology: Selected papers from the 11th International Conference of the International Association for Cross-Cultural Psychology (IACCP) (p. 244), by S. H. Schwartz, 1994b, Lisse: Swets & Zeitlinger. Copyright 2006 by Crystal H. Yu. Adapted with permission.

order, is made up of security, conformity, and tradition value types. Self-enhancement focuses on the self and is comprised of hedonism, power, and achievement value types. Lastly, self-transcendence, opposing self-enhancement, reflects the degree to which one is concerned with the welfare of others and harmony. It is comprised of benevolence, and universalism value types.

Schwartz's (1992) value system has been useful for explaining relationships between personal values and human perceptions and behaviors (Fischer & Smith, 2003). Researchers used it to measure individual differences in Hong Kong and Israel and in the U.K. and Germany, respectively (Bond, Leung, & Schwartz, 1992; Fischer & Smith, 2004). It has been tested and found reliable across multiple nations, which makes Schwartz Values Survey, the ideal measurement to use in assessing the relationships between personal values and behaviors in a diverse sample.

Fischer and Smith's survey study (2004) examined personal values and perception of reward allocation fairness in the U.K. and Germany. They used a modified version of Schwartz Value Survey to assess individual differences and found that self-enhancement and self-transcendence were the primary correlates of individuals' perceptions of reward allocation. In the U.K. and Germany, employees endorsing self-enhancement perceived the use of equity rule to be fairer than equality rule in reward allocation, whereas employees endorsing self-transcendence felt the opposite. Openness-to-change and conservation were unrelated to the perceptions of fairness of reward allocation. Based on the partial support that the Schwartz's value system influenced people's justice

perception in reward allocation, it should be further emphasized when determining the behavioral differences in reward allocation.

Summary and Hypotheses

Investigators have attempted to use Hofstede's (1980) individualism-collectivism dimension and Schwartz's (1992) value system to assess behavioral differences in allocation studies. The allocation literature consists of both supportive and non-supportive findings on the individualism-collectivism dimension's influence (Hui et al., 1991; Kim, Park, & Suzuki, 1990; Leung & Bond, 1984). This dimension is believed to associate with the allocation principles, even though the empirical evidence is not found in all allocation studies (Fischer & Smith, 2003; Sama & Papamarcos, 2000). Hofstede (2001) indicated that the inconsistency in existing research findings could be explained by the fact that most of the previous studies attributed individualism-collectivism as the reason for cultural differences, but did not measure it directly (e.g., Leung & Bond, 1984). To clarify the inconsistency of the previous findings, the first purpose of this study is to measure individualism-collectivism with a culture scale and to determine if it relates to allocation behavior (Jung & Kellaris, 2001; Triandis, 1995). According to the culture scale, the level of collectivism indicates whether or not one is a collectivist or individualist. Collectivists exhibit a high degree of collectivism, whereas individualists display a low degree of collectivism. Derived from previous research that an individual's score on collectivism was associated with a preference for certain reward allocation rules, it is hypothesized that

Hypothesis 1: The more one values collectivism, the more one would use the equality rule over the equity rule in reward allocation.

In addition, personal values might affect allocation behavior. The Schwartz's (1992) value system has been seen as a useful tool to examine behavioral differences in reward allocation (Fischer & Smith, 2004). Therefore, the second objective of the current study is to use the Schwartz's value system to assess personal values and examine its unique effect on allocation behaviors. According to Fischer and Smith's findings that self-enhancement was positively correlated with perceptions for equity rule as fair, whereas self-transcendence was positively correlated with perceptions for equality rule as fair, it is hypothesized that

Hypothesis 2: The more one endorses self-enhancement, the more likely one will use the equity rule over the equality rule to distribute rewards.

Hypothesis 3: The more one endorses self-transcendence, the more likely one will use the equality rule over the equity rule to distribute rewards.

While the correlation of openness-to-change and conservation to perceptions of reward allocation fairness is unclear, the present study will examine the correlation between these values with allocation behaviors (equity or equality) in order to have a full understanding on the impact of personal values on reward allocation. Based on Schwartz's (1992) argument that openness-to-change vs. conservation had some

resemblance to individualism vs. collectivism, and Sama and Papamarcos' (2000) finding that individualism correlated positively with equity rule and collectivism correlated positively with equality rule, the following hypotheses are developed:

Hypothesis 4: The more one endorses openness-to-change, the more likely one will use the equity rule over the equality rule to distribute rewards.

Hypotheses 5: The more one endorses conservation, the more likely one will use the equality rule over the equity rule to distribute rewards.

Although there is considerable evidence to support the individualism-collectivism's influence on reward allocation, there is also proof that personal values might affect the way of distributing incentives. Since the individualism-collectivism dimension and Schwartz's value system have not been studied together in previous allocation research, this study will take the further step of comparing their effects on allocation behaviors. A comprehensive study of culture, personal value, and reward distribution preference will fill in the gap in the existing allocation research. It will shed light on the usefulness of individuals' belief in explaining and predicting their behaviors. The Schwartz's value system is suggested as a better indicator of behavioral differences in reward allocation since the individualism-collectivism dimension has been critiqued for being oversimplified (Fischer & Smith, 2003; Schwartz, 1990). Fischer and Smith (2004) also demonstrated that certain values were significantly related to people's justice perceptions of reward allocation. Based on the previous findings, it is possible that the

Schwartz's value system plays a more significant role than the individualism-collectivism dimension in explaining reward allocation behavior. Therefore, it is hypothesized that

Hypothesis 6: The Schwartz's value system (self-enhancement, self-transcendence, openness-to-change, and conservation) is a better predictor of allocation behavior than the individualism-collectivism dimension.

The predictor variables of the current study are the individualism-collectivism dimension and the four value types of the Schwarz's value system. The criterion variables are the allocation rules (equity versus equality) that people used. Two experiments will be conducted in order to obtain more information with the different monetary reward manipulations.

Experiment 1

Method

Participants

Participants in the present study were recruited from introductory psychology courses at San Jose State University. Their participation was in partial fulfillment of the requirement of the course. A total of 136 undergraduates participated in this study, with 100 students born in the U.S., 32 born outside of the U.S., and 4 anonymous. Among the participants, 94 were female, 8 were males, and 4 were unknown. Twelve students declared their major in psychology, whereas 124 students reported in non-psychology majors or anonymous. The mean age of the participants was 19.40 years.

Instruments

The survey instrument was intended to measure individualism-collectivism, personal values, allocation behavior, and demographics. It was divided into four parts, from part A to part D. Part A was the individualism-collectivism scale (Jung & Kellaris, 2001; Triandis, 1995). Part B was the Schwartz Value Survey (Schwartz, 1992). Part C was a scenario, which described two employees with different performance level working together. After reading the scenario, respondents were asked to assign bonuses to the employees in the scenarios. Lastly, part D consisted of the demographic questions.

Predictor Variables

Individualism-collectivism scale. Two individualism-collectivism (I/C) scales were combined to measure culture (Jung & Kellaris, 2001; Triandis, 1995). The instrument was comprised of 42 items. Twenty-two of the items were reversed coded.

Participants rated the statements on a nine-point response scale ranging from 1 (“strongly disagree”) to 9 (“strongly agree”). The culture score was the mean of the 42 items. Higher score indicated greater collectivism, whereas lower score indicated higher individualism.

Schwartz values survey (SVS). Personal values were measured by the 56 items of the Schwartz’s Values Survey (1992). Participants rated the importance of each item on a scale ranging from –1 (“opposed to my values”) to 9 (“of supreme importance”). These 56 items were categorized into four value types, including self-enhancement, self-transcendence, openness-to-change, and conservation. Each item was assigned to its value type. To get a particular value score, the total value score was divided by the number of items chosen for that value type. Higher scores represented stronger orientation toward the value type, whereas lower scores represented weaker orientation toward the value type.

Criterion Variables

Allocating reward. The scenario was adapted from Giacobbe-Miller, Miller, and Zhang (1997). It was modified to only include information about individual performance and relationship with the allocator. Each participant played the role of supervisor and divided \$500 of bonus money to two subordinates with different performance, whereas one subordinate contributed twice as much as the other.

Equity score. The equity scoring method was adapted from Leung and Iwawaki (1988). The first step in the analysis was to convert the monetary data into percentage shares (the actual amount of allocation/\$100). An equity score was computed for each

participant by squaring the difference between the share allocated to the recipient with higher performance and the equitable share (66.67%). There was a positive relationship between the equity score and the equity rule. The higher the equity score, the more likely the equity rule was being used.

Equality score. The equality scoring method was also adapted from Leung and Iwawaki (1988). An equality score was calculated for each participant by squaring the difference between the share allocated to the recipient with higher performance and the share based on equality (50%). The equality score was related to the equality rule negatively. The lower the equality score, the more likely the equality rule was being used.

Allocation rule. The principle that each participant followed was determined by the amount of money one gave to the high performer in the scenario. All participants were categorized into two groups: (1) equity and (2) equality. The ones who allocated \$297.67 or more to the high performer were assigned to the group who followed the equity rule, whereas those who distributed less than \$297.61 to the high performer were put into the group who followed the equality rule. \$297.61 was the reward amount to differentiate the distribution principles. It was computed by adding the mean difference of \$333.33 and \$250 to \$250 (\$333.33 is 66.67% of the bonus and \$250 is 50% of the bonus). The same score could be obtained by subtracting the mean difference of \$333.33 and \$250 from \$333.33.

Demographic Variables

The demographic variables were age, gender, national background, and major. This background information was included to give readers a better idea of the composition of this study's participants. It could also illustrate how representative the sample was.

Procedures

Questionnaires were distributed to participants in a classroom setting at the university. The survey included an informed consent form with the objectives of the survey, a questionnaire, and a pencil. All participants were ensured that their responses are kept completely anonymous and confidential. No one has access to raw data except the investigator and her thesis advisor. Respondents returned their questionnaire and consent form with signature to the investigator at the end of the experiment.

Results

Descriptive Statistics

Descriptive statistics on the predictor variables are presented in Table 2. The mean for collectivism was slightly over 5, suggesting that participants were somewhat neutral with the statements about individualism-collectivism. Means for the value variables were above 7, indicating that participants endorsed or strongly endorsed self-enhancement, self-transcendence, openness-to-change, and conservation. Descriptive statistics on the criterion variables are presented in Table 3. The high performer received a mean of 62.64% of the monetary reward whereas the low performer obtained 37.91%. 82.8% of the participants used the equity rule and 17.2% chose the equality rule, revealing that the majority of observers followed the equity allocation (see Table 4).

Inferential Statistics

Table 5 presents the inter-relations between the predictor variables. Partial correlations were performed on collectivism, self-enhancement, self-transcendence, openness-to-change, and conservation, with a covariate called MRAT (score was computed from dividing the total score on all value items by the total number of items, which was 56; Schwartz, 1992). None of the relationships are statistically significant. Collectivism is unrelated to self-enhancement, self-transcendence, openness-to-change, and conservation. Self-enhancement and self-transcendence are more related to each other, whereas openness-to-change and conservation are more associated to each other.

Participants' demographic information is shown in Table 6. The majority of participants were females who were born in the U.S.A. and declared their major as

Table 2

Mean of the Predictor Variables, Study 1

Variables	Agreement		
	<i>N</i>	<i>M</i>	<i>SD</i>
Collectivism	136	5.22	.51
Self-enhancement	136	7.02	1.02
Self-transcendence	136	7.62	.94
Openness-to-change	136	7.65	.90
Conservation	136	7.46	.92

Table 3

Participants' Allocation as a Function of Performance Level, Study 1

Performance Level	Monetary Reward		
	<i>N</i>	<i>M</i>	<i>SD</i>
High	134	62.24%	8.16
Low	134	37.91%	8.38

Note. Numbers refer to the percentage of money participants allocated to the high performer.

Table 4

Frequency of Participants Who Followed the Allocation Rules, Study 1

Allocation Rule	Participants		
	<i>N</i>	<i>Frequency</i>	<i>Percent</i>
Equity	134	111	82.8%
Equality	134	23	17.2%

Table 5

Partial Correlation Coefficients, Predictor Variable, Study 1 (N =133)

	1	2	3	4	5
1 Collectivism	-	-	-	-	-
2 Self-enhancement	-.04	-	-	-	-
3 Self-transcendence	.12	-.77	-	-	-
4 Openness-to-change	-.22	-.26	.12	-	-
5 Conservation	.09	.00	-.41	-.65	-

Table 6

Frequency of Participants, Demographic Variables, Study 1

Demographic Variables	Participants		
	<i>N</i>	<i>Frequency</i>	<i>Percent</i>
Female	132	94	71.2%
Male	132	38	28.8%
Born in the U.S.	132	100	75.8%
Born outside of the U.S.	132	32	24.2%
Psychology major	132	12	9.1 %
Non-Psychology major	132	120	90.9%

non-psychology. In order to assess the demographic differences on the equity and equality scores, a series of one-way analysis of variance (ANOVA) were conducted. A statistically significant difference was found in the equality scores among the females and males, where $F(1, 129) = 4.47, p < .05$. The male participants had a greater equality score than the female participants. However, there was no gender difference in the equity scores. Participants who were born in and outside of the U.S.A. were not statistically significant different in their equality and equity scores. Psychology and non-psychology majors did not show any significant differences on their equality and equity scores as well. Age is unrelated to the allocation scores.

Hypothesis 1 predicted that the more collective the participants are, the more they would follow the equality rule over the equity rule. Pearson correlations were conducted to determine if collectivism correlated to the equality and equity scores. As shown in Table 7, there were no statistically significant relationships between collectivism and the allocation scores (equity, equality). Therefore, hypothesis 1 is not supported. However, Pearson's correlation coefficient for collectivism and equality scores ($r = .17$) was greater than the one for collectivism and equity scores ($r = .11$), which indicated that participants' collectivism level was more related to their equality scores than equity scores. The more one endorses collectivism, the more likely one would use the equality rule over the equity rule.

Hypothesis 2 predicted that the more the participants endorse self-enhancement, the more they would use the equity rule over equality rule. Partial correlations were performed to examine the relationships between self-enhancement and the allocation

Table 7

Pearson Correlation Coefficients, Predictor and Criterion Variables, Study 1 (N = 134)

		1	2	3
1	Collectivism	-	-	-
2	Equity Score	.11	-	-
3	Equality Score	.17	.31*	-

* $p < .05$

scores (equality, equity), with MRAT as the covariate (Schwartz, 1992). Table 8 presented a partial correlation coefficient matrix of personal value variables (self-enhancement, self-transcendence, openness-to-change, conservation) and criterion variables (equity, equality scores). There was no statistically significant relationship between self-enhancement and the allocation scores. However, the results were in the same direction as the original hypothesis. Partial correlation coefficient for self-enhancement and the equity score ($r = .08$) was slightly higher than the one for self-enhancement and the equality score ($r = .07$). The higher the self-enhancement score, the greater the equity score. Although the result was in the same direction as the original hypothesis, hypothesis 2 was not supported for lacking the statistical significance.

Hypothesis 3 predicted that the more the participants endorse self-transcendence, the more they would use the equality rule over equity rule. Partial correlations were conducted to test the relationships of these variables, with MRAT as the covariate. Contrary to the hypothesis, self-transcendence was more related to the equity score than equality score, meaning the more the participants value self-transcendence, the more they would follow the equity rule over equality rule (see Table 8). Unfortunately, these relationships were also not statistically significant, indicating that the existence of these relationships was unsure.

Hypothesis 4 predicted that the more the participants endorse openness-to-change, the more they would use the equity rule over equality rule. Partial correlations were performed to correlate participants' scores on openness-to-change with their equality and equity scores, using MRAT as the covariate. As shown by Table 8, openness-to-change

Table 8

*Partial Correlation Coefficients, Predictor Variables, Criterion Variables,
Study 1 (N = 134)*

	1	2	3	4	5	6
1 Self-enhancement	-	-	-	-	-	-
2 Self-transcendence	-.77**	-	-	-	-	-
3 Openness to change	-.25**	.11	-	-	-	-
4 Conservation	.01	-.41**	-.65**	-	-	-
5 Equality Scores	.07	-.09	.01	.01	-	-
6 Equity Scores	.08	-.10	-.11	.11	.30**	-

** $p < .01$

was more related to the equity scores ($pr = -.11$) than equality scores ($pr = .01$), but these relationships were not statistically significant. Interestingly, the higher the openness-to-change score, the lower the equity score and the higher the equality score would be. As a result, hypothesis 4 was not supported.

Hypothesis 5 predicted that the more the participants endorse conservation, the more they would use the equality rule over equity rule. Partial correlations were conducted to correlate conservation with the equality and equity scores, using MRAT as the covariate. The relationships were not statistically significant (see Table 8). Contrary to the hypothesis, conservation was more related to the equity score ($pr = .11$) than equality score ($pr = .01$). The higher the conservation score, the more one would distribute equitably. Therefore, hypothesis 5 was also rejected.

A discriminant analysis was conducted to determine the predictability of the predictor variables (the individualism-collectivism dimension, Schwartz's four value types including self-enhancement, self-transcendence, openness-to-change, conservation) on the criterion variable (allocation rule that participants followed). First, rather than assuming equality probability of membership in the two groups (both 50%), a priori probabilities of 80% for the equity allocation and 20% for the equality allocation were used because the majority of participants followed the equity rule (See Table 4). Second, all the predictor variables were entered together to assess the degree to which the predictors distinguish between participants who followed the equity and equality rules, as well as to determine which variables predict group membership most reliably.

There was no statistically significant difference between the predictor variables (the individualism-collectivism dimension, self-enhancement, self-transcendence, openness-to-change, and conservation) and the criterion variables (equality and equity rules); $\chi^2(4) = 4.76, p > .05, \lambda = .87$, canonical correlation = .19. Hypothesis 6 was rejected for lacking statistical significance. Table 9 presents the correlation of each variable with the discriminant function. Openness-to-change was an important variable that might predict the allocation rule one would use. The individualism-collectivism dimension was unimportant. These findings suggested that Schwartz's value set is a better predictor than the individualism-collectivism dimension in determining the allocation rule that people followed. In terms of classification of group membership, 110 participants were correctly classified as the individuals who used the equity rule and no participant was correctly classified as those who followed the equality rule with a correct classification rate of 82.10%.

Table 9

Discriminant Function, Analysis, Equity and Equality groups, Study I (N = 134)

Predictor Variables	Correlation with discriminant function		Univariate t-value
Collectivism	.14		.00
Self-enhancement	.52		.01
Self-transcendence	-.24		.00
Openness to change	1.20		.02
Conservation	-.91		.00

	Predicted group membership		Total
	Equity	Equality	
Actual group membership			
Equity	110 (99.10%)	1 (.90%)	111
Equality	23 (100%)	0 (0%)	23
	% correctly classified:		82.10%

Discussion

Participants of the study did not show a tendency in individualism-collectivism. They also displayed similar beliefs toward each of their personal values, meaning that all the values were important to them. In addition, age, college major, and birthplace of the participants were unrelated to distributive behavior. Interestingly, gender had a significant effect on the equality scores, indicating that the females were more likely to distribute equally than males. This finding was consistent with a previous study that females and males used different allocation principle to distribute rewards (Leung & Bond, 1984).

Hypothesis 1 proposed that the more collective the participants are, the more they would follow the equality rule over the equity rule. Although the result was not statistically significant, it was found that collectivism was more related to the participants' equality scores than equity scores. The individuals who favored collectivism had a tendency of using the equality rule to distribute rewards. According to hypothesis 2, the individuals who endorse self-enhancement are more likely to distribute equitably instead of allocating equally. A trend of using the equity rule over the equality rule was detected among people who endorsed self-enhancement, but the relationships between these variables were not significantly related. Hypothesis 3, which stated that the more the individuals value self-transcendence, the more likely they would use the equality rule over equity rule, was not supported. Contrary to what was predicted, the participants who endorsed self-transcendence tend to use the equity rule more than equality principle to allocate rewards.

Also, hypothesis 4 stated that people who value openness-to-change would choose the equity rule over equality rule to distribute the bonuses. The findings revealed a tendency of using the equity rule over equality rule among individuals who held a belief in openness-to-change. However, an unexpected finding was found between the openness-to-change value and the equity rule. Openness-to-change was negatively related to the equity rule, meaning that the more the participants endorsed openness-to-change, the lower their equity scores would be. This contradicted with our earlier finding. Further investigation is needed in order to clarify the inconsistency. Hypothesis 5, which stated that the more the participants endorse conservation, the more likely they would use the equality rule over equity rule, was not supported. The finding demonstrated the opposite. People who valued conservation tend to use the equity rule instead of the equality rule.

Lastly, a comparison was made between individualism-collectivism and Schwartz's value system in predicting people's distributive behavior. The analyses indicated that individualism-collectivism and Schwartz's value system did not have any significant influence on people's actions in reward allocation. It was found that the individualism-collectivism dimension was unimportant when compared to the Schwartz's values. Interestingly, openness-to-change was the key contributor in predicting the allocation principles, even though its relationship with the allocation rules was unclear. Unfortunately, there was no statistical significance between the predictor variables and criterion variables. One possible explanation was the design of the scenario. The manipulation of the amount of bonuses might not be efficient to distinguish the equity

rule from the equality rule; therefore, the second study was conducted to clarify such issues. All six hypotheses would be tested again in the second study.

Experiment 2

Method

Participants

Participants were also recruited from introductory psychology courses at San Jose State University. Their participation was in partial fulfillment of the requirement of the course. Thirty-five undergraduates participated in the study, with 30 students born in the U.S.A. and 5 born outside of the U.S. Among the participants, 25 were female and 10 were males. Six students were psychology majors whereas 29 were non-psychology majors. The mean age of the participants was 19.66 years.

Instruments

Except for the scenario, the survey instrument was the same as the questionnaire of the first study. The scenario was in the same format as the one used in the first study, except for adding an employee with low performance and the bonus money was increased to \$1,000. The high performer contributed twice as much as the other two. The performance level of those with low contribution was the same. Each student played the role of supervisor and divided \$1,000 of bonus money to these three subordinates.

Procedures

The procedures were the same as the first study. Participants were asked to read and sign a consent form and complete a survey within thirty minutes. Once they finished, they returned the questionnaires to the investigator.

Results

Descriptive Statistics

Descriptive statistics on the predictor variables are presented in Table 10. Mean for collectivism was 5.05, suggesting that participants were not taking sides on individualism-collectivism. They showed endorsement in neither collectivism nor individualism. Means for self-enhancement, self-transcendence, openness-to-change, and conservation were about 7 or above, revealing that all of them were valued or strongly valued by the participants. Descriptive statistics on the criterion variables are presented in Table 11. The high performer got a mean of 45.17% of the monetary reward whereas each of the low performers received 27.41%. 62.90% of the participants used the equity rule and 37.10% chose the equality rule, revealing that more than half of the participants followed the equity allocation (see Table 12).

Inferential Statistics

Table 13 presents the inter-relations between the predictor variables. Partial correlations were performed on collectivism, self-enhancement, self-transcendence, openness-to-change, and conservation, with a covariate called MRAT (score was computed from dividing the total score on all value items by the total number of items, which was 56; Schwartz, 1992). No relation between these variables was found statistically significant. Interestingly, collectivism was more related to conservation than self-enhancement, self-transcendence, and openness-to-change. Self-enhancement and self-transcendence are more related to each other, whereas openness-to-change and conservation are more associated to each other.

Table 10

Mean of the Predictor Variables, Study 2

Variables	Agreement		
	<i>N</i>	<i>M</i>	<i>SD</i>
Collectivism	35	5.05	.61
Self-enhancement	35	6.78	.92
Self-transcendence	35	7.45	.95
Openness to change	35	7.61	.83
Conservation	35	7.18	.88

Table 11

Participants' Allocation as a Function of Performance Level, Study 2

Performance Level	Monetary Reward		
	<i>N</i>	<i>M</i>	<i>SD</i>
High	35	45.17%	6.82
Low	35	27.41%	3.40

Note. Numbers refer to the percentage of money participants allocated to the high performer.

Table 12

Frequency of Participants Who Followed the Allocation Rules, Study 2

Allocation Rule	Participants		
	<i>N</i>	<i>Frequency</i>	<i>Percent</i>
Equity	35	22	62.90%
Equality	35	13	37.10%

Table 13

Partial Correlation Coefficients, Predictor Variables, Study 2 (N =35)

	1	2	3	4	5
1 Collectivism	-	-	-	-	-
2 Self-enhancement	-.39	-	-	-	-
3 Self-transcendence	.31	-.75	-	-	-
4 Openness-to-change	-.53	.11	-.30	-	-
5 Conservation	.59	-.42	.09	-.71	-

Participants' demographic information is shown in Table 14. The majority of participants were born in the U.S.A. and declared their major as non-psychology. There were more female than male participants. A series of one-way analysis of variance (ANOVA) were performed to determine the demographic differences on the equality and equity scores. There was no statistically significant difference between the demographic variables (gender, U.S. native, major) and the allocation scores (equity, equality). Also, age is unrelated to the allocation scores.

Hypothesis 1 predicted that the more the collective participants are, the more they would follow the equality rule over the equity rule. Pearson correlations were conducted to determine if collectivism correlated to the equality and equity scores. As shown in Table 15, there were no statistically significant relationships between collectivism and the allocation scores (equity, equality). Pearson's correlation coefficient for collectivism and equity scores ($r = .08$) is slightly greater than the one for collectivism and equality scores ($r = .07$), revealing that participants' collectivism level is slightly more related to their equity scores than equality scores. Surprisingly, the higher the collectivism score, the greater the equity score. The more one values collectivism, the greater he or she would distribute equitably, thus the less he or she would distribute equally. The finding was opposed to the original hypothesis, resulting in hypothesis 1 being rejected.

Hypothesis 2 predicted that the more the participants endorse self-enhancement, the more they would use the equity rule over equality rule. Partial correlations were performed to examine the relationships between self-enhancement and the allocation scores (equality, equity), with MRAT as the covariate. Table 16 presents a partial

Table 14

Frequency of Participants, Demographic Variables, Study 2

Demographic Variables	Participants		
	<i>N</i>	<i>Frequency</i>	<i>Percent</i>
Female	35	20	57.10%
Male	35	15	42.90%
Born in the U.S.	35	30	85.70%
Born outside of the U.S.	35	5	14.30%
Psychology major	35	6	17.10 %
Non-Psychology major	35	29	82.90%

Table 15

Pearson Correlation Coefficients, Predictor and Criterion Variables, Study 2 (N =35)

	1	2	3
1 Collectivism	-	-	-
2 Equity Scores	.08	-	-
3 Equality Scores	.07	.98**	-

** $p < .01$

Table 16

Partial Correlation Coefficients, Predictor Variables, Criterion Variables, Study 2
(N = 35)

	1	2	3	4	5	6
1 Self-enhancement	-	-	-	-	-	-
2 Self-transcendence	-.75**	-	-	-	-	-
3 Openness-to-change	.11	-.30	-	-	-	-
4 Conservation	-.42*	.09	-.71**	-	-	-
5 Equality Scores	.26	-.29	-.09	.09	-	-
6 Equity Scores	.24	-.30	-.07	.10	.98**	-

* $p < .05$, ** $p < .01$

correlation coefficient matrix of the personal value variables (self-enhancement, self-transcendence, openness-to-change, conservation) and criterion variables (equity, equality scores). There was no statistically significant relationship between self-enhancement and the allocation scores. The partial correlation coefficient for self-enhancement and the equality scores ($pr = .26$) is higher than the one for self-enhancement and the equity scores ($pr = .24$). This suggested that the more one endorses self-enhancement, the more he or she would use the equality rule. Therefore, hypothesis 2 was not supported.

Hypothesis 3 predicted that the more the participants endorse self-transcendence, the more they would use the equality rule over equity rule. Partial correlations were conducted to test the relationships of these variables, with MRAT as the covariate. No significant relationships were found between self-transcendence and allocation scores. Contrary to the hypothesis, self-transcendence is more related to the equity scores ($pr = -.30$) than equality scores ($pr = -.29$), meaning the more participants value self-transcendence, the more they would follow the equity rule over equality rule (see Table 16). Therefore, hypothesis 3 was not supported.

Hypothesis 4 predicted that the more the participants endorse openness-to-change, the more they would use the equity rule over equality rule. Partial correlations were performed to correlate participants' scores on openness-to-change with their equality and equity scores, using MRAT as the covariate. As shown by Table 16, there was no statistically significant relationship between openness-to-change and the allocation scores (equity, equality). Therefore, hypothesis 4 was not supported. Interestingly, the strength

of the relationship between openness-to-change and the equality scores ($pr = -.09$) is greater than the link between openness-to-change and the equity scores ($pr = -.07$). This is contrary to hypothesis 4. The more one endorses openness-to-change, the more one would distribute rewards equally.

Hypothesis 5 predicts that the more the participants endorse conservation, the more they would use the equality rule over equity rule. Partial correlations were conducted to correlate conservation with the equality and equity scores, using MRAT as the covariate. No statistically significant relationships were found between conservation and the allocation scores, resulting in hypothesis 5 being rejected. Contrary to the hypothesis, the strength of the relationship for conservation and the equity scores ($pr = .10$) was slightly greater than the relationship of conservation and the equality scores ($pr = .09$), revealing that the more one endorse conservation, the more he or she would use the equity rule.

A discriminant analysis was conducted to determine the predictability of the predictor variables (the individualism-collectivism dimension, four personal values including self-enhancement, self-transcendence, openness-to-change, conservation) on the criterion variable (allocation rule that participants followed). First, rather than assuming equality probability of membership in the two groups (both 50%), a priori probabilities of 60% for the equity allocation and 40% for the equality allocation were selected because approximately 60% of the participants followed the equity rule. Second, all the predictor variables were entered together to assess the degree to which the

predictors distinguish between participants who followed the equity and equality rules, as well as to determine which variables predict group membership most reliably.

There was no statistically significant difference between the predictor variables (the individualism-collectivism dimension, self-enhancement, self-transcendence, openness-to-change, and conservation) and the criterion variables (equality and equity rules); $\chi^2(5) = 5.95, p > .05, \lambda = .82$, canonical correlation = .42. Hypothesis 6 was rejected for lacking statistical significance. Table 17 presents the correlation of each variable with the discriminant function. Self-transcendence was an important variable that might predict the allocation rule one would use. Openness-to-change and the individualism-collectivism dimension were unimportant. These findings suggested that Schwartz's value set was a better predictor than the individualism-collectivism dimension in determining the allocation rule that participants used. In terms of classification of group membership, 19 participants were correctly classified as the individuals who used the equity rule and 7 participants were correctly classified as the ones who followed the equality rule with a correct classification rate of 74.30%.

Table 17

Discriminant Function, Analysis, Equity and Equality Groups, Study 2 (N = 35)

Predictor Variables	Correlation with discriminant function		Univariate t-value
Collectivism	.38		.01
Self-enhancement	.42		.00
Self-transcendence	-1.74		.09
Openness to change	.14		.03
Conservation	.87		.01

	Predicted group membership		Total
	Equity	Equality	
Actual group membership			
Equity	19 (86.40%)	3 (13.60%)	22
Equality	6 (46.20%)	7 (53.80%)	13
	% correctly classified:		74.30%

Discussion

The second study was attempted to investigate the relationships between individualism-collectivism, Schwartz's values, and distributive behavior by manipulating the dependent variables differently. The participants' attitude toward individualism-collectivism was neutral. All of the Schwartz's values were important to them. More than sixty percent of the individuals used the equity principle to distribute rewards. In addition, no significant effect was found between the demographic factors and allocation scores. Age, gender, college major, and the birthplace did not have any effects on people's distributive behavior.

Contrary to hypothesis 1, the study showed that the more collective the individuals were, the more likely they would use the equity rule over equality rule. This unexpected finding was inconsistent with a large number of previous studies that found the collectives to distribute rewards equally despite of each recipient's performance (e.g., Rusbult, Insko, & Lin, 1995; Wade-Benzoni et al., 2002). As predicted by hypothesis 2, individuals who believed in self-enhancement would use the equity rule over the equality rule. The self-enhancement value was more related to the equity score than the equality score, which was expected except that the relationships were not statistically significant. Hypothesis 3 was also not supported because conservation was more related to the equity rule than equality rule. Individuals who endorsed conservation tend to allocate on the basis of performance. This result contrasted with what was predicted. Unexpected results were found when testing hypotheses 4 and 5. Individuals who endorsed openness-to-change tend to use the equality rule over equity rule, whereas those who rated

conservation as being important showed the opposite. These outcomes were the opposite of what the original hypotheses predicted.

Similar to study 1, the second study examined the extent to which individualism-collectivism and Schwartz's value system predicted the rules that people followed. The results suggested those two factors were not significant predictors of the allocation principles that people used. Among all the factors presented in the current study, self-transcendence was the most important contributor in predicting which allocation principle the individuals would choose. Individualism-collectivism was an unimportant factor in determining people's allocation decision. Interestingly, the effect of openness-to-change was found to be unimportant, which was in conflict of the finding of Study 1. Also, no statistical significance was detected among the relationships between the predictor and criterion variables.

General Discussion

The purpose of this study was to investigate whether or not individualism-collectivism and Schwartz's value system have an impact on the rules that people use to assign monetary reward. It was first hypothesized that the individualism-collectivism dimension was related to the allocation principles, meaning that the more collective one is, the more one would distribute the monetary reward equally. For Schwartz's value system, the more people endorse self-enhancement or openness-to-change, the more they would distribute the compensation equitably. On the other hand, the more they value self-transcendence or conservation, the more they would allocate equally. Last of all, the effects of individualism-collectivism and Schwartz's value system were compared. Since Schwartz's value system was preferred over individualism-collectivism in analyzing individual beliefs and behaviors, it was predicted to be a better indicator of the allocation principle that people followed.

Summary of Results

Two experiments were conducted to test the hypotheses. While both were attempted to examine the relationships between individualism-collectivism, Schwartz's value systems, and allocation behavior, they were different in one survey instrument (i.e., the bonus amount and number of recipients in the scenario). The samples of both experiments were mainly composed of college students who were born in the U.S. and declared their major as non-psychology. Both experiments had more females than males. The sample size of the first experiment was almost four times more than the second one. Participants in both experiments did not express their tendency in individualism-

collectivism. They also endorsed all the Schwartz's values (self-enhancement, self-transcendence, openness-to-change, and conservation). Both experiments had more individuals using the equity rule than equality rule. In addition, a significant relationship was found between gender and the equity scores in the first study. The male participants were more likely to distribute equitably than the female participants.

Although both experiments did not detect any significant results between the predictor and criterion variables, a few patterns were observed and provided support to what was predicted. First, the first experiment demonstrated that the more collective people are, the more they would adopt the equality rule over equity rule to distribute rewards. Second, the participants who endorsed self-enhancement tend to use the equity rule over equality rule in both experiments. Third, both experiments showed that the Schwartz's value accounted for more differences in people's distributive behaviors than individualism-collectivism, meaning that personal value was a more important contributor than culture in reward allocation.

Also, there were some unexpected results in the experiments. The second experiment did not support the influence of individualism-collectivism on people's distributive behavior. Both experiments found that the relationships between three values (self-transcendence, openness-to-change, conservation) and distributive behavior were contrary to what was predicted. The more the participants endorsed self-transcendence or conservation, the more they would use the equity rule over equality rule. On the other hand, the more the participants valued openness-to-change, the more they would favor the equality rule over the equity rule. Results concerning the relationships between

individualism-collectivism, Schwartz's value system, and distributive behavior were inconclusive.

Implications of Findings

Based on the earlier work, Hofstede's individualism-collectivism concept and Schwartz's value theory were used to explain and predict distributive behavior (Fischer & Smith, 2003; Sama & Papamarcos, 2000). These two concepts were assessed directly and compared in their predictability of the rules that people used in reward allocation. This study added empirical evidence to the allocation literature that personal value was a better indicator of distributive behavior than culture. This was consistent with Fischer and Smith's (2004) suggestion. Also, a discovery that is worthy of discussion was that, a gender difference was observed in the distributive behavior of the college students. Males tend to distribute more equitably than females. This study demonstrated the behavioral differences between females and males. Although several findings contrasted with what was predicted, the current study provided a detailed investigation on the relationships of culture, personal value, and distributive behavior.

Strengths and Limitation of the Study

This study was the first research work to study individualism-collectivism and Schwartz's value system together and compare their effects on distributive behavior. Unlike the majority of previous research, it differentiated participants according to their attitude toward individualism-collectivism. The current study also filled in the need, which was to study Schwartz's value system and its relationship with distributive

behavior. The findings on individualism-collectivism and Schwartz's value system were persuasive since the concepts were measured directly.

Nevertheless, several limitations should be noted. First, the present study did not identify any significant relations between individualism-collectivism, Schwartz's value system, and distributive behavior. One possible explanation was that the sample size was too small to obtain any statistical significance. Second, although this study recruited participants in a university with a diverse population, it did not capture enough individuals who were born outside of the U.S. Lastly, the samples of this study might not represent the general population since the majority of participants were relatively young. Most of them were college freshmen. Lifton (1962) indicated that college students were more similar in their personal values than adults. The similarity in personal values might explain the inconsistency of the findings. It was said that once the adolescents leave the school environment, their dominant personal values would be formed through a process of socialization.

Future Research

The inconclusive findings of the current study have called for more investigations on the relationship between culture, personal value, and distributive behavior. Researchers are encouraged to replicate this study by using a more representative sample (e.g., full-time employees from a multinational corporation). Also, investigators are encouraged to use a more sensitive instrument to measure individualism-collectivism since the participants did not show tendency on this study's measurement. While the present study focused on the impact of culture and personal values on two major

allocation rules (equity, equality), future research should explore these effects on other allocation principles such as the need rule (i.e., the distribution of rewards should be on an individual necessity basis. A greater proportion of a reward should be allocated to individuals who need the most.)

Conclusions

Taken as a whole, the question, whether or not Hofstede's individualism-collectivism concept and Schwartz's value theory explain distributive behavior, remains unclear. Apparently, this issue is more complicated than what it appears to be. Researchers should continue studying culture, personal value, and distributive behavior until their relations are clarified. The allocation research could enhance people's understanding to why the employers distribute rewards differently in the work setting. Also, it could help practitioners develop a useful performance measurement and reward system. With a reward system that meets the satisfaction of employees, it will become a strength in the organization. Having a bad measurement system can encourage unproductive behavior. Clearly, it is important to identify factors that affect people's distributive decision.

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Appendix A: Permission Letters

10171 Larwin Ave. Unit 4
Chatsworth, CA 91311
U.S.A.

March 29, 2007

Prof. Shalom H. Schwartz
Department of Psychology
The Hebrew University of Jerusalem
Jerusalem, 91905 Israel

Dear Dr. Schwartz:

I am completing a master's thesis at San Jose State University entitled "the impact of culture and personal value on distributive behavior." I would like your permission to reprint in my thesis excerpts from the following:

Schwartz, S. H. (1994b). Studying human values. In A. M. Bouvy, F. J. R. van de Vijver, P. Boski, & P. Schmitz (Eds), *Journeys into cross-cultural Psychology. Selected papers from the 11th International Conference of the International Association for Cross-Cultural Psychology (IACCP)* (pp. 239-254). Lisse: Swets & Zeitlinger.

The excerpts to be reproduced are: (1) Table – Definitions of the Ten Individual-Level Types of Values in Terms of Motivational Goals, and (2) Figure – Higher-Order Value Types and Polar Value Dimensions.

The requested permission extends to any future revisions and editions of my thesis, including non-exclusive world rights in all languages, and to the prospective publication of my thesis by UMI. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me. Thank you very much.

Sincerely,

Crystal H. Yu
Graduate Student, San Jose State University (U.S.A.)

PERMISSION GRANTED FOR THE
USE REQUESTED ABOVE:

See attached email _____
Shalom H. Schwartz, Ph. D

Date: 4/1/2007 _____

10171 Larwin Ave. Unit 4
Chatsworth, CA 91311
U.S.A.

March 29, 2007

Prof. Shalom H. Schwartz
Department of Psychology
The Hebrew University of Jerusalem
Jerusalem, 91905 Israel

Dear Dr. Schwartz:

I am completing a master's thesis at San Jose State University entitled "the impact of culture and personal value on distributive behavior." I would like your permission to reprint in my thesis excerpts from the following:

Schwartz, S. H., & Boehnke, Klaus (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, 38, 230-255.

The excerpts to be reproduced is: the Schwartz Value Survey (SVS).

The requested permission extends to any future revisions and editions of my thesis, including non-exclusive world rights in all languages, and to the prospective publication of my thesis by UMI. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me. Thank you very much.

Sincerely,

Crystal H. Yu
Graduate Student, San Jose State University (U.S.A.)

PERMISSION GRANTED FOR THE
USE REQUESTED ABOVE:

See attached email _____
Shalom H. Schwartz, Ph. D

Date: 4/1/2007

N/A

Compact HeaderHide Pane

shalom schwartz <msshach@mscc.huji.ac.il>

AddTo: Crystal Yu <cyu504@yahoo.com>

Table_Figure.doc (23KB); SVS.doc (23KB)

To: Crystal Yu <cyu504@yahoo.com>

Subject: Re: Permission Letter for using the SVS (From Crystal Yu)

X-Attachments: C:\Program Files\qualcomm\Eudora\attach\Table_Figure.doc;

C:\Program Files\qualcomm\Eudora\attach\SVS.doc;

Dear Crystal Yu,

I am currently traveling and will not return home until mid April. I can therefore not scan and e-mail or fax the letters to you. If it is sufficient for me to attach your letters and my approval in this e-mail, wonderful. If not, You will have to wait until after mid-April to receive what you request. I am sorry.

To whom it may concern:

Attached are two requests from Crystal Yu to reproduce material from my publications. This message is to provide my permission to her to do so.

Sincerely,

Shalom Schwartz

WebMail: <http://plutomail.huji.ac.il>

Print

Page 1 of 2

From: Crystal Yu
To: triandis@uiuc.edu
Date: Wednesday, June 7, 2006 8:44:57 AM
Subject: Re: Request permission to use your INDCOL survey

Dear Dr. Triandis,

Thank you very much for your assistance in my study!

Best Regards,

Crystal Yu

From: Harry Triandis <triandis@uiuc.edu>
 To: "Crystal Yu" <cyu504@hotmail.com>
 Subject: Re: Request permission to use your INDCOL survey
 Date: Wed, 07 Jun 2006 09:47:51 -0500
 >Dear Crystal: You do not need permission. The instrument was not
 >copyrighted, because it was developed only to do research. I attach
 >several files that may interest you, Best, Harry Triandis
 >
 >At 03:46 PM 6/6/2006, you wrote:
 >
 >>Dear Dr. Triandis,
 >>
 >> <?xml:namespace prefix = o ns =
 >>"urn:schemas-microsoft-com:office:office" />
 >>
 >>My name is Crystal Yu. I am currently working on my master degree
 >>in Industrial/Organizational Psychology at San Jose State
 >>University. My thesis is entitled: the impact of culture and human
 >>value on allocation behavior. This research is being conducted as
 >>part of my master degree requirement that is strictly for academic
 >>purposes.
 >>
 >>
 >>
 >>I am interested in using the 32-item individualism-collectivism
 >>(INDCOL) survey that you developed with Dr. Singelis and the others
 >>for my thesis (please see below for the reference). I'm unable to
 >>find the contact information to reach the first author, Dr.
 >>Singelis. Therefore, I am writing to you and wonder if you can let
 >>me know whether there is a possibility for me to have a copy of
 >>your individualism-collectivism survey? I would like to request
 >>your permission to use your measurement as well. Your help is
 >>greatly appreciated! Thank you very much! I look forward to
 >>hearing from you.
 >>
 >>
 >>
 >>Sincerely,
 >>
 >>Crystal Yu
 >>
 >>Cyu504@hotmail.com
 >>
 >>
 >>
 >>Reference:
 >>
 >>
 >>

Print

Page 2 of 2

>>Singelis, T.M, Triandis, H.C., Bhawuk, D., & Gelfand, M.J. (1995).
>>Horizontal and
>>
>>vertical dimensions of individualism and collectivism: A
>>theoretical and measurement refinement. Cross-Cultural Research:
>>The Journal of Comparative Social Science, 29 (3), 240-275.

><< ICMEASUREMENT.doc >>

><< INDCOL95.txt >>

><< SCENARIO.doc >>

Re: Request permission for using your allocation survey

Standard HeaderHide Pane

"jkmiller@som.umass.edu" <jkmiller@som.umass.edu>

AddWednesday, September 7, 2005 5:25:14 PM

To:Crystal Yu

Hi Crystal,

Yes, you are welcome to use our scenarios. Please let me know if I can be of any help.

Best regards,

Jane Miller

Quoting Crystal Yu <cyu504@yahoo.com>:

> Dear Dr. Jane Miller,

>

> My name is Crystal Yu. I am a graduate student studying Industrial/Organizational Psychology at San Jose State University, California. The reason I am writing to you is to ask for your permission to use the scenarios that you created for my Masters thesis. I found it on an article that was written by you, Daniel Miller, and Weijun Zhang ("Equity, equality and need as determinants of pay allocations: A comparative study of Chinese and U.S. managers"; 1997).

My study will examine the impact of human values on allocation behaviors. I'm interested in adopting the series of scenarios from your study and make some changes to measure allocation preferences for my thesis.

Can you please let me know if I can use your series of scenarios for my thesis? I really hope I can get your permission to use the scenarios. Your help is greatly appreciated! Thank you for your time!

Sincerely,

Crystal Yu

Cyu504@yahoo.com

>

> Do You Yahoo!?

> Tired of spam? Yahoo! Mail has the best spam protection around

Appendix B: Experiment 1 Instrument

San José State
UNIVERSITY

College of Social Sciences
Department of Psychology

One Washington Square
San José, CA 95192-0120
Voice: 408-924-5600
Fax: 408-924-5605
<http://www.psych.sjsu.edu>

San Jose State University Masters Thesis Project
The Impact of Culture and Value in Reward Allocation

Dear Prospective Study Participant,

You have been asked to participate in a research study investigating the relationship between culture, value, and allocation behavior. You will be asked to answer questions through a pen and paper questionnaire. Participants' responses will be averaged together and used toward the completion of a Master thesis project. The survey takes approximately 20 minutes to complete.

There is no risk in filling out this questionnaire. But if you so choose, at any time during this survey, you may decline participation and not be penalized for doing so. Participation in this study is completely voluntary. You may choose to skip any questions that make you feel uncomfortable.

If you have further questions about this study at any time, you can contact Crystal Yu, Graduate Student in Psychology at San Jose State University at the following number: (626) 375-5048. Complaints about the research may be presented to Dr. Sheila Bienenfeld (Chair, Department of Psychology) at (408) 924-5642. Questions about research, subjects' rights or research-related injury may be presented to Dr. Pamela Stacks (Interim Associate Vice President, Graduate Studies and Research) at (408) 924-2480.

When you have completed the survey, please place it in the envelope provided. The envelope will be collected once all surveys have been turned in. You may skip any questions you do not want to respond. Your consent to participate is voluntary and you may refuse to participate in the study or in any part of the study. Also, you are free to withdraw at any time without prejudice to your relationship with San Jose State University or your respective college department. No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose not to participate. There is no compensation for participation in this study. At the time that you sign this consent form, you will receive a copy of it for your records, signed and dated by the investigator.

Sincerely,

Crystal Yu, SISU Industrial/Organizational Psychology Masters candidate

Faculty Instructor
Howard Tokunaga
Professor

The signature of a participant on this document indicates agreement to participate in the study. The signature of a researcher on this document indicates that the participant has been fully informed of his or her rights.

The California State University:
Chancellor's Office
Bakersfield, Channel Islands, Chico,
Dominguez Hills, East Bay, Fresno,
Fullerton, Humboldt, Long Beach,
Los Angeles, Maritime Academy,
Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Signature	Date
	10/22/06
Investigator's Signature	Date

Survey

I. In this section, we would like to know how you think and feel about different aspects of life.

Using the 9-point scale below, please indicate your level of agreement or disagreement with each of the following statements by writing the appropriate number next to the statement. There are no right or wrong answers.

-----	-----	-----	-----	-----	-----	-----	-----	
1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

My happiness depends on the happiness of those around me. _____

Winning is everything. _____

I sacrifice my self-interest for the benefit of my group. _____

It annoys me when other people perform better than I do. _____

It is important for me to maintain harmony within my group. _____

It is important to me that I do my job better than others. _____

I like sharing little things with my neighbors. _____

I enjoy working in situations involving competition. _____

The well-being of my co-workers is important to me. _____

I often do "my own thing". _____

If a relative were in financial difficulty, I would help within my means. _____

Competition is the law of nature. _____

If a co-worker gets a prize I would feel proud. _____

Being a unique individual is important to me. _____

To me, pleasure is spending time with others. _____

When another person does better than I do, I get tense. _____

Children should be taught to place duty before pleasure. _____

Without competition it is not possible to have a good society. _____

I feel good when I cooperate with others. _____

- Some people emphasize winning; I am not one of them. _____
- It is important to me that I respect decisions made by my groups. _____
- I rather depend on myself than on others. _____
- Family members should stick together, no matter what sacrifices are required. _____
- I rely on myself most of the time; I rarely rely on others. _____
- Parents and children must stay together, as much as possible. _____
- My personal identity independent from others is very important to me. _____
- It is my duty to take care of my family, even when I have to sacrifice what I want. _____
- My personal identity is very important to me. _____
- I am a unique person, separate from others. _____
- I respect the majority's wishes in groups of which I am a member. _____
- I enjoy being unique and different from others. _____
- It is important to consult close friends and get their ideas before making a decision. _____
- Acting as an individual is more appealing to me than acting as a member of a group. _____
- I believe group harmony is more important than personal satisfaction. _____
- I would rather be known for who I am than as a member of an organization to which I belong. _____
- The interests of the group are generally more important than personal interests. _____
- I believe individual decisions usually yield better outcomes than group decisions. _____
- My personal happiness depends to a large extent on stable social relationships. _____
- I would rather pursue my own ends in my own way, freely, without considering the opinions of others. _____

I believe that it is my duty and obligation to observe the norms set by the group to which I belong. _____

Whether or not a person belongs to a group I am in makes no difference in the way I treat them. _____

I prefer to work in a group rather than as an individual. _____

III. Please read the following scenario and complete the summary chart by filling in the amount of money you would award each employee.

"You are the supervisor of a work unit that assembles computer keyboards. You assigned a project of building computer keyboards to your employees, Tom and John. They completed the project successfully. Tom built twice as many keyboards than John. The company awarded a quarterly bonus of \$500 total to Tom and John. You were asked to distribute this monetary reward between Tom and John. Please indicate the amount you would award to each of them."

Employee	Allocation
Tom	\$
John	\$
Total allocation not to exceed	\$500

IV. We would like to gather some background information of our participants. Please answer each of the following questions.

Age as of your last birthday: _____

Gender: Female (____) Male (____)

Were you born in the U.S.A.? 1 No 2 Yes

If you were not born in the U.S.A.,

a. Which country were you born? _____

b. How long have you lived in the U.S.A.? _____

Major (Please circle number)

1	Psychology
2	Other (Please specify) _____
3	Undeclared

Appendix C: Experiment 2 Instrument

College of Social Sciences
Department of Psychology
 One Washington Square
 San José, CA 95192-0120
 Voice: 408-924-5600
 Fax: 408-924-5605
<http://www.psych.sjsu.edu>

San Jose State University Masters Thesis Project
The Impact of Culture and Value in Reward Allocation

Dear Prospective Study Participant,

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There is no risk in filling out this questionnaire. But if you so choose, at any time during this survey, you may decline participation and not be penalized for doing so. Participation in this study is completely voluntary. You may choose to skip any questions that make you feel uncomfortable.

If you have further questions about this study at any time, you can contact Crystal Yu, Graduate Student in Psychology at San Jose State University at the following number: (626) 375-5048. Complaints about the research may be presented to Dr. Sheila Bienenfeld (Chair, Department of Psychology) at (408) 924-5642. Questions about research, subjects' rights or research-related injury may be presented to Dr. Pamela Stacks (Interim Associate Vice President, Graduate Studies and Research) at (408) 924-2480.

When you have completed the survey, please place it in the envelope provided. The envelope will be collected once all surveys have been turned in. You may skip any questions you do not want to respond. Your consent to participate is voluntary and you may refuse to participate in the study or in any part of the study. Also, you are free to withdraw at any time without prejudice to your relationship with San Jose State University or your respective college department. No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose not to participate. There is no compensation for participation in this study. At the time that you sign this consent form, you will receive a copy of it for your records, signed and dated by the investigator.

Sincerely,

Crystal Yu, SJSU Industrial/Organizational Psychology Masters candidate

Faculty Instructor
 Howard Tokunaga
 Professor

The signature of a participant on this document indicates agreement to participate in the study. The signature of a researcher on this document indicates that the participant has been fully informed of his or her rights.

The California State University:
 Chancellor's Office
 Bakersfield, Channel Islands, Chico,
 Dominguez Hills, East Bay, Fresno,
 Fullerton, Humboldt, Long Beach,
 Los Angeles, Maritime Academy,
 Monterey Bay, Northridge, Pomona,
 Sacramento, San Bernardino, San Diego,
 San Francisco, San José, San Luis Obispo,
 San Marcos, Sonoma, Stanislaus

Signature	Date
	10/22/06
Investigator's Signature	Date

Survey

I. In this section, we would like to know how you think and feel about different aspects of life.

Using the 9-point scale below, please indicate your level of agreement or disagreement with each of the following statements by writing the appropriate number next to the statement. There are no right or wrong answers.

-----	-----	-----	-----	-----	-----	-----	-----	
1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

My happiness depends on the happiness of those around me.	_____
Winning is everything.	_____
I sacrifice my self-interest for the benefit of my group.	_____
It annoys me when other people perform better than I do.	_____
It is important for me to maintain harmony within my group.	_____
It is important to me that I do my job better than others.	_____
I like sharing little things with my neighbors.	_____
I enjoy working in situations involving competition.	_____
The well-being of my co-workers is important to me.	_____
I often do "my own thing".	_____
If a relative were in financial difficulty, I would help within my means.	_____
Competition is the law of nature.	_____
If a co-worker gets a prize I would feel proud.	_____
Being a unique individual is important to me.	_____
To me, pleasure is spending time with others.	_____
When another person does better than I do, I get tense.	_____
Children should be taught to place duty before pleasure.	_____
Without competition it is not possible to have a good society.	_____
I feel good when I cooperate with others.	_____

- Some people emphasize winning; I am not one of them. _____
- It is important to me that I respect decisions made by my groups. _____
- I rather depend on myself than on others. _____
- Family members should stick together, no matter what sacrifices are required. _____
- I rely on myself most of the time; I rarely rely on others. _____
- Parents and children must stay together, as much as possible. _____
- My personal identity independent from others is very important to me. _____
- It is my duty to take care of my family, even when I have to sacrifice what I want. _____
- My personal identity is very important to me. _____
- I am a unique person, separate from others. _____
- I respect the majority's wishes in groups of which I am a member. _____
- I enjoy being unique and different from others. _____
- It is important to consult close friends and get their ideas before making a decision. _____
- Acting as an individual is more appealing to me than acting as a member of a group. _____
- I believe group harmony is more important than personal satisfaction. _____
- I would rather be known for who I am than as a member of an organization to which I belong. _____
- The interests of the group are generally more important than personal interests. _____
- I believe individual decisions usually yield better outcomes than group decisions. _____
- My personal happiness depends to a large extent on stable social relationships. _____
- I would rather pursue my own ends in my own way, freely, without considering the opinions of others. _____

I believe that it is my duty and obligation to observe the norms set by the group to which I belong. _____

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I prefer to work in a group rather than as an individual. _____

III. Please read the following scenario and complete the summary chart by filling in the amount of money you would award each employee.

“You are the supervisor of a work unit that assembles computer keyboards. You have assigned a project of building computer keyboards to a team of three entry-level technicians: Tom, Michael, and John. They completed the project successfully. Tom built twice as many keyboards than either Michael or John (Michael and John built the same number of keyboards). The company awarded a bonus of \$1,000 to Tom, Michael, and John. You are asked to distribute the bonus between them. Please indicate the amount you would award to each of them.”

Employee	Allocation
Tom	\$
Michael	\$
John	\$
Total allocation not to exceed	\$1,000

IV. We would like to gather some background information of our participants. Please answer each of the following questions.

Age as of your last birthday: _____

Gender: Female (____) Male (____)

Were you born in the U.S.A.? 1 No 2 Yes

If you were not born in the U.S.A.,

a. Which country were you born? _____

b. How long have you lived in the U.S.A.? _____

Major (Please circle number)

1	Psychology
2	Other (Please specify) _____
3	Undeclared

Appendix D: Signed HSIRB Approval Form

**Office of the Provost
Associate Vice President
Graduate Studies & Research**

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San José, CA 95192-0025
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To: Crystal Yu
603 N. Lincoln Ave #F
Monterey Park, CA 91755

From: Pamela Stacks, Ph.D.
Associate Vice President
Graduate Studies and Research

Date: October 6, 2006

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

“The Impact of Culture and Value in Reward Allocation”

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to all data that may be collected from the subjects. The approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Pamela Stacks, Ph.D. immediately. Injury includes but is not limited to bodily harm, psychological trauma, and release of potentially damaging personal information. This approval for the human subject's portion of your project is in effect for one year, and data collection beyond October 6, 2007 requires an extension request.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services that the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at (408) 924-2480.

cc. Howard Tokunaga, DMH 320-0120

The California State University:
Chancellor's Office
Bakersfield, Channel Islands, Chico,
Domínguez Hills, East Bay, Fresno,
Fulerton, Humboldt, Long Beach,
Los Angeles, Maritime Academy,
Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San José, San Luis Obispo,
San Marcos, Sonoma, Stanislaus