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The Manager Giveth, the Manager Taketh Away: Variation in Distribution/ Recovery Rules Due to Resource Type and Cultural Orientation

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Although the resource allocation literature has frequently examined the decision rules used to distribute monetary resources, many other types of resources have not been systematically studied. In addition, very little is known about the allocation rules that might be used when resources are recovered (i.e., taken away) as opposed to distributed. As managers frequently face decisions regarding the distribution or recovery of different resources, developing a greater understanding of the rules they might use to give or take away resources is important. This study examined the difficulty of resource allocation decisions and allocation rule choices. Our results suggest need rules are generally preferred by allocators, although rule preferences were affected by both the type of resource and whether the resource was being distributed rather than recovered. In particular, the preference for equality rules was stronger when resources were recovered. Our findings also suggest that managers may find recovery decisions more difficult than distribution decisions, and that monetary and affiliative resources are among the most difficult to allocate. © 1999 Elsevier Science Inc. All rights reserved.

One of the most common roles managers play is that of resource allocator (e.g., Mintzberg, 1973). It is generally acknowledged that managers are frequently placed in situations in which they must determine pay raises or bonuses for

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employees. However, managers make many other decisions regarding resources as well: who will work overtime, who gets a new computer, even who gets to spend time with the boss on a given day. Each of these decisions can be construed as decisions about resources that the manager distributes to employees. Yet, resources are not always plentiful, and managers are sometimes placed in the difficult position of having to take away resources or privileges that previously had been given or promised to their employees. In this study, we were interested in how three factors affect allocation decisions by third parties: (1) the type of allocation decision, or whether it represents a gain (resource *distribution*) or loss (resource *recovery*) to the affected employee; (2) whether different types of resources lead managers to use different allocation rules; and (3) whether different rules are preferred by allocators with individualistic versus collectivistic cultural orientations.

How Are Resources Allocated?

The choice of an allocation rule is important, because the manner in which resources are allocated is a potent determinant of recipient perceptions of satisfaction and fair treatment. When faced with a decision about how to allocate a resource, decision makers can invoke a number of different decision rules (e.g., Deutsch, 1975; Griffith, 1989). *Equity rules* specify that allocations should be based on the strength of the parties' cases, suggesting that people should be rewarded in proportion to contributions or inputs. At least three variations on the equity rule can be distinguished: Whether allocations are based on *past contributions* (e.g., tenure with the company), *present contributions* (e.g., current performance), or *future contributions* (e.g., performance potential). *Equality rules* suggest that people should be rewarded equally—each should receive the same, or have the same opportunity to benefit. In the case of nondivisible, "lumpy" resources (Messick, 1993), equality is best represented by giving people an equal chance of receiving the reward (e.g., through a random draw; see also Young, 1995).

Although equity and equality rules have received the most empirical attention (e.g., Adams, 1965; Deutsch, 1975; Leventhal, 1976; Pruitt, 1981; Tornblom, Jonsson, & Foa, 1985; Walster, Walster, & Berscheid, 1978) resources can also be allocated using a wide variety of other criteria (cf. Deutsch, 1975, 1985; Rescher, 1966). *Need rules* argue that people should be rewarded based on their level of need or deprivation, and resources are allocated to ensure that needs are met. Alternatively, managers might allocate resources to achieve *self-interest* or political goals, by distributing resources to *create indebtedness* (and the potential for future influence through reciprocity, cf. Cialdini, 1984) or to *return a past favor* by another. Finally, managers sometimes allocate resources based on *rank* (status) in the organization.[1]

The eight specific rules outlined above may all be applied in different situations in organizations. For example, "merit pay" is perceived to be allocated based on present contributions (a form of equity)—those who are currently the best performing workers get the greatest merit pay raises. However, travel and

support budgets may be allocated identically (equally) to individuals. Allocating office space in a new building may be determined by rank in the organization, with "ties" in rank broken by length of service to the company (past contributions). A new assistant professor may receive a large "startup" support budget and summer stipends (reflecting a need rule as well as future contributions). However, there is no consensus regarding when each type of rule is most likely to be most used or when each rule is likely to be seen as most fair. This is in part the result of the variety of situations in which these rules have been tested, as well as the lack of research including need, rank, and self-interest rules, compared to studies that have examined equity and equality rules (Griffith, 1989; Schwinger, 1986). However, other factors may also affect the choice of rule, such as the type of allocation decision, the nature of the resources allocated, and cultural values and norms. We now turn our attention to a discussion of each of these factors.

Distribution or Recovery of Resources?

It is safe to say we know far more about the allocation of positive outcomes than we do about the allocation of negative outcomes. It is possible that this overemphasis on the allocation of positive resources has its roots in our status as a relatively affluent society. However, paralleling economic downturns in the 1980s, some research and theory has begun to emerge regarding the rules used to allocate *negative* outcomes (see Griffith, 1989; Tornblom, 1988; Tornblom & Jonsson, 1985, 1987). One can assume that as resources become less plentiful and budgets become tight, there will be a greater frequency of allocating negative outcomes in the future, relative to the past.

Negative outcomes can take one of two forms: the first is the *distribution* of a negative outcome. Examples include giving employees unpopular job responsibilities, assuming the costs of environmental damage, or being assigned to take responsibility for products that are expected to be unprofitable. Some recent empirical work has investigated the implications of distributing such "burdens" (e.g., Mannix, Neale, & Northcraft, 1995; Northcraft, Neale, Tenbrunsel, & Thomas, 1996; Sondak, Neale, & Pinkley, 1995). These studies indicate that in general, different rules are used to distribute benefits as opposed to burdens. For example, Sondak et al. (1995) found that in situations where decision makers were responsible for the outcomes, equity rules predominated when distributing burdens, while equality rules dominated in distributing benefits.

The second form of negative outcome is the *recovery* of an existing or previously promised resource. Examples of the recovery of resources would include pay cuts, rescinding employee privileges (e.g., frequent flyer miles from business trips) or reneging on promised rewards (e.g., increased travel budget). The resource allocation literature has neglected such situations. In fact, some of the earliest work (e.g., Foa, 1971) described as "taking away" resources actually involved distributing negatively valenced resources (e.g., providing misleading information). The relative paucity of research on recovering resources is unfortunate, as managers sometimes have to take away rewards or job perquisites to which subordinates have grown accustomed. While there has been some research on the distribution of additional, negative outcomes (burdens), and on how people

value items that are taken away from them (e.g., Northcraft et al. 1996; Thaler, 1980), we know of no studies that have systematically examined the recovery of already distributed resources in the context of distribution rules. Thus, the present work seeks to fill this gap in the understanding of allocating negative outcomes by focusing on recovery decisions, which we define as situations where allocators take away previously distributed, positively valued resources.

One consequence of having previously received a resource is that people come to see it as an entitlement, and may "endow" the owned resource with greater value than it is economically worth. For example, Thaler and his colleagues (e.g., Kahneman, Knetsch, & Thaler, 1990; Thaler, 1980) noted that people will charge more money to give up something they already have than they would pay to acquire it. This suggests that individuals would respond more negatively when an item is taken away than when a "new" burden of equivalent cost is distributed. Given that the cognitive responses to positive and negative events are asymmetric (Kramer, 1996), our inclusion of situations where allocators must take away resources may represent a particularly troublesome decision dilemma for our third-party allocators.

From the allocator's perspective, both prospect theory (Kahneman & Tversky, 1979) and managerial notions of risk (March & Shapira, 1987) suggest that recovery decisions will result in a more *difficult decision process*. For example, prospect theory (Kahneman & Tversky, 1979) has substantiated the relatively greater "pain" associated with *losing* $1 compared to the "pleasure" associated with gaining $1 (see also Kramer, 1996). This is the result, in part, of the level of adaptation people have made to their current "asset position." This suggests that taking away resources from employees will produce stronger reactions than will distributing resources. In addition, the potential harm produced when resources must be recovered means such decisions will be carefully scrutinized (March & Shapira, 1987). Dunegan (1993) and others (e.g., MacCrimmon & Wehrung, 1986) have noted that in such situations, decision makers become more cautious. This caution may manifest itself in expending more time and energy thinking about what decision to make (McLean Parks & Conlon, 1990). Also, the decision maker must attempt to judge possible *reactions* to the withdrawal, such as the sense of violation noted by Robinson and her colleagues (e.g., Robinson, Kraatz, & Rousseau, 1994), and the negative behaviors (e.g., theft, turnover) noted by Greenberg (1990a) and McLean Parks and Kidder (1994). These forces, and the need to consider reactions to the losses incurred, increase the complexity of the processing of information surrounding the negative event, which makes such decisions more difficult (Bohner, Bless, Schwarz, & Starke, 1988).

Recovery decisions are also likely to be more difficult because such decisions often require the decision maker to provide an acceptable "causal account" (e.g., Bies & Shapiro, 1987; Greenberg, 1990b; Shapiro, Buttner, & Barry, 1994). Having to justify one's decisions tends to make the decision process more analytical (Hagafors & Brehmer, 1983). Taylor (1991) observed that decision makers respond to negative events with increased levels of causal reasoning, triggering greater levels of attributional activity (Peeters & Czapinski, 1990). Searching for and constructing such accounts is effortful, and thus is likely to

make the decision process more time consuming. The construction of recovery accounts or justifications are also likely to be difficult simply because no one really wants to be the source of negative outcomes. Decision makers who are placed in such positions are likely to experience dissonance, making the decision more difficult (Greenwald, 1968; Menasco, 1976). This is particularly likely when decision makers are accountable (e.g., Tetlock, 1985) and have a continuing relationship with those affected by their decisions, as is the case when managers give or take away resources from others in organizations with whom they will interact with in the future. In this case, managers must be "seen" as fair to avoid damaging their relationship with their subordinates (e.g., Greenberg, 1990b). Thus, the damage to existing relationships is a potential cost to the allocator for perceived "mismanagement" of the allocation decision, although managers may have no direct instrumental interest in the actual outcome.[2]

In sum, resource recoveries represent a loss from the status quo. From the literature reviewed above, we suggest that decisions to recover resources are likely to be more difficult for the decision makers because (1) recovery decisions will be perceived as more risky than distribution decisions, creating a greater need for decision makers to scrutinize and carefully consider such decisions; (2) recovery decisions will trigger more complex cognitive representations of the decision environment; (3) recovery decisions are likely to come under greater scrutiny from other parties and, consequently, decision makers may give more attention and time to the impact of their actions both on the affected parties and on others' perceptions of their actions; (4) decision makers are more likely to attempt to construct an acceptable causal account that will make their decision palatable to the affected parties prior to making their decision; and (5) taking an unpleasant action will create dissonance for the decision maker, increasing the subjective difficulty of the decision.

Each of these factors is likely to increase the complexity and difficulty of the decision process, providing a rationale for previous findings that have demonstrated that decisions to impose burdens are subjectively experienced as more difficult (using self-reported difficulty measures) than those which impose benefits (Mannix et al., 1995). Longer decision latencies are a behavioral indicator of decision complexity or difficulty (Taylor & Fiske, 1981; Wright & Ayton, 1988), but do not suffer the recall or impression management threats that exist when decision difficulty is measured via self-reports. Hence, we would expect that resource recoveries will be more difficult decisions and will take longer for decision makers to make. Thus, our first hypothesis, which complements the self-report measures of perceived difficulty used in previous research predicts:

> ***H1:*** *Decision latencies will be greater for recovery decisions than distribution decisions.*

Allocation Rule Choices

In addition to decision difficulty, we are interested in what allocation rules decision makers will use to give and take away resources. The few studies that

have examined the distribution of burdens and benefits demonstrate that different rules are used, thus we expect that different rules also will be used for the distribution and recovery of resources. However, prior work shows little consensus on exactly what rule will be used under any given circumstances. For example, in two studies involving college students and supervisors at a utility company, equity rules were preferred for the distribution of both positive and negative monetary resources (bonuses and fines, respectively; cf. Tornblom, 1988). However, other studies report a preference for the equality rule when distributing both gains and losses (e.g., Lamm, Kayser, & Schanz, 1983). Still other studies find one rule is favored for the allocation of gains, while another is favored for the allocation of losses (e.g., Meeker & Elliot, 1987; Sondak et al., 1995). Both Tornblom (1988) and Griffith (1989) conclude their reviews by stating that the same rule was used for allocating both positive and negative outcomes in only about half of the studies. However, none of these studies examined *recovery* decisions.

There are numerous explanations for the lack of clarity in these results. In some studies, the decision maker included himself/herself in the allocation decision, while in other studies, the decision maker was a third party. In addition, different resources were allocated in different studies. For example, benefits have included an intrinsically interesting task, potential for status rewards or honors, pay and bonuses, company cars, and lunch with the boss (e.g., Chen, 1995; Mannix et al., 1995; Martin & Harder, 1990). Burdens have included pay cuts (Greenberg, 1990b) and onerous tasks unlikely to result in tangible rewards and likely to reduce profits (Mannix et al., 1995). These situations beg the question of whether it was the *type of resource* or the *outcome* (e.g., positive or negative) that drove the choice of allocation rule. Finally, subjects were not always given a wide variety of potential rules from which to select in making their decisions, frequently limiting the choice of rules to either equity or equality, constraining the choice set. Yet, it is logical to assume that other factors, such as need, may also come into play. Consequently, as previously described, we included need rules as one possible option for allocating resources, as well as rules reflecting rank and rules which created or fulfilled obligations. However, the relative lack of research exploring rules other than equity and equality provides little guidance concerning preferences for these various allocation rules. Thus, our specific hypothesis below will focus on equity and equality rules.

In their review of the equity and equality rule, Bierhoff, Buck, and Klein (1986) report that the typical experimental scenario regarding reward allocation rules provides subjects with information about individual performance levels, as well as information about the relationship that exists among the parties. Although preferences for equity rules have been found, the provision of performance data may have sensitized decision makers to equity concerns when they might otherwise have selected other rules. In general, these studies reveal a general pattern of findings where close, friendly relationships will lead to allocations based on equality, while neutral, competitive, or performance oriented relationships will lead to the use of equity rules in allocating rewards (e.g., Austin, 1980; Reis & Gruzen, 1976). For example, Austin (1980) found that college roommates would

overlook differences in individual performance and reward each other equally, while strangers would use an equity rule and reward proportionately to members' inputs. Schwinger (1986) elaborates on this pattern to argue that as relationships move from neutral to positive to very positive (e.g., a close knit family), the justice principle that will be invoked will vary from equity to equality to need, respectively. Consistent with Sahlins' (1976) notions of kinship distance and reciprocity norms, this suggests that need rules are more likely to be invoked when dealing with a close, well defined social unit, while equity rules may be used for more "distant" relationships.

Given our organizational context (i.e., performance oriented group), the research reviewed above suggests that the use of equity rules will be more prevalent when resources are *distributed*, but there is less consensus as to what rule will be used when resources are *recovered*. Distributing a negative outcome is not the same as recovering a positive outcome. Thus, it is likely that different dynamics are involved in the allocation decision. In social relationships, there is a strong norm that people should share sacrifices (Iacocca, 1984; Mohrman & Mohrman, 1983). The strength and pervasiveness of the equality norm makes it difficult to ignore (Arkes et al., 1994; Roth & Murnighan, 1982). Messick and his colleagues (Messick & Sentis, 1979) suggest that because the equality norm is ubiquitous, it is easily understood and applied. We have argued that allocating losses (recoveries) will be more complex and difficult for allocators. Thus, it makes sense that the decision makers, as cognitive misers, may select a rule that is easy to justify and apply, such as an equality rule. In addition, the pervasiveness of the equality norm legitimizes its use. We know from prior research that legitimate rules that are already in use are likely to be accepted as fair (Bunch, 1993; Sell & Martin, 1983), further suggesting that decision makers concerned with fairness—such as those who must recover a resource—will prefer an equality rule. Using an equality rule to recover resources may be seen by the decision maker as more justifiable to external constituencies, and thus they do not have to worry about others questioning their judgment. In addition, the use of such a pervasive norm is less likely to invoke the ire of the party whose resources have been taken away.

Two recent studies do involve resource recoveries and, thus, help us develop our hypothesis. In one study, Greenberg (1990a) noted that an organization responded to a loss of income by instituting a 15% across-the-board pay cut (i.e., they adopted an equality rule). Although the justification for why such a rule was chosen is not provided, we can presume that the employer perceived such a rule to be appropriate to use for the recovery of monetary resources. In a scenario-based study, McLean Parks et al. (1996) had subjects imagine that they or another person they were with had lost a previously held resource (either money or a camera). Subjects were then asked to evaluate three different endings to the story (where the subject absorbed all of the loss, the other absorbed all of the loss, or the loss was equally shared by both parties): Regardless of who had lost the item in the scenario, endings in which the loss was equally shared lead to improved relationship expectations and enhanced fairness judgments over the other two endings, providing further support for the "benefit" of using the equality rule. This

work suggests that a "share and share alike" rule was frequently used, and that there was more social utility to be gained from sharing losses with another than from sharing gains. Although in these two studies (Greenberg, 1990a; McLean Parks et al., 1996), allocators stood to benefit directly, this work and the other work we have reviewed suggests that equality rules will be used for the recovery of resources more frequently than they will be used for the distribution of resources.

In sum, we expect equity rules to be preferred more in gain (distribution) situations than they are in loss (recovery) situations. Similarly, we expect equality rules to be preferred more in loss (recovery) situations than they are in gain (distribution) situations. We expect to find equality rules used more frequently for recoveries than distributions for several reasons, given that we have argued that recoveries are more difficult decisions than distributions, all else equal. *First*, because of their normative heuristic status, such rules are readily accessible as solutions, hence cognitive misers may select them as an "easy" choice; *second*, the ubiquity of equality norms legitimizes their use, reducing the potential that the decision maker will be censured for making an unpopular decision; and *third*, equality rules are easily applied, with no need for calibration or need assessment, which again suggests they may be used in the more complex recovery situation as a mechanism for reducing cognitive effort.

> ***H2:*** *When making allocation decisions, allocators will prefer equity rules more for distributions than for recoveries, and equality rules more for recoveries than for distributions.*

What Resources Are Allocated?

A variety of resources have been examined in prior studies, suggesting that the inconsistent findings of the past could be the result of differences in the underlying nature of the resources themselves. Although resources have rarely been explicitly studied in organizational contexts, some scholars have developed classification schemes for resources. For example, Martin and Harder (1990) distinguished between financial and socioemotional rewards. In a scenario-based study, they found evidence that decision makers "made up" for providing some recipients with small financial rewards by providing them with greater "socio-emotional" rewards (such as friendship). Chen (1995), using Martin and Harder's dichotomous classification, found that equity rules were rated as the preferred method to distribute financial rewards (pay and bonuses) by both a Chinese and U.S. sample, especially when primed by productivity and efficiency goals. However, for socioemotional rewards (e.g., attending a party with the company president, display of one's photograph at the workplace), the U.S. sample rated equality rules as most preferred, while the Chinese sample again rated equity rules as most preferred.

Perhaps the most extensive and exhaustive resource classification system comes from the social psychology literature. Foa and Foa (1975) proposed that resources can be classified into one of six basic categories: (1) Money; (2) Goods; (3) Services; (4) Information; (5) Status; and (6) Affiliation/Friendship (termed

Love by Foa & Foa, 1975). They found that these resource categories could be classified along two dimensions: whether the resource was *concrete or abstract* and whether the resource could be characterized as *particular or universal* (see Figure 1). Foa and Foa (1975) noted that an important component in social exchange relationships is not simply *how* a resource is exchanged (the distributive and procedural characteristics of the exchange) but also *what* it is that is exchanged.

According to Foa and Foa (1975), concrete resources are those which are a "tangible activity or product" (Foa, 1993: 15). Abstract resources are more symbolic, and may be conveyed by "verbal and paralinguistic" behaviors (Foa, 1993: 16). According to the theory, status and information exemplify abstract resources. In contrast, goods and services are assumed to be the most concrete. Affiliation and money are presumed to include both tangible and symbolic aspects, and thus are midrange on the abstract/concrete continuum. These categories could easily be used to categorize the resources tested in earlier work. For example, the pay and bonuses investigated by Chen (1995) reflect monetary

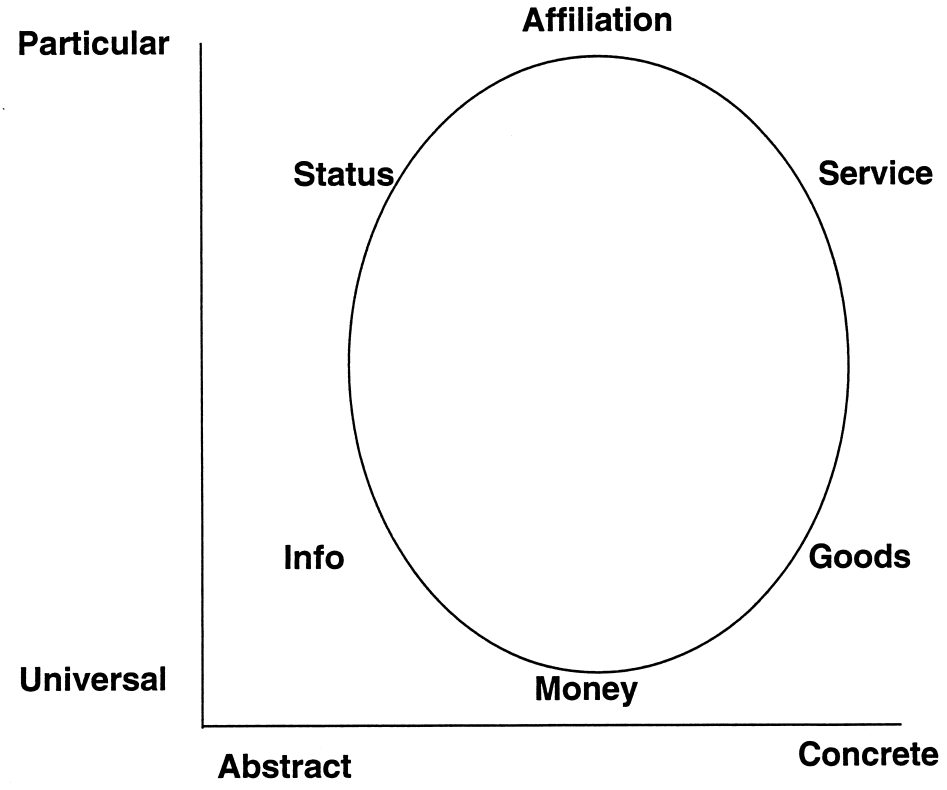

Figure 1. The Foa and Foa Resources Model: Positioning of Resources

resources, while the honors and awards mentioned by Mannix et al. (1995) reflect status resources. (For more detailed elaboration and justification of the six resource categories and the underlying dimensions of concrete/abstract and universal/particular, see Foa, 1993.)

While initially proposed as a model of social exchange, the Foa and Foa classification scheme has several strengths that warrant its integration into the resource allocation literature. It is theory driven, it provides a more sophisticated and complex classification of resources than other models, and it has received support across a variety of cultures and contexts (e.g., Foa, 1971, 1993). We expect the Foa and Foa dimensions to influence the allocation behavior of our third parties. Because of their symbolic nature, abstract resources will be more difficult (and thus more time consuming) to allocate, as their distribution or recovery may convey much more than the mere possession of the resource. For example, not receiving information about a particular topic (i.e., when an important meeting was to take place) may be taken as a personal affront and rejection, and call into question one's value to the group. The implications of not receiving a good or service, which are well defined and more tangible resources, may present less opportunity for symbolic interpretation or distortion. Foa (1971: 346) describes money and affiliation as containing both abstract and concrete elements, and thus we do not include these in the strong prediction we make for concrete versus abstract resources. Consequently, we predict:

> ***H3:*** *Decision latencies will be greater when allocating abstract resources (status and information) than allocating concrete resources (goods and services).*

Particularistic resources are those in which the identity of the individual is important to the resource exchanged, and universal resources are those where identity is irrelevant. For example, we may not care from which of two merchants we purchase a shovel (assuming the price is the same), but we may care a great deal about which of two people gives us a kiss. In this example, it is in the latter case that identity is part and parcel of the resource exchanged. Thus, identity is more important in particularistic exchanges, or when allocating particularistic resources. According to Foa and Foa (1975), status, affiliation, and services are the most particularistic resources exchanged, while money, goods, and information are the most universal. The nature of a particularistic resource suggests that its value varies tremendously based on the identity connected to it. In our context, the third party allocator must consider how such relationally linked resources will be perceived by each group member. The more particularistic the resource, the more difficult it will be to attach an unambiguous, objective value. This makes for potential miscalibration—overestimating or underestimating—the impact of the resource on the recipient, as well as those who do not receive the resource. Consequently, we would expect the distribution or recovery of particularistic resources to be more difficult than the distribution or recovery of universal resources and, hence, more time consuming.

H4: *Decision latencies will be greater when allocating particularistic resources (status, affiliation and service) than when allocating universal resources (information, money, and goods).*

In addition, we also expected decision makers to invoke different allocation rules for different resources. Several studies have examined resource allocation preferences using the Foa and Foa (1975) resource categories. There is considerable evidence that different rules are preferred for different resources, but the studies are difficult to compare directly. For example, Tornblom and Foa (1983) review the results of six studies involving U.S., German, and Swedish subjects. In three of these studies, subjects made preference ratings for using a contribution (equity), equality, or need rule. In the other three, they rated the justice inherent in using each rule. Of course, these types of decisions are not the same as *choosing* an allocation rule to use, but they are of interest nevertheless. A sample of U.S. business persons in a study reported in Tornblom and Foa (1983) expressed a preference for equity rules when distributing money and status, but preferred equality rules for other resources. However, this study did not include need rules as a possible alternative. Foa and Stein (1980) found that both U.S. undergraduates and Rotary Club members (an organization of business people) preferred an equity rule for allocating money resources, and need rules for allocating information. In a context where the outcomes received were unrelated to inputs, McLean Parks et al. (1996) found that an equality rule was used more frequently to divide monetary resources (a $100 bill or two $50 bills) than to divide a good (a camera).

While the variety of subjects and contexts mentioned above represents a strength of the resource allocation literature, a liability is that these studies varied in terms of the measures, allocation rule categories, and resource categories available to subjects when they made their decisions, making it difficult to compare results. For example, some studies have measured preferences for equity and equality, while others measured preferences for equity and need. Some studies have used allocations of monetary resources, while others have used allocations of goods. These differences make it difficult to extend the findings of previous research to studies that include different resources or different rule choices. However, if the Foa and Foa dimensions do characterize different types of resources, then these dimensions should impact rule choices, though exactly how may not be clearly predicted from previous research, because of the limitations noted above. Consequently, we advance specific predictions using the resource theory dimensions previously noted. Reviewing a variety of different studies allows us to make several specific predictions.

Deutsch (1975) suggests that equity rules should be used in situations where the primary goal is one of productivity; that equality rules should be used where the goal is one of social harmony or positive relationships; and that need rules should be used when the goal is one of personal development or welfare (see also Sondak et al., 1995). If one seeks to apply the underlying dimensions from Foa and Foa (1975) to Deutsch's suggestions, one can see that the different resources are likely to satisfy these goals differentially. Particularistic resources better

satisfy goals such as group harmony. For example, social events such as parties (an affiliation resource) have been characterized by Trice and Beyer (1984) as cultural "rites of integration" that revive feelings of community among group members. Managers also have been found to use an equality rule when allocating rewards as one way of preventing work group conflict (Longenecker, Gioia, & Sims, 1987). Preferences for equality allocation rules have also been found in studies of negotiation (e.g., Benton & Druckman, 1974; Conlon, Carnevale, & Ross, 1994), suggesting that the use of such rules also promotes harmony and positive relationships. Finally, the "value" placed on particularistic resources depends on the characteristics of the individual beholder, and consequently will be subjectively determined. This inherent subjectivity is likely to make equity decisions more difficult to evaluate and apply, resulting in a preference for an equality rule.

> ***H5:*** *When allocating particularistic resources, decision makers will use equality rules more than equity rules; when allocating universal resources, decision makers will use equity rules more than equality rules.*

Concrete resources, such as goods and services, tend to be both observable and fungible (within each category of resource) with a well-defined value. In each case, only a narrow range of difference exists for determining its value. In terms of Deutsch's (1975) suggestions, these resources best serve the goal of economic productivity, because they can easily and objectively be quantified and tied to varying levels of performance. More abstract resources are inherently more difficult to calibrate and are less amenable to distribution using an equity rule.

> ***H6:*** *When allocating concrete resources, decision makers will use equity rules more than equality rules; when allocating abstract resources, decision makers will use equality rules more than equity rules.*

Monetary resources are assumed to be midrange in terms of the concreteness dimension, and are thus not included in Hypothesis 6. However, there is certainly a wealth of research suggesting that equity rules will be used for the allocation of financial resources (e.g., Chen, 1995; Deutsch, 1975; Tornblom, 1988). Furthermore, in the absence of some compelling reason to use another rule, the mathematical trigger inherent in monetary resources is likely to provide the cuing necessary for the use of equity rules over other rules. Thus, equity rules will be easy to apply and to justify to these types of resources as well.

> ***H7:*** *Decision makers will use equity rules to allocate monetary resources.*

Cultural Orientation

Our final variable to be studied was the sociocultural characteristics of the allocators themselves. Joint ventures across international boundaries and the

demographic characteristics of "Workforce 2000" will place more and more managers in a position of making allocation decisions for employees who may be very different from themselves in terms of their ethnicity, culture, values, and behaviors. In this study, we investigate how socio-culturally instantiated norms and roles may affect preferences for the use of one type of allocation rule over another. In particular, previous research has suggested that national culture can focus attention on different issues and may emphasize either a relational (collectivistic) or transactional (individualistic) orientation towards allocation decisions. Individualism/collectivism is one of four dimensions of culture (Hofstede, 1984) and one on which the United States anchors one extreme (individualism). With its strong economic growth and emerging markets, Asia is one area where globalization is not only likely to create new alliances, but in which the extreme individualism of U.S. employees may conflict directly with the collectivism of the Asian experience. Consequently, it may be particularly important to understand the differences between individualists and collectivists in order to mitigate conflict and capitalize on complementary strengths and synergies of cultural heterogeneity.

Individualism is characterized by a self-orientation, while collectivism is characterized by a social orientation or focus on the common good (Hofstede, 1980; Parsons & Shils, 1951: 248). Individualists focus on self-sufficiency and the pursuit of individual goals and achievement, as well as the satisfaction of individual wants and needs, which may or may not be consistent with the welfare of the group. Individualists focus their energies on themselves rather than on their group as a whole (Hofstede, 1980). Thus, to reward individuals differentially based on their level of contribution would be seen as appropriate among individualists, recognizing individual contributions through equity in rewards. In contrast, collectivist societies will subjugate their own interest in favor of the interests of the group and to ensure group welfare (Bond, Leung, & Wan, 1982; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Preserving or enhancing a particular relationship is seen as important, and conflict is eschewed. Collectivists tend to value harmony and to avoid conflict. One mechanism through which harmony is ensured and conflict avoided is the relative emphasis which collectivists pay to the notion of "saving face." Rewards based on equity recognize specific individuals as superior performers, implicitly indicating inferior performance (and damaging face) for those who did not perform as well. Consequently, collectivists may deemphasize personal achievements relative to the achievements of the collective (Bond, Leung, & Wan, 1982; Triandis et al., 1988), in the absence of economic organizational priorities focused on productivity and efficiency. In terms of allocation behaviors, this leads to a preference for egalitarian treatment with respect to the distribution of rewards. This suggests the following hypothesis:

> ***H8:*** *Individualists will use equity rules more than collectivists. Conversely, collectivists will use equality rules more than individualists.*

Method

To test our hypotheses, we first developed a set of resources to reflect each of the resource categories described by Foa and Foa (1975). We used two pretests to develop a set of items for each resource category that were reliably classified by pretest respondents. These resources were subsequently used in a third pretest, and in the stimulus materials for the tests of our hypotheses.

Pretesting Resource Categorizations

In Pretest 1, 54 undergraduate students were given the definitions of the six resource categories presented in Table 1. Using this categorization scheme, they were then asked to classify each of 100 resources into one of the six possible categories. From this initial categorization, we selected 65 resource items to be used in the second pretest. In pretest 2, forty-seven MBA students (27 male, 20 female, average age = 28; average full time work experience = 5 years) classified the resources using the same classification sheet as respondents in Pretest 1. The responses of the MBA students were used to determine the final set of items that represented each of the six resource categories. Table 1 lists the six resource categories, abbreviated category definitions, the four items used in each category, and their respective classification agreement percentages. These 24 items served as the resources respondents would consider for the hypothesis tests.

Pretesting the Underlying Resource Dimensions

Our third pretest was designed to insure that the 24 resources reflecting the six resource categories continued to reflect the underlying dimensions of concrete/abstract and universal/particularistic proposed by Foa and Foa (1975). Thirty individuals (16 males, 14 females, average age = 38, average years full time work experience = 16) received a packet that listed definitions of universal resources, particularistic resources, concrete resources, and abstract resources. Subjects were then asked to classify the 24 resources (Table 1) from the earlier pretests using two 9-point scales. The first scale was anchored at one end with "definitely universal" and at the other end with "definitely particularistic." The second scale was anchored with endpoints "definitely concrete" and "definitely abstract." Subjects rated all of the resources first for universalism/particularism, and then for concreteness/abstractness. Lower scores reflect greater universalism and concreteness, respectively. As expected, universal resources (money, goods, and information) were perceived as more universal than particularistic resources (service, affiliation and status). The means for universal and particularistic resources were 2.87 and 5.79 respectively. These means were significantly different ($t_{29} = 11.52$, $p < .001$). Concrete resources (goods and services) were also seen as more concrete than abstract resources (status and information), with means of 2.42 and 4.23, respectively ($t_{29} = 5.77$, $p < .001$). Thus, there is convincing evidence that the resources used in our stimulus materials continue to reflect the underlying dimensions of Foa and Foa's (1975) model.

Table 1. Resource Categorization Pretest Results

Resource	*% Agreement*
Affiliation/Friendship: an expression of affectionate regard, warmth, or comfort	
Expressions of sympathy after a tragedy	100
Inclusion in after work social event	96
Time spent listening to employees' personal problems/concerns	94
Expressions of congratulations for personal achievements	83
Status: an expression of evaluative judgment that conveys high or low prestige, regard, or esteem	
Office with beautiful view	96
Gold-plated nameplate on office door	96
Authority to call a meeting	94
Reserved parking	81
Information: advice, opinions, instruction, or enlightenment, excluding those behaviors that can be classified as affiliation or status	
Building maps	87
Electronic bulletin boards	83
Company phone directory	77
Electronic library access	77
Money: any coin, currency, or token that has some standard unit of exchange value	
Overtime compensation	98
Salary	94
Reimbursement for professional membership dues	83
Shares of company stock	79
Goods: tangible products, objects, or materials	
Office chair	96
File cabinet	94
Office desk	89
Personal computer	79
Service: activities on the body or belongings of a person that often constitute labor for another	
Carpet cleaning	94
Repainting of office walls	94
Office window washing	92
Office mail pickup	91

The Main Study

Subjects, Research Design, and Procedures. Sixty-three MBA students in the United States and Singapore participated in this study as a homework assignment in a management class. The use of Singapore students provided the benefit of examining an emerging economic market with a historically collectivist culture in which English was the native language, avoiding translation issues. Seventy and sixty-four percent of the participants were female in the United States and Singapore samples respectively. Thirty-nine participants were Asian, 23 Caucasian, and one of unknown ethnicity. Three of the U.S. respondents were Asian-

Americans. The average age was 30, with a range from 22 to 45. Seventy-nine percent were currently employed; two thirds of the sample reported working at least 35 hours per week, and 71% had management experience. With the exception of ethnicity, which was expected (Asian vs. Caucasian), these demographic differences were not significantly different between the two samples.

Participants were told to imagine that they were a manager who oversaw a group of ten employees. As one of their tasks as managers, they frequently had to make allocation decisions for their employees. Using the resources from the pretest, we created brief scenarios in which participants were asked to consider resource distributions or recoveries for each of the six resource categories. Scenarios were carefully constructed to be similar in language complexity across conditions, while still providing enough varying context to make the allocation decision task interesting. On average, scenarios for the resource categories averaged 7.07 ($sd = .45$) on the Flesch–Kincaid index, suggesting a seventh grade reading level.[3] For example, in the scenario depicting distribution of a good, participants may have been told: "the company has recently purchased some new personal computers. Your department has been allocated three new PCs to distribute among your ten employees. You have been asked to forward the names of three of your employees who will receive new PCs for their offices." In the parallel resource recovery condition, participants may have been told: "the company has recently decided to reallocate existing personal computers. Your department will lose three PCs from among your ten employees. You have been asked to forward the names of three of your employees who will have the PCs removed from their offices."

As suggested in these examples, the passages varied in the wording of key statements which reflected the manipulations. Stimulus materials were presented by computer,[4] with subjects responding to questions for each scenario presented. The computer randomly ordered the presentation of the stimulus materials. In addition, within each resource category (e.g., money, goods, etc.) the computer randomly selected one of four possible resources for each scenario, thus ensuring that it was not the specific resource (i.e., "PC") rather than resource category (i.e., "good") that drove our results. All subjects received all possible combinations of manipulated factors, resource category (money, goods, services, information, status, affiliation) and outcome (loss vs. gain) twice, without repeating the same resource, resulting in a 6 (resource category) $\times$ 2 (distribution vs. recovery) within subjects design.[5]

We adapted eight allocation rules revealed by previous research for use in this study (e.g., Deutsch, 1975, 1985; Rescher, 1966): need, equality, equity due to past contributions, equity due to present contributions, equity due to expected future contributions, to repay a debt, to create an indebtedness, and rank. These allocation rules were presented to participants in random order, and participants were asked which rule they preferred to use when distributing or recovering the various resources. The computer timed participants' responses and recorded their answers. Upon completion of the resource allocation task, participants provided demographic information (summarized above), were thanked by the computer, and logged off.

Experimental Factors. The first factor we experimentally manipulated was the resource: An item from our pretests (see Table 1) that reflected either money, goods, services, information, status, or affiliation/friendship. The specific resource used in any stimulus presentation was randomly selected (without replacement) by the computer, ensuring that no subject responded to the same specific resource item more than once and that the actual resource was randomly assigned across the distribution/recovery conditions. In addition to manipulating the type of resource, we asked participants to make a decision about how to distribute (gain) or recover (loss) the resource. Both of these factors are within subjects factors.

In addition, the cultural orientation of the subject served as a between subjects factor. In this study, the cultural construct of individualism/collectivism was measured using subjects' responses to a modified version of Triandis et al.'s (1988) scale developed to measure this cultural dimension. While Hofstede (1980, 1984) considered individualism/collectivism to be unidimensional, more recent work by Triandis and his associates (e.g., Gelfand, Triandis, & Chan, 1996; Triandis, 1995) suggest there are multiple dimensions. Thus, we factor analyzed the 13-item scale, and identified two factors, each with eigenvalues greater than 3.0.[6] The first factor consisted of seven items reflecting a dimension labeled by Gelfand et al. (1996) as "concern with the goals of individuals versus collectives." The second factor consisted primarily of items that reflected a dimension of individualism/collectivism labeled by Gelfand et al. (1996) as "family integrity" (e.g., "Children should live at home with their parents until they get married"). As the items in the first factor best capture the important distinction between individualists and collectivists in a business resource allocation context, we used this dimension to distinguish between individualists and collectivists in our study.

The seven items making up our individualism scale were: it is important to me that I perform better than others on a task; one does better working alone than in a group; one should live one's life independently of others as much as possible; when faced with a difficult personal problem, it is better to decide what to do yourself, rather than to follow the advice of others; I would rather struggle through a problem myself than discuss it with my friends; if the group is slowing me down, it is better to leave it and work alone; in most cases, to cooperate with someone whose ability is lower than oneself is not as desirable as doing the thing on one's own. The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). The 7-item scale ($\alpha = .73$) demonstrated sufficient reliability and discriminatory power, hence we used a median split on the scale to classify subjects as individualist or collectivists. Not surprisingly, most of the U.S. sample (21 of 27 subjects) were classified as individualistic, while most of the Singapore sample (22 of 36) were classified as collectivistic, $X^2_1 = 9.84$, $p < .001$. Scores on the scale ranged from 11 to 43 with high scores indicating a collectivist orientation.

Dependent Variables. We were interested in two dependent variables: the *difficulty* of the allocation decision and the *choice* of allocation rule. Decision difficulty was assessed by measuring the amount of time participants spent deciding which rule to use. As mentioned earlier, latency, or decision times, are a frequently used indicator of the amount of cognitive processing that occurs

during the decision process (Taylor & Fiske, 1981). Our latency time variable was measured as the amount of time (in tenths of seconds) that the subjects spent making their decisions. Timing began when the subjects pressed the <F10> key to release the scenario information and were presented with the rule choices. Timing stopped when they selected a rule and proceeded to the next situation.

The choice variable was categorical in nature. Specifically, respondents were asked "Which of the following rules would you use to make your decision? Would you make your decision in order to favor those employees who...?" This question was then followed by the randomly presented list of eight responses. Three of the responses related to equity considerations: (1) the best current performers; (2) those whose past contributions have been greatest; (3) those whose potential contributions are greatest (suggesting present, past and future equity considerations, respectively) and (4) rank. One choice reflected an equality rule: given that some of our resources were "lumpy" or difficult to divide, we operationalized the equality rule as an equal chance, following the suggestion of Young (1995) for dividing items that are indivisible. Thus, our equality choice suggested that the decision be made randomly to equalize the chances of any one individual being affected by the allocation decision. One choice reflected a need rule, by suggesting that the allocation or recovery favor those who needed the resource the most. Finally, two choices reflected a self-interest rule: to either repay or create a debt.

Results

Decision Difficulty Hypotheses: Latency Times

Each subject made 24 decisions regarding resource distribution or recovery of various categories of resources. The latency times were examined using a repeated measures MANOVA, with one between-subjects factor (cultural orientation of respondent) and two within-subjects factors (resource type and whether the decision was a distribution or recovery). The MANOVA summary table can be found in the bottom half of Table 2. The analysis revealed several significant effects.[7]

The main effect for distribution/recovery was significant ($F_{2,60} = 16.68$, $p < .001$). As predicted by Hypothesis 1, it was significantly more time consuming to decide how to *recover* resources (mean decision time = 19.865 seconds) than it was to decide how to *distribute* resources (mean decision time = 16.183 seconds).

As expected, the main effect for resource category on latency times was significant ($F_{10,\ 52} = 14.52$, $p < .001$). Newman Kuels comparisons (significant at least $p < .05$), revealed that goods were the least difficult to allocate (15.074 seconds), significantly less so than either money (20.915 seconds), information (17.991 seconds), status (18.460 seconds) or affiliation resources (18.955 seconds). Service resources (16.749 seconds) and information resources were also allocated with less difficulty than were monetary resources. Figure 2 shows the mean latency times for distribution and recovery of all six resource categories.

There was also a significant interaction effect ($F_{10,\ 52} = 3.87$, $p < .01$) between the type of resource and distribution/recovery. As can be seen in the top

Table 2. Results of Latency Time Analysis and Mean Latency Times (in Seconds) by Resource and Distribution/Recovery

	Money	*Goods*	*Service*	*Information*	*Status*	*Affiliation*
Resource Distribution (gain)	18.898 (.044)	13.113 (.030)	14.667 (.035)	15.02 (.035)	17.528 (.040)	17.875 (.042)
Resource Recovery (loss)	22.933 (.053)	17.036 (.038)	18.831 (.045)	20.963 (.047)	19.392 (.044)	20.035 (.046)
Total	20.915	15.074	16.749	17.991	18.46	18.955

Note: Relative time, which controlled for scenario reading speed, is given in parentheses below the actual number of seconds it took allocators to decide on a decision rule.

Repeated Measures Analyses of Latency Times

			Latency Times		*Latency Time Controlling for Reading Speed*	
Multivariate Test	*Source of Variation*	*df*	*F*	*Multivariate Effect Size (Partial ϵ^2)*	*F*	*Multivariate Effect Size (Partial ϵ^2)*
Between Ss effects	Culture	60	4.04*	.12	1.53	.05
Resource Type (W/I Ss effects)	Culture × Resource	52	1.00	.16	1.07	.17
	Resource	52	14.52***	.74	19.57***	.79
Distribution/Recovery (W/I Ss effects)	Culture × Distribution/Recovery	60	4.87**	.14	5.55**	.16
	Distribution/Recovery	60	16.68***	.36	22.38***	.43
Resource Type by Distribution/Recovery (W/I Ss effects)	Culture × Resource × Distribution/Recovery	52	1.15	.18	1.22	.19
	Resource × Distribution/Recovery	52	3.87***	.43	4.87***	.48

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

half of Table 2, the least amount of time was taken determining how to distribute goods, while the greatest amount of time was taken to recover money. The specific predictions of Hypotheses 3 and 4 relate to this interaction and provide additional insight. Hypothesis 3 suggested that distributing or recovering abstract resources will be more difficult than distributing or recovering concrete resource. We compared status and information (the most abstract resources) to services and goods (the most concrete resources), excluding money or affiliation resources, which are considered moderate or ambiguous by the theory (Foa & Foa, 1975). The contrast was significant: Decision times averaged 18.226 seconds for abstract and 15.912 seconds for concrete resources ($t_{62} = 2.15$, $p < .04$), supporting Hypothesis 3.

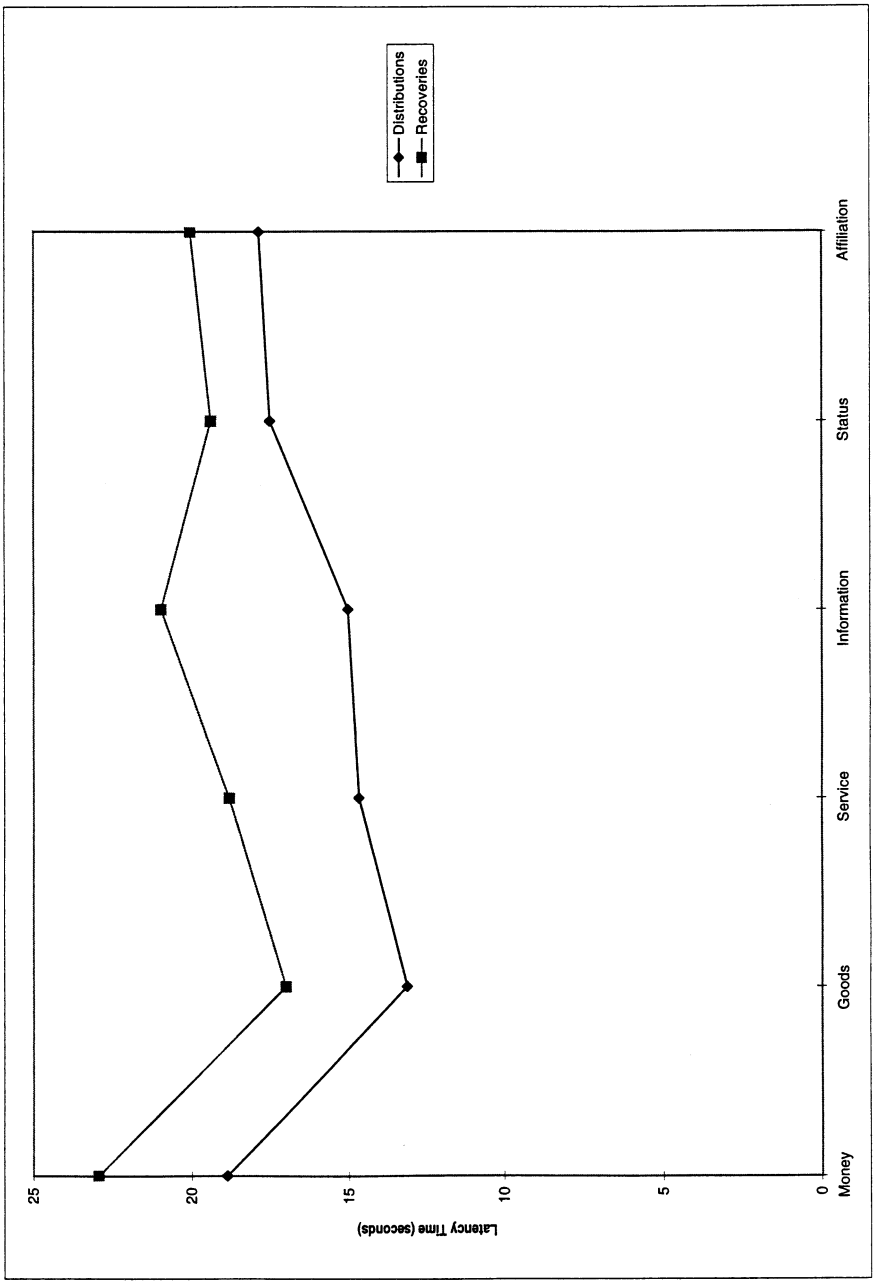

Figure 2. Latency Times for Distributing and Recovering Different Types of Resources

Hypothesis 4 suggested that decisions regarding particularistic resources will be more difficult than decisions regarding universal resources. This hypothesis was not supported. On average, the latency times were 18.055 versus 17.994 seconds for particularistic (affiliation, service, and status) and universal (money, goods, and information) resources, respectively ($t_{62} = 0.08$, $p < .94$, ns).

Finally, we found a significant interaction between culture and distribution/recovery ($F_{2,60} = 4.87$, $p < .01$). However, given that collectivists took longer to read the scenarios than individualists, this interaction can only be interpreted using the latency time controlled for reading speed. Controlling for the difference in reading speed between individualists and collectivists, we found that individualists took slightly more time to recover resources than did collectivists (means controlling for reading speed of .046 and .045 respectively). In contrast, collectivists took more time to distribute resources than individualists (means of .038 and .037, respectively).[8]

Allocation Rule Choices

Does the nature of the resource itself influence preferences for one type of allocation rule over another? Table 3 displays the distribution of the eight allocation rules across the six resources. An examination of these distributions suggests that the nature of the resource does, in fact, influence rule preferences ($X^2_{35} = 738.87$, $p < .001$): Different rules are used to allocate different types of resources. Allocating based on present or past contributions was the most popular choice for allocating money, while rank was the most popular rule for allocating status resources. Need rules were the most popular choice for other resources.

Table 3. Allocation Rule Choices by Type of Resource

Rule:	*Money*	*Goods*	*Service*	*Info*	*Status*	*Affiliation*	*Total*
a. Full Set of Allocation Rules							
Top performers	86	5	7	6	29	28	161
Greatest need	29	193	152	212	50	106	742
Highest rank	23	17	28	7	85	11	171
Past contributions	66	7	12	3	30	30	148
Owe favor(s) to	2	1	0	1	3	12	19
Equality	13	21	47	15	39	42	177
Create indebtedness	2	2	2	2	1	6	15
Future contributions	31	6	4	6	15	17	79
Total	252	252	252	252	252	252	1512
b. Collapsed Rules							
Equity	206	35	51	22	159	86	559
Equality	13	21	47	15	39	42	177
Need	29	193	152	212	50	106	742
Total	248	249	250	249	248	234	1478

Note: Rules that are collapsed into "equity" in Table 3b are italicized in Table 3a.

For purposes of parsimony and comparability to previous research, we collapsed the original eight allocation rule categories into equity (encompassing allocations based on performance, past contributions, future contributions, and rank), equality, and need. Collectively, these three rules accounted for 1,478 of the 1,512 choices. A self-interest rule was rarely invoked; though when used, it was typically used with regard to an affiliation resource (18 of 34 times). This rule was used evenly, but infrequently, with the other types of resources. Consequently, we dropped the self-interest rule from the collapsed categories. The frequency of decision rule choices using this classification continued to demonstrate a strong relationship with the resource variable ($X^2_{10} = 583.92$, $p < .001$). Table 3b shows the distribution of collapsed choices as a function of the type of resource under consideration. An initial inspection revealed a dominant allocation rule for four of the six resource types. Monetary and status resources were frequently distributed/recovered using an equity rule (83% and 64% respectively). Goods, services, and information were frequently distributed/recovered using a need rule (in 78%, 61%, and 85% of the cases, respectively). The most particular resource (affiliation) show greater diversity in terms of allocation rule choices, with no allocation rule garnering a majority. For affiliative resources, need was the most frequently chosen allocation rule (45%), followed by equity (37%). Equality was used to allocate affiliative resources (18%) relatively infrequently.

Hypothesis 2 and Hypotheses 5 to 8 involved predictions regarding how frequently each allocation rule was chosen. The allocation rule choices represented categorical variables, and thus were tested using contingency analyses (as before, for purposes of brevity, we will report X^2 statistics for both the full and collapsed set of rules, but our discussion will focus on the collapsed rule set). Hypothesis 2 predicted that decision makers will use equity rules more for distributing resources than for recovering resources, and equality rules more for recovering resources than distributing resources. The first two columns of Table 4 provide this information. A contingency analysis of the full set of allocation rules confirmed that the distribution/recovery factor influenced allocation rule choices, $X^2_7 = 18.85$, $p < .01$. Examining the collapsed rules (Table 4b) reveals that decision rule choices using this classification continued to demonstrate a strong relationship with the distribution/recovery variable. As predicted in Hypothesis 2, the significant differences appear to be the result of the differential application of equity and equality rules. Equity rules were used more frequently when distributing a resource (in 290 of 559 instances where an equity rule was used, or 52%), while equality rules were used more frequently when *recovering* resources (in 107 of 177 instances where an equality rule was used, or 60.5%), partitioned $X^2_1 = 9.67$, $p < .001$.

Hypotheses 5 and 6 argued that rule choices would differ along the Foa and Foa (1975) dimensions of universal/particularistic and concrete/abstract, respectively. Columns 3 to 6 of Table 4 provide this information. The X^2 tests on the full set of allocation rules indicated that rule preferences differed as a function of both the universal/particularistic and concrete/abstract dimensions ($X^2_7 = 108.91$, $p < .001$ and $X^2_7 = 51.08$, $p < .001$ respectively). As can be seen in Table 4b, and contrary to our expectations, equity rules were used to allocate particularistic

Table 4. Allocation Patterns as a Function of the Foa & Foa Dimensions, Distribution/Recovery, and Individualism/Collectivism

	Nature of the Allocation		*Nature of the Resource*				*National Culture*	
Rule Selected:	*Recovery*	*Distribution*	*Universal*	*Particularistic*	*Concrete*	*Abstract*	*Individualists*	*Collectivists*
a. Uncollapsed Rule Categories								
Top performers	71 (9%)	90 (12%)	97 (13%)	64 (8%)	12 (2%)	35 (7%)	93 (11%)	68 (10%)
Greatest need	364 (50%)	378 (50%)	434 (57%)	308 (41%)	345 (69%)	262 (52%)	419 (50%)	323 (48%)
Highest rank	89 (12%)	82 (11%)	47 (6%)	124 (16%)	45 (9%)	92 (18%)	93 (11%)	78 (12%)
Past contributions	72 (10%)	76 (10%)	76 (10%)	72 (10%)	19 (3%)	33 (6%)	75 (9%)	73 (11%)
Owe favor(s) to	5 (1%)	14 (2%)	4 (1%)	15 (2%)	1 (0%)	4 (1%)	13 (1%)	6 (1%)
Equality	107 (15%)	70 (9%)	49 (6%)	128 (17%)	68 (14%)	54 (11%)	97 (12%)	80 (12%)
Create indebtedness	11 (2%)	4 (1%)	5 (1%)	9 (1%)	4 (1%)	3 (1%)	9 (1%)	6 (1%)
Future contributions	37 (5%)	42 (6%)	43 (6%)	36 (5%)	10 (2%)	21 (4%)	41 (5%)	38 (5%)
Total	756	756	504	504	504	504	840	672
	$X_7^2 = 18.85, p < .01$		**$X_7^2 = 108.91, p < .001$**		**$X_7^2 = 51.08, p < .001$**		**$X_7^2 = 3.99, p < .78$ ns**	
b. Collapsed Rule Categories								
Equity	269 (36%)	290 (39%)	263 (35%)	296 (40%)	86 (17%)	181 (36%)	302 (37%)	257 (39%)
Equality	107 (14%)	70 (9%)	49 (7%)	128 (17%)	68 (14%)	54 (11%)	97 (12%)	80 (12%)
Need	364 (49%)	378 (51%)	434 (58%)	308 (42%)	345 (69%)	262 (53%)	419 (51%)	323 (49%)
Total	740	738	746	732	499	497	818	660
	$X_2^2 = 8.84, p < .01$		**$X_2^2 = 59.85, p < .001$**		**$X_2^2 = 47.54, p < .001$**		**$X_2^2 = 0.79, p < .67$ ns[a]**	

Note: Rules that are collapsed into "equity" in Table 4b are italicized in Table 4a

[a]These results were consistent whether individualism/collectivism or country was used ($X_2^2 = 2.08$, $p < .15$ when using country for the collapsed rules, and $X_7^2 = 9.15$, $p < .24$, ns for the uncollapsed rules).

resources more frequently than universal resources (in 296 of 559 instances, or 53%); as expected, equality rules were used to allocate particularistic resources more frequently (in 128 of 177 instances, or 72%), providing partial support for Hypothesis 5 (partitioned $X^2_1 = 39.37$, $p < .001$). We were surprised that the equity prediction of this hypothesis was not supported. However, when we examined the uncollapsed rules (see Table 4a), a slightly different result emerged regarding the use of equity rules. In particular, when rank was *not* included in the equity category, the prediction holds: equity rules were used to allocate *universal* resources more frequently than particularistic resources (216 of 388 instances or 56%; $X^2_1 = 39.37$, $p < .001$), consistent with the direction of our original hypothesis.

Rank was the most popular choice for status resources. In this case, collapsing rank into an equity category changed the direction of our result, suggesting a need for future research to continue to provide a richer set of decision rules. Thus, Hypothesis 5 was strongly supported for its equality prediction, and received qualified support for its equity prediction: when a more complete set of equity rules are provided, there were subtle differences in the use of equity rules for universal vs. particularistic resources—for all forms of equity *other* than rank, equity rules were used more frequently when allocating universal resources (97 vs. 64 for 60%, 76 vs. 72 for 51%, and 43 vs. 36 for 54%, for equity based on current, past, and future contributions, respectively). However, rank was used more frequently for particularistic resources than universalistic resources.

Hypothesis 6 predicted that equity rules would be used to allocate concrete resources more frequently than abstract resources, and equality rules would be used to allocate abstract resources more frequently than concrete resources. However, as can be seen in Table 4b, Hypothesis 6 is not supported (see Columns 5 and 6): equity rules were used to allocate concrete resources *less* frequently than abstract resources (in only 86 of 267 instances, or 32%), while equality rules were used to allocate abstract resources *less* frequently than concrete resources (in only 54 of 122 instances, or 44%). These patterns are significant in the *opposite* direction (partitioned $X^2_1 = 15.16$, $p < .001$) from our predictions.

Recall that the test of concrete versus abstract resources did not include money or affiliation resources, which are considered by resource theory to contain both concrete and abstract elements. Our Hypothesis 7 focused solely on monetary resources, and predicted that money would be allocated most frequently using an equity rule. As can be seen in Table 3b, this hypothesis is supported. In fact, equity rules were used quite frequently to allocate money (206 out of 248 instances, or 83%), and for both distributions (106 instances) and recoveries (100 instances).

Hypothesis 8 concerned the rule patterns of individualists versus collectivists, a cultural variable. The results were not significant ($X^2_7 = 3.99$, $p < .78$ and $X^2_2 = 0.79$, $p < .67$ for the uncollapsed and collapsed rule categories respectively). Moreover, our specific test involving the differential use of equity and equality rules by individualists and collectivists was also not significant (partitioned $X^2_2 = 0.03$, $p < .86$; see the last two columns of Table 4).

Discussion

In this study, we used a rich set of resources and an expanded set of allocation rules to further our understanding of how decision makers allocate resources in an organizational setting. In addition, our design allowed us to evaluate a heretofore unexamined situation: allocation decisions in which managers take away resources from their employees. The use of latency times and decision rule choices as our dependent variables, rather than self-reports of difficulty and rated preferences for various rules, were also unique contributions of the study. Within the context of a scenario study, they provide evidence of what rules decision makers actually select, and how long they spend deliberating, not merely ratings of what they might do or what they believe is fair. Our findings suggest some intriguing questions for future studies, questions which should be addressed for empirical, theoretical, and practical reasons in an era of shrinking resources. We begin by acknowledging the limitations of this study, then we provide a discussion of our findings, an evaluation of resource theory, and conclude with some suggestions for future work in this area.

Study Limitations

As with much laboratory research, the generalizability of our findings is limited by the use of laboratory methodology, a modest sample size, and the potential naïveté of our MBA subjects. However, on average, our respondents were 30 years old, and 71% of them had management experience, mitigating problems resulting from subject naïveté. All research methods have their costs and benefits. One cost of laboratory research is a potential lack of external validity and mundane realism. In the field, this external validity is frequently obtained with costs in internal validity, which result from the loss of control and also a potential loss in precision in the measurement of variables of interest. Without the control of the laboratory, it may be difficult, if not impossible, to disentangle the effects of the factors and potential confounds on the behaviors of interest and some variables, such as latency times, simply cannot be collected in the field. Consequently, laboratory research is justified and a complement to the findings of field research. As Campbell (1986: 278) suggested, perhaps a preference for either a laboratory or a field setting is merely a straw issue, and what we should attempt to do is to "find some way to stimulate people to use multiple methods." We hope that our findings are intriguing enough to encourage researchers to replicate our study in the field, and for laboratory researchers to use a more complete set of allocation rules and resource categories to ensure that their findings are not driven by their choice of rule or resource in their stimulus materials.

Our findings also are limited by the available allocation rules. In this study, we adapted our allocation rules from those suggested by Deutsch (1975, 1981) and Rescher (1966). Clearly this list is not exhaustive—other rules are possible, and combinations of rules may also be selected. Although we have not captured all possible variations of allocation rules, we have captured a reasonable subset of rules. Our inclusion of several different allocation rules, rather than simply the often studied equity and equality rules, represents a contribution of this study. Similarly, although we have differentiated among the rules, clearly they are not

always mutually exclusive. For example, rank may at times be a form of equity (in particular, equity based on past contributions), although at other times it may not be. Similarly, need rules could be subsumed under equity when one's additional contributions require additional resources. However, need rules may also be applied without such an equity component but rather to create a level playing field (e.g., accommodations under the Americans with Disabilities Act). Conceptually however, the rules we have selected are reasonably distinct and provide a much richer set of rules than those used in much of the previous research.

Resource Distributions and Recoveries

Using latency times as an indicator of the underlying cognitive processes, we found that both the type of resource and whether the resource was being distributed or recovered affected the complexity of allocation decisions. As depicted in Figure 2, there is remarkable consistency in the amount of time it takes to make decisions about each type of resource, whether the allocation was a distribution or a recovery. Our results suggest that it is more time consuming to decide how to recover resources than it is to distribute resources. It is simply hard for most of us to take things away from people. This finding has important implications for subordinates' acceptance of management decisions. As some prior work has suggested that the speed or timing of managerial actions can influence perceptions of justice and fair treatment (e.g., Lewicki & Sheppard, 1985), delayed decisions can cause subordinates to question the integrity or propriety of the decision making process. Such anxieties are also likely to be heightened because the situation involves the recovery of a previously possessed resource, which the subordinate is likely to overvalue due to the endowment effect previously discussed (e.g., Thaler, 1980).

Regardless of whether resources were distributed or recovered, money allocations were the *most* time consuming and difficult decisions. According to Foa and Foa (1975), money is a resource that is intermediate on the concrete/abstract dimension, yet lowest in terms of particularism. Perhaps its status as an ambiguous resource in terms of its concreteness contributes to the difficulty decision makers had with allocating these resources. Affiliation resources, which are also intermediate on the concrete/abstract dimensions, were the next most difficult resource to allocate, lending further support to this argument. However, alternative explanations are certainly plausible and future work may disentangle these explanations. For example, while managers may have more familiarity with the allocation of monetary rewards, they also realize that employees will scrutinize such decisions very carefully, and as a result, they take extra time to insure that they are making sound decisions.

Goods were by far the easiest resource to allocate and were most frequently allocated based on need. Perhaps the need rule itself made such decisions easier by providing a ready "causal account" or rationale for the allocation decision. Alternatively, the relative "indivisibility" of a good may make the need rule an easy choice because rules such as equality may not be given much cognitive consideration. Other research has shown that equality rules are used less fre-

quently when distributing indivisible resources (a camera vs. money, cf. McLean Parks et al., 1996). This suggests that certain resources may inherently allow for simplifying the decision making process. Money, with its potentially unlimited divisibility, may not easily allow any of the rules to be excluded, thus making the decision more difficult in terms of rule selection, as well as the application of rules such as equity that require a calibration of the contribution of the employee.

In the present study, the novel "twist" on resource allocation involved having decision makers recover already distributed, positively valenced resources. While we discovered some interesting relationships, a great deal more work needs to be done in this area. For example, our assertion that "recovering a positive" is more difficult and will lead to different allocation choices, than "distributing a negative" (burden) is at this time only conjecture. One area of research that may provide insight into these resource allocation questions is reinforcement theory. For example, distributing a positive resource would be considered "positive reinforcement," while recovering a negative resource would be considered "negative reinforcement." In terms of reinforcement theory, both would increase the likelihood of behavior, but positive reinforcement generally accomplishes the desired goal more quickly (i.e., with less difficulty) and results in more stable behavior (i.e., extinction takes longer). While reinforcement theory provides an analog for distributing a negative resource ("punishment"), there is no corresponding analog for removing a positive resource (when removing a positive is mentioned, it is typically grouped with distributing a negative as punishment, cf. Treviño, 1992). However, extending the findings concerning positive and negative reinforcement suggests that removing a positive (as we did in our study) would be seen as more difficult than the distribution of a burden. In sum, there are different ways one may allocate both positive and negative outcomes, and future studies should seek to disentangle the benefits and liabilities inherent in each of these four possible situations to more fully understand the implications of resource allocation decisions. We hope to do this in a future study.

Resource Theory

While originally developed for the exchange of resources, Foa and Foa's (1975) resource theory easily adapted itself to our resource allocation context. However, on balance the model appears to be a two-edged sword: Some of its predictions hold up, but others do not. While concrete resources were allocated with less difficulty than abstract resources (as hypothesized), universal resources were not allocated with less difficulty than particularistic resources. In terms of allocation rule choices, the frequency of using equality rules versus equity rules for allocating particularistic versus universal resources was significant as hypothesized, but the predicted patterns of equity and equality rule use for concrete and abstract resources was not supported. Thus, neither dimension of the Foa and Foa (1975) model garners support across both of our dependent measures. Yet, Foa and Foa's theory was originally focused on resource *exchanges*, while our study focused on resource *allocations* where the expectation of direct interest and possible reciprocation was not an issue.

We continue to believe that one contribution made by the Foa and Foa research is their delineation of six different types of resources. Our results suggest that the inconsistent and inconclusive results of previous research may partly be due to the limited number of resources and rule choices made available to the decision makers. Thus, we encourage future work on resource allocation to consider what types of resources people are being asked to allocate, as our results certainly show that different resources differ in decision difficulty and lead to different allocation rule choices.

However, we will refrain from trying to "spin" our results as supporting the underlying dimensions of the Foa and Foa model, and instead take a more honest approach. To put it candidly, future work may want to examine other underlying dimensions on which the six resource categories differ. For instance, other research has suggested that the *divisibility* of the resource is important (McLean Parks et al., 1996; Messick, 1993). Some things are simply *not* easily divisible (cf. the Old Testament story of King Solomon's idea to use an equality rule and divide a baby in half) either for socioemotional or pragmatic reasons. Indivisible resources do not give allocators the ability to treat all parties "evenhandedly, to devise a solution that is perceived to be fair" (Young, 1995: 905).[9] In our study, money represented a universal resource that was also easily divisible. Status resources—which are particularistic—by definition are unequally divisible and hence more "lumpy" than other resources. The divisibility of service resources (which are also particularistic) are limited by time and energy, but in theory are divisible. The particularistic resource category of information, which is not depleted when allocated, can be allocated to all and, thus, can be thought of as infinitely divisible. Affiliation is particularistic, but is less divisible than money. The resources which comprised our "goods" category were not easily divisible (e.g., a computer). It is possible that resources vary along other dimensions as well (e.g., cost, durability, scarcity, etc.).

Cultural Implications

Our latency measures were further qualified by the cultural identity of the decision makers (individualists or collectivists). We found that collectivists took longer to distribute resources, while individualists took longer to recover resources. However, we did not find any differences resulting from cultural orientation (or nationality) on allocation rule choices. Thus, while collectivists may take longer to make decisions, they do not appear to make different decisions. However, as we noted earlier, taking a long time to make a decision can, in and of itself, be problematic as recipients worry about the speed or timing of decisions (Lewicki & Sheppard, 1985). Therefore, we would not advocate ignoring cultural differences in organizational allocation decisions. For example, Dreyfus (1990) tells the story of a Digital computer facility in Boston whose 350 employees are from 44 different countries and speak 19 different languages: Plant announcements are communicated in English, Chinese, French, Spanish, Portuguese, Vietnamese, and Haitian Creole. Beyond the geographic and language differences, it is likely that the cultural orientations of these workers differ, and they may each perceive "fair" behavior differently. In such cases, it is extremely important for

managers to provide explanations for their actions to insure that their decisions are not misconstrued (e.g., Bies & Shapiro, 1987; Greenberg, 1990 a,b). Perhaps such concerns were one reason collectivists took longer to make their decisions. Future research might investigate this possibility.

We chose to focus on individualism–collectivism as this is the most studied of Hofstede's (1980, 1984) four dimensions of culture, particularly with respect to resource allocations. It is also plausible that other cultural variables may affect allocation behavior in a business environment. For example, managers from high power distance cultures might allocate rewards based on rank more frequently. Alternatively, perhaps high femininity cultures would more frequently allocate rewards using need rules relative to high masculinity cultures, which might more frequently choose equity rules. It is also possible that individualism-collectivism interacts with resource categories, and that differences may emerge in only some categories (e.g., affiliation) and not others. In addition to cultural variables, other individual difference variables may affect allocation decisions as well, such as ethnicity and gender (Halpern et al., 1996). Finally, the goal orientations of an organization may exacerbate or inhibit cultural preferences for equity versus equality distributions, particularly in regard to short-term work contexts (e.g., Chen, 1995; Chen, Chen, & Meindl, 1998).

Beyond Equity and Equality

Our hypotheses focused on the application of equity and equality rules as these two rules have a large empirical foundation on which to develop predictions. However, one of our goals was to illuminate when other allocation rules might be used, and to provide a more fine-grained examination of the most frequently researched rules. For example, we differentiated in the uncollapsed analysis between different forms of equity, specifically, past, present and future contributions to the organization, as well as rank. Our results differed when these rules were collapsed, not only in the magnitude but the direction of the effect. In our data, it appears that the inclusion of rank as a form of equity drove this anomoly—when rank was not collapsed under the rubric of equity, the results suggested equity rules were used more frequently to allocate universal than particularistic resources. However, when rank was included as a form of equity, the direction of the effect was reversed. Particularistic resources are those in which identity matters—precisely the circumstances under which a rank rule would exert its influence. Yet, universal resources are easy to calibrate, and more likely to be used as a metric of relative contribution. In addition, although we did not vary the goal of the allocation decision, Chen's (1995) work suggests that such goals are indeed important in selecting allocation rules. And such goals may easily drive preferences for different forms of equity. If the organization is in a volatile environment, then present contributions may be given greater emphasis. If the organization is in a more stable environment, the potential for future contributions may be emphasized as an equity consideration. Consequently, we suggest that researchers should continue to differentiate among these forms of equity.

A number of relationships between the resource categories and allocation rules other than equity and equality are of interest. Respondents chose a need rule

in almost half (49.1%) of all cases. The frequent use of a need rule by our decision makers, even in an organizational context, seems to fly in the face of conventional wisdom and some prior empirical work (e.g., Chen, 1995; Tornblom & Foa, 1983), which suggests that managers will use an equity rule (such as performance or past/future contributions) when distributing rewards, even nonfinancial rewards. Again, such discrepancies between our results and prior work could stem from several sources, such as our use of more resources, a wider set of allocation rules, a lack of performance information, and the use of rule choice rather than rated preferences as our dependent variable. However, the use of need rules in organizations can at least be anecdotally supported. In discussing the results of this study with a colleague, we were told the story of a department chair who routinely gave raises that did not correlate with the performance evaluations distributed to members of the work unit. Larger raises were given to employees who had suffered financial difficulty (e.g., a spouse losing a job during the year), and such allocations were accepted by the work unit, as long as they were not reflected in their performance evaluations. This suggests that an important future distinction needs to be made between job-related need (which is what we presumed our respondents were focused on, as they were provided with no personal information about subordinates) and personal need (as in the anecdotal example). However, a person with a collectivist cultural orientation might argue that the distinction between personal need and business-related need is artificial: in other words, if a worker is suffering because s/he is deprived of some personal need, this deprivation is likely to affect the person's job performance. In fact, one can see some reward allocation behavior by U.S. companies as evidence of the blurred lines between business and personal needs. For example, MBNA America, a large distributor of credit cards, provides cash bonuses to employees who get married or adopt children, two events that most individualists would find hard to classify as "business related" activities.

While other rules were used less frequently, they also covaried with the type of resource being allocated. When rank was invoked as the allocation rule, it was usually used for status resources (85 of 171 instances). Apparently, this is the only situation where the old adage "rank has its privileges" applies. If respondents allocated resources in order to pay off a debt, most likely it was with regard to an affiliation resource (12 of 19 instances). From Table 3b, it is interesting that as we move to the most particular of the resources (affiliation and status), clear patterns become less obvious. There is simply more disagreement about how to allocate such resources. This suggests that these resources are more likely than other resources to produce questions as to why they were allocated in a particular fashion, no matter *what* rule is used. Affiliation and status resources appear to be "loaded" to produce conflict, no matter what allocation rule is selected.

Future Research

Our results suggest several areas where additional research is needed to better understand the implications of distributing and recovering organizational resources. This study examined decision complexity and preferences for alloca-

tion rules among *allocators* who varied in terms of their cultural orientation. It is also important to examine how different decision rules are perceived by the *recipients* of those outcomes. Moreover, the cultural orientation of the recipients will also need to be considered when making allocation decisions. Subordinates' beliefs that organizational decisions are fair and appropriate can have a profound effect on their perceived satisfaction, commitment, and motivation (variables that are even more prone to change in times of resource cutbacks). A manager who uses an equality rule to allocate resources to a work group expecting a need criterion might be surprised to find out that workers feel that the decisions made were unfair. It is important that future research consider such effects on both managers and employees. Our results, from a practical standpoint, suggest that congruence between manager and employee perceptions of resources and their appropriate distribution method is likely to be very important.

Finally, further examination of the allocation rules used by decision makers would seem to be in order. While we tried to provide as large a list of allocation rules as we could think of, we are not convinced our list is exhaustive. There may be rules that are commonly followed in other countries that we have not considered. This underscores the importance of examining decisions in different cultures. Similarly, future research should empirically test Young's (1995) categorization of allocation rules for dividing the indivisible (see Note 9). Future research might include open-ended responses where allocators personally describe the rules they use to administer or recover rewards. Such responses, while inherently messier that choosing from a list of available rules, would enhance our understanding of reward allocation rules by reinforcing the importance of previously known rules, or by reorienting us to the consideration of new rules.

Need rules are particularly deserving of more research attention by organizational scholars, given their frequent use in our study. It may be the case that need rules satisfy the more global goal of "organizational effectiveness" better than other rules, such as equity (which may motivate some employees while demotivating others (e.g., Kohn, 1992, 1993), resulting in no "net change" in the organization's effectiveness). Future work that asks allocators to identify the organizational objectives they hope to achieve given their decisions might shed some light on this issue.

Finally, previous research has pointed out the importance of traditions in resource allocations (e.g., Conlon & McLean Parks, 1990). Allocation rules used by organizations may be anchored on past practices, relying on precedent, even in the face of compelling economic (Conlon & McLean Parks, 1990) and social reasons (e.g., fairness considerations) to change. In the present study, this institutional aspect to allocation rules was not an issue; however, many organizations do have institutionalized practices. An intriguing question is whether or not the reliance on past practices, when suboptimal or patently unfair, will mitigate reactions to perceived unfairness. When a traditional rule is used, do the aggrieved parties accept the unfairness or is their sense of injustice magnified by a belief that reliance on a traditional rule was used to by the allocator to "weasel out" of taking responsibility for a tough decision?

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Notes

1. As noted by an anonymous *JM* reviewer, rank can also be considered a form of equity. In particular, if one assumes that a high-ranking employee worked his or her way up, then rank may be a form of equity based on past contributions.
2. Much of the prior work forcused on allocation decisions made by groups or individuals, who were directly affected by the allocation decisions themselves. Consequently, their interpretations of events, as well as their allocation decisions, are likely to have been affected by their own self-interest and egocentric interpretations of fairness (e.g., Bazerman, 1993; McLean et al., 1996; Thompson & Lowenstein, 1992). We focused on a "manager as third party" model, in which our subject's role played a managed who made decisions that only affected his or her subordinates. Managers have frequently been characterized in both the management and dispute resolution literatures as dispute resolvers and resource allocators (e.g., Mintzberg, 1973; Notz, Starke, & Atwell, 1993). Thus, our study differs from others by having a less interested (but not *dis*interested) third party making decisions to distribute or recover resources.
3. Stimulus passage readability averaged 7.25, 6.90, 7.18, 6.98, and 6.99 for money, goods, service information, status, and affiliation respectively ($F_{5,83} = 1.23$, $p < .30$); readability averaged 7.062 and 7.055 for recoveries and distributions respectively ($F_{1,83} = 1.23$, $p < .998$). The interaction between recovery/distribution and resource category was also not significant ($F_{5,83} = .05$, $p < .951$).
4. MEL Professional Software System, Version 2.0 (Schneider, 1995).
5. Because order across the resource categories and type of allocation (distribution and recovery) was randomized, fatigue/order effects should not affect our results. We did, however, check to determine if there was an order/fatigue effect with later decisions conforming to a different set of allocation rules or taking more or less time. We found no significant differences.
6. As a whole, the Singapore sample was more collectivist than the U.S. sample, with average scores on the individualism/collectivism scale of 29.86 and 25.30 respectively. These means were significantly different ($F_{1,61} = 7.16$, $p < .01$; partial $\xi^2 = .11$). Using the median split, the means were 33.86 and 23.14 for collectivists and individualists, respectively. Again, this difference was significant ($F_{1,61} = 85.52$, $p < .001$; partial $\xi^2 = .58$). Using the scale rather than national categories resulted in more disparate scores, and given that the effect size was much larger, evidence of greater discrimination.
7. The computer also timed subjects while they were reading the scenarios. For each latency time hypothesis, we also analyzed the data using a computed measure, *relative time* which was computed by dividing the decision latency by the scenario reading time, thus controlling for reading speed and any potential difficulty in processing the language used to describe some types of resources compared to others. The pattern of results remained unchanged with one exception.
8. These means are for the relative time measure (decision latency divided by scenario reading speed), which controlled for scenario reading speed.
9. Young (1995) suggests eight possible ways to make indivisibles divisible. Using the example of a painting "split" among heirs, he suggests that the painting can be *physically divided* (cutting it in two), allocated through a *lottery*, *rotated* between the apartments of the heirs, *held in common* (placed in a common area), *subtracted* (destroying the painting or donating it to a charity or museum), *sold* (selling it and dividing the proceeds), *compensated* (one heir compensates the other and obtains exclusive rights to the painting), or *unbundle the attributes* (one heir gets the painting during her lifetime after which it is given to a museum, which pays the other heir now). Examining rule preferences for dividing indivisibles is an interesting question for future research.

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