DISSERTATION

FACTORS IMPACTING RESOURCE ALLOCATION DECISIONS: THE INTERACTION OF COGNITIVE LOAD AND VALUE PREFERENCES WITH KNOWLEDGE OF DISTRIBUTIVE INJUSTICE

Submitted by

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WE ~~HEREBY~~ RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY DEBORAH E. RUPP ENTITLED "FACTORS IMPACTING RESOURCE ALLOCATION DECISIONS: THE INTERACTION OF COGNITIVE LOAD AND VALUE PREFERENCES WITH KNOWLEDGE OF DISTRIBUTIVE INJUSTICE" BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTORATE OF PHILOSOPHY.

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ABSTRACT

FACTORS IMPACTING RESOURCE ALLOCATION BEHAVIOR: THE INTERACTION OF COGNITIVE LOAD AND VALUE PREFERENCES WITH KNOWLEDGE OF DISTRIBUTIVE INJUSTICE

This study attempts to validate and expand the deontological model of organizational justice. The deontological model states that individuals experience a sense of moral outrage when they witness others being treated unfairly. This feeling of deonance leads them to react out against the perpetrator. The research in this area has shown that in resource allocation situations, individuals will sacrifice their own resources in order to punish a teammate's past unfair behavior. the current study tested whether or not deontological effects would occur when individuals were under high levels of cognitive load. Results indicated that no significant interaction existed between fairness information and cognitive load in predicting the choice of a selfish or sacrificial allocation relative to an equal allocation. Secondly, the current study explored the role of individual differences in value priorities in impacting deontological effects. Results indicated that individual differences in Hedonism, Self-Direction, Universalism, and Security interacted with fairness information in predicting an equal allocation choice over a sacrificial allocation choice, but not in predicting an equal over a selfish allocation choice. Specifically, when participants did not have any information about their teammates, they made more equal allocations (as opposed to sacrificial allocations) when

they valued hedonism and self-direction. However, when participants had the knowledge that a teammate had acted unfairly, hedonism and self-direction did not predict choice. Conversely, when participants knew a teammate had acted unfairly, they made more sacrificial allocations (as opposed to equal allocations) when they valued universalism and security. When they had no information about their partners, universalism and security did not predict choice. An unexpected yet noteworthy finding was that although a large majority of the participants chose to divide the resource pool evenly, verbalized cognitions data suggested that this choice was largely driven by a concern for fairness. Implications and suggestions for future research are discussed.

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Chapter 1

INTRODUCTION

In recent decades, organizational justice has moved to the forefront as a prominent research topic in the social sciences. Specifically, perceived fairness has been shown to be related to job performance, organizational citizenship behavior, teamwork, retention, satisfaction, and commitment (Colquitt, Conlon, Wesson, Porter, & Ng, in press; Cohen-Charash & Spector, 2001; Cropanzano & Greeenberg, 1997; Farh, Podsakoff, & Organ, 1990; Moorman, 1991; Moorman, 1993; Nieoff & Moorman, 1993; Organ & Moorman, 1993; Phillips, Donuthitt, & Hyland, in press; Tyler & Smith, 1998). Likewise, perceived unfairness has been shown to predict withdrawal of citizenship behavior, revenge, retaliation, absenteeism, turnover, aggression, lawsuits, and even theft (Aquino, Griffeth, Allen, & Hom, 1997; Bies & Tripp, 2001; Cropanzano & Folger, 1998; Folger & Skarlicki, in press; Greenberg, 1997; Jermier, Knights, & Nord, 1994; Lind, Greenberg, Scott, Welchans, 2000; Starlicki & Folger, 1997). Researchers in this area certainly agree that perceived justice is an important variable that has serious implications for individuals, organizations, and societies. Where justice researchers tend to disagree, however, is in answering the question: *Why* is justice so important to people?

Although some models of justice purport that people care about justice to protect their own self-interest, a new model of justice has emerged, the deontological model,

arguing that justice is a fundamental human value that motivates individuals to act fairly and react out against those committing injustice. In the sections that follow, these justice models will be compared. Then, current evidence supporting the deontological model will be reviewed. After reviewing this literature, the current study will be presented, which attempts to extend the deontological model by exploring a) how cognitive load and knowledge of unfair behavior interact to impact resource allocation decisions, as well as b) how knowledge of unfair behavior and individual value types interact to impact resource allocation decisions.

The "Three Roads" of Justice Taxonomy

Recent reviews of the research on organizational justice have grouped justice theories according to what is postulated to motivate individuals to be concerned about fairness (Colquitt & Greenberg, 2001; Cropanzano, Rupp, Mohler, & Schminke, 2001). Cropanzano et al. have named their classification of the justice theories the "three roads to organizational justice." The first "road" or reason why justice matters is provided by the instrumental justice models. These include economic rationality (Bazerman, White, & Lowenstein, 1995), Thibaut and Walker's (1978) control model, and more traditional approaches to social exchange theory (Lind, 1995; Tyler & Lind, 1992; Tyler, Degoey, & Smith, 1996). With a few exceptions, these models tend to view fairness as a means to a self-serving end and argue that people act fairly in an attempt to maximize material and quasi-material outcomes through their interactions with others. Thus, people are motivated to ensure that both the outcomes they receive as well as the procedures leading to these outcomes are fair, such that they receive as favorable outcomes as possible.

Cropanzano et al.'s second road has been termed the interpersonal road. It is characterized by theories purporting that: a) justice matters because it allows individuals to form close relationships with those they interact with (as explained by more contemporary interpretations of Social Exchange Theory; Masterson, Lewis, Goldman, & Taylor, in press; Shore, Tetrick, & Barksdale, 1999), and b) justice allows individuals to determine their social value within the groups to which they belong (as explained by the group-value/relational model, see Lind, 1995; Lind & Tyler, 1988; Tyler & Lind, 1992; Tyler et al., 1996; Tyler, 1997). Instead of proposing that fairness is important because it increases the likelihood of maximizing material benefits, these theories contend that fair treatment matters because it shows one's group inclusion. Since self-identify is often tied to group-identity, being treated fairly reinforces one's group standing, where being treated unfairly threatens it. Although these first two classifications of justice theories focus on different motives for caring about fairness, both approaches have been labeled as inherently self-interested (Cropanzano et al., in press; Turillo, Folger, Lavelle, Umphress, & Gee, in press). Whereas these models have been critical to understanding the effects of justice in the workplace, several authors have expressed concern that there exists fairness-related phenomena that the current models cannot explain (Colquitt & Greenberg, 2001; Cropanzano et al., in press; Cropanzano & Folger, 2001; Folger, 1998; Folger, 2001; Turillo et al., in press). That is, the self-interested justice models cannot account for reactions third-party observers have when they witness acts of unfairness. It is common for people to experience moral outrage in such situations, even when they have no affiliation or sense of identity with the parties involved, where they stand to gain nothing

economically or socially from the situation, and when they will not be interacting with either party in the future.

Examples of such situations might include a white male reacting out against the alleged injustice surrounding the imprisonment of Mumia Abu-Jamal, or a non-pet owner feeling outrage after witnessing the mistreatment of animals. Folger (1998) provides similar anecdotes, such as anti-Semitic graffiti on a synagogue causing outrage among Gentiles, moral reactions to reports of strangers murdered heinously in remote areas of the world, the public's reaction to Susan Smith drowning her children and lying about it, and feelings of deonance stemming from observing a baseball player spitting in an umpire's face. One does not have to think long for examples of situations where feelings of moral outrage were catalyzed, not because of instrumental or interpersonal reasons, but because the observer was simply upset that a norm of interpersonal conduct had been violated.

The inadequacy of traditional justice models has led to the development of a third major approach to organizational justice. This model, Cropanzano et al.'s third road to organizational justice, has been termed the moral virtues or *deontological model* (Folger, 1998; Folger, 2001), and it is this model that is the focus of the current study. The deontological model purports that people are not only concerned about fairness to protect their own self-interest, but they also may hold a collective concern that all people are treated fairly. That is, fairness may be an internalized virtue rather than a selfish motive. In this regard, justice is an end to itself, rather than a means to an instrumental or relational end, and people care about fairness because acting fairly is simply "the right thing to do."

This model represents a significant departure from other theories of justice that conceptualize justice as a self-interested motive. The model also extends previous justice research in that it accounts for third-party reactions to the unfair treatment of others as well as fairness events within dyads that are guaranteed to have no continued contact or relationship. The following sections further describe this model and review the available empirical evidence that supports it.

Justice as Deonance

In introducing the deontological model of justice, Folger (2001) explains that organizational justice research has focused so heavily on self-interested motives for fair and unfair behavior that it has circumvented necessary attention away from the moral motives that influence justice. Although instrumental and relational factors might explain a portion of the variance in justice effects, what Folger refers to as the "ought" forces of just behavior have largely been ignored despite arguments made by the broader research community (Feather, 1994; Miller, 1999; Montada, 1998). In other words, we have lost sight of how justice relates to values and morality. According to the deontological model, observing or experiencing an act of injustice triggers a deonic state. Deonance is a motivational state that arises within a person when an observed individual violates (willingly or not) a moral norm of interpersonal conduct held by the perceiver. This state creates a desire to see that people are held accountable for their moral injunctions. Such a process is illustrated in Figure 1.

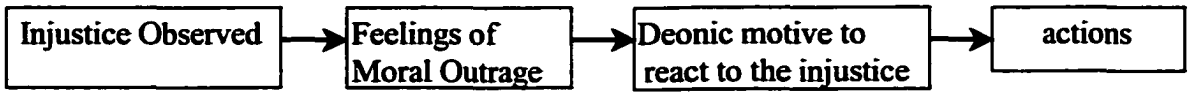

Figure 1. The process by which individuals react to injustice according to the deontological model of justice.

Thus, deonance regulates and reaffirms the norms of interpersonal conduct and motivates sanctions for inappropriate behavior. Furthermore, this model seeks to account for some of the commonalties found in studies of perceived distributive, procedural, and interactional justice by pointing to a collectively held concern for the welfare of others, regardless of the outcome (e.g., whether it be a tangible outcome, a procedure, or interpersonal treatment). It is important to note that Folger (2001) is not arguing against more self-interested models of justice. He is instead proposing a pluralistic model whereby individuals can be motivated by both self-interested factors as well as moral frameworks of interpersonal conduct.

How Fairness Impacts Decisions Making: Evidence for the Deontological Model

Experimental studies that have provided evidence in support of the deontological model have incorporated resource allocation paradigms into their methodologies. In resource allocation studies, a group of individuals typically has access to a common resource pool (often a pool of money) and each participant must make the decision of how the money should be allocated (Allison, McQueen, & Schaerfl, 1992; Allison & Messick, 1990; Herlocker, Allison, Foubert, & Begganm 1997; Samuelson & Allison, 1994).

Kahneman et al.'s findings. Such a methodology was used by Kahneman, Knetsch, and Thaler (1986) in a series of studies that provided the earliest evidence that self-interest-based models cannot always account for justice reactions. In their earlier studies, experiments consisted of a "first round" where participants chose how a $20 resource pool would be split between themselves and a hypothetical partner. Their options consisted of an *Even* choice ($10 to self, $10 to partner) and an *Uneven* choice ($18 to self, $2 to partner). Then in a second round (the true experimental condition), participants were matched with two partners: one who was fair (chose Even) in the previous round and one who was unfair (chose Uneven) in the previous round. In this round, participants were also given two allocation choices. They could either split a $12 pool with the unfair partner ($6 to self, $6 to unfair partner) or sacrifice a dollar to instead split a $10 pool with the fair partner ($5 to self, $5 to fair partner).

Results of the Kahneman et al. studies generally showed that a significant majority of participants picked the sacrificial choice so as not to allocate resources to the unfair partner. This evidence is in clear opposition to both instrumental and relational models of justice. Participants did not act out of economic rationality, but instead chose the option that paid the least possible to both themselves and their partner. Likewise, participants were not acting out of concern for their future relationships with their partners. In fact, the participants never met their partners and there were to be no subsequent rounds. The experimental design removed the possibility for material or relational motives, thereby leaving the explanation that participants must have chosen to reward punish unfairness because it was the right thing to do. This suggests the possibility that justice is more an end-in-itself rather than a means-to-a-material or relational-end.

Although these results provided promising evidence that there must be additional reasons for justice concerns beyond instrumental and relational explanations, Turillo et al. (in press) identified two possible confounds in the Kahneman et al. (1986) studies that somewhat limited their conclusions. First, in the Kahneman studies, participants allocated *either* $6 to the unfair partner *or* $5 to the fair partner. Thus, the act of rewarding fairness and punishing unfairness occurred simultaneously. Therefore, conclusions cannot be drawn about the unique motivation to punish individuals for moral transgressions. Second, because participants were informed that only 10% of the groups would actually be paid, there was some ambiguity surrounding whether the partner would learn of the participant's allocation choice. Therefore, the participants' choices may not have been completely free of relational concerns. Turillo et al. (in press) designed additional experiments to address these confounds.

Publicity of decisions does not have a strong effect. As mentioned above, within the Kahneman et al. (in press) paradigm, participants may have varied in their understanding of the degree to which partners were to be made aware of their allocation decisions. To avoid this ambiguity, Turillo et al. (in press), in their first study, used "partner information" as an independent variable. That is, participants were either told that: a) only the unfair partner would learn of the decision, b) only the fair partner would learn of the decision, c) both partners would receive information about the decision, d) no one would receive information about the decision unless they were among the 10% to get paid, or e) the participant's choice would remain completely confidential.

Results showed no effect for partner information. That is, participants' justice reactions were the same regardless of whether their decisions were anonymous and

regardless of if the partners were actually punished/rewarded for unfairness/fairness (i.e., of the 10% that were paid). This finding further validated the notion that individuals can act out against unfairness for fairness' sake, rather than only in situations where their group identity or relationships might be enhanced.

Two wrongs do not make a right. In this first study, Turillio et al. (in press) also addressed the simultaneous reward/punish problem described above. They did this by making "partner" a between-subjects variable rather than a within-subjects variable. The Kahneman et al. (1986) studies had one condition where all participants had a fair and unfair partner (a three-person paradigm). Turillo et al. modified this design by using a two-person paradigm where participants were paired with either a fair or an unfair partner. In other words, participants were matched with a hypothetical partner who had chosen either a $18/$2 split or a $10/$10 split in a previous round (modeled after the Kahneman first round). Participants were also assigned to either a punish or reward payout condition. In the punish condition, participants could split a $12 pool with a partner ($6 for self, $6 for partner) or sacrifice a dollar to allocate $5 to themselves and $0 to their partner. In the reward condition, participants could take $6 for themselves and allocate $0 to their partners, or act sacrificially by taking $5 for themselves and allocating (rewarding) $5 to their partner.

Results from this study indicated that participants were more likely to act sacrificially (i.e., take $5 instead of $6 for themselves) to reward someone who had been fair than to reward someone who had been unfair. However, they did not find a strong tendency for individuals to act sacrificially to punish someone who had been unfair. The authors felt this finding was due to the fact that in order to punish the partner who had

been unfair (choosing a $5-for-self/$0-for-unfair partner as opposed to an even split), the participants had to themselves act selfishly, since they would be taking all of the money in the resource pool. Thus, the absence of a main effect may have been caused by a moral confound where participants believed that "two wrongs don't make a right." The researchers also felt that a strong egalitarian urge may have swamped all effects in the direction of the reward choice.

Thus, in a second study, Turillo et al. (in press) included conditions where participants allocated the resource pool between themselves and two partners: a partner who had been unfair in a previous round, and a partner who had either been fair previously or was from a completely different study. In this variation, participants could choose $6 for themselves, $6 to the unfair partner, and $0 to the fair or unrelated partner, *or* they could choose to sacrificially punish unfairness by choosing $5 for themselves, $5 for the fair or unrelated partner, and $0 for the unfair partner. This way, participants were allowed to take less money for themselves to punish an unfair partner, but still split the slightly smaller pool with another individual (and therefore not have to act selfishly themselves to punish the unfair partner). As in their first study, it did not matter whether the third partner was unknown or had acted fairly. Results indicated that when participants were allowed to split the resource pool with this third person, they were more likely to punish an unfair partner. These findings provided evidence that individuals are more likely to act sacrificially and seek retributive justice when they themselves are not acting unfairly in the process.

Group identification does not have a strong effect. Turillo and colleagues conducted a third, scenario-based study, where participants were told about a manager

who had been acting interpersonally unfair to his employees. Interpersonal or interactional fairness differs from fairness of outcomes (also known as distributive justice) in that it deals with the presence or absence of interpersonal sensitivity toward others (Bies, 1987). In this study, the results from the previous studies were generally replicated in that approximately 50% of the participants chose to sacrifice a dollar so that an unfair individual (i.e., an unfair manager) would receive nothing (and an unknown third person would receive the same amount as the participant). These results were slightly weaker than those of the previous two studies, however, which the researchers attributed to the fact that participants did not identify with the group to which the unfair person belonged (he was presented as a supervisor from a Virginia company where participants were Louisiana college students).

Therefore, in a final study, Turillo and colleagues manipulated both participants' identification with the unfair partner (university professor vs. olympic gymnast) as well as how much intent they felt the perpetrator had for being unfair. Instead of measuring allocation decisions, the researchers this time measured how offended participants were by the unfair person and the extent to which the participants were angered by the unfair person's behavior. Whereas level of identification with the unfair person had no effect on participant reactions, participants took more offense to and were more angered by the offender's actions when it was clear that the offender intended to harm.

Although the authors suspected that group identification would have an effect on participants' reactions to unfairness, this was not found to be the case. Nonetheless, even though their hypothesis regarding identification was not supported, the null findings provided further evidence against the relational model of justice. Here, individuals were

not acting out against injustice out of allegiance to group identity, nor were they acting out of self-interest (as illustrated by their sacrificial behavior). These results allow for the continued plausibility of a morality- or values-based theory of justice.

Other evidence for the deontological model. Feather (1990) also conducted a resource allocation decision-making study that provided indirect support for the deontological model. In this study, distributive justice was manipulated by providing participants scenarios where student workers were paid equal amounts for quite unequal effort and productivity. In the scenario, the student workers' boss had $10 to pay the two students working on the job, which he divided evenly between them. Feather asked participants first, if they agreed with the allocation, and second, how they would have allocated the funds if they were the boss.

Although this experiment did not allow for the sacrificial behavior displayed in the Turillo studies (because the design did not allow for allocation of funds to the self); the results did show that participants were influenced by the information involving the hypothetical student workers' behavior. When the students were given equal pay for discrepant effort, participants strongly disagreed with the allocation and expressed that they would have given a greater proportion of the resource pool to the worker who produced more. The participants had no affiliation with the hypothetical workers, the boss, or the organization, because all were fictitious. This suggests that perhaps simply reading about someone being inequitably rewarded might bring about feelings of deonance leading to the expression of disapproval and the motivation to act out against those who engage in unjustifiable actions.

Summary. The results of these studies suggest that individuals have strong reactions to distributive and interactional injustice, and that neither offenders' identity nor the publicness of the participants' reactions has a strong effect on the deonic state elicited by these unfair acts. Furthermore, participants are less likely to take sanctions against an offender if it would mean they themselves would have to act unfairly. This suggests a code of interpersonal conduct that individuals strive to uphold, not for instrumental reasons, but because of what Folger (2001) refers to as an "ought" force that helps to regulate interpersonal behavior.

Extending the Model: What Sorts of Situational and Individual Factors Impact Deontological Effects?

The goal of the current study is to further explore deontological justice effects. While the current evidence suggests that justice is important to people because individuals possess a collectively-held and value-based justice motive that catalyzes strong reactions in situations where they observe injustice, there is currently no known research that considers what situational constraints or individual differences might facilitate or impede these effects. The current study seeks to explore these possibilities first by considering the role of cognitive load on deontological effects, and second by exploring the role of individual differences in various value preferences in impacting allocation decisions when an injustice has occurred.

Cognitive Load's Impact on Deontological Effects

Dual-level cognitive processing models. Justice researchers have made the case that in order to understand observer reactions to acts of unfairness, it is imperative that the motivational, cognitive, and social processes that determine them are identified

(Ellard & Skarlicki, in press). A model that may prove quite useful in identifying how deonic states arise is that of *controlled vs. automatic processing* (Anderson, 1971; Chaiken, 1987; Chaiken & Trope, 1999; Petty & Cacioppo, 1986; Schneider & Shiffrin, 1977). Although this is a complex literature that has been approached in different ways within the subfields of decision-making, attitude formation, and persuasion, there exists enough of an overlap to describe this model in general terms (for a more thorough review of this literature, see Bargh, 1996; Carlson & Smith, 1996, and Kunda, 1999). Defined broadly, the dual-processing model states that one's judgment about a particular event may arise via two processes. First, one might engage in controlled, conscious, systematic, or effortful processing. Such processing requires active attention and a good deal of cognitive effort. In contrast, such judgments can also be made "off-line." This more automatic, unconscious, or mindless processing often occurs when individuals do not possess the cognitive resources to engage in effortful systematic processing. In such situations where specific details cannot be attended to, people often rely on cognitive heuristics or shortcuts to allow them to make the most accurate judgment possible given the resources they do have available.

Organizational justice research using dual-processing models. To date, there have been a few recent justice studies that have incorporated a dual-processing framework. Bobocel, McCline, and Folger (1997) present a model that shows how the type of cognitive processing affects how manager explanations for unfavorable events are perceived. This model shows how employee motivation and ability to process information determine whether the explanations are processed in a systematic or heuristic

manner, as well as how these levels of processing affect the perceived adequacy of explanations and attitudes toward the policy being explained.

Other research has shown how some of the competing justice theories may actually be describing phenomena that occur at different levels of processing. For example, Cropanzano et al. (2001) present a processing continuum on which justice process theories can be placed. They argue that equity theory (Adams, 1965), which describes how individuals assess their outcomes and compare them with the outcomes of referent others in forming justice judgments, comes from a very controlled-processing perspective. Fairness heuristic theory (Lind, 2001), on the other hand, states that employees often lack adequate information in their environment with which to determine if their employer can be trusted. Thus, they use perceptions of procedural fairness as a cognitive shortcut for making such judgments. This is indeed a theory of heuristic processing.

Cropanzano et al. (2001) classify fairness theory (Folger & Cropanzano, 2001) as falling in the middle of the controlled-automatic continuum. This theory (from which the deontological model is drawn) proposes a process where individuals first imagine how much better an alternative situation *would* have felt, then assess whether the perpetrator of the injustice *could* have acted differently, and lastly determine if the behavior was in-line with how the individual *should* have acted given prevailing moral or ethical standards. Cropanzano et al. suggest that there are both systematic and controlled elements occurring at each of these stages. Such a classification is consistent with other research showing that the two levels of processing are parallel modes. That is, both types

of processing can be utilized simultaneously (Bobocel et al., 1997; Chaiken, 1987; Petty & Cacioppo, 1986).

Other researchers have applied a dual-level processing framework to their conceptualizations of justice as well. For example, Goldman and Thatcher (in press) propose a social information processing model of organizational justice. In this model, they make predictions similar to those of Cropanzano et al. (2001) though they add the idea that we model the justice attitudes of our compatriots. Similarly, Ellard and Skarlicki (in press) present an insightful cognitive processing model explaining third party reactions to injustice and their attributions of deservingness. Their work attempts to show how the theory of just world beliefs (Lerner, 1980) is a model of automatic processing, whereas Feather's (1999) model of deservingness applies to systematic processing.

A specific type of heuristic processing: Use of the equality heuristic. An area within the cognitive processing literature that has rich implications for research on organizational justice is the research on cognitive heuristics. Chaiken, Liberman, and Eagly's (1989) Heuristic-Systematic Model (HSM) shows that individuals are motivated to minimize decision-making effort (to conserve cognitive resources) while at the same time maximizing decision confidence. When cognitive resource are scarce, individuals are apt to use cognitive heuristics or shortcuts to make processing as efficient as possible. That is, when an individual is processing information heuristically, simple decision rules are utilized to take some of the burden off of the decision making process while reducing decision accuracy as little as possible.

Although the idea of heuristic processing has been incorporated into justice models such a Folger and Cropanzano's (2001) fairness theory as well as Lind's (2001)

fairness heuristic theory, justice research has yet to incorporate many of the specific heuristics that the social cognition literature has revealed. One such heuristic, the equality heuristic (Messick, 1993), has interesting implications for the validation of the deontological justice model. Interestingly, both research on the equality heuristic and research on fairness as deonance have used resource allocation paradigms to test their hypotheses. The following sections integrate these two areas.

The relationship between the equality heuristic and motivated self-interest. The equality heuristic (Messick, 1993) is a decision rule, often used in resource allocation tasks, whereby allocators choose to divide a resource pool evenly, typically out of simplicity, effectiveness, and justifiability (Messick & Schell, 1992; Samuelson & Allison, 1994). One group of researchers that has done considerable work studying the influence of the equality heuristic on allocation decisions is that of Roch, Lane, Samuelson, Allison, and Dent (2000). These researchers have proposed a two-stage model of resource overconsumption (which parallels Chaiken, Liberman, and Eagly's 1989 Heuristic-Systematic Model of cognitive processing) whereby individuals first use the equality heuristic (i.e., divide resources evenly) to make resource allocation decisions, but then, if given the opportunity for more controlled/systematic processing, they more carefully analyze the available information in order to adjust their allocation away from equality, toward an allocation that benefits themselves as much as possible. Thus, according to Roch et al.'s model, individuals will be as self-serving as they can if given the cognitive resources to do so, all other things being equal.

Given this model, Roch and colleagues proposed that in situations where individuals are under high amounts of cognitive load (originally termed "cognitive

busyness" by Gilbert & Hixon, 1991; Ford & Kruglanski, 1995; Newman, Duff, Hedberg, & Blitstein, 1996; Spears & Haslam, 1997), they will be unable to proceed to the second, more self-serving stage of this cognitive model. Instead, they will remain in the first stage, allocating resources equally due to inadequate cognitive resources to assess available information that would lead them to act otherwise.

Roch et al. (2000) tested these hypotheses via a resource allocation task where individuals were asked to divide a $60 resource pool between themselves and eight other people (the dependent variable was actually the amount they allocated to themselves only). Under conditions of either high or low cognitive load, participants requested the amount they desired for themselves, and verbalized the cognitions that led to their decisions. In support of the two-stage model, results indicated that participants under low cognitive load requested more resources for themselves. Also, the variance in requests of low load participants was larger than the variance in requests of high load participants (which closely approximated equality). Low load participants were also found to make more verbal statements to justify their decision to give themselves a large percentage of the resource pool, and the number of these verbalized cognitions increased as request size increased.

Integrating Turillo et al.'s and Roch et al.'s findings. To summarize, in the allocation of resources, Roch et al. (2000) show that individuals under cognitive load are more likely to allocate a resource pool evenly, whereas those who are not under cognitive load tend to make allocations that provide themselves as much as possible. However, within the area of organizational justice, Turillo and colleagues (in press) have found slightly different, although not contradictory results. They found that, in a similar

allocation task, participants will choose to take less for themselves if an individual who had acted unfairly in a previous task would receive nothing (as long as a third individual would receive a proportion equal to that of the participant).

The results of these two studies are intriguing. Roch et al. show a motivation to be self-serving, where Turillo shows evidence for a more retributive motive. Clearly these paradigms are in need of integration in order to better understand both phenomena. The current study sought to meet this goal by carrying out an experiment similar to the Turillo et al. studies. In the current study, participants were responsible for choosing how to allocate a pool of money between themselves and two hypothetical partners. They were either given information about one of their partner's past allocation behavior (which was consistently unfair), or told nothing about either partner. In addition, pulling from the Roch et al. experiments, these participants were also either placed under high cognitive load or not.

It was of interest if a) under low load, individuals would make selfish allocation decisions (as Roch et al. would predict) even if they knew that a partner had consistently acted unfairly, and b) if people would still act sacrificially when they know an injustice had occurred (as Turillo et al. would predict) even under high levels of cognitive load. These questions inquire about the existence of an interaction between cognitive load and fairness information in resource allocation decisions. Because both models suggest feasible outcomes, the exact nature of this hypothesis was exploratory. Consequently, rather than strict hypotheses, the following research questions were proposed:

> *Research Question 1a.* Does knowledge of a partner's past unfair behavior interact with cognitive load in impacting resource allocation decisions?

In addition, the current study used Roch et al.'s methodology for instructing participants to verbalize their thinking processes as they completed the experimental tasks. Verbalized cognitions were coded as selfish, equality-based, or sacrificial/justice-based (categories which parallel the allocation choices participants were given, which are described in Chapter 2). Although researchers have not yet developed a method by which to record actual thought processes, this method has shown to at least give some evidence as to the factors affecting individuals' decisions (Roch et al., 2000). The same research question was posed involving the interaction of fairness information and cognitive load, except this time on verbalized cognitions:

> *Research Question 1b.* Does knowledge of a partner's past unfair behavior interact with cognitive load in impacting the thought processes leading up to and surrounding resource allocation decisions?

Individual Differences in Value Preferences and Their Impact on Deontological Effects

In addition to exploring the role of situational constraints such as cognitive load in how individuals' allocation decisions are impacted by knowledge of a past injustice, it is also important to determine how individual differences might impact these effects. One group of variables on which people differ is that of values. Values are abstract beliefs that people hold about desirable end states (Feather, 1995), and that serve as guiding principles in peoples' lives (Schwartz, 1992). Values transcend both objects and situations, are relatively stable (although they can change across the life span), and are typically hierarchically organized by individuals (Allport, 1961; Levy & Guttman, 1974; Maslow, 1959, Morris, 1956; Pepper, 1958; Rockeach, 1973; Schwartz & Bilsky, 1987; Scott, 1965; Smith, 1963; Williams, 1968). Although they are often thought of as beliefs or attitudes, values are somewhat more abstract and much fewer in number than the

general beliefs and attitudes individuals often hold (Feather, 1995).

There are several reasons why values may be a reasonable start in understanding how individual differences impact deontological effects. First, values are not affectively neutral. That is, they typically have good or bad connotations to people and individuals typically feel very strongly about the values that they hold (Feather, 1995). Individuals often are quite cognizant of their values, defend their values when challenged, and react strongly to actions they witness that are in contradiction of their values. Such reactions are similar to the "deonic state" that Folger (in press) describes individuals experiencing when they witness an injustice occurring (see Figure 1). Whereas Folger suggests that all individuals value justice, the question asked in the current study is whether there are values, known to differ in the extent to which they are preferred by individuals, which heighten or impede reactions to injustice and therefore facilitate or lessen deontological effects in resource allocation decisions.

A second reason that an exploration of value preferences' effects on reactions to injustice may be a fruitful first step in expanding the deontological model, is that there are literatures linking values to both allocation decision-making and to justice. Because there has been a call for more research on justice as it relates to both of these topics (Feather, 1990; 1994; 1995), a study exploring the interaction of values preferences and knowledge of injustice on resources allocation decisions would be a fruitful contribution to both literatures. The empirical evidence to date in both of these areas will be reviewed below. But first, it is necessary to talk about what it is that people value (i.e., the values themselves).

The Schwartz taxonomy of human values. The study of values can be traced back

to the influential work of Rokeach (1975), who defined values as enduring beliefs that certain modes of conduct are personally and socially preferable. Values have been shown to influence the selection of actions (Kluckhohm, 1951) through judgment of the relative attractiveness or unattractiveness of the consequences expected to be gained as a result of the actions. Thus values have been purported to have a motivational element in that they influence decisions through the formation of goals that are consistent with them.

Based on the work of Rokeach, Schwartz (1992) developed a model of 56 specific values that can be collapsed into the ten value types: Universalism, Benevolence, Conformity, Tradition, Security, Power, Achievement, Hedonism, Stimulation, and Self-Direction. Schwartz arranged these ten value types into a circumplex model that allows the value types to be compared to one another. This circumplex model is illustrated in Figure 2.

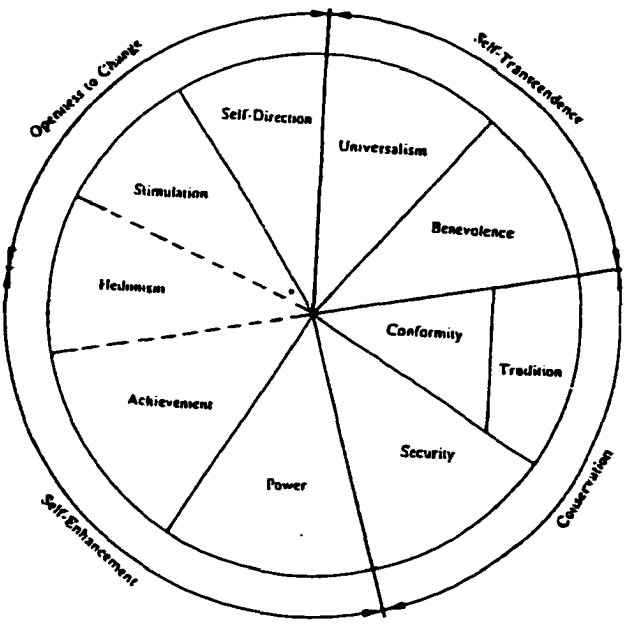

Figure 2. Schwartz's (1992) circumplex model of relations among motivational types of values.

As is illustrated in the circumplex, the value types are arranged relevant to two bi-polar value dimensions. The horizontal axis represents openness to change on one pole and conservatism on the opposite pole. The vertical axis represents self-transcendence on one pole and self-enhancement on the other. Using smallest-space analysis (Guttman, 1968), Schwartz (1992) validated this circumplex model in twenty different countries. The survey constructed to develop and validate this model, the Schwartz Value Survey allows for each of the ten value types to be measured independently. The ten values types are defined in Figure 3.

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

Figure 3. Definitions of the 10 value types making up the Schwartz (1992) taxonomy.

The relationship between values and decision making. A great deal of empirical evidence exists suggesting that individuals preferences for the various value types impact their subsequent choices and decisions (Feather, 1975; 1990; 1991; 1992; 1995; Kluckhohm, 1951; Roch et al., 2000; Rokeach, 1973; Schwartz, 1995). For example, Feather (1995) has proposed a model explaining how values impact decision-making. According to this model, individuals construe, define, or perceive a particular situation, and their perceptions of the situation cause relevant values to be activated. Individuals then use their value preferences to assign valances to the alternatives they have in making a decisions, which in turn impacts their final choice. Figure 4 depicts this chain of events:

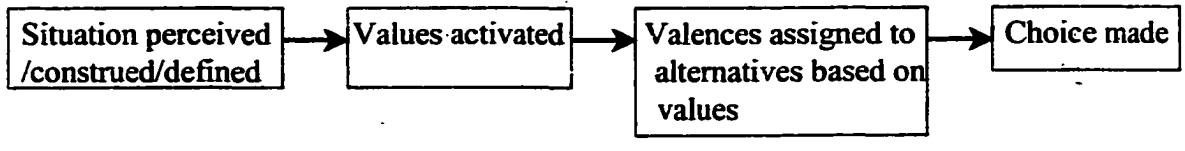

Figure 4. A model linking values to decisions.

Feather has measured individuals' preferences on each of Schwartz's value types, the valences associated with each of these values, and their subsequent decisions (e.g., decisions about participating in a social movement, looking for employment, and enrolling in university courses). Results indicated that valences or attractiveness of alternative courses of action were related to value types, and that choices between alternatives were related to value type and valence.

Feather (1991) also conducted a study where he explored how parents' values impacted the allocation of pocket money/allowance to their children. Results of

this study indicated that parents values were significantly related to their reasons for giving allowances, thus providing further evidence to the values-decision-making link.

Although not directly related to the Schwartz taxonomy, Roch et al. (2000) explored whether social value orientation would interact with the effects they found for cognitive load on resource allocation decisions. Messick and McClintock (1968) proposed three major social value orientations: cooperative, individualistic, and competitive. Roch proposed that the more cooperative a person's value orientation, the more likely they would be to make an equal allocation, even under conditions where they have the cognitive capacity to use more systematic processing to maximize their outcomes (as is proposed by her over-consumption model). Results supported this hypothesis. Having a strong social value orientation inhibited self-serving tendencies. These researchers also found that in conditions of low cognitive load, individuals with cooperative social value orientations voiced fewer intentions to adjust their decisions in a self-serving direction than did individuals with more competitive social value orientations.

Taken together, these studies show that values are crucial variables that affect decision-making processes and that choices among alternatives are often a function of the values that people hold as important. Now that evidence has been reviewed showing how fairness and values impact decision making, it is now necessary to explore the evidence available linking values to justice.

The relationship between values and justice. Feather (1994) points out that research on justice has largely ignored the values held by people, groups, and society. In a resource allocation context, judgments are often made about the fairness of an allocation,

often in terms of its distributive justice. That is, once a situation involving an allocation is perceived and values activated, there is often a judgment of the fairness or deservingness of that allocation, which impact subsequent allocation decisions. This model is depicted in Figure 5.

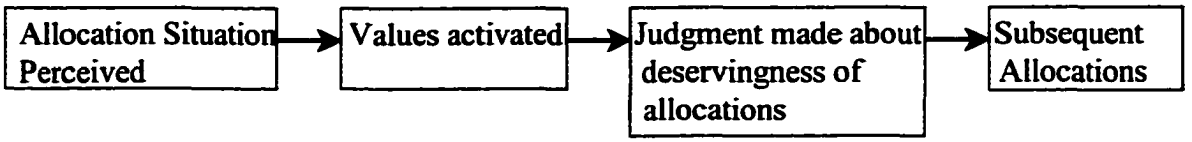

Figure 5. A model linking values to justice/deservingness in an allocation context.

The Feather (1990) study discussed previously examined the relationship between values and reactions to allocations empirically. In this experiment, participants read scenarios about student workers working in a variety of jobs. Each scenario described two workers, one who was productive in producing the output expected from him/her, and one who consistently put very little effort/time into the task. In all scenarios, the workers' boss had $10 to divide between the two student workers, and the boss allocated this amount equally to them. Results indicated that value priorities did in fact impact judgments made about the boss's allocations, as well as their statements about how they would have allocated the resources differently. That is, participants highly valuing the more self-serving value types (such as Hedonism and Self-Direction) were more likely to express concern or disagreement with the allocation, and said that they would allocate less money to the poor performer than those with lower preferences on these values types. Likewise, participants highly valuing more prosocial value types (such as Universalism and Security) more strongly agreed with the allocation and the amount they said they

would allocate more to the poor performer was higher than the amounts given by those with lower preferences on these value types

Research questions involving value types. Because values have been conceptually defined as having an affective and reactive quality in much the same way as have components of the deontological model of justice; and because both the justice and the decision-making literatures have called for more studies incorporating the effects of value preferences, individuals' value types were also measured in the current study. In particular, it was of interest if individual preferences for different value types would interact with the knowledge that unfair allocations had been made by a group member in influencing subsequent allocation choices. Based on the current empirical research available (e.g., Feather, 1990; Roch et al., 2000), four of Schwartz's value types were measured and tested. Hedonism and Self-Direction were chosen as they reflect a more self-directed ideal, where Universalism and Security were chosen as they reflect a general concern for others. These four particular values were chosen because they have been used successfully in related empirical research (e.g., Feather, 1990). This led to the proposal of eight additional research questions that sought to explore the impact of values:

> *Research Question 2a.* Does knowledge of a partner's past unfair behavior interact with Hedonism in impacting resource allocation decisions?
>
> *Research Question 2b.* Does knowledge of a partner's past unfair behavior interact with Hedonism in impacting the thought processes leading up to and surrounding resource allocation decisions?
>
> *Research Question 3a.* Does knowledge of a partner's past unfair behavior interact with Self-Direction in impacting resource allocation decisions?
>
> *Research Question 3b.* Does knowledge of a partner's past unfair behavior interact with Self-Direction in impacting the thought processes leading up to and surrounding resource allocation decisions?

Research Question 4: Does knowledge of a partner's past unfair behavior interact with Universalism in impacting resource allocation decisions?

Research Question 4b. Does knowledge of a partner's past unfair behavior interact with Universalism in impacting the thought processes leading up to and surrounding resource allocation decisions?

Research Question 5a. Does knowledge of a partner's past unfair behavior interact with Security in impacting resource allocation decisions?

Research Question 5b. Does knowledge of a partner's past unfair behavior interact with Security impacting the thought processes leading up to and surrounding resource allocation decisions?

Chapter 2

METHOD

Participants

Data were collected on 661 introductory psychology students at a Western university. Of this sample, 72.8 percent were female, and the mean and median age was 18 years (ranging from 18 to 48 years of age). Twelve percent of this sample belonged to a racial or ethnic minority group (5.5% Hispanic, 3.2% Asian, 1.5% African-American, and 1.2% other).

In order to make the resource allocation task more realistic to the participants, ten percent of the sample was paid the amount of money, in cash, that they allocated to themselves in the experimental task. Past research has shown that experimental effects when 10% of participants are paid do not significantly differ from experimental effects when all participants are paid (Kahneman et al., 1986). At the end of the experiment, participants received a double-stubbed ticket on which their allocation choice was logged. At the end of each week, ten percent of the tickets were drawn and the ticket numbers to be paid out were posted in several locations along with directions for picking up payment. Participants were made aware of this procedure before participating and were provided

information about the postings and payment process in the debriefing forms they were provided at the end of the experiment.

Although there were 661 total participants, this was not the sample size used to conduct all of the analyses. Because of administrative complexities, the Schwartz Value Survey was only administered to 213 participants. In addition, only 386 participants provided transcribable verbalized cognitions data (due to tape recorder problems, bad tapes, quiet talkers, or participants who simply didn't speak). Therefore, the reader is encouraged to take note of the differing sample sizes in the various analyses.

Design

The experiment consisted of two experimental dichotomous independent variables (cognitive load, and fairness information), four post-experimental continuous independent variables (hedonism, self-direction, universalism, and security), and two dependent variables (allocation choice and voiced cognitions while making decision). All of these variables are described in the sections that follow.

Participants were randomly assigned to one of four experimental conditions: high cognitive load with fairness information (load/fairness info), high cognitive load without fairness information (load only), low cognitive load with fairness information (fairness info only), and low cognitive load without fairness information (no load/no fairness info).

Procedure

Upon arriving at the experiment, participants were taken into separate rooms containing written instructions and a tape recorder. They were told that the purpose of the

study was to investigate problem-solving methods and given the following written instructions:

> *In the next hour, you will be participating in four activities:*
>
> *1. A trivia game*
> *2. A logic game*
> *3. A resource allocation task*
> *4. A questionnaire*
>
> *During the first three tasks, we would like for you to* ***think out loud****. We will be tape recording you as you complete the tasks. We are interested in the thought processes you use when you are making decisions. Therefore, while you are completing the tasks, please* ***say out loud what you are thinking.*** *People have the tendency to mumble when they are thinking out loud, but in order to tape what you are saying, it is important that you speak loudly and clearly. Therefore:*
>
> - ***Please express everything you are thinking as you complete the tasks.***
> - ***Speak loudly and clearly.***
> - ***If you make a decision during the task, state your decision and your reason for making it.***
>
> *As soon as you finish reading these instructions, we will give you directions for the first task and start the tape recorder. Please open your door when you have read these instructions and are ready to start the first task. Be sure to ask any questions you have at this time.*

The true purpose of the first two tasks was to give participants practice in verbalizing their thoughts. These tasks were similar to the practice tasks used by Roch et al. (2000). Only the third task was of experimental interest. Appendix A through Appendix I contains the informed consent, administrative instructions and scripts, as well as the materials used in the three tasks.

After the tape recorder was turned on and the first two tasks completed, participants were given instructions for the resource allocation task. They were presented with the following written scenario:

> *In organizations, managers are often in situations where they must divide resources among different groups of people. For example, the manager of a manufacturing company may have to decide how to divide the company's budget between research and development, marketing, and production departments. In this study, we are interested in exploring how such "resource allocation decisions" are made. To do so, we are placing students into small groups and asking them individually how they would divide different amounts of money between themselves and their teammates. These are actual pools of money and* ***we will really be paying the participants*** *the amounts they request. However,*

since we do not have enough money to pay everyone, we will choose 10% of the participants each week to be paid.

The two students you are being paired with have already participated in several rounds of allocation tasks similar to the one you are participating in today. In the previous rounds, participants worked with only one other person and each decided whether to keep all of the money in a $10 pool just for his/her self, or to split the money evenly with their partner such that they would receive $5 and their partner would receive $5.

In today's round, we are going to partner you with two teammates and you are going to decide how to divide a pool of money between the three of you. As mentioned previously, ***ten percent of you will be randomly selected to receive the amount you allocate to yourself. Your allocation decision will not influence whether or not you are paid.***

Because of scheduling complexities, your teammates will not be physically present today. However, your teammates will be making requests for the team using the same method employed here.

This type of situation, where teammates are not physically present for the allocation task has been used effectively in past research (Allison et al., 1992; Herlocker et al., 1997; Roch et al, 2000).

Participants were then provided with the scenario matching the condition to which they were randomly assigned (See Appendix F through Appendix I). Participants in the no fairness information conditions were not told anything about their teammates. Participants in the fairness conditions were told the following:

In past rounds, different people made different allocation choices. Therefore, your teammates may have very different histories with regard to their past decisions. The following paragraph provides you with information about the other two members of your team.

Partner Information:

- ***Teammate #1 acted __(unfairly)__ in previous resource allocation rounds.*** *That is, when dividing $10 between themselves and another person, this person chose to take __($10 for self, $0 to partner)__.*
- ***Teammate #2 acted _(fairly)_ in previous resource allocation rounds.*** *This person's choices were considered __(fair)__ to the other member of their group.*

Following the suggestion of Folger (2001), the fairness information in parenthesis was written in by hand to make the assigning of partners seem more realistic to the participants.

Participants in the cognitive load conditions were given 20 seconds to memorize a ten-digit number which they had to remember throughout the allocation task and recall after the task was completed. This manipulation has been used successfully by Roch et al. (2000). After reading the scenario (and receiving the cognitive load stimuli in cognitive load conditions), participants were given a payout matrix, on which they marked their allocation choice. Participants in this condition were given less than a minute to make their allocation choice.

The payout matrices consisted of three possible ways to allocate differing amounts of money. Participants were instructed to choose one of three allocations. The three allocations were as follows:

Choice 1:	*You (the participant):*	*$7*
	Teammate #1 or "fair teammate":	*$0*
	Teammate #2 or "unfair teammate":	*$0*
Choice 2:	*You (the participant):*	*$6*
	Teammate #1 or "fair teammate":	*$6*
	Teammate #2 or "unfair teammate":	*$6*
Choice 3:	*You (the participant):*	*$5*
	Teammate #1 or "fair teammate":	*$5*
	Teammate #2 or "unfair teammate":	*$0*

These choices were carefully chosen based on the Kahneman et al. (1986), Turillo et al. (in press), and Roch et al. (2000) studies.

The first choice represents a "selfish" allocation. Of the three choices, this allocation provides the participant with the most money possible, but with the cost of

leaving his or her teammate with nothing (as well as picking the smallest pool possible to be divided). The second choice represents an "equal" allocation. Although choosing this option provided the participant with less money than choice 2, it allowed for a larger pool to be split evenly. Choice three represents the "sacrificial" allocation choice used in the Turillo et al. (in press) studies. It is considered a sacrificial allocation in that it involves taking the least amount of money possible for the self, such than one teammate can receive nothing, where another teammate can receive an amount equal to that which is allocated to the self. In the fairness information conditions, this is considered a justice-based or deontological choice, in that the participant is sacrificing money that he or she could allocate to him or herself in order to punish the partner who had consistently acted unfairly in past allocation rounds. Obviously, this choice would make little sense to individuals who are given no information about their partners.

Following the completion of the allocation task, the tape recorders were turned off. At this point, a double-stubbed ticket was filled out indicating the participant's allocation choice and participants were instructed to keep one half of the ticket to claim their money if chosen for payment. This method, which has been successfully carried out by Turillo et al. (in press), also ensured the anonymity of the participants and their decision. Participants were then given a questionnaire packet containing manipulation checks (Appendix J), the value measures (Appendix K), and a demographic survey (Appendix L).

Measures

Manipulation check. Several questions were asked of participants to ensure that the manipulations were perceived correctly (see Appendix J). Participants were asked

about the information they received regarding their teammates, whether they were asked to memorize a ten-digit number (and if this made the task more difficult), and how much money they chose to allocate to themselves. Participants were also asked several questions about verbalizing their thoughts and being tape recorded. They were asked, a) if they did speak out loud, b) if they felt comfortable speaking out loud, c) if what they were saying was an adequate representation of their true thoughts, and d) if they felt their thought process would have been different if they were not asked to think out loud.

Value measures. The Schwartz Value Survey (SVS; Schwartz, 1992) was used to measure the extent to which participants preferred the value types of interest (hedonism, self-direction, universalism, and security). The entire survey consists of a list of 56 values that were selected based on the work of Rokeach (1973) and other research on the measurement of values. The survey asks respondents to rate each value to the extent which it is a guiding principle in their life using a nine point scale ranging from –1 ("opposed to my values") to 7 ("of superior importance"). The values are divided into two separate lists. The first list is made up of terminal values (e.g., end states that are phrased as nouns) and the second list is made up of instrumental values (e.g., modes of behavior that are phrased as adjectives). Prior to rating the values in each list, the respondent is asked to first read the entire list and then rate the value that is of the most and least importance to them. After doing this, participants then continue to rate the remaining values.

The specific value measures used in this study were hedonism, self-direction, universalism, and security. Each measure consists of seven to nine items, and the internal consistency reliability for the measures were .68, .65, .79, .65, respectively. These

reliability coefficients are consistent with past research using the SVS, which has found the reliabilities for all scales to be higher than .45 and typically averaging .67 across cultures (Schwartz, 1992). Descriptions of these four value types are presented in Figure 2. The motivational goal of those highly valuing *security* is safety, harmony, and stability of society, relationships, and the self. The motivational goal of individuals highly valuing *hedonism* is pleasure or gratification for oneself. Those highly valuing *self-direction* are motivated by independent thought and action. This value comes from the need for control and mastery along with the need for autonomy and independence. The value *universalism* is associated with the motivational goal of understanding, appreciating, tolerating, and protecting the welfare of all people.

Coding of the Verbal Protocol

The coding scheme. Typed transcripts were created for each participant's tape-recorded session during the resource allocation task. Each statement or phrase expressed by the participant was coded as either a selfish cognition, an equality-based cognition, a sacrificial/justice-based cognitions, or unscorable. Then each participant was given a global rating of either selfish, equal, sacrificial/justice, or unscorable based on the type of cognition that was expressed the most. Although the coding was relatively straightforward, the most difficult challenge came from when participants used the term "fairness." A finding that emerged from these data is that individuals define fairness in many different ways. That is, it was evident in coding the verbal protocols that some people use the term fairness to refer to egalitarianism (everyone should get equal amounts regardless), where others, clearly use the term to denote justice (giving people what they

deserve). Therefore, raters had to be very careful when coding protocols using the term fairness.

Rater training and interrater reliability. Six research assistants were trained to code the verbal protocols. The training first consisted of a thorough review of the categories to be coded and their meaning and the presentation of and discussion about some example protocols. Then, the group collectively scored 20 protocols, discussing points of agreement/disagreement orally in order to establish a common frame of reference. After everyone felt comfortable with the scoring scheme, the raters then individually scored 20 protocols (see Appendix N). Another meeting was then held where each rater presented her coding scheme for a particular protocol, and any disagreements were discussed. After this was done for all 20 of the "test" protocols, the data were divided among the raters for coding.

The lead rater scored approximately 25 of each of the other raters' protocols and interrater reliability was determined using this individual as the "anchor." The Kappa statistic (K) was used to determine interrater reliability. The coefficient measures the agreement between the evaluations of two raters rating the same object by measuring the distance or disagreement between observers, where distances are a function of the total number of agreeing versus disagreeing pairs of responses (Siegel & Castellan, 1988). The Kappa coefficients comparing each of the raters global ratings with the "anchor" rater were 0.61, 0.70, 0.41, 0.66, 0.71, and 0.56. These were interpreted as acceptable levels, in that agreement among raters is rarely much greater than .50 (Murphy, Cleveland, & Mohler, 2001).

Chapter 3

RESULTS

Manipulation Checks

The first manipulation check was a check on the fairness information manipulation. Ninety percent of the sample correctly recalled if they were told that one partner had been fair and one partner had been unfair in past rounds (when in the fairness information conditions) or that they were given little information about their partner's past behavior (when in the no information conditions). Secondly, participants were asked about what they were told to do in the experiment. Only 3 of 661 participants incorrectly recalled whether or not they had to memorize a ten-digit number (the cognitive load manipulation). Of those in the cognitive load conditions, 51% expressed that having to keep the number in their minds made the task significantly more difficult. Also, participants were asked to recall the amount of money they decided to allocate to themselves. Ninety-nine percent of the sample correctly identified this amount.

Lastly, participants were asked several questions about the process of verbalizing their thoughts and being tape-recorded. Ninety-nine percent of the sample reported that they verbalized their thoughts during the task. Eighty-six percent of these individuals reported that what they were saying adequately reflected what they were thinking as they

completed the task. When asked if they felt comfortable verbalizing their thoughts, 63.9% responded positively. Thirty-two percent of the sample indicated that their thought process might have been slightly different if they had not been asked to think out loud. Approximately half of the sample wrote in optional comments about the verbalization process. Of this sub-sample, exactly half of the participants expressed comfort with the process, where the other half of the participants expressed discomfort (mostly mild) with the process.

Descriptive Statistics

The frequencies of allocation choices and verbalized cognitions are reported in Figure 6 and Figure 7. The most unexpected finding in the distribution of both of these dependent variables is the very high frequency at which participants chose equal allocations and/or verbalized cognitions related to equality. Although this lack of variation certainly makes significant effects more difficult to detect, the analyses used in this study (described below) are not impacted by many of the issues influencing more traditional least-square methods (e.g., nonlinearity, nonsense prediction, nonnormality, and heteroskedasticity; Pampel, 2000). Therefore, despite this trend to choose/voice equality, analyses were carried out to test the research questions of interest. Theoretical issues involving this trend toward equality are further explored in the discussion. Means, standard deviations, scale reliabilities, and correlations of all continuous variables used in this study are reported in Table 1.

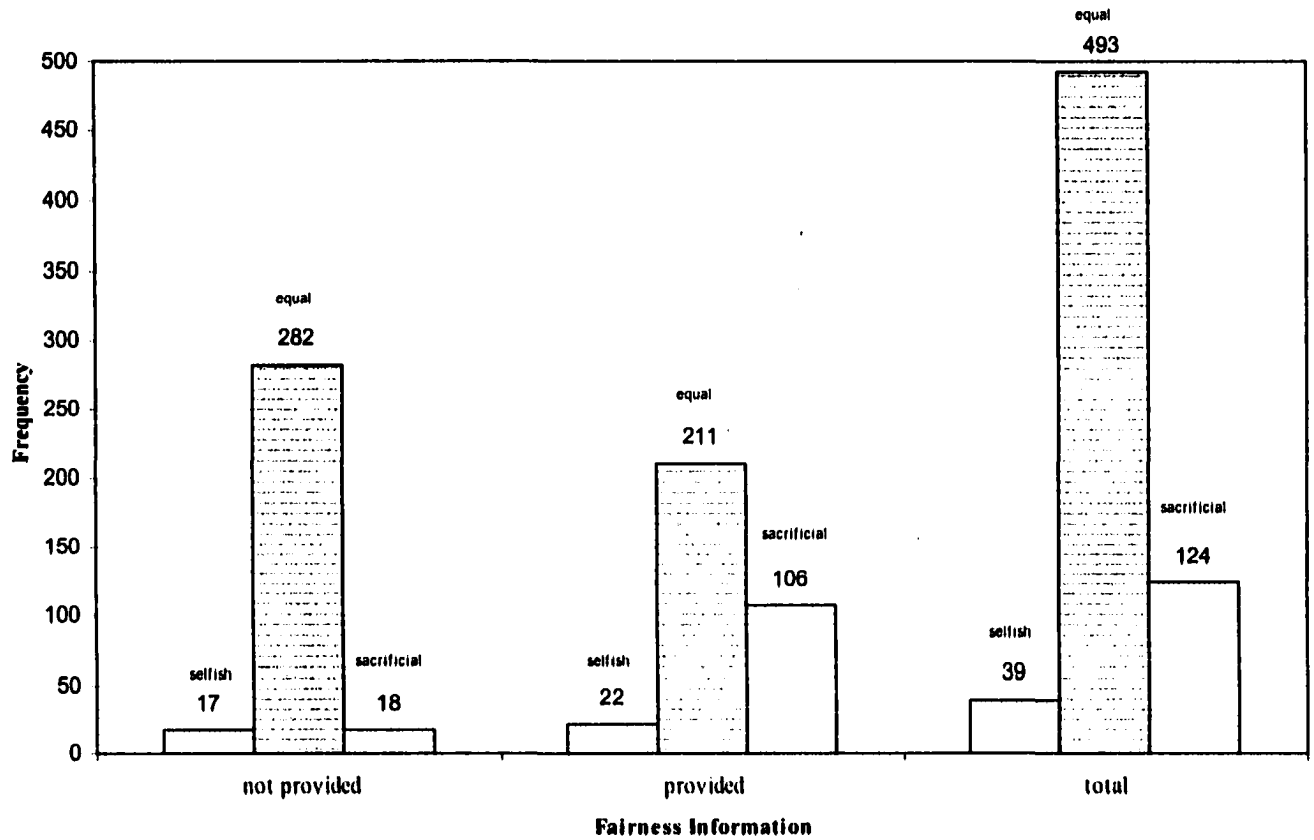

Figure 6. Frequencies of Allocation Choices by Fairness Information Group (N=656)

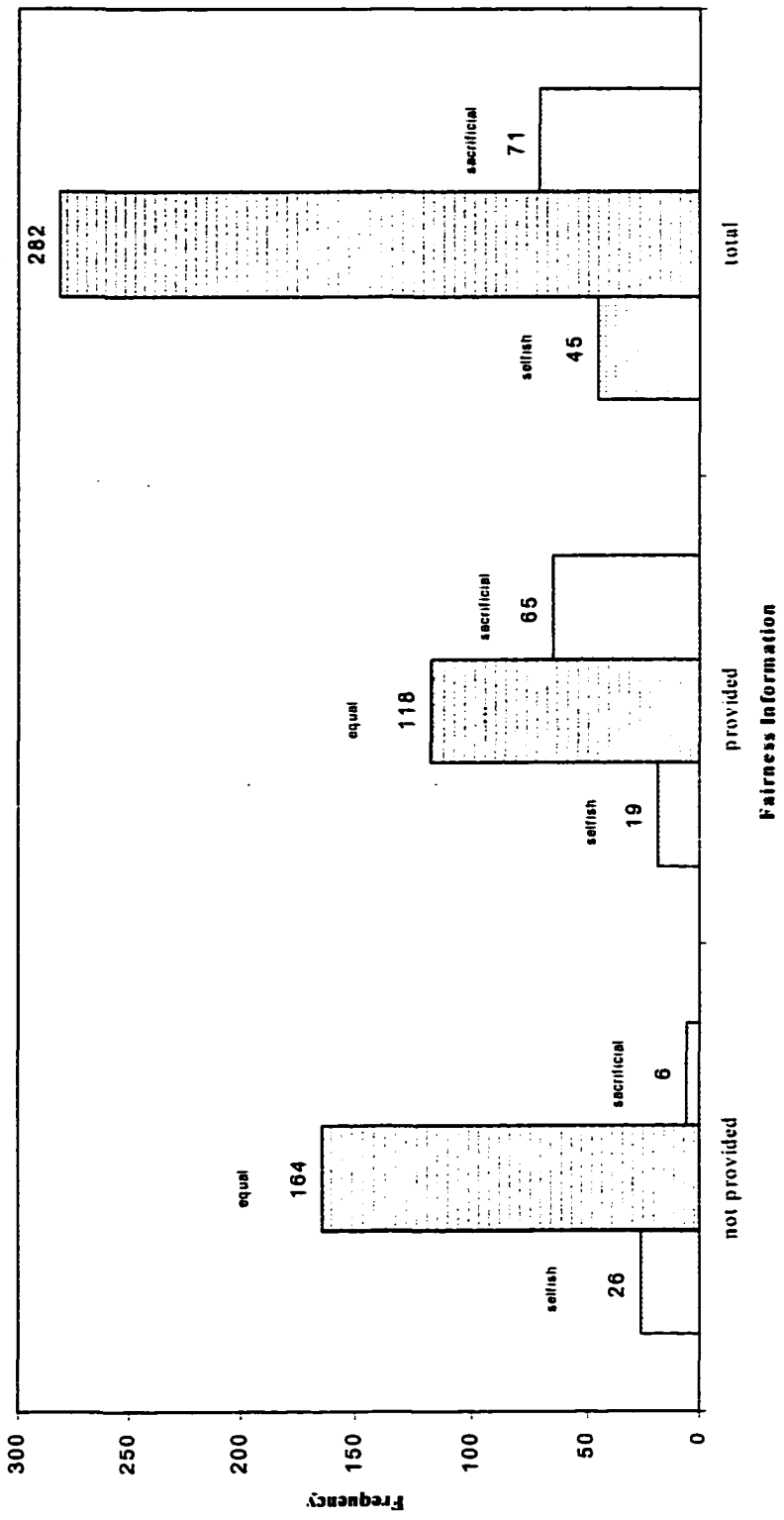

Figure 7. Frequencies of Verbalized Cognitions by Fairness Information Group (N=398)

Table 1

Descriptive Statistics and Correlations of Values Measures

Variable	Mean	SD	1	2	3	4	5	6	7
Hedonism	10.26	2.53	(.69)						
Self-direction	29.96	5.16	.38*	(.65)					
Universalism	38.83	8.63	.21*	.48*	(.79)				
Security	32.29	6.00	.35*	.47*	.41*	(.65)			

Note. Scale reliabilities (Cronbach's alpha) in parentheses; *p<.01

Data Analysis

As mentioned above, the design of the study and the nature of the independent and dependent variables did not lend itself to traditional least-squares analytical techniques. Analyses using a least squares criterion (e.g:, linear regression), assumes a linear relationship between the predictors and the criterion. That is, the sum of squared deviations between observed and predicted values of the dependent variable are minimized such that prediction power is maximized. However, this type of estimation technique is inappropriate when using a categorical dependent variable because the error term has neither a normal distribution nor equal variances for values of the independent variable (Pampel, 2000). Therefore, multinomial logistic regression was used to test for the presence of significant interactions.

Instead of ordinary least squares, logistic regression uses maximum likelihood procedures to estimate the regression coefficients. Such a procedure chooses the estimates of model parameters that are most likely to give rise to the pattern of observations in the

sample data. The likelihood function takes the likelihood of observing the pattern of occurrences and nonoccurrence (Y=1 and Y=0, respectively) of an event in a given sample (which in the present case is type of choice or voiced cognition) as a function of unknown model parameters. Thus, maximizing the likelihood function determines the estimates for model parameters that are most likely to give rise to the pattern of observations in the sample data (Pampel, 2000).

All predicted values obtained when running a logistic model can be interpreted as probabilities (Tabachnik & Fidel, 2001). Using this method, the probability that an individual will be associated with one of the categories of the dependent variable (compared to another) is predicted. Therefore, when a dependent variable is dichotomous, one category represents the category of interest, where the other category serves as a reference. For example, if one were predicting the results of a coin toss, where heads was coded 0 and tails was coded 1, the logistic regression coefficient would provide the probability of landing a heads over a tails as one moves from one condition of the independent variable to another. Logistic models become somewhat more complex when the dependent variable contains more than two categories. In this case, multinomial logistic regression is used. Here a model is estimated comparing each category's probability of association with a reference category (which is arbitrarily the category with the largest coded value).

For example, the current study had participants choose between selfish, sacrificial, or equal allocations, which were coded 1, 2, or 3, respectively. With three levels of the dependent variable, two logits are estimated within the model. That is, the model estimates the probability that participants will choose a) a selfish allocation over

an equal allocation (1 over 3), and b) sacrificial allocation over an equal allocation (2 over 3). In this case, the equal allocation was coded "3," and therefore was used as the reference group in the model. Therefore, although the model takes all categories of the dependent variable into account, because the analysis creates probabilities of being associated with each category over the reference category, the model does not estimate the probability of being associated with one non-reference category over another non-reference category (in our example, 1 over 2, or the probability of choosing a selfish over a sacrificial allocation). Because of this, the researcher should code his or her variables such that the reference category used will be of the most theoretical interest given the purpose of the study.

The current study used equality as the reference category for two reasons. First, it made theoretical sense to do so given the shift from selfish to egalitarian motives, and the shift from egalitarian to sacrificial motives were of primary interest. Second, given the large trend for individuals to make equal allocation, it became of interest post hoc what situations would make an equal allocation less likely. By taking this analytical approach, the ten research questions posed in Chapter 1 were expanded into 20 research questions. Specifically, the current study explored whether or not significant interactions existed between fairness information and all the independent variables of interest (cognitive load, hedonism, self-direction, universalism, and security) in the prediction of selfish vs. equal and sacrificial vs. equal allocations and verbalized cognitions. These 20 predictions are illustrated in Table 2.

Table 2

Predicted interactions with fairness information

selfish vs. equal allocation		***sacrificial vs. equal allocation***	
DV=choice	***DV=cognitions***	***DV=choice***	***DV=cognitions***
cognitive load	cognitive load	cognitive load	cognitive load
hedonism	hedonism	hedonism	hedonism
self-direction	self-direction	self-direction	self-direction
universalism	universalism	universalism	universalism
security	security	Security	security

A final difference between ordinary least-squares regression and logistic regression is that much larger samples are required for logistic regression. This is because the coefficients computed using a maximum likelihood estimation procedure have large-sample standard error estimates (Aldrich & Nelson, 1984; Wright, 2000). The current study consisted of five research questions involving 20 interactions. Because only 386 participants completed the Schwartz Value Survey and only 213 participants provided transcribable verbal protocols, it was decided that the sample was too small to test for all main effects and interactions simultaneously. Therefore, individual analyses were conducted for each of the major research questions.

The logistic regression tables contain five summary statistics. The logistic regression coefficient (B) represents the change in the predicted odds of an event for one unit change in the independent variable. The standard error of the coefficient (SE) represents the standard deviation of the sampling distribution. The Wald statistic (Wald) is analogous to the t-test in Multiple Regression except it is based on a chi-square

distribution. This statistic tests the significance of the regression coefficient. Exp(B) is the odds ratio, which is the change in the odds of affiliation with the target category with a one-unit increase in the predictor. This ratio is calculated by computing *e* to the power of the regression coefficient (see Tabachnick & Fidell, 1989; Pedhazer, 1997; Pampel, 2000; Jaccard, 2001 for a detailed description). The Nagelkerke R-squared is a psuedo indicator of variance explained. Because the dependent variables used in logistic regression do not have the variance the continuous variables used in regular regression have, Nagelkerke R-squared indicates the variance of the predicted logits. The following sections report the results of these analyses. The results are then interpreted in Chapter 4.

Research Question 1: The Role of Cognitive Load

The first research question asked if a significant interaction existed between cognitive load and fairness information in predicting allocation choice and verbalized cognitions. Given the research on both the equality heuristic and the deontological model of justice, it seems feasible to expect that participants would be more likely to choose equal allocations when cognitive load was high as opposed to low but that this effect may be attenuated when participants know that an injustice has occurred (i.e., a load x fairness information interaction in the prediction of equal over sacrificial choices). To test this possibility, a multinomial logistic regression was conducted on participant choice using the equal allocation as a reference. Results of this analysis are reported in Table 3. The same analysis was then conducted on participants' verbalized cognitions, which is reported in Table 4. As is indicated in the tables, no significant interaction was found between fairness information and cognitive load in the prediction of selfish allocations,

sacrificial allocations, selfish cognitions, or sacrificial cognitions (relative to equal allocations and cognitions).

Table 3

Multinomial Logistic Regression Testing Interaction Between Fairness Information and Cognitive Load in Predicting Allocation Choice Using Equal Choice as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Choice					
Fairness Information	-1.84	0.41	4.20*	1	0.43
Cognitive Load	-1.52	0.53	8.30**	1	0.22
Info x Cognitive Load	0.82	0.74	1.25	1	
Intercept	-1.67				
Sacrificial vs. Equal Choice					
Fairness Information	-2.23	0.37	36.93**	1	9.30
Cognitive Load	0.64	0.24	7.01*	1	1.89
Info x Cognitive Load	0.33	0.54	0.37	1	
Intercept	- 0.37				
Nagelkerke $R^2 = 0.18$					

Note. N=656 ; *p<.01, ***p<.001

Table 4

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Cognitive Load in Predicting Verbalized Cognitions Using Equality-Based Cognitions as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Cognitions					
Fairness Information	-0.23	0.58	0.16	1	0.80
Cognitive Load	-0.01	0.53	0.01	1	0.99
Info x Cognitive Load	0.32	0.70	0.21	1	
Intercept	-1.82				
Sacrificial vs. Equal Cognitions					
Fairness Information	-3.00	0.77	15.40*	1	0.50
Cognitive Load	-0.25	0.33	0.58	1	0.78
Info x Cognitive Load	0.44	0.94	0.22	1	
Intercept	-0.43				
Nagelkerke $R^2 = 0.19$					

Note. N=398 ; *p<.001

Research Question 2: The Role of Hedonism Values

The first value studied was that of hedonism. Research question 2a and 2b inquired about the existence of an interaction between hedonism and fairness information. To determine if an interaction between fairness information and hedonism was present in the prediction of selfish and sacrificial allocation choices and verbalizations, two multinomial logistic regressions were computed using equality as the reference variable. Table 5 reports regression results using choice as the dependent variable. Table 6 reports regression results using cognitions as the dependent variable.

Table 5

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Hedonism Values in Predicting Allocation Choice Using Equal Choice as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Choice					
Fairness Information	-1.65	2.53	0.43	1	0.19
Hedonism Values	0.09	0.14	0.42	1	1.09
Info x Hedonism	0.12	0.22	0.31	1	
Intercept	-3.36				
Sacrificial vs. Equal Choice					
Fairness Information	0.23	1.43	0.03	1	1.26
Hedonism Values	-0.01	0.06	0.01	1	1.00
Info x Hedonism	-0.35	0.17	4.44*	1	
Intercept	-0.55				
Nagelkerke $R^2 = 0.24$					

Note. N=388 ; *p<.05

Table 6

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Hedonism Values in Predicting Verbalized Cognitions Using Equality-Based Cognitions as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Cognitions					
Fairness Information	1.47	1.76	0.69	1	4.34
Hedonism Values	0.15	0.13	1.37	1	1.17
Info x Hedonism	-0.17	0.17	1.05	1	
Intercept	-3.10				
Sacrificial vs. Equal Cognitions					
Fairness Information	-1.49	2.39	0.39	1	0.23
Hedonism Values	0.09	0.09	0.99	1	1.09
Info x Hedonism	-0.13	0.23	0.29	1	
Intercept	-1.56				
Nagelkerke $R^2 = 0.18$					

Note. N=213

Choosing and voicing selfish allocations. Table 5 and Table 6 show the multinomial regression results for fairness information and hedonism predicting selfish allocations and

voiced cognitions (as opposed to equal allocations and voiced cognitions). As the tables show, significant interactions were not found for the current sample in these analyses.

Choosing and voicing sacrificial allocations. As is indicated on the bottom half of Table 5, a significant interaction was found between fairness information and hedonism in the prediction of sacrificial allocations. To determine the nature of the interaction, the frequencies of equal and sacrificial choices among high and low hedonism participants were considered for each fairness information condition separately. This exploration indicated that when information about partners' past behavior was absent, those high in hedonism were more likely to make an equal allocation (as opposed to a sacrificial allocation) than those low in hedonism. However, high and low hedonism participants made equal amounts of sacrificial allocation when fairness information was present. This same interaction was not detected in the verbalized cognitions data. These data are presented in Figure 7.

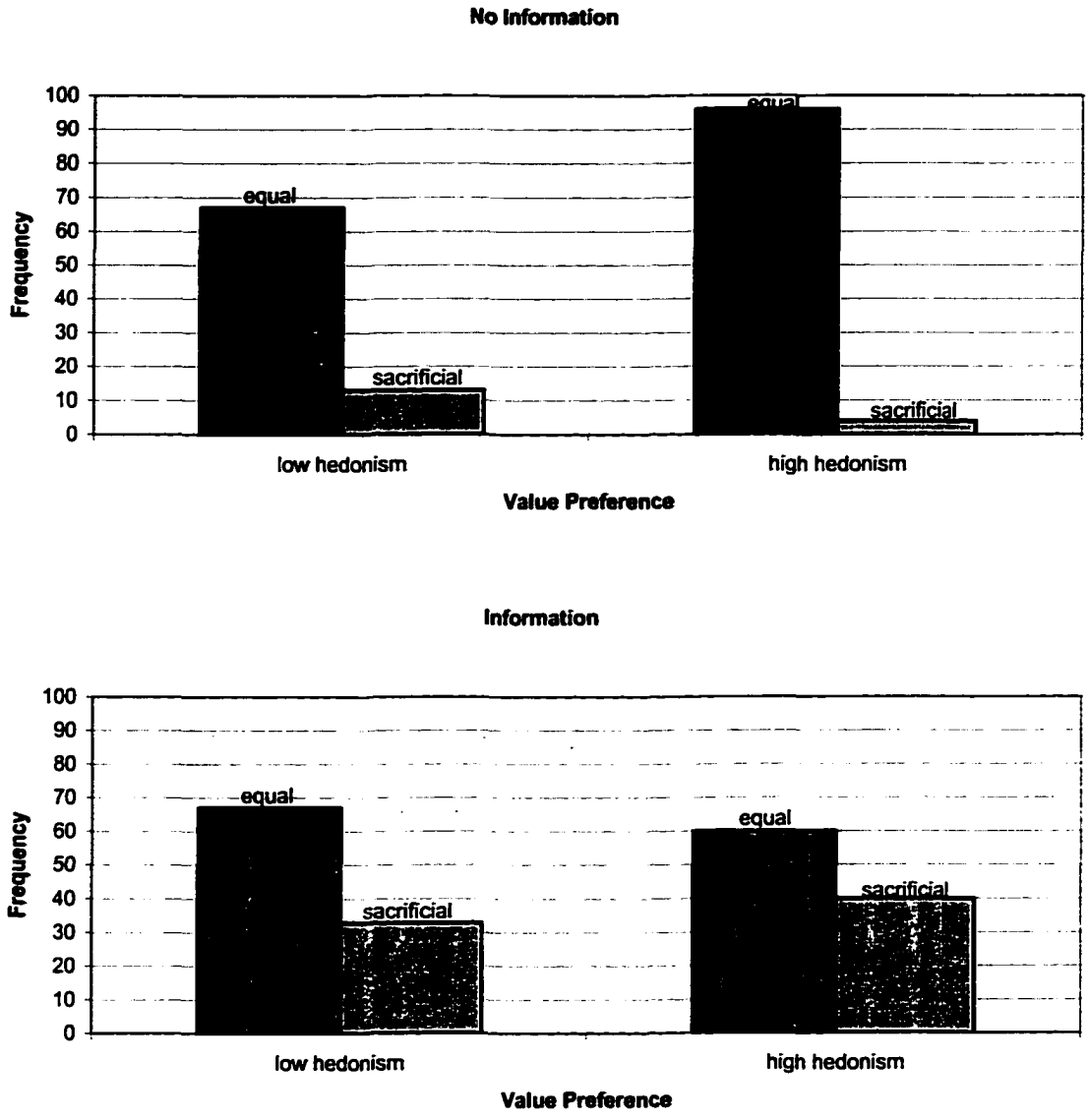

Figure 7. Frequencies of equal vs. sacrificial allocation choices among participants high and low in hedonism assigned to the no information and information conditions

Research Question 3: The Role of Self-Direction Values

Research questions 3a and 3b inquired about the existence of an interaction between fairness information and self-direction in the prediction of selfish and sacrificial

allocations and verbalization (relative to equal allocations and verbalizations). Table 7 and Table 8 display results from the analyses testing these predictions.

Table 7

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Self-Direction Values in Predicting Allocation Choice Using Equal Choice as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Choice					
Fairness Information	-0.58	2.95	0.04	1	0.56
Self-Direction Values	0.32	0.07	0.24	1	1.03
Info x Self-Direction	0.01	0.09	0.01	1	
Intercept	-3.39				
Sacrificial vs. Equal Choice					
Fairness Information	2.41	2.40	1.01	1	11.14
Self-Direction Values	0.01	0.03	0.02	1	1.01
Info x Self-Direction	-0.19	0.09	4.53*	1	
Intercept	-0.74				
Nagelkerke $R^2 = 0.24$					

Note. N=388 ; *p<.05

Table 8

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Self-Direction Values in Predicting Verbalized Cognitions Using Equality-Based Cognitions as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Cognitions					
Fairness Information	-3.92	2.42	2.63	1	0.02
Self-Direction Values	-0.09	0.06	2.53	1	0.91
Info x Self-Direction	0.12	0.08	2.38	1	
Intercept	1.13				
Sacrificial vs. Equal Cognitions					
Fairness Information	-0.85	3.41	0.06	1	0.43
Self-Direction Values	0.02	0.05	0.25	1	1.02
Info x Self-Direction	-0.06	0.11	0.30	1	
Intercept	-1.38				
Nagelkerke $R^2 = 0.19$					

Note. N=213

Choosing and voicing selfish allocations. Table 7 and Table 8 show the multinomial regression results for fairness information and self-direction predicting

selfish allocations and voiced cognitions (relative to equality-based allocations and voiced cognitions). As the tables show, no significant interactions were found.

Choosing and voicing sacrificial allocations. As is indicated in the bottom half of Table 7, a significant interaction between fairness information and self-direction values was found for the prediction of sacrificial allocations (relative to equal allocations). To determine the nature of the interaction, the frequencies of high and low self-direction individuals choosing either equal or sacrificial allocations within each fairness information condition were explored. By doing so, it became apparent that in no information conditions, individuals valuing self-direction were more likely to choose an equal allocation (as opposed to a sacrificial allocation) than individuals not valuing self-direction as much. However, in conditions where participants were provided fairness information, frequencies of sacrificial choices did not vary by individuals preferences for self-direction. These data are presented in Figure 8. No significant interaction was found for self-direction and fairness information in predicting verbalizations of sacrificial cognitions relative to equality cognitions.

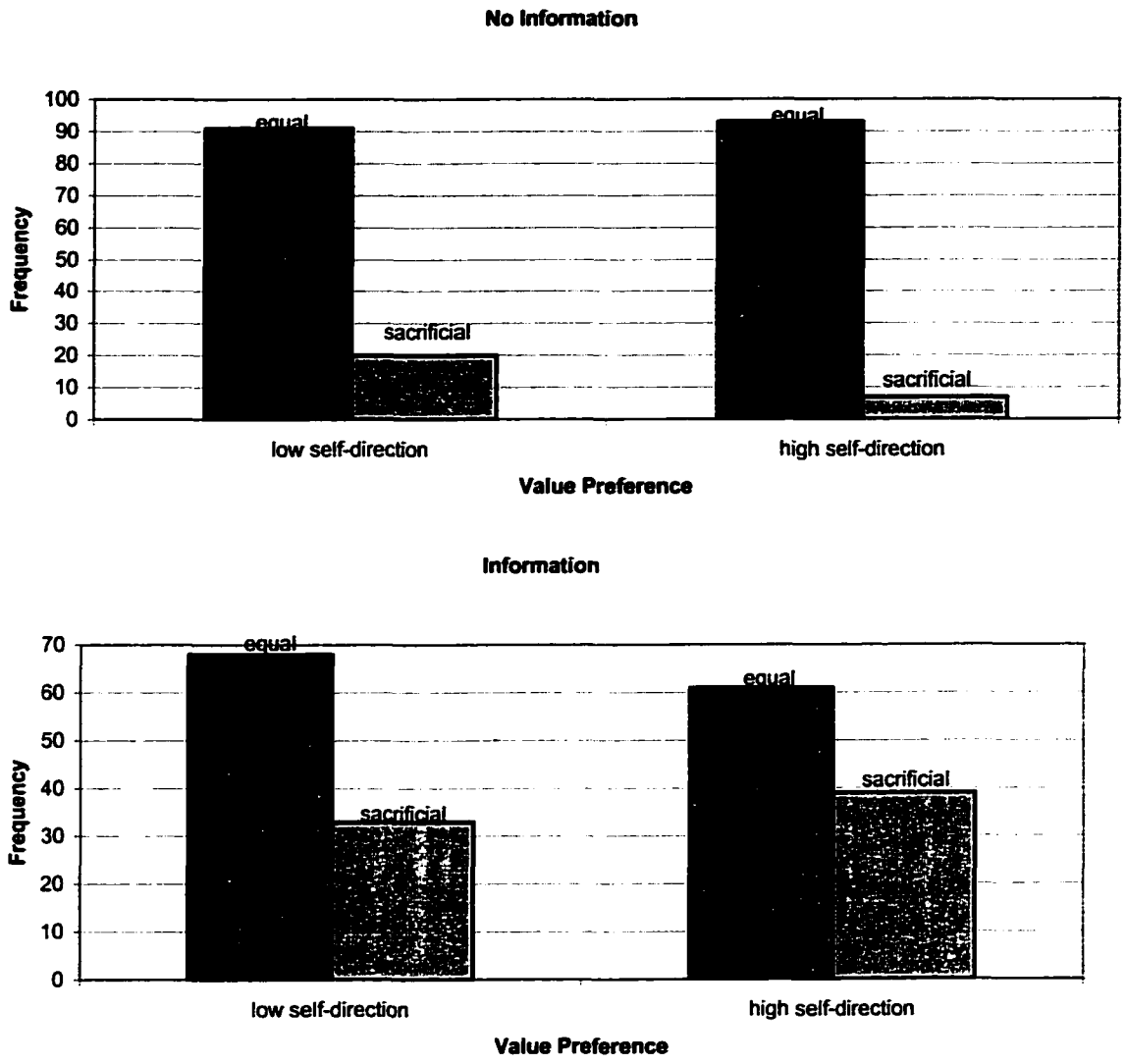

Figure 7. Frequencies of equal vs. sacrificial allocation choices among participants high and low in self-direction assigned to the no information and information conditions

Research Question 4: The Role of Universalism Values

Research question 4 inquired about an interaction between fairness information and the value type Universalism. The results from the multinomial regression analyses dealing with Universalism are reported in Table 9 and Table 10.

Table 9

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Universalism Values in Predicting Allocation Choice Using Equal Choice as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Choice					
Fairness Information	0.29	2.21	4.40	1	1.34
Universalism Values	0.02	0.04	0.29	1	1.02
Info x Universalism	-0.01	0.05	0.06	1	
Intercept	-3.22				
Sacrificial vs. Equal Choice					
Fairness Information	-1.63	2.38	0.47	1	5.12
Universalism Values	0.01	0.18	0.14	1	0.99
Info x Universalism	0.14	0.07	3.28*	1	
Intercept	-0.34				
Nagelkerke $R^2 = 0.24$					

Note. N=388 ; *p<.05

Table 10

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Universalism Values in Predicting Verbalized Cognitions Using Equality-Based Cognitions as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Cognitions					
Fairness Information	0.12	1.99	0.00	1	1.12
Universalism Values	0.04	0.04	1.26	1	1.04
Info x Universalism	- 0.01	0.05	0.04	1	
Intercept	-3.13				
Sacrificial vs. Equal Cognitions					
Fairness Information	0.53	2.79	0.04	1	1.69
Universalism Values	0.04	0.03	2.30	1	1.04
Info x Universalism	-0.08	0.07	1.27	1	
Intercept	-2.23				
Nagelkerke $R^2 = 0.19$					

Note. N=213

Choosing and voicing selfish allocations. In the top halves of Table 10 and Table 11 show the multinomial regression results for fairness information and universalism predicting selfish allocations and voiced cognitions (relative to equality-based allocations

and cognitions). As the tables show, no significant interactions were found for the current sample in these analyses.

Choosing and voicing sacrificial allocations. As is indicated in the bottom half of Table 9, a significant interaction between fairness information and universalism values was found for the prediction of sacrificial allocations (relative to equal allocations). To determine the nature of the interaction, the frequencies of high and low universalism individuals choosing either equal or sacrificial allocations within each fairness information condition were explored. Among participants receiving information that a partner had been unfair, those high in universalism were more likely to choose the sacrificial allocation than those low in universalism. However, among participants' receiving no partner information, participants sacrificial allocations did not vary based on their preference for universalism. In contrast to the allocation results, no significant interaction was found for universalism and fairness information in predicting verbalizations of equality-based over sacrificial/justice-based cognitions. These data are illustrated in Figure 9.

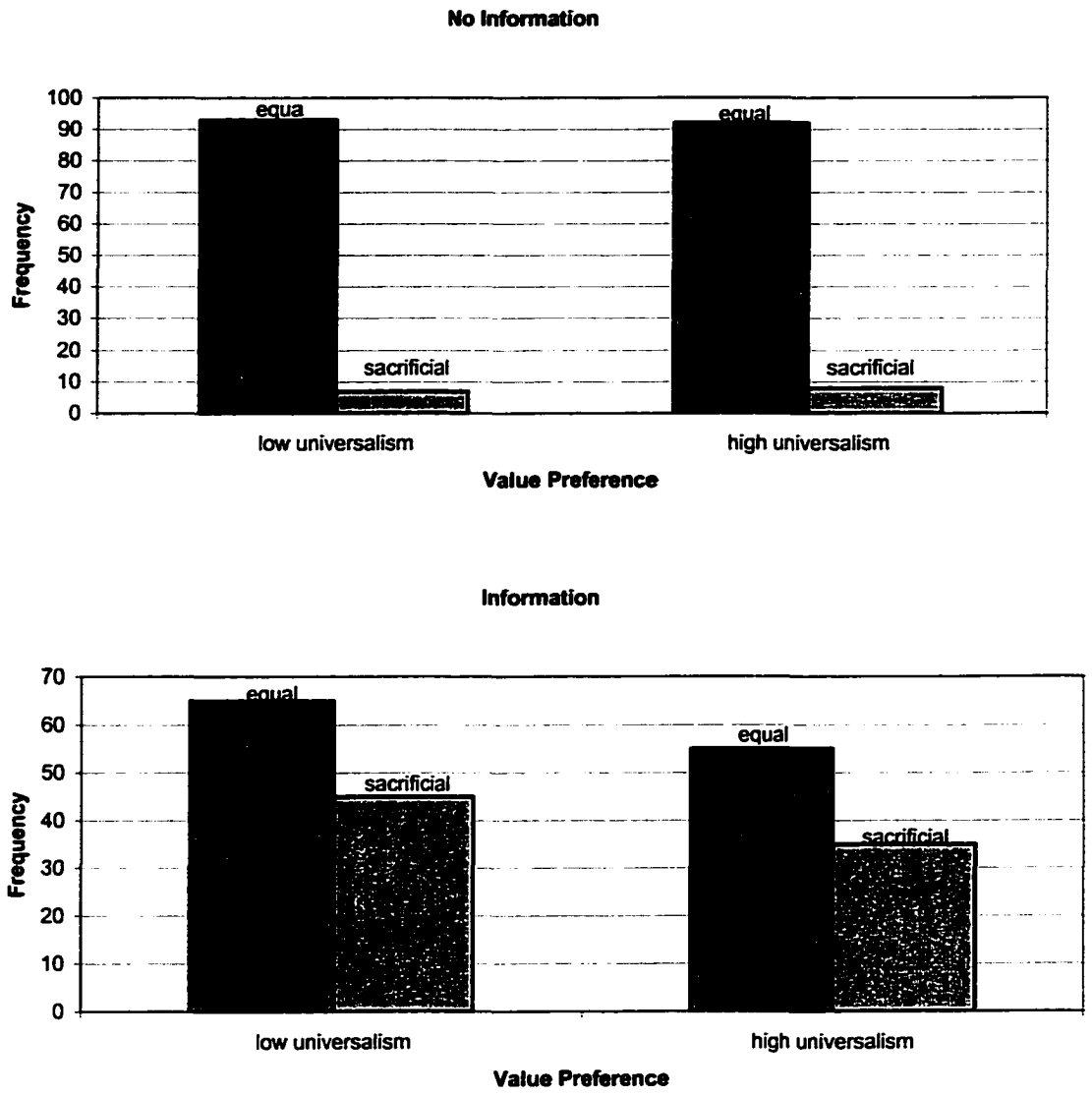

Figure 9. Frequencies of equal vs. sacrificial allocation choices among participants high and low in universalism assigned to the no information and information conditions

Research Question 5: The Role of Security Values

Research question 5 inquired if a significant interaction exists between fairness information and security values in predicting selfish and sacrificial allocations and cognitions (realative to equal allocations and cognitions). Tables 11 displays results from

the analysis conducted using choice as the dependent variable. Table 12 reports the results from the analysis conducted using verbalized cognitions as the dependent variable.

Table 11

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Security Values in Predicting Allocation Choice Using Equal Choice as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Choice					
Fairness Information	-3.47	3.26	1.14	1	0.03
Security Values	0.09	0.06	2.17	1	1.09
Info x Security	0.09	0.09	0.93	1	
Intercept	-5.27				
Sacrificial vs. Equal Choice					
Fairness Information	2.05	2.35	0.76	1	7.76
Security Values	0.04	0.27	1.74	1	1.04
Info x Security	-0.16	0.08	4.10*	1	
Intercept	-1.75				
Nagelkerke $R^2 = 0.27$					

Note. N=388 ; *p<.05

Table 12

Multinomial Logistic Regression Testing the Interaction Between Fairness Information and Security Values in Predicting Verbalized Cognitions Using Equality-Based Cognitions as the Reference Group

	B	SE	Wald	df	Exp(B)
Selfish vs. Equal Cognitions					
Fairness Information	-2.36	2.55	1.14	1	0.09
Security Values	0.04	0.05	2.17	1	1.04
Info x Security	0.06	0.08	0.93	1	
Intercept	-2.80				
Sacrificial vs. Equal Cognitions					
Fairness Information	2.92	2.77	1.11	1	18.49
Security Values	0.08	0.39	3.67	1	1.08
Info x Security	-0.18	0.09	3.79*	1	
Intercept	-3.14				
Nagelkerke $R^2 = 0.22$					

Note. N=213 ; *p<.05

Choosing and voicing selfish allocations. As is evident in Table 11, no significant interaction was found between security values and fairness information in the likelihood of choosing selfish as opposed to equal allocations. A lack of significant

security/information interaction was also found for the expression of selfish cognitions (see Table 12).

Choosing and voicing sacrificial allocations. As is illustrated in Table 11, a significant interaction was found between security values and fairness information in predicting the likelihood of choosing a sacrificial (as opposed to an equal) allocation. To determine the nature of the interaction, the frequencies of high and low security individuals choosing either equal or sacrificial allocations within each fairness information condition were examined. By doing this, it became apparent that among participants receiving fairness information, those valuing security more were more likely to choose the sacrificial allocation than those valuing security less. However, in the no information conditions, high and low security participants did not vary in their frequency of choosing sacrificial allocations. These data are illustrated in Figure 10.

Equivalent analyses were conducted on the verbalized cognitions data. As is indicated on the bottom of Table 12, a significant interaction was found between fairness information and security values for the expression of justice/sacrificial-related cognitions (as opposed to equality-based cognitions). A follow-up exploration of the data to determine the nature of the interaction revealed the same pattern of results as above. That is, among participants receiving fairness information, those valuing security mote were more likely to voice justice-based cognitions than those valuing security less, where no difference existed between high and low security individuals in the no-information conditions.

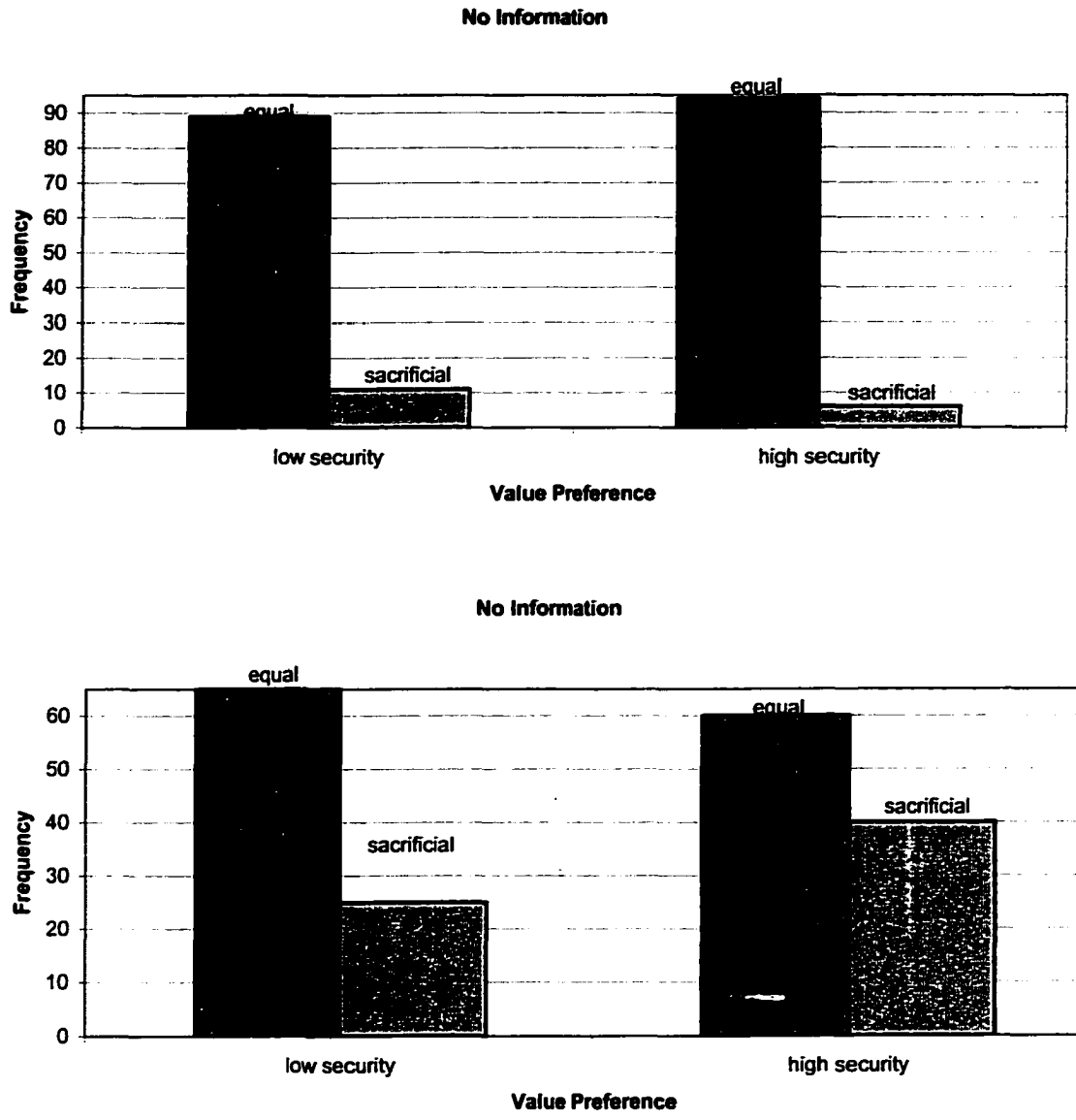

Figure 9. Frequencies of equal vs. sacrificial allocation choices among participants high and low in security assigned to the no information and information conditions

Summary

The current study posed five major research questions which translate to 20 predicted interactions. Of these 20 predicted interactions, only five were confirmed. Table 13 contains a summary of the confirmed predictions.

Table 13.

Summary Table of Confirmed Predictions

selfish vs. equal allocation		***sacrificial vs. equal allocation***	
DV=Choice	***DV=Cognitions***	***DV=Choice***	***DV=Cognitions***
cognitive load	cognitive load	cognitive load	cognitive load
hedonism	hedonism	****hedonism***	hedonism
self-direction	self-direction	****self-direction***	self-direction
universalism	universalism	****universalism***	universalism
security	security	****Security***	****security***

Note. Interactions marked with and asterisk denotes interactions found to be statistically significant, $p<.05$.

Chapter 4

DISCUSSION

The purpose of this study was to explore the role of cognitive load and value preferences on the deontological effect fairness information has been shown to have on resource allocation decisions. Research on the deontological model has shown that when individuals receive information that someone has acted unfairly, they will withhold resources from this person, even if it means sacrificing resources that could potentially be allocated to the self. This experiment proposed 20 interactions, which were exploratory in nature. Of these 20 proposed interactions, only 5 were confirmed in the data (see Table 13). The nature of these interactions are discussed below.

The Effects of Cognitive Load

A significant interaction between fairness information and cognitive load was not found. This lack of a significant interaction may be due in part to the cognitive load manipulation. Not only did the task of having participants memorize a ten-digit number lack ecological validity (i.e., it differed from the elements that typically cause managerial decision-makers to have high cognitive load), the manipulation itself may have been too weak (evidenced in part by the finding that only half of the participants in the load conditions expressed that the manipulation made the task more difficult). Although this was a similar manipulation to the one used by Roch et al. (2000), the experimental task used in the current study may have required less cognitive resources that Roch et al.'s

task. Whereas Roch had participants decide how much of a resource pool to allocate to themselves in an open-ended fashion, the current study provided participants with allocation choices. Because the task required fewer cognitive resources, a stronger cognitive load manipulation might have provided slightly different results. Future research should consider using load manipulations that are both more demanding of the participant and that contain more ecological validity (See Gilbert & Osborne, 1989 and Gilbert, Pelham, & Krull, 1988 for examples).

The Effects of Values

Significant interactions were found between fairness information and the value types hedonism, self-direction, universalism, and security in predicting the likelihood of a sacrificial allocation (relative to an equal allocation). The nature of the interactions took on different pattern depending on whether the values were self-oriented (hedonism and self-direction) or others-oriented (universalism and security).

In no information conditions, those high in hedonism and self-direction were more likely to choose the equal allocation (compared to the sacrificial allocation) than those preferring these values less, However in information conditions, participants were just as likely to choose equality regardless of their preference on these values. This suggests that without the knowledge that an injustice has occurred, individuals act on their values, and take more for themselves. However, these values do not seem to guide allocation choice when participants know and injustice has occurred. Perhaps in this situation, deonic motives trump hedonistic and selfish motives. Such a notion is consistent with Folger's view of the power of a deonic value, which all people value.

It is important to note, however, that although those preferring self-focused values

were more likely to choose equality in no information conditions (which represented a more selfish choice than the sacrificial allocation), there existed no conditions where participants were more likely to choose the selfish choice (as evidenced by the lack of any significant interactions predicting the selfish allocation). This suggests that although hedonistic individuals may make slightly more selfish allocation choices than non-hedonistic individuals, even those highly valuing their own self-welfare resisted choosing the selfish allocation. This issue will be discussed further in the sections that follow.

The interactions involving universalism and security took on an opposite pattern. Here, participants in the no information conditions did not differ in their likelihood of choosing a sacrificial allocation based on their value preferences. However, when participants were provided the information that an injustice has occurred, those highly valuing universalism and security chose the sacrificial allocation more often than those who preferred these values less. In this situation, it seems that these other-oriented values may have heightened deonic motives to punish unfairness.

The Predominance of Equality

It should be noted that, separate from being a potential statistical issue, the predominance of equality-based allocation decisions and voiced cognitions in the current study is of theoretical importance as well. It suggests that despite the research evidence indicating that people are often selfish in their allocation behaviors (Roch et al, 2000), and despite research evidence indicating that individuals often retaliate against injustice by others, in the current sample, equal allocation was preferred by most individuals. Indeed, this was the case regardless of both situational and individual difference variables studied.

However, the reader is encouraged not to interpret this as meaning that people are not concerned about fairness. In fact, the verbal data revealed that a large majority of participants choosing equal allocations mentioned fairness as their motive for being egalitarian. Many individuals expressed a need to know why the unfair partner had acted the way he or she did, and explained that they did not feel comfortable choosing the sacrificial allocation without knowing the reason for the this person's past selfish behavior.

On one hand, this finding might suggest a methodological limitation. That is, the fairness manipulation may have been especially weak in that no information was given about the intentions and/or motives of the teammate who had acted selfishly. But the fact that the manipulation may have needed to be stronger is an important finding for the deontological model. As reviewed previously, the Turrillo et al (in press) data suggested that participants were reluctant to punish the unfair partner if doing so meant that they themselves would have to act selfishly (i.e., by taking all of the resource pool for

themselves). These researchers found that the deontological effect would only occur when the participants were able share the smaller pool with an additional teammate.

The current data suggest that this "two wrongs don't make a right" finding may need to be extended even further. The present study allowed participants to sacrifice some resources in order to punish an unfair teammate while still sharing the smaller pool with a fair teammate, but the verbal data suggested that participants were still very reluctant to do this because there was no account given for why this person had acted selfishly in past rounds. In other words, intentions mattered. Even if a person's actions are labeled as unfair by the experimenter, individuals may not label a person as such, and furthermore may not experience moral outrage about the event in the absence of solid evidence that this person's actions were wrong and unjustified. That is, still being able to share some resources with another did not seem to be enough. Fairness seemed to matter so much, that the participants did not feel comfortable punishing someone without knowledge of why the teammate had taken all the money for his or herself in past rounds. This, in turn, led many participants in the fairness information condition to choose equality over sacrificial allocations. Future research should explore these issues, adding intentions or justifications as an additional independent variable.

In summary, the current data showed a strong tendency to allocate resources equally. However, the reason for this trend does not seem traceable to a single factor. Participants may have chosen equality because it was the easiest choice to make (i.e., as a decision-making heuristic). It may also be the case that egalitarianism acted as default value on which decision makers relied, given the relatively limited information available about the "unfair" teammate. It could have additionally been the case that some

participants truly conceptualized "fairness" in terms of egalitarianism as opposed to equity or deservingness. Indeed, it is quite possible that all of these factors were at work in influencing the very large frequency of equal allocations in the current data set. Follow-up research is needed to attempt to tease these factors apart, possibly by adding a "partner's intentions" manipulation, controlling for participants' personal definition of fairness, or by measuring cognitive processing more directly.

Support for the Deontological Model of Justice: We are not Always Self-Serving

Another clear finding of the current study is that individuals were extremely reluctant to choose the selfish allocation, regardless of their values or experimental condition. It was suprising that of over 600 participants, only 7% chose the selfish allocation, and only 11% expressed selfishness in their verbalized cognitions. This certainly speaks to recent research in the organization justice literature that is arguing that individuals do not necessarily always act out of self-interest (see Cropanzano & Rupp, in press for a review of this issue).

This tendency to not make selfish allocations supports for Folger's (2001) notion of "selvishness." This construct speaks to the pluralistic form of the deontological model. Where an egoistic model would claim that fairness is *only* motivated by self-interest, and where an altruistic model would claim that fairness is *only* motivated by genuine concern for others, the deontological model allows for multiple justice motives. It claims that the decision to put the self or others first simply *depends on what is fair*. Individuals may feel obligations to both parties simultaneously in different circumstances. Folger's idea of a "selvish" person is someone who is concerned both for themselves and for others, but the concern for the self is at a level that others would consider reasonable. Thus, Folger

places value-based motives as working alongside instrumental and relational motives in justice's larger nomological network.

Organizational Analogues

Because this study falls within the realm of organizational justice, and it is hoped that after further validation, the deontological model will be tested in organizational settings, it is necessary to ask what real-world or organization analogues the allocation task was modeling. In setting up the experiment, it was explained to participants that they were being asked to complete an allocation task in order for the researchers to learn more about how managers make allocation decisions in the workplace. Although this was necessary to establish psychological and mundane realism (as suggested by Berkowitz & Donnerstein, 1982), it is also important to consider what specific workplace tasks this experimental task might generalize to in an organizational setting. Certainly, there are numerous allocation decisions made in organizations. The allocation of budgetary resources, the allocation of staff, the allocation of tangible resources such as machinery or weapons, and the allocation of vacation time all represent common allocation situations in private, public, and military organizations.

In addition, such situations allow managerial decision-makers to act in a selfish, egalitarian, or sacrificial manner. For example, a Psychology Department Head might choose to allocate the entire departmental staffing budget to his or her "home" program in hopes of returning to a more endowed section after his or her term is completed. This would represent a selfish allocation. He or she might alternatively choose to divide the budget evenly across all the various programs. This would represent an equal allocation. In contrast, he or she might instead withhold staffing resources from a particular program

consisting of faculty who have been treating each other and the department very badly due to political infighting, This latter choice could be classified as sacrificial decision because the Head is sacrificing a faculty position that could potentially benefit the department overall, in order to punish what he or she sees as morally unjust behavior.

Testing the deontological model in the field will certainly be a complex undertaking, perhaps requiring more "policy-capturing" types of designs. It will also be important to realize in designing such studies that the experimental task used by Kahneman et al. (1986), Turrilo et al. (in press), and the current author was designed such that self-interested and interpersonal motives would not impact the decision-makers' choices. Teasing apart such motives in a field study will be a very difficult if not impossible task. Therefore, it is essential that research on this model first carefully determine the psychological processes impacting fairness's effect on decision-making in well-controlled experiments. Only after such processes are well validated should this research be transitioned into organizations for further validation and testing.

Strengths of the Current Study

Although the results of this study were not entirely conclusive, there did exist some strengths that deem it an important contribution to further understanding justice and resource allocation behavior. First, this project attempts to integrate findings from many diverse areas in psychology. These areas include organizational justice, social justice, heuristic-systematic processing, values/individual differences, resource allocation, and decision-making. In addition, this study's simultaneous person/situation perspective integrates two diverse approaches to the study of human behavior.

Second, although the primary goal of the study was to provide support of the deontological model of justice, the findings provide some preliminary suggestions as to how fairness information is processed. Van den Bos (2001) notes that where quite a bit has been learned about *what* justice is, relatively little has been found empirically with regard to the *why* and the *how* of organizational justice. Many authors have called for more research on how fairness perceptions and reactions develop within an individual (Ambrose & Kulik, in press; Goldman & Thatcher, in press; van den Bos, 2001).

Third, exploring the proposed research questions via a laboratory experiment provided a good deal of experimental control. Although it is important that future research conduct studies in field setting using real teams making multiple allocation decisions over time, it is first necessary to obtain more concrete evidence supporting the deontological model before strict experimental control is abandoned. Van den Bos (2001) has recently argued that too many organizational justice theories have been built on correlation field data. He proposes that justice researchers working with new models and theories first test their hypothesis in experimental settings, and only after obtaining significant findings take these models into the field for validation.

In addition, the current study collected both behavioral and cognitive data. Not only were participants asked to make decisions that were either self-serving, equal, or sacrificial, but they were also asked to express their thought processes out loud as they made these decisions. Although the findings of the verbal cognitions data only converged with the findings from the choice data for the analyses involving security values, it is an informative finding that sometimes thoughts and behaviors are parallel, and sometimes they are not. This is said with caution, however, in that only a limited number of the total

participants provided transcribable verbal protocols. Therefore, the power to detect significant effects may have been less for the verbal data (which actually makes this strength a limitation).

Some final strengths of this study involve its design. This study and the other studies exploring deontological justice effects differ from many of the empirical studies conducted in the area of organizational justice. This is because many studies measure perceptions of fairness rather than fairness itself. The current study (as well as Turillo et al, in press and Kahneman et al., 1996) treated fairness as an experimental variable, manipulating participants' knowledge of whether or not an injustice had occurred. Such a design is necessary to study reactions to injustice. Where the evidence that perceived fairness in the workplace leads employees to act in certain ways is certainly an important finding for organizational leaders and policy makers, it is also important to learn more about the process by which motivations to act out against unfairness arise. This is especially true since studies measuring perceptions of justice measure how well the respondent feels he or she is treated, not their reactions to knowledge that others have been treated unfairly. Such an approach has important implications for managerial decision-making. That is, where many studies take a bottom-up approach (how do employee's perception impact the organization, via performance, turnover, etc.) the current approach is more top-down in nature in that it seeks to determine how employees fair or unfair behaviors might impact the decisions made about them by a supervisor. Although the current study did not study deontological effects in an organizational setting or context, the next step for this research will be to determine if experimental effects can be replicated in natural settings.

The nature of this study has additional implications for organizational justice as a research area. That is, participants verbalized cognitions were taped and coded. These data revealed that individuals have different conceptualizations regarding the meaning of fairness. Where some participants viewed justice as the need to punish someone who had withheld resources from others, other participant felt that fairness is defined by an egalitarian division of resources. Consequently, past research asking employees how "fairly" they feel they have been treated might have been confounded by the fact that employees conceptualize this term in many different ways. Certainly future research should explore how individuals define fairness, and how their conceptualizations might impact their reactions to co-workers or subordinates acting selfishly. Such research might also consider the importance that individuals place on fairness, and how this might mediate deontological effects.

Limitations to the Current Study

This being said, it is also important to point out areas within this study that limit the inferences that can be drawn from the obtained results. One possible argument to be made about the current study is that research in the area of organizational justice should be conducted in organizations using employees as participants and that laboratory experiments in this area have severely limited external validity. Although field research in this area is certainly important, for the reasons described above, this is not considered a strong limitation. That is, it is important not to build new models on untested assumptions of causality. This researcher argues that to study the process by which justice reactions arise, researchers should employ the research method most appropriate for discovering fundamental issues: laboratory experiments. Such a method allows for both a high degree

of control as well as the testing of causality. Although focusing on applied implications of justice-related processing is certainly important, the goal of the current study is to advance theoretical insight. Only after empirically testing these models experimentally can we move our focus to organizations for further validation. This parallels the argument made by Mook (1983) that often the value of a research study is its contribution to theory development, whether or not the topic is an "applied" one.

Despite these arguments, the current study is still limited in that it used student participants and only collected cross-sectional data. As mentioned previously, follow-up studies are needed to further explore the generalizability of the findings. One way this could be done is through longitudinal designs. In addition, whereas the current study uses hypothetical partners as a means of gaining experimental control over such things as teammate gender, ethnicity, personality, attractiveness, etc., research has shown the strong effects group dynamics have on decision making. Therefore, follow-up studies should also incorporate "real" teams in the resource allocation paradigm.

A final limitation involves the equality heuristic. Roch et al.'s overconsumption model states that the reason individuals choose an equal allocation when they are under high cognitive load is because in such cases they use the equality heuristic to ease processing demands. Although many participants chose the equal allocation, as discussed in previous sections, this does not necessarily mean that the equality heuristic was used. This is especially the case given the finding that many participants chose equality in order to be "fair." Future research should take a deeper look into how cognitive processing impacts reactions to unfairness. In addition, researchers might consider other heuristics that might be used when processing fairness information.

Other Areas for Future Research

In addition to the future research needs already mentioned, there are several ways in which the current findings might be expanded. First, the current study only manipulated partner's past allocation behavior in making allocations in previous rounds. This parallels the idea of distributive justice, which is only one "type" of justice that has been identified in the literature. Indeed, both single study and meta-analytic findings have revealed that individuals respond not only to the allocation of outcomes, but also to the procedures and interpersonal treatment that leads to such allocations (Collquitt et al., 2001). Therefore, as this research evolves, manipulations of procedural and interactional justice should be included as well.

Also, the current study as well as both the Kahneman et al. (1986), and Turillo et al. (in press) studies partnered participants with hypothetical teammates and only had them participate in one round of allocation tasks with those teammates. It would be interesting to investigate how justice-related allocation behavior evolves over time as actual teams of participants work together. This would require longitudinal research models and incorporate either participant teams or confederates acting as team members. For enhanced external validity, future research might also use actual work teams in field settings. In such a setting, "types" of teams might be compared, including, for example, hierarchical teams, cross-functional teams, and virtual teams. This would not only be informative to justice researchers, but might also be of interest to those conducting research on teamwork.

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APPENDIX A

Informed Consent

COLORADO STATE UNIVERSITY
INFORMED CONSENT TO PARTICIPATE IN A RESEARCH PROJECT

TITLE OF PROJECT: The Effects of Cognitive Load and Individual Differences in Resource Allocation Behavior

NAME OF PRINCIPAL INVESTIGATOR: Russell Cropanzano, Ph.D.

NAME OF CO-INVESTIGATOR: Deborah Rupp, M.A.

CONTACT NAME AND PHONE NUMBER FOR QUESTIONS/PROBLEMS: Deborah Rupp (970) 491-6002

SPONSOR OF PROJECT: None

PURPOSE OF THE RESEARCH: This project is designed to study factors that influence decision making. Specifically, this study will examine if individuals differ in terms of how they decide to share resources with others as a function of cognitive load (if your mind is busy doing several tasks at once), information about the other people who are sharing the resources, and personality variables such as moral development and value orientation. If a relationship is found between these variables, one might be in a better position to understand the complexities of decision making by different people in different situations (such as managers making funding decisions in organizations).

PROCEDURES/METHODS TO BE USED: You will be asked to participate in an experiment for one-hour. You will be led into a room and given instructions on the tasks you will be participating in. These tasks will include some trivia questions, a logic game, and a decision-making task. You will work alone on all of these tasks. While you complete these tasks, we will ask you to "think out loud." We will be tape recording your voiced thoughts as you work on the tasks. The tape recorder will be turned on at the start of each task and turned off after the third task in completed. After the tape recorder is turned off, you will be asked to complete a survey. This survey will ask questions about the experiment, as well as about your morals, values, fairness beliefs, and general demographic information (such as age and gender). Questions will be in multiple-choice, rating scale, and open-ended formats.

RISKS INHERENT IN THE PROCEDURES: There are no foreseeable risks involved. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

BENEFITS: Since you may have an opportunity to study more about the psychology of organizations, decision-making, or personality, this study could help you by giving you some initial exposure to topics within these fields. You will also learn about the types of questions that are commonly included in measures of moral development, fairness, and value orientation.

COMPENSATION: All individuals participating in this study will be entered into a lottery for cash prizes. Ten percent of the participants will be chosen randomly to redeem their tickets. Prizes will range from five to seven dollars.

CONFIDENTIALITY: Your responses to all experimental procedures are confidential. This includes your taped-recorded verbalized thoughts as well as your written responses to experimental tasks and questionnaires. Taped data will be transcribed. The tapes, the typed transcriptions, and all other written data will be stored in a locked filing cabinet by the primary investigator. All data will be retained for 5 years. In presenting the results of this study, we will only report group averages, and therefore no individual responses will be able to be identified.

You will not be asked to provide any identifying information. Your signed consent form will be kept separate from your verbal and written responses. The lottery will take place using double stubbed tickets with no identifying information. Participant tickets will be kept separate from both signed consent forms and participant responses (taped and written). The winning numbers will be posted on the PY100 bulletin board during the week of the mid-term and final exam and only the numbered ticket will need to be presented to claim prizes. No identifying information will be asked of individuals claiming prizes and the researchers will have no way of linking the ticket numbers to participant responses.

LIABILITY: The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Questions about participants' rights may be directed to Celia S. Walker at (970) 491-1563.

PARTICIPATION: Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing __2__ pages.

_____
Participant name (printed)

_____ _____
Participant signature Date

_____ _____
Witness to signature (project staff) Date

PARENTAL SIGNATURE FOR MINOR

(Obtain your parent's permission ONLY if you are under 18 years of age)

As parent or guardian you authorize _____ (print name) to become a participant for the described research. The nature and general purpose of the project have been satisfactorily explained to you by _____ and you are satisfied that proper precautions will be observed.

_____
Minor's date of birth

_____
Parent/Guardian name (printed)

_____ _____
Parent/Guardian signature Date

APPENDIX B

Sample Script for Running Experiment Used to Train Administrators

Script and Protocol for Running Experiment

Condition # 1 (Fairness Information & Cognitive Load)

"Please have a seat and we will get started"

-sits-

"This is an informed consent form. Please read it, initial both pages, and sihn the back page. Let us know when you are finished and we will begin the study"

-reads and signs-

"Thank you. Now if you'll please go into room # _____ (whichever one is available), I will be right with you to start the experiment."

-goes into room/sits down-

"Now we will begin the experiment. Here are some general instructions. Please read them over carefully. Open the door when you have finished and I will bring you the first task."

-Give them 1st sheet-
-close door-
-they open door when they're ready-
-take back the directions sheet-

"Here is your first task. I am turning the tape recorder on. It is very important that you say out loud everything you are thinking. Please do not mumble or speak softly. Please speack loudly and clearly."

-turn on tape recorder, say i.d. # into the recorder-
-give them task #1-
-close door-
-log in time-
-reenter the room in exactly 10 minutes (or sooner if they open the door)-
-pick up task #1-

"Here is the second task. Remember that the tape recorder is on . Please do not mumble or speak too softly. Please speak loudly and clearly."

-give them task #2-
-close door-
-log in time-
-return in exactly 10 minutes (or sooner if they open their door)-
-pick up task #2-

-state i.d. # into the tape recorder-
-turn off tape recorder-

"Here are the directions for the third task. Please take your time and read them very carefully. When you have read the instructions and understand the task, please open your door."

-close door-
-return when they open the door (they can take as long as they want to read the scenario. Don't rush them!)-

Note: if they ask you questions, never say "I don't know" or "this is just what I am supposed to do." If you don't know the answer to a question, just say "I'm sorry, this is the only information I can provide you. You are welcome to read the instruction sheet again if that would help"

"We are recording the 3rd task on a different tape. Just one moment while I change the tape"

-switch the tape-
-turn tape recorder on-
-say i.d.# into the tape recorder-

"It is crucial that you verbalize your thoughts during this task. As you look at your allocation choices, tell us what you are thinking. When you make your decision, state what decision you made and why you made it. Please be careful not to mumble or speak softly. Please speak as loudly and clearly as possible."

"Here is the number for you to memorize"

-close door-
-wait exactly 20 seconds-
-re-enter-

"Here are your allocation choices"

-give payout matrix-
-close door-
-wait 30 seconds to a minute-

**Note*: This time limit only occurs for students in cognitive load conditions. The other participants can take as long as they want to complete this task. This is reflected in the scripts for the other conditions.*

-re-enter-

"Your time is up. If you have not made your decision, you need to make it now"

-wait there for them to check off choice if they haven't yet-
-pick up matrix-
-give them number recall sheet-have them write down the number (stay in room)-
-pick up number recall sheet-
-say id# into tape-
-turn off tape-

"For the second half of the experiment, you will complete a questionnaire. Please come with me back out into the large room and I will get you started"

-take them too the appropriate table-
-give them questionnaire-
-put rest of the (completed) packet of materials face down on the table next the participant –

"Please leave these materials here and face down. When you have finished, turn over your questionnaire and let us know you are finished"

-when they are finished, take the complete stack of material and walk the student to the front of C79-

-staple materials-
-put materials in box-
-check student off the attendance list-
-give student their ticket-
-put other ticket in the container-
-give the student:

1. a copy of the informed consent form
2. a debriefing form
3. their ticket

"Thank you for coming. You can go now"

APPENDIX C

Instructions to Participants

Instructions to Participants

IMPORTANT!

PLEASE READ ALL MATERIAL COMPLETELY AND CAREFULLY

In the next hour, you will be participating in four activities:

1. A trivia game
2. A logic game
3. A resource allocation task
4. A questionnaire

During the first three tasks, we would like for you to **think out loud**. We will be tape recording you as you complete the tasks. We are interested in the thought processes you use when you are making decisions. Therefore, while you are completing the tasks, please **say out loud what you are thinking.** People have the tendency to mumble when they are thinking out loud, but in order to tape what you are saying, it is important that you speak loudly and clearly. Therefore:

- **Please express everything you are thinking as you complete the tasks.**
- **Speak loudly and clearly.**
- **If you make a decision during the task, state your decision and your reason for making it.**

As soon as you finish reading these instructions, we will give you directions for the first task and start the tape recorder. Please open your door when you have read these instructions and are ready to start the first task. Be sure to ask any questions you have at this time.

APPENDIX D

Trivia Task

Task #1: Presidents Trivia

The tape recorder has been turned on. For the remaining tasks, please express your thoughts out loud. Please speak loudly and clearly.

Instructions: You have 10 minutes to complete this task. Don't worry if you do not complete the task in the time allowed, just do as much as you can.

In the space provided, please list the last 10 presidents of the United States starting with the current president.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Please open the door when you have completed this task so that the administrator can give you the instructions for the next task.

APPENDIX E

Desert Survival Task

Task # 2: Logic Game—The Desert Survival Task

Instructions: You have 10 minutes to complete this task. Don't worry if you do not complete the task in the time allowed, just do as much as you can. Remember, the tape recorder is on. Please express your thoughts loudly and clearly.

It is approximately 10:00 A.M. in mid-August and your plane has just crash-landed in the desert somewhere in the southwestern United States. The light twin engine plane has completely burned. Only the frame of the plane remains. The pilot and co-pilot were killed, but you have not been injured.

The pilot was unable to notify anyone of your position before the crash. However, he had indicated before impact that you were 70 miles south-southwest from a mining camp, which is the nearest known habitation, and that you were approximately 65 miles off the course that was filed in your flight plan.

The immediate area is flat and barren, except for the occasional cactus. The last weather report indicated the temperature would reach 110° that day, which means that the temperature at ground level will be about 130°. You are dressed in lightweight clothing – a short sleeved shirt, pants, socks, and sneakers. You have a handkerchief. Your pockets contain $2.83 in change, $85.00 in bills, a pack of cigarettes, and a ball-point pen.

Before the plane caught fire, you were able to salvage the 14 items listed below. Your task is to rank these items according to their importance to your survival, starting with "1" for the most important, "2" for the next, etc. You may assume:

1. You are the only survivor.
2. You are the actual person in the situation.
3. All salvaged items are in good condition.

	Your Ranking
Flashlight (4 battery size, batteries included)	
Knife	
Sectional air map of the area	
Magnetic compass	
Compress kit with gauze	
.45 caliber pistol (loaded)	
Parachute (red and white)	
Bottle of salt tablets (1000 tablets)	
1 quart of water	
A book titled, "Edible Animals of the Desert"	
A pair of sunglasses	
2 quarts of 180-proof vodka	
1 top coat	
A cosmetic mirror	

APPENDIX F

Resource Allocation Task:

Fairness Information/ Cognitive Load Condition

Task #3: Resource Allocation Task

In organizations, managers are often in situations where they must divide resources among different groups of people. For example, the manager of a manufacturing company may have to decide how to divide the company's budget between research and development, marketing, and production departments. In this study, we are interested in exploring how such "resource allocation decisions" are made. To do so, we are placing students into small groups and asking them individually how they would divide different amounts of money between themselves and their teammates. These are actual pools of money and **we will really be paying the participants** the amounts they request. However, since we do not have enough money to pay everyone, we will choose 10% of the participants each night to be paid.

The two students you are being paired with have already participated in several rounds of allocation tasks similar to the one you are participating in today. In the previous rounds, participants worked with only one other person and each decided whether to keep all of the money in a $10 pool just for his/her self, or to split the money evenly with their partner such that they would receive $5 and their partner would receive $5.

In today's round, we are going to partner you with two teammates and you are going to decide how to divide a pool of money between the three of you. As mentioned previously, **ten percent of you will be randomly selected to receive the amount you allocate to yourself. Your allocation decision will not influence whether or not you are paid.**

Because of scheduling complexities, your teammates will not be physically present today. However, your teammates will be making requests for the team using the same method employed here. In past rounds, different people made different allocation choices. Therefore, your teammates may have very different histories with regard to their past decisions. The following paragraph provides you with information about the other two members of your team.

Partner Information:

- **Teammate #1 acted _____ in previous resource allocation rounds.** That is, when dividing $10 between themselves and another person, this person chose to take _____.
- **Teammate #2 acted _____ in previous resource allocation rounds.** This person's choices were considered _____ to the other member of their group.

We will now present you with the resource pool and allow you to make your resource allocation decision.

However, before you start, we are going to give you twenty seconds to memorize a ten digit number. **You must keep this number in your memory for the entirety of the resource allocation task.** You may not write this number down or do anything else physically to help you remember it. **We will be asking you to recall the number after you have completed the task and it is very important that you recall it accurately.**

Please open the door when you have thoroughly read these instructions. The administrator will bring you the number, give you 20 seconds to memorize it, and then bring you your allocation choices.

Remember: The tape recorder is on. Please express your thoughts out loud.

You have 20 seconds to memorize this number:

9170430573

Please write the number you have memorized here:

_____

Payout Matrix

Remember:

- **Express everything you are thinking as you complete the tasks.**
- **Speak loudly and clearly.**
- **If you make a decision during the task, state your decision and your reason for making it.**

****YOU HAVE LESS THAN ONE MINUTE TO MAKE YOUR DECISION****

Instructions: Place a check mark next to your choice

_____ Choice 1:

You: $7

_____ teammate: $0

_____ teammate: $0

_____ Choice 2:

You: $6

_____ teammate: $6

_____ teammate: $6

_____ Choice 3:

You: $5

_____ teammate: $0

_____ teammate: $5

Please open your door when you have completed this task.

APPENDIX G

Resource Allocation Task:

Fairness Information/ No Cognitive Load Condition

Task #3: Resource Allocation Task

In organizations, managers are often in situations where they must divide resources among different groups of people. For example, the manager of a manufacturing company may have to decide how to divide the company's budget between research and development, marketing, and production departments. In this study, we are interested in exploring how such "resource allocation decisions" are made. To do so, we are placing students into small groups and asking them individually how they would divide different amounts of money between themselves and their teammates. These are actual pools of money and **we will really be paying the participants** the amounts they request. However, since we do not have enough money to pay everyone, we will choose 10% of the participants each night to be paid.

The two students you are being paired with have already participated in several rounds of allocation tasks similar to the one you are participating in today. In the previous rounds, participants worked with only one other person and each decided whether to keep all of the money in a $10 pool just for his/her self, or to split the money evenly with their partner such that they would receive $5 and their partner would receive $5.

In today's round, we are going to partner you with two teammates and you are going to decide how to divide a pool of money between the three of you. As mentioned previously, **ten percent of you will be <u>randomly</u> selected to receive the amount you allocate to yourself. Your allocation decision will <u>not</u> influence whether or not you are paid.**

Because of scheduling complexities, your teammates will not be physically present today. However, your teammates will be making requests for the team using the same method employed here. In past rounds, different people made different allocation choices. Therefore, your teammates may have very different histories with regard to their past decisions. The following paragraph provides you with information about the other two members of your team.

<u>Partner Information:</u>

- **Teammate #1 acted _____ in previous resource allocation rounds.** That is, when dividing $10 between themselves and another person, this person chose to take _____.
- **Teammate #2 acted _____ in previous resource allocation rounds.** This person's choices were considered _____ to the other member of their group.

We will now present you with the resource pool and allow you to make your resource allocation decision.

Please open the door when you have thoroughly read these instructions. The administrator will bring you your allocation choices.

Payout Matrix

Remember:

- **Express everything you are thinking as you complete the tasks.**
- **Speak loudly and clearly.**
- **If you make a decision during the task, state your decision and your reason for making it.**

Instructions: Place a check mark next to your choice

_____ Choice 1:

You:	$7
_____ teammate:	$0
_____ teammate:	$0

_____ Choice 2:

You:	$6
_____ teammate:	$6
_____ teammate:	$6

_____ Choice 3:

You:	$5
_____ teammate:	$0
_____ teammate:	$5

Please open your door when you have completed this task.

APPENDIX H

Resource Allocation Task:

No Fairness Information/ Cognitive Load Condition

Task #3: Resource Allocation Task

In organizations, managers are often in situations where they must divide resources among different groups of people. For example, the manager of a manufacturing company may have to decide how to divide the company's budget between research and development, marketing, and production departments. In this study, we are interested in exploring how such "resource allocation decisions" are made. To do so, we are placing students into small groups and asking them individually how they would divide different amounts of money between themselves and their teammates. These are actual pools of money and **we will really be paying the participants** the amounts they request. However, since we do not have enough money to pay everyone, we will choose 10% of the participants each night to be paid.

The two students you are being paired with have already participated in several rounds of allocation tasks similar to the one you are participating in today. In the previous rounds, participants worked with only one other person and each decided whether to keep all of the money in a $10 pool just for his/her self, or to split the money evenly with their partner such that they would receive $5 and their partner would receive $5.

In today's round, we are going to partner you with two teammates and you are going to decide how to divide a pool of money between the three of you. As mentioned previously, **ten percent of you will be randomly selected to receive the amount you allocate to yourself. Your allocation decision will not influence whether or not you are paid.**

Because of scheduling complexities, your teammates will not be physically present today. However, your teammates will be making requests for the team using the same method employed here.

We will now present you with the resource pool and allow you to make your resource allocation decision.

However, before you start, we are going to give you twenty seconds to memorize a ten digit number. **You must keep this number in your memory for the entirety of the resource allocation task.** You may not write this number down or do anything else physically to help you remember it. **We will be asking you to recall the number after you have completed the task and it is very important that you recall it accurately.**

Please open the door when you have thoroughly read these instructions. The administrator will bring you the number, give you 20 seconds to memorize it, and then bring you your allocation choices.

Remember: The tape recorder is on. Please express your thoughts out loud.

You have 20 seconds to memorize this number:

9170430573

Please write the number you have memorized here:

_____

Payout Matrix

Remember:

- **Express everything you are thinking as you complete the tasks.**
- **Speak loudly and clearly.**
- **If you make a decision during the task, state your decision and your reason for making it.**

****YOU HAVE LESS THAN ONE MINUTE TO MAKE YOUR DECISION****

Instructions: Place a check mark next to your choice

_____ Choice 1:

You:	$7
Teammate #1:	$0
Teammate #2:	$0

_____ Choice 2:

You:	$6
Teammate #1:	$6
Teammate #2:	$6

_____ Choice 3:

You:	$5
Teammate #1:	$0
Teammate #2:	$5

Please open your door when you have completed this task.

APPENDIX I

Resource Allocation Task:

No Fairness Information/ No Cognitive Load Condition

Task #3: Resource Allocation Task

In organizations, managers are often in situations where they must divide resources among different groups of people. For example, the manager of a manufacturing company may have to decide how to divide the company's budget between research and development, marketing, and production departments. In this study, we are interested in exploring how such "resource allocation decisions" are made. To do so, we are placing students into small groups and asking them individually how they would divide different amounts of money between themselves and their teammates. These are actual pools of money and **we will really be paying the participants** the amounts they request. However, since we do not have enough money to pay everyone, we will choose 10% of the participants each night to be paid.

The two students you are being paired with have already participated in several rounds of allocation tasks similar to the one you are participating in today. In the previous rounds, participants worked with only one other person and each decided whether to keep all of the money in a $10 pool just for his/her self, or to split the money evenly with their partner such that they would receive $5 and their partner would receive $5.

In today's round, we are going to partner you with two teammates and you are going to decide how to divide a pool of money between the three of you. As mentioned previously, **ten percent of you will be randomly selected to receive the amount you allocate to yourself. Your allocation decision will not influence whether or not you are paid.**

Because of scheduling complexities, your teammates will not be physically present today. However, your teammates will be making requests for the team using the same method employed here.

We will now present you with the resource pool and allow you to make your resource allocation decision.

Please open the door when you have thoroughly read these instructions. The administrator will bring you your allocation choices.

Payout Matrix

Remember:

- **Express everything you are thinking as you complete the tasks.**
- **Speak loudly and clearly.**
- **If you make a decision during the task, state your decision and your reason for making it.**

Instructions: Place a check mark next to your choice

_____ Choice 1:

You:	$7
Teammate #1:	$0
Teammate #2:	$0

_____ Choice 2:

You:	$6
Teammate #1:	$6
Teammate #2:	$6

_____ Choice 3:

You:	$5
Teammate #1:	$0
Teammate #2:	$5

Please open your door when you have completed this task.

APPENDIX J

Manipulation Check

Questions About the Experiment

1. What information were you given about your teammates?
   _____ a) I was given no information about my teammates
   _____ b) I was told that one teammate had acted fairly in past rounds, where the other had acted unfairly.
   _____ c) I was told that both teammates had acted unfairly in past rounds.
   _____ d) I was told that both teammates had acted fairly in past rounds.
   _____ e) I was given different information about my teammates.

2. Did you verbalize your thoughts as you completed the tasks?
   _____ a) yes
   _____ b) no

3. Did you feel comfortable verbalizing your thoughts as you completed the tasks?
   _____ a) yes
   _____ b) no

4. Do you feel that what you were saying adequately reflected what you were thinking as you completed the tasks?
   _____ a) yes
   _____ b) no

5. If you were not asked to talk out loud, would your thought processes been different?
   _____ a) yes
   _____ b) no

6. Do you have any comments about the process of verbalizing your thoughts? _____

   _____

7. In the resource allocation task how much money did you allocate to yourself?
   _____ a) $7.00
   _____ b) $6.00
   _____ c) $5.00
   _____ d) $3.00
   _____ e) $0.00

8. What was your reason for making this decision? _____

   _____

9. During the experiment were you asked to...
   _____ a) remember a ten digit number?
   _____ b) jump up and down?
   _____ c) complete a cross word puzzle?
   _____ d) complete a maze?
   _____ e) I was not asked to do any of these things.

10. If you were asked to remember a ten digit number, did this task make it more difficult to make your allocation decision?
    _____ a) yes
    _____ b) no

APPENDIX K

Schwartz Value Survey

INSTRUCTIONS: In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. The first contains values referring to things people might want to attain in life and the second refers to values that represent ways of acting. These values come from different cultures and represent different preferences—no value is any more "correct" than any other.

VALUES LIST I: Things people might want to attain in life.
AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values		not important	important		very important		of supreme importance
-1	0	1	2	3	4	5	6	7

Please begin by reading values 1 to 30.

- Choose one or two values that are most important to you and put a 7 in the space before them.
- Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance.
- Then rate the remaining values on the list from 0 to 6. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use the same numbers more than once.

1.___EQUALITY
(equal opportunity for all)

2.___INNER HARMONY
(at peace with myself)

3.___SOCIAL POWER
(control over others, dominance)

4.___PLEASURE
(gratification of desires)

5.___FREEDOM
(freedom of action and thought)

6.___A SPIRITUAL LIFE
(emphasis on spiritual, not material matters)

7.___SENSE OF BELONGING
(feeling that others care about me)

8.___SOCIAL ORDER
(stability of society)

9.___AN EXCITING LIFE
(stimulating experiences)

10.___MEANING IN LIFE
(a purpose in life)

11.___POLITENESS
(courtesy, good manners)

12.___WEALTH
(material possessions, money)

13.___NATIONAL SECURITY
(protection of my nation from my enemies)

14.___SELF RESPECT
(belief in one's own worth)

15.___RECIPROCATION OF FAVORS
(avoidance of indebtedness)

16.___CREATIVITY
(uniqueness, imagination)

17.___A WORLD AT PEACE
(free of war and conflict)

18.___RESPECT FOR TRADITION
(preservation of time-honored customs)

19.___MATURE LOVE
(deep emotional and spiritual intimacy)

20.___SELF-DISCIPLINE
(self-restraint, resistance to temptation)

21.___DETACHMENT
(detachment from worldly concerns)

22.___FAMILY SECURITY
(safety for loved ones)

23.___SOCIAL RECOGNITION
(respect, approval by others)

24.___UNITY WITH NATURE
(fitting into nature)

25.___A VARIED LIFE
(life filled with challenge, novelty and change)

26.___WISDOM
(a mature understanding of life)

27.___AUTHORITY
(the right to lead or command)

28.___TRUE FRIENDSHIP
(close, supportive friends)

29.___A WORLD OF BEAUTY
(beauty of nature and the arts)

30.___SOCIAL JUSTICE
(correcting injustice, care for the weak)

VALUES LIST II: Ways of acting or behaving.
AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values		not important		important		very important		of supreme importance
-1	0	1	2	3	4	5	6	7

Please begin by reading values 31 to 56.

- Choose the one or two values that are most important to you and rate them 7.
- Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance.
- Then rate the remaining values on the list from 0 to 6. Once again, try to distinguish as much as possible between the values by using all the numbers.

31.___INDEPENDENT
(self-reliant, self-sufficient)

32.___MODERATE
(avoiding extremes of feeling and action)

33.___LOYAL
(faithful to my friends, group)

34.___AMBITIOUS
(hard working, aspiring)

35.___BROAD-MINDED
(tolerant of different ideas and beliefs)

36.___HUMBLE
(modest, self-effacing)

37.___DARING
(seeking adventure, risk)

38.___PROTECTING THE ENVIRONMENT
(preserving nature)

39.___INFLUENTIAL
(having an impact on people and events)

40.___HONORING OF PARENTS AND ELDERS
(showing respect)

41.___CHOOSING OWN GOALS
(selecting own purposes)

42.___HEALTHY
(not being sick physically or mentally)

43.___CAPABLE
(competent, effective, efficient)

44.___ACCEPTING MY PORTION IN LIFE
(submitting to life's circumstances)

45.___HONEST
(genuine, sincere)

46.___PRESERVING MY PUBLIC IMAGE
(preserving my "face")

47.___OBEDIENCE
(dutiful, meeting obligations)

48.___INTELLIGENT
(logical, thinking)

49.___HELPFUL
(working for the welfare of others)

50.___ENJOYING LIFE
(enjoying food, sex, leisure, etc.)

51.___DEVOUT
(holding to religious faith and belief)

52.___RESPONSIBLE
(dependable, reliable)

53.___CURIOUS
(interested in everything; exploring)

54.___FORGIVING
(willing to pardon others)

55.___SUCCESSFUL
(achieving goals)

56.___CLEAN
(neat, tidy)

APPENDIX L

Demographics Measure

Instructions: To help us better interpret the results of the survey, please answer the following questions about yourself. All your responses are **strictly confidential** and **will be used for research purposes only.**

1. What is your age? ___

2. What is your gender? (check answer) _____Male _____Female

3. Which category best represents your ethnicity? (check answer)

1 _____ African American
2 _____ Asian American
3 _____ Hispanic
4 _____ Native American
5 _____ Caucasian, Non-Hispanic
6 _____ Other (Please Specify) _____

4. What is your current academic status? (check answer)

1 _____ Freshman
2 _____ Sophomore
3 _____ Junior
4 _____ Senior

5. What is your major? _____

6. Do you consider yourself as belonging to any of the following religious/spiritual categories?
(check all that apply)

1 _____ Buddhist
2 _____ Catholic
3h _____ Hindu
3j _____ Jewish
4 _____ Non-denominational Christian
5 _____ Muslim
6 _____ Protestant
7 _____ Other _____

APPENDIX M

Debriefing Form

DEBRIEFING FORM

The experiment you just participated in is part of a study on resource allocation behavior. Specifically, this study was designed to examine how cognitive load, justice orientation, and information about partner fairness affects allocation decisions and the thought processes leading to such decisions. Should a relationship be found to exist between these variables, one might be in a better position to understand the complexities of decision making by different people in different situations (such as managers making allocation decisions in organizations).

Now that you have completed the study, it is important to tell you how we measured our variables of interest as well as when deception was used. After you completed your consent form, you completed two tasks: naming the presidents and the desert survival task. These tasks were of no experimental interest. We incorporated them into the study to allow you some practice in verbalizing your thoughts on the tape recorder. The true experimental task was the resource allocation task. In this task we told you that you had two teammates with which you would allocate the pool of resources, but that these individuals would not be in attendance because of scheduling complexities. These teammates were only hypothetical. We were actually only concerned in the allocation that you yourself made.

Some of you were asked to memorize an eight digit number and keep it in your memory while completing the tasks. The purpose of this was to induce cognitive load. We were testing if keeping your mind busy would affect the types of allocation decisions you made. We also told some of you that in a past allocation round, one of your teammates had acted fairly, where the other teammate had acted unfairly. Here, we were testing if you would be willing to sacrifice a dollar to punish the person who had acted unfairly. We also taped your "thinking-out-loud" so that we could not only study allocation decisions, but so that we could also explore the thought processes that lead to these decisions.

The survey you completed at the end of the study measured your orientation to justice. The survey contained the following scales:

- Moral Development: The extent to which individuals hold different values such as saving a life, not stealing, and keeping ones promises. This examines the levels of moral development identified by Kohlberg (1969).
- Fairness Values: The extent to which people hold the value that individuals should be rewarded for their contributions to society and that those who don't contribute should have benefits withheld; as well as the extent to which individuals value equal access to services, equal treatment to all members of society, and the redistribution of wealth.
- Value orientation: The extent to which different values are a guiding principle in peoples' lives. Value types include power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security.

We expect that when under high levels of cognitive load, participants will not have the cognitive capacity to process information that would allow them to make either sacrificial

or self-serving allocation decisions. In such cases, we expect them to use the equality heuristic as a mental shortcut and divide the resource pool evenly. When participants are under low cognitive load, we expect them to make decisions that promote justice (i.e., a sacrificial decision) when they are paired with teammates who have acted unfairly in the past. When information is not available about teammates, we expect participants to make allocation decisions that are more self-serving in nature. When individuals are high in justice orientation, we expect them to give more just allocation decisions, even in situations where is might be difficult to do so (e.g., no partner information, higher levels of cognitive load). These hypotheses integrate a great deal of research that has been conducted in the areas of organizational justice and social cognition. The implications of our findings (if supported) would be of great benefit for institutions and organizations interested in applied decision making. Allocation decisions are common in organizational settings, and it is important to understand the variables that might affect such decisions.

You should also understand how your data will be used. You did not put your name or any other identifying information on any part of the survey, payout matrix, tapes, or any other materials used for this study. Surveys were numbered, and this number was spoken into the tape recorder so that your verbal responses can be linked to your written responses, but there will be no way to identify you using this number. In presenting the results of this study, we will only report group averages, and therefore your responses will not be able to be identified. Signed consent form will be kept separate from your verbal and written responses. The lottery is using double stubbed tickets with no identifying information. Your ticket will be kept separate from both signed consent forms and experimental responses (taped and written). ***The winning numbers will be posted on the PY100 bulletin board during the week of the mid-term and final exam*** and only the numbered tickets will need to be presented to claim prizes. No identifying information will be asked of individuals claiming prizes and the researchers will have no way of linking the ticket numbers with participant responses.

If you would like to receive a summary of the results of the study (available during the Summer 2002), please fill out the information below and return the bottom portion of this form to the study coordinator. In the meantime, if you have any questions or concerns about the study, **please contact Deborah Rupp at derupp@lamar.colostate.edu or 970-491-6002.**

Again, we thank you very much for your participation in this study.

Tear off here *Keep the above half for your contact information.*

Please send a copy of the feedback study results to me at:

Name: _____

Address:

_____

APPENDIX N

"Test" Verbal Protocol Used for Rater Training

108
ok, place a checkmark next to your choice
choice one, you seven, they don't get any (??) (45sec)
six, six, and six
I think either, I'd either go for choice two or choice three
Uh, I don't know if all three of us deserve the same amount,
Or if me and the teammate who would have split it with me deserves more than
The teammate who wouldn't have
I guess not more, but
I'm thinking maybe there might have been a reason that the unfair teammate
Might have chosen to get all the money for themselves
So, I think that I'm going to check choice two
And give six dollars to all three of us
Um, just to be fair
So I chose choice two

109
Um, ninety-one seventy, ok 9170430573
Ok 917 917
9170430573, 573, ok, um, I vay
Ok, please check a mark next to your choice
Choice one, ok
Choice two, six by six
Choice three - five, zero, five
Ummh , If it were up to me
Well lets see, the money we're doing is eighteen dollars for choice #2,
So that'd be the one I'd want to do, but
Ummh, ---Door opens

110
Ok, looking at the three choices we have here
And it's divided between myself and two other teammates
The first choice gives me seven dollars and the other two people nothing
The second choice gives all three of us six dollars
And choice #3 gives myself five, teammate #2 zero, and teammate #3 five
So, well, I guess to be fair to everyone,
as long as everyone contributes equally,
I'm gonna go with choice #2
There, I marked my choice two

111
9170430573, 9170430573, 9170430573
ok, pshh
place a check mark next to your choice
Choice #1, I get seven dollars and my teammates that I don't even know,
they get nothing, that would, that'd be nice
Here's choice #2, I get six dollars plus my two teammates get six dollars
So that's a total of umh 36 dollars between us,
I mean 18 dollars between us, so that's nice
I'm sure that they would all appreciate that
--Door open—
Do we have to – assistant "If you have not made your decision please make it now"
Shoot, huh, that was quick, umh

136

Ok, umh, lets see
Choice one, me seven teammate, teammate two, ok
Next to our choice
Well, I'm a pretty fair person
And I know that I'd want to split it between the three of us
So I'd probably do the six, six, and six
Choice two
Humh, that sounds most fair
I wouldn't want to leave anyone out
That would be kind of mean
So I would choose choice two because it's only fair that everyone gets
the same amount, because it's not like anyone's doing more than the other, so

---

137
9170430573, 917 0430573, 917 04 30
-given task- 917 0403573, ok don't worry about it
9170403573, 9170403573
ok, payout matrix, remember express everything that you're thinking as you
complete the task loudly and clearly
You can make a decision during this task
State your decision and your reason for making it
You have one minute to make your decision, ohh
Please place a checkmark next to your choice
You seven dollars *–door opens-*
Assistant – "ok please make a decision if you haven't made your decision yet"
Ok, huhu
Ok
Assistant "now you get to pick which one, do you want this choice, this choice, or this choice"
Oh, umh, ok
Assistant "yeah it looks like you want that choice"
Yeah, number two
I was trying to remember my number

148
Express everything your thinking as you speak loudly and clearly
You have one minute
Place a check mark next to your choice
You get seven dollars, teammate gets zero
Team two, you get six, teammate gets six, teammate 2 gets six
We'll all
Probably I would agree for everybody to get six dollars,
because it makes it all even and therefore everybody is happy
So, I would make choice number two, because *–door opens-*
Ok

149
Express everything you're thinking as you complete the task
Speak loudly and clearly
If you make a decision during the task, state your decision and
Place a check mark next to your choice
Choice one, you seven dollars, teammate one zero, teammate two zero
You six dollars, teammate one six dollars, teammate two six dollars
You five dollars, teammate one zero dollars, teammate two five dollars
Humph, choice two
I think everything should be divided evenly

It's like the easiest way to divide things up
So that's the one I'm going with, choice two

421

Place a check mark next to your choice
Choice one, you seven dollars, unfair teammate zero, fair teammate zero
Choice two, you six dollars, unfair teammate six, third teammate six
You five dollars, unfair teammate zero, fair teammate five
Hmm, well, you want the most money right?
I mean you don't really know your teammates
and you don't know what they're doing
So, I mean if you were completing more work than them,
or they were completing more work than you
Then you would want, umm, them to get a fair share at least,
if not more than you
It's, it depends on how much work is being done
Ahh, I don't know
This is strange
With choice one you only get seven dollars
Which only adds to seven because nobody else gets any money
And then choice three, it's uhh, five each
And there's just two, so that's ten dollars
But with choice two, that's eighteen dollars added together
I don't know, it's not a big difference between a buck
Unhh, And choice two when you're giving six dollars to every person,
You're getting more than if you would just give five dollars to the fair teammate
and yourself
Just because, uhh, that other teammate wasn't fair doesn't mean that,
but then it does because they're being uhh,
They're being selfish, so they should get zero,
But that would leave me with five,
But I said a buck doesn't matter
But if you put this in a higher scale and put it in like 700 bucks, 600 bucks, and 500 bucks, that is a big difference
It's just the perspective you look at
Hmmmh, I'm going to say that everybody was doing their work
And even that, though the unfair teammate was selfish, ahh,
It's still, ummh, yeah, I'm going to be fair to them,
Give them the benefit of the doubt

172

Ok, my number, 9170430573, hunh, how am I going to remember that, ok
917 04, 9170430573, 9170430573
-door opens-
One minute? Approximately?
Ok I have one minute to do this
You have one minute to, oh yeah, please mark your next choice
Me seven dollars, teammate zero
Me six dollars, six dollars, six dollars
Ummh, I'm gonna choose choice number two just because it's a nice fair thing, yeah

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