Procedural Justice in Simple Bargaining Games

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Abstract
I consider several variants of dictator and ultimatum games in which the proposer not only offers an allocation of funds but also selects the rules that will govern that distribution. In the *dictator/ultimatum choice* game, the proposer first selects whether or not the receiver will have the power to reject the offer. Effectively, the proposer decides between playing a dictator and an ultimatum game. Whether a player is self-regarding or motivated by distributive concerns, the player should elect the dictator game as it enables full control over the allocation. Yet, a majority of subjects select the ultimatum game. Further, even those selecting the dictator game make substantially higher offers than those in a control dictator experiment. Additional experiments and surveys explore various explanations for these results. The additional experiments suggest that players' willingness to share decision-making power with other players is quite robust. I conclude that subjects have an innate preference for "voice," a key component of procedural justice.

"It is clear, then, that there is more than one kind of justice."
— Aristotle, Nicomachean Ethics, Book V

I. Introduction

A rich economic literature has examined the norms driving equitable distribution (e.g., Henrch, *et al.*, 2001; Andreoni, Harbaugh, and Vesterlund, 2003). Laboratory experiments consistently suggest departures from selfish, self-regarding play, demonstrating concerns of equity and fairness. Models incorporating social preferences appear to explain observed behavior better than predictions that follow from self-interested play (Bolton and Ockenfels, 2000; Charness and Rabin, 2002). Yet procedural justice—the fairness of the allocation process itself—has received substantially less attention.

People are concerned not only with how resources are finally distributed, but also with the processes that govern those distributions. Perceptions of procedural fairness impact tax compliance (Wenzel, 2002), malpractice law suits (Hickson, *et al.*, 1992), and employee reactions to pay raises (Folger and Konovsky, 1989). Indeed, in some settings, procedural concerns may be more important than outcome distributions. For example, arbitration acceptance seems to be driven more by perceived fairness of the process than award size (Lind, *et al.*, 1993).

Recently, economists have considered the role of procedural variations in ultimatum games. The ultimatum game allows one person (the proposer) to prescribe an allocation of money between herself and another person (the receiver). The receiver either accepts or rejects the offer, with a rejection meaning both players receive nothing. Rejection rates have been shown to depend not only on the size of the offer, but also on the menu of possible offers available to the proposer, whether an equal split is available, and whether offers are generated randomly rather than chosen (Brandts and Solà, 2001; Falk, Fehr, and Fischbacher, 2001; Güth, Huck, and Muller, 2001; Nelson, 2002). Bolton, Brandts, and Ockenfels (2005) found lotteries that were fair in expectation but inequitable in distribution were nevertheless deemed roughly as acceptable as a fair outcome. This finding that a lack of probabilistic bias (as in a fair lottery) contributes to a sense of procedural fairness has long been recognized by justice theorists (e.g., Leventhal, Karuza, and Fry, 1980) and recently by economists (Krawczyk, 2007).

Much like distributive justice encompasses many motivations including altruism, envy, equity, and reciprocity, procedural justice itself is multi-faceted (Colquitt, *et al.*, 2001). A central

component of procedural justice is "voice," defined as the ability to have input in the decision-making process (Thibaut and Walker, 1975). While roles in dictator and ultimatum games are traditionally determined by the experimentor, we explore the role of voice by introducing a new game called dictator/ultimatum choice. Prior to making an offer, the proposer first selects whether or not the receiver will have the power to reject the offer. Effectively, the proposer decides between playing a dictator and an ultimatum game. The player's procedural choice is made known to the recipient.

Since the player endowed with procedural choice can elect to play the traditional dictator game with herself as the dictator, assumptions of self-regarding, rational play lead to theoretical predictions identical to those in the dictator game. Additionally, the dictator/ultimatum choice game prescribes identical allocations to the dictator game even when players are driven by distributive justice concerns or a taste for fairness. If the proposer has a "fair split" in mind, representing a balance of selfishness, altruism, warm glow, or other *distributive* concerns, this outcome is ensured by maintaining dictatorial power. In contrast, selecting the ultimatum game implies a lower chance of obtaining one's optimal allocation. Given that one player can choose to be a dictator and have full control over final allocations, any differences between this game and the traditional dictator game cannot be explained solely by strategic or distributive concerns.

Two findings emerge from the dictator/ultimatum choice game. First, a majority of proposers elect to play the ultimatum game rather than the dictator game. People have process-related concerns and are not solely concerned with the final allocation of money. These subjects are willing to forego some earnings to empower the recipient with a chance to reject the offer. Second, subjects who do elect to play the dictator game enact much more equitable allocations than subjects in a traditional dictator game, with the modal choice being an equal split. A dictator game embedded within a procedural choice is viewed differently by subjects than dictator games in which the role of proposer is assigned randomly by the experimenter.

To better understand the underlying cause for these results, several additional experiments are also presented. These additional experiments examine the role of framing, decision-avoidance, and psychological costs of selfish acts, each a potential explanation for why a proposer would elect to play the ultimatum game over the dictator game. While there may be a host of motivations for subjects' decisions, data are offered to show that granting voice is an important driver. This motivation appears fairly intrinsic. In one experiment, subjects could play

an ultimatum game over $10 or opt out. If a subject opts out, she simply keeps the $10 and a recipient subject is not recruited. A subject who is not empowered with the chance to reject the offer would never be aware of that decision, or the experiment. Nevertheless, a significant portion of subjects elect to play the ultimatum game in this experiment. In related experiments, Lazear, Malmendier, and Weber (2009) and Dana, Cain, and Dawes (2006) find subjects willing to opt out of playing a dictator game, and conclude that some subjects who share in the dictator game do so reluctantly, perhaps to avoid the shame of acting selfishly. In our experiment, many subjects empower another player even when they can silently opt out. For at least some subjects, voice is not offered reluctantly to avoid shame, but is freely offered from an intrinsic desire to include others.

Survey data collected from experimental subjects offer additional insights, suggesting that procedural and distributive concerns are distinct concepts, and manifest differently in ultimatum and dictator games. Forsythe, Horowitz, Savin, and Sefton (1994) conjectured that behavior in the utlimatum and dictator games are driven by different concerns. In proposing the *fairness hypothesis*, the authors suggest that the dictator and ultimatum games elicit identical justice concerns but differ in the strategic concerns of one's offer being rejected. This argument has been echoed in many other ultimatum studies (e.g., Hoffman, *et al.*, 1994). Indeed, these strategic concerns may outweigh any concerns with fairness (Cherry, Frykblom, and Shogren, 2002; Schmitt, 2004). The survey results in this manuscript suggest that ultimatum offers reflect both strategic and fairness concerns. However, the notion of "fairness" across the two games is not comparable. While ultimatum offers are influenced by distributive fairness, dictator offers are driven wholly by procedural fairness concerns.

Several implications are drawn from this study. First, allocation decisions cannot be understood apart from the procedural framework within which they are embedded. Identical distributive choices within different procedures significantly changes the final allocation. Second, people appear altruistic not only in the allocation of resources, but also in the allocation of power. Granting voice to others is not merely a means to an end, but seemingly of value in itself. Subjects are willing to forego direct control over the allocation to empower another player.

II. Experimental Design

Subjects participated in one of seven two-player bargaining games, including standard dictator and ultimatum games which serve as benchmarks. A sketch of the experimental games is provided in Figure 1.

Dictator/Ultimatum Choice. In the *dictator/ultimatum choice (DUC)* game, the proposer decides first whether to play a dictator or ultimatum game. It is common knowledge that the player has the authority to select a procedure, and the procedural choice is revealed to the other player before the chosen game is played. If subjects are driven by self-regarding preferences, they should elect to play the dictator game. Further, if subjects are driven by distributional concerns, they should likewise elect the dictator game as it offers direct control over the realized allocation. However, if some portion of subjects elect to provide the other player with the power to reject an offer, this may indicate, among other possible explanations, a concern for granting other players voice.

In the dictator, ultimatum, and dictator/ultimatum choice games, a total of $10 could be divided between the proposer and recipient. Both a student and an online subject pool were utilized. Students were recruited from among the undergraduate and MBA population at an author's institution and participated in one of the three games. Each subject was randomly assigned to one of two rooms, corresponding to the roles of proposer and receiver. A double-blind procedure was used, similar to that of Hoffman, *et al.* (2001) and Cox and Deck (2005). The same instructions were provided and read in both rooms, and subjects were informed that everyone was receiving the same instructions. Proposers wrote down their offers for how to divide $10 and sealed them in provided enevelopes labeled with ID numbers which they drew randomly from a box. In the DUC game, subjects also circled their procedural choice. These decisions were transcribed by a monitor outside of the room to avoid handwriting recognition and were given to corresponding subjects in the other room who, for ultimatum games, recorded whether they accepted or rejected the offer. While subjects completed a survey, a monitor placed cash in envelopes marked with subject IDs to be picked up privately after the experiment.

Online experiments were run using eLab, which maintains a panel of 75,000 subjects worldwide who have opted to be notified of potential research opportunities. A random sample from an online panel who had never before participated in any studies was invited to participate by email (44% response rate). The experiments were run over a web browser, from subjects'

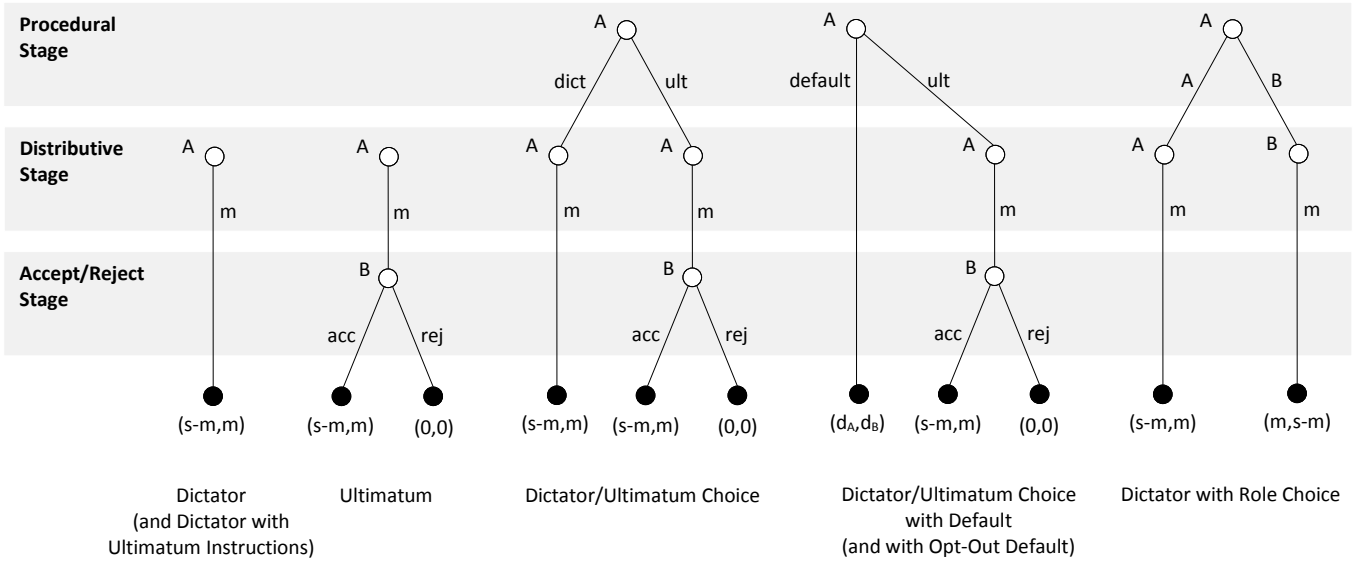

Figure 1: Representation of Experiments

homes or places with computer access. In the online experiments, receiver strategies in ultimatum (sub)games were elicited by the strategy method. Specifically, rather than first seeing an offer and then deciding to accept or reject it, subjects provide a minimum acceptable offer which is compared to the actual offer to determine if it is accepted. Recipients were notified of the procedural decision made by their partners, and minimum acceptable offers were only solicited if the resulting subgame was an ultimatum game. The strategy method was adopted because it was technically convenient as it did not require subjects to be logged on at the same time. Instead, every other subject served as the partner for the most recent subject. Several studies use this strategy method (Güth, Schmittberger, and Schwarze, 1982; Mitzkewitz and Nagel, 1993; Güth and Huck, 1997; and Bolton, Brandts, and Ockenfels, 2005).

We hypothesize that a non-negligible proportion of subjects will select an ultimatum rather than a dictator game, empowering the recipient with the ability to reject the offer. Then, whether a player elects to play the dictator or ultimatum game, what will subsequent offers look like? If procedures do not matter, then the initial stage of the modified games should have little impact on realized allocations. Players who choose to be dictators should presumably behave the same as players assigned the role of dictator by the experimenter. We hypothesize differences in offers between assigned and chosen dictators, suggesting that distributive choices depend on the underlying procedural framework.

The above hypotheses, if true, suggest the importance of procedures, but do not ascribe underlying motivations for subject decisions. Before turning to the hypothesis that granting voice is considered in the fariness domain, alternate explanations are considered. Three additional experiments were run using the online sample.

Alternate Explanations. First, while "doing good" for others may entail psychological benefits, each self-regarding act may entail a psychological cost, termed "cold prickle" (Andreoni, 1995). In the traditional dictator game, a proposer guarantees herself maximum earnings with the single self-regarding action of offering zero to the receiver. In contrast, the DUC game requires two self-regarding decisions–making oneself the dictator and then offering zero to the receiver. To examine if seemingly altrusitic behavior in the DUC game is due to the necessity to be self-regarding twice, a *dictator/ultimatum choice with default* (DUC with default) game is introduced. In this game, the proposer selects between playing an ultimatum game with $10 to allocate and accepting a prespecified default allocation. This game is similar to the DUC game except the choice to be a dictator implies a predefined split which varied across treatments. Four treatments used default allocations of 10/0, 8/2, 5/5, and 8/8, for the proposer and receiver, respectively. The first treatment allows a player to keep the entire surplus with a single decision. The even-split default (5/5) allows a self-selected dictator to ensure a distributively-fair allocation. The 8/8 default provides an equitable outcome with total surplus in excess of that available under the ultimatum game.

Second, an experiment examines the possible effects of framing. In the DUC game, a player who makes oneself a dictator has been exposed to the instructions and concept of an ultimatum game. Subtle changes in the design of or information provided in dictator games can significantly impact allocations (e.g., Brañas-Garza, 2005; Krupka and Weber, 2009). The *dictator with ultimatum instructions game* informs subjects that they will play either the dictator or ultimatum game and requires them to read instructions for both games. Two variants of this experiment are used. In one, following the instructions, subjects are simply informed that they will play the dictator game. In the other, subjects are also informed that they will play the dictator game but before playing it, are asked to record what they would have offered under the ultimatum procedure. The purpose of dictator experiments with ultimatum instructions and with hypothetical choice is to separate different possible framing effects from the effects of procedural choice.

Third, experiments examine the role of decision-avoidance. A person who grants voice in the DUC game may be acting out out of largesse, i.e., a concern for empowering another, or from a desire to lessen personal responsibility over the final allocation. Motivations for avoiding decisions are complex and varied (see Anderson, 2003, for a review). In the *dictator with role choice* game, a dictator game is played, but a player first decides who will serve in the role of dictator. The dictator with role choice game allows a player to transfer all decisions about the allocation to the other player, whereas the DUC game requires the player to offer an allocation regardless of the intial procedural choice. If players are primarily concerned with avoiding decisions, we should see even fewer players electing to be dictators here than in the DUC game.

Motivations. A common question in justice research is whether seemingly altrusitic individuals act from an innate sense of fairness, or a desire *not* to be associated with selfish acts. Lazear, Malmendier, and Weber (2009) and Dana, Cain, and Dawes (2006) find that subjects are less likely to be generous in dictator games if they can do so without the recipient being made aware of their actions. The authors interpret this finding as suggestive of some subjects driven by avoidance of negative implications rather than furtherance of positive ones. Playing the dictator game selfishly comes at a psychological cost which players wish to avoid. A similar examination can be applied to procedural altruism. Put simply, would subjects avoid empowering another player if that player would never know.

We introduce a *dictator/ultimatum choice with opt-out default* (DUC with opt-out) where a subject may either play the ultimatum game or opt-out and accept a default payment. In the first treatment, opting out implies that the proposer receives the enire $10 surplus and that no subject is recruited into the receiver role. Here, opting out may save one the costs of a subsequent selfish allocation, but may involve an additional psychological cost of depriving another player of voice. In a second treatment, opting out implies that the $10 is evenly shared between the proposer and receiver, though the receiver is not made aware of the source of these funds or how the amount was derived. This provides a way to enact gift another player funds, but nevertheless requires depriving that player of decision-making input. All treatments parallel and a re identical to the DUC with default game, except for the awareness of the recipient. If empowerment occurs due to avoidance of negative implications, differences between the two games should be observed. However, if provision of voice is an intrinsic drive, we may expect fewer subjects opting out in these games than in previous experiments cited above.

Student and online subjects in the dictator, ultimatum, and dictator/ultimatum choice game also completed surveys to help place the empirical results into a behavioral context. Surveys were administered after all decisions were made, and measured both strategic and fairness concerns, in line with common explanations for behavior in bargaining games. The specific suervey instruments and associated results are presented in Section IV.

A total of 1129 subjects participated in the experiments.[1] A summary of treatments and subject numbers is in Table 1. Initial online experiments were run in the Fall of 2007 and Spring of 2007. Additional online experiments and all experiments with student subjects were run in the Fall of 2008 and Spring of 2009.

Table 1. Summary of Experiments and Subject Numbers

	No. of Subjects	
Treatment	Students	Online
Dictator	90	110
Ultimatum	100	108
Dictator/Ultimatum Choice	104	108
Dictator/Ultimatum Choice with Default		
Default (proposer, receiver): \$10, \$0		40
\$8, \$2		40
\$5, \$5		40
\$8, \$8		40
Dictator with Ultimatum Instructions		
Instructions only		30
Instructions and hypothetical choice		30
Dictator with Role Choice		108
Dictator/Ultimatum Choice with Opt-Out Default		
Default (proposer, receiver): \$10, \$0 (not recruited)		39
\$8, \$2		40
\$5, \$5		50
\$8, \$8		52

[1] In addition, 29 online subjects who began the experiment were not included in the analysis. Some either chose not to complete the experiment or had technical trouble with their browsers which precluded completion. Additionally, as online experiments do not guarantee the same level of attentiveness as a laboratory environment, two controls are used in eLab studies. Subjects who show no variation in survey responses despite the presence of similar items both positively and negatively worded, and subjects who spend an unreasonably short amount of time on the experiment making even reading the instructions impossible, were dropped. Several subjects simply progress through the experiment at maximum speed with a majority of dropped subjects completing the instructions in fewer than six seconds.

III. Results

Dictator/Ultimatum Choice. In the dictator/ultimatum choice (DUC) game, the proposer decides between playing an ultimatum game and a dictator game. A sizable proportion of subjects selected the ultimatum game, empowering the receiver with the power to reject the offer. This was observed in 33 of 54 online subjects (61%) and 26 of 52 student subjects (50%). These two proportions are not significantly different (Fisher's exact test p=*0.*328).

Distributions of offers are presented in Figure 2. In the traditional ultimatum game, roughly half of proposers offer an even split, with no online subjects and four student subjects offering less than $1 to the receiver. In the dictator game, over 30% of all subjects offer zero and a majority keep at least 70% of the $10 for themselves.

Offers in the dictator/ultimatum choice games do not parallel offers in the traditional dictator game. The average offer in the traditional dictator game was 2.87 for online subjects and 2.66 for student subjects, while offers in the dictator/ultimatum choice game were closer to an even split (Table 2). These differences are significant in expectation and distribution (Table 3).

Table 2. Average offers by treatment and procedure choice.

Game	Average Offer (std. dev)	
	Students	Online
Dictator	2.66 (2.52)	2.87 (2.26)
Ultimatum	3.90 (1.81)	4.61 (1.59)
Dictator / Ultimatum Choice	4.16 (2.05)	4.81 (1.85)
Ultimatum	4.86 (1.05)	5.30 (1.47)
Dictator	3.46 (2.53)	4.05 (2.13)

Table 3. Test for equivalence of distributions of offers.
Each cell contains the p-value (two-tailed) for the Mann-Whitney rank-sum test, Kolmogorov-Smirnov test for equality of distributions, and t-test for equality of means for students (above) and online subjects (below).

	Dictator	Ultimatum
Ultimatum	0.010 / 0.001 / 0.006 0.000 / 0.000 / 0.000	
Dictator/Ultimatum Choice	0.003 / 0.004 / 0.002 0.000 / 0.000 / 0.000	0.354 / 0.494 / 0.501 0.614 / 0.997 / 0.534

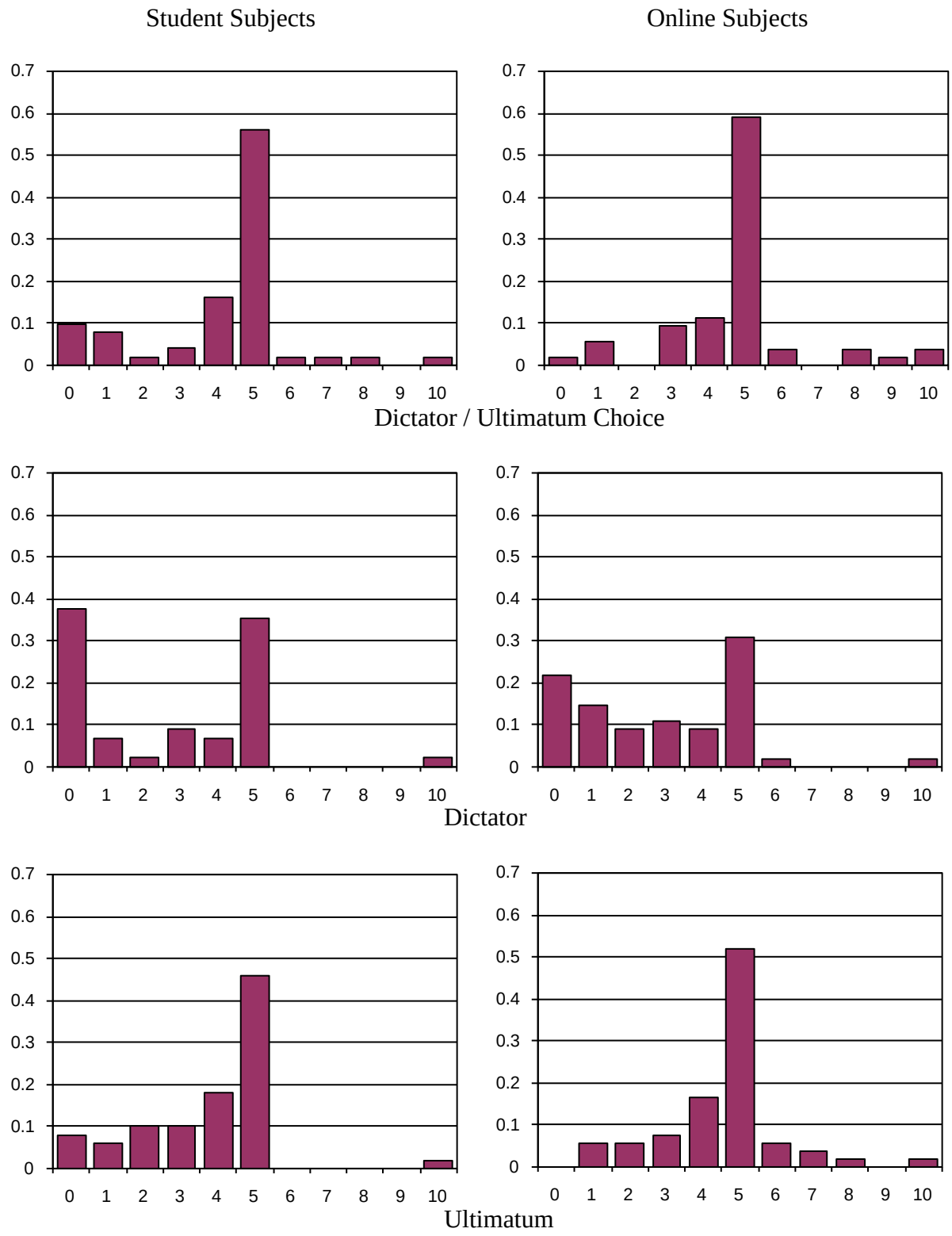

Figure 2. Distribution of offers by treatment.

One possible explanation for the results may be that players as a whole were not so much sensitive to process as there were two types of players: the "selfish" and the "altruistic." The selfish choose to be dictators when they can and keep most of the money for themselves. The altruistic send a significant share in the dictator game and, in the modified games, simply find a different way to express their altruism by providing the other palyer with voice. If true, what we see as procedural concerns may be simply altruism differently expressed. A test of this explanation would compare offers among those who *chose* to be dictators to offers in the dictator game where roles are randomly assigned. Table 2 shows that self-selected dictators give 3.46 and 4.05 on average in the dictator/ultimatum choice game, higher for both subject pools than the average offers of 2.66 and 2.87 in the dictator game. A more appropriate test of this explanation would compare the 21 online subjects and 26 student subjects who elected to be dictators with only the *lowest* 21 and 26 offers in the traditional dictator game, further magnifying the significance of the result (Mann-Whitney $p<0.001$).

Summarizing, many subjects often elect to empower the recipient with the ability to reject the offer, but even those who do not subsequently enact more equitable allocations than in baseline dictator games. Several explanations, apart from innate procedural concerns, may account for these findings. In the following three experiments, alternate explanations including (i) cold prickle, as opposed to warm glow, (ii) framing, and (iii) decision-avoidance, are examined in turn.

Dictator/Ultimatum Choice with default. The DUC with default game replaces the dictator subgame with a default allocation. Incorporation of a default allows the proposer to implement an allocation in a single a step. When the dictator allocation favored the proposer (either 10/0 or 8/2), slightly more than half chose the ultimatum game (Table 4). These subjects subsequently offered roughly half of the surplus, on average. Even when an equal split of the $10 was available as the default option, a significant portion (40%) elected to play the ultimatum game, and half of these offered precisely the even split. There is no significant difference between the proportions of subjects selecting the ultimatum game in the first three treatments (Fisher's exact test $p>0.172$).

Table 4. Dictator/Ultimatum Choice with default
The proposer chose between an ultimatum game with $10 of surplus and a default allocation (four treatments, *N=20* online subject pairs in each).

	Default Amounts		Proportion selecting	Average offers
	Proposer	Receiver	ultimatum game	in ultimatum game
(i)	10	0	55%	4.63
(ii)	8	2	60%	4.86
(iii)	5	5	40%	4.62
(iv)	8	8	10%	6.75

The fourth treatment examines the limits of enacting fair procedures. Here, the default option is $8 for each player, which implies that the ultimatum game is inefficient. All but two subjects elected to enact this default, which is significantly lower than the other three treatments (Fisher exact one-tailed p-value between 0.001 and 0.032). This treatment serves as a reality check on the other results; there is a limit to granting voice, especially when doing so leads to significant (equitable) efficiency loss.

Notably, the ability to enact a self-benefitting allocation through a single decision (rather than the two required in the DUC game) does not increase the proportion of subjects who do so.

Dictator with Ultimatum Instructions. Above, we saw higher offers from dictators in the DUC game than in the traditional dictator game. However, the games differed not only in procedure, but also in the exposure of DUC game subjects to instructions for the ultimatum game. The *dictator with ultimatum instructions* experiment places all proposers in the role of dictator, but only after reading instructions for both the dictator and ultimatum games. The instructions are identical to the DUC game except the references to a player choosing one of these procedures are replaced with a statement that one of these procedures will be enacted. In the baseline treatment, subjects read the instructions and proceed to the dictator game. In a second treatment, subjects read the instructions, are informed that they will be playing the dictator game, but then are asked to record what they would have done if the ultimatum game were selected. Table 5 summarizes the results, and compares to the online subject versions of the dictator, ultimatum, and dictator/ultimatum choice games.

Table 5. Framing effects. Average offers by treatment.

Game	Average Offer (std. dev)
Dictator	2.87 (2.26)
with Ultimatum Instructions	*3.20 (2.06)*
with Instructions & Hypothetical Choice	*3.77 (1.72)*
Ultimatum	4.61 (1.59)
Dictator / Ultimatum Choice	4.81 (1.85)

Presenting subjects with instructions on the ultimatum game does encourage higher offers, on average, in the dictator game. Asking subjects to make a hypothetical choice in an ultimatum game further increases dictator offers. Mann-Whitney rank-sum tests suggest that these incremental increases are not significant (one-tailed p-values of 0.242 and 0.130) though the dictator with instructions and hypothetical choice does yield significantly higher offers than the traditional dictator game (p=0.024). However, the hypothetical choice treatment still leads to lower offers than either the ultimatum game (p=0.038) or the dictaor/ultimatum choice game (p=0.014). Reviewing instructions for an ultimatum game prior to playing a dictator game can increase offers, but does not fully account for the higher offers in the DUC game.

Dictator with role choice: To examine if decision avoidance is responsible for subjects electing ultimatum in the DUC game, the dictator with role choice (DRC) game is introduced. Here, a dictator game will always be played, but one player first selects who the dictator will be. The DRC game allows a player to avoid input into the allocation entirely. If players primarily selected the ultimatum game in DUC to minimize their own responsibility over the outcome, then we should see an even greater frequency of subjects choosing not to be the dictator in DRC. We find that 31% of online subjects select for the other player to be the dictator, a significantly smaller percentage than those who select ultimatum rules in DUC (Fisher exact p=0.004), suggesting that decision-avoidance cannot explain observed behavior.

Dictator/Ultimatum Choice with Opt-Out Default. Finally, a game was introduced to examine the intrinsic versus social motivations for granting voice. The *dictator/ultimatum choice with opt-out default* (DUC with opt-out) game is similar to the DUC game with default, except selecting the default implies that the recipient is never made aware of the decisions made. In one treatment, opting out allows the subject to keep the entire surplus. In this case, no subject is even

recruited into the receiver role and the proposer knows this. Nevertheless, 56% of subjects elect not to opt out, thus playing the ultimatum game, which is almost identical to the 55% who played the ultimatum game in DUC with default, where accepting the default required the partner to be notified of the decision. In the other three treatments, some money does go to the recipient, so a subject is recruited, but the subject is merely told that they have been selected to receive a small cash payment. The proposer again is made aware of this, and we again observe no significant differences in procedural choice between the games with and without subject notification. Specifically, for the default allocations of 8/2, 5/5, and 8/8, respectively, 68%, 32%, and 16% of subjects select the ultimatum game in the opt-out experiments. In the DUC with default (but without opt out), these percentages were 60%, 40%, and 10%.

There are a number of potential explanations why subjects do not accept the default at a higher rate when recipients would not be notified of the decision. First, the costs of a selfish ultimatum offer may be offset by the costs of depriving another of voice, even if they will not know. Indeed, in the first treatment, subjects could receive the entire surplus from opting out, yet most still do not. This would suggest that voice is not merely a social convention but of inherent value. Second, anonymous online interaction may already imply great social distance and little social attachment (Bohnet and Frey, 1999). In this case, other experimental treatments may already be akin to "opting out" in the sense that subjects do not internalize the effect of their actions on another anonymous, remote subject. Yet regardless of the underlying motivations, we see significant portions of subjects consistently offering voice, even in very anonymous settings.

VI. Motivations.

A common interpretation of differences in offers between ultimatum and dictator games is that offers in ultimatum games reflect the additional strategic concern that an offer can be rejected. Thus, as the traditional argument goes, both dictator and ultimatum games reflect identical tastes for fairness, while ultimatum games reflect also the fear of rejection. Two survey instruments are employed to proxy for subjects' fairness orientation and strategic disposition.

First, a survey of justice orientation asks people to rate the importance of 13 personality traits (Brady and Wheeler, 1996). People are evaluated along two dimensions: formalism and utilitarianism, which reflect procedural and distributive concerns, respectively. Formalists assess the ethics of a situation based on its conformance to accepted rules while utilitarians evaluate

situations based on their outcomes. The survey instrument presupposes that someone concerned with procedural fairness would be more likely to value honesty, while a consequentialist should prefer effectiveness.[2]

Second, a Machiavellianism survey consists of 20 questions measuring willingness to manipulate others (Christie and Geis, 1970; Fehr, Samsom, and Paulhus, 1992). The survey has been linked to behavior in ultimatum and trust games (Gunnthorsdottir, McCabe, and Smith, 2002; Burks, Carpenter, and Verhoogen, 2003) and in the workplace (Bowles, Gintis, and Osborne, 2001).[3] The survey serves as a proxy of the strategic motivations for non-negligible offers in the ultimatum game. Two components of the scale are used.[4] Correlations are presented in the appendix.

We hypothesize that actions rooted in altruism should be related to a person's natural disposition towards justice, whether procedural or distributive. Analogously, offers rooted in strategic concerns should be more common among those who are predisposed to think in Machiavellian terms. High schores on the Machiavellianism scale show a propensity toward manipulative tactics: it is not that such subjects are unlikely to act justly towards others, but they will do so primarily when it is likely to benefit them.

For the dictator/ultimatum choice game, an endogenous switching model (Maddala, 1983) was estimated using full-information maximum likelihood and robust standard errors (Lokshin and Sajaia, 2004). This allows for the simultaneous estimation of proposers' choice of procedure and subsequent offers.[5] Overall, the results indicate that high formalists elect the ultimatum game, while low formalists do not (Table 6). Utilitarian drives do not impact the choice of game. However, high utilitarians give higher offers in the ultimatum game once selected. The Machiavellianism components are not significant in the offer amount regressions, either independently or in addition to the justice attitudes. Further, a dummy variable for the

[2] Two components were extracted (eigenvalues 4.40, 2.44) with precisely the predicted pattern (varimax rotation, purity criterion of .60/.40). Cronbach's α for the scales (.74 for formalism, .85 for utilitarianism) are nearly identical to those indicated by Brady and Wheeler (1996).

[3] Other examples of personality assessments in bargaining games include Ben-Ner, Putterman, Kong, Magan (2004) use the NEO five factor inventory, and Brandstatter and Güth (2000), who found "benevolence" correlated with offers and "social reciprocity" with recipient expectations.

[4] The two components are sometimes called "beliefs" and "actions" or the less neutral "cynicism" and "tactics," though these are reflective of the whether the questions probe perceptions or proclivities, and not the components' correlations with propensity to act in a self-serving manner. We adopt the neutral titles "Mach I" and "Mach II."

[5] The correlation coefficients and likelihood ratio test for independent equations do not allow us to reject the hypothesis that the equations are independent ($\chi^2 = 0.46$, $p = 0.499$). Indeed, separate analysis using probit for procedural game choice and OLS for offer amount within each subsample produce identical patterns of significance.

Table 6. Switching regression for game choice and offer amount for each choice. ** significant at 1%. *significant at 5%. Standard errors in parentheses. ρ is the coefficient of correlation between errors in amount equations and selection equation. N=106.

	Offer Amount		Game Choice
	Dictator	Ultimatum	(Game = Ultimatum)
Formalism	0.604	0.122	0.928**
	(0.699)	(0.439)	(0.216)
Utilitarianism	1.402**	0.116	-0.092
	(0.334)	(0.210)	(0.151)
Mach I			0.009
			(0.188)
Mach II			0.244
			(0.263)
Constant	-6.732*	3.915	-6.026**
	(3.011)	(3.176)	(1.941)
ρ	0.556	-0.333	
	(0.456)	(0.431)	

sample population (student versus online) was tested, but is not significant. This indicates that differences in actions between the subject pools are captured by differences in attitudes reflected by the surveys.

The fairness hypothesis presumes that both dictator and ultimatum games elicit similar fairness concerns, with the ultimatum game embodying additional strategic concerns. The above suggests that at least two justice attitudes may influence behavior, so that "fairness" is not a unidimensional notion. Regressing survey results on offers in dictator and ultimatum games shows that offers in the two games are driven by different conceptions of justice (Table 7).

The first two columns reflect only the impact of justice orientation on offers, the second two only the impact of Machiavellianism, and the final two columns combine both sets of measures. Offers in the ultimatum game appear both altruistic and strategic. Utilitarianism leads to higher offers in the ultimatum game, as does a component of Machiavellianism. However, offers in the dictator game do not reflect any such distributional concerns. Higher offers are the result of a formalist orientation; utilitarian concerns seem to be entirely absent from the dictator game. Perhaps a dictator offers higher rewards not to be distributionally fair but to compensate

Table 7. Regression of amount sent on justice orientation.
** significant at 1%. * significant at 5%. Standard errors in parentheses.

	Justice		Machiavellianism		Both	
	Ultimatum	Dictator	Ultimatum	Dictator	Ultimatum	Dictator
Formalism	0.157	1.487**			0.229	1.284**
	(0.219)	(0.316)			(0.223)	(0.336)
Utilitarianism	0.734**	-0.405			0.687**	-0.446
	(0.194)	(0.269)			(0.193)	(0.269)
Mach I			-0.244	-0.697*	-0.127	-0.416
			(0.212)	(0.280)	(0.200)	(0.279)
Mach II			0.612*	-0.304	0.564*	-0.150
			(0.270)	(0.356)	(0.253)	(0.338)
Constant	-0.655	-4.339*	2.942*	5.983**	-2.367	-1.023
	(1.419)	(1.909)	(0.898)	(1.240)	(1.780)	(2.778)

for the unfair role that the recipient in a dictator game assumes. Subject panel dummies introduced into the six regressions above are never significant at 10% and do not offer any explanatory improvement (Wald $p>0.1$). Again, this suggests that differences in behavior across subject pools reflect differences in attitudes, captured by the surveys.

To better visualize the different motivations at work in dictator and ultimatum games, subjects were divided into low and high formalists as well as low and high utilitarians (based on median splits on these scales). Average offers in the ultimatum game and dictator game are represented in Table 8. In the dictator game, utilitarian attitudes have little impact while formalists offer consistently more. In the ultimatum game, the opposite effect is observed. This finding calls into question the appropriateness of the dictator game as a control for performance in the ultimatum game.

Table 8. Average offers by justice orientation (median split)

	Low utilitarian	High utilitarian
Low formalist	1.79	1.61
High formalist	3.80	4.02

Dictator Game

	Low utilitarian	High Utilitarian
Low formalist	3.65	4.74
High formalist	3.79	4.89

Ultimatum Game

V. Conclusion

Economists have generally attributed non-zero offers in dictator games to an inherent taste for fairness. To reconcile the different amounts offered in dictator and ultimatum games, the incrementally higher ultimatum offers have been attributed to strategic concerns. Even if one cares only about maximizing one's own payment, it is optimal to offer a nonnegligible amount to maximize the chance of its acceptance. The present study suggests that these higher amounts may also partly be due to a taste for fairness, if definition of fairness is expanded to encompass procedural as well distributive justice.

We find subjects often elect to empower other players to share in the decision-making, despite a loss of control over the final allocation. This may indicate an inherent taste for procedural justice. Second, a player in the role of a dictator, given sole discretion over the allocation of a fixed sum of money, selects different allocations when the player in the role of dictator is chosen by the experimenter than when that role choice is endogenous to the game. Even those players who appoint themselves dictator are more equitable in allocation than players put randomly in the dictator role. Embedding identical distributive choices within different procedures significantly changes the final allocation.

In this research, new games that are strategically equivalent to dictator games yield distributive outcomes much closer to the ultimatum game than to the traditional dictator game. Neither the rational actor paradigm nor a sense of distributive justice alone can explain these results, as in both new games, one player could have had full control over the final outcome.

Naturally, these results are likely to be context-specific. A myriad of experiments have demonstrated that distributive preferences depend on the framing of the decision, the amounts of money involved, anonimity of subjects, and a host of other factors. It would not be surprising if procedural justice were to prove equally multi-faceted. The experiments considered here are intended to be a step in the direction of testing of the role of procedure justice, particularly the element of "voice," in bargaining experiments.

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Appendix

Summary statistics for experimental subjects

		Online	MBAs	Undergraduates
Age:	mean	38.5		
Sex:	female	54%	27%	45%
Location:				
	United States:	45%		
	Canada:	21%		
	Australia:	8%		
	India:	4%		
	(30 other countries)			
Education:				
	High school or less:	21%		
	Some college:	29%		
	College:	31%		
	Some post grad:	19%		

Correlation of survey scale items

	Formalism	Utilitarianism	Mach I
Formalism	---		
Utilitarianism	.347*	---	
Mach I	-.339*	-.149*	---
Mach II	-.236*	-.069	.379*

* Denotes significance at 1%. Other items are not significant at 10%. N=310.

Subject Instructions: Dictator Game, Online Panel

Instructions Screen:
The purpose of this session is to study how people make decisions. If you follow the instructions and make careful decisions, you may earn money for your participation.

In this session, you will be randomly paired with another person from the eLab panel and you will each make decisions. You will never be informed of the identity of this person, either during or after the experiment, and this person will never be told who you are. The amount of money that you earn may depend both on the decisions you make and the decisions that the person you are paired with makes. No other participant will be told the amount of money that you have made. Both you and the person you are paired with are reading the same set of instructions.

A sum of $10 can be divided between you and the other person. The procedure used to decide how this money is divided is explained below.

Procedure
In this decision-making situation, there are two roles. You will either be in the role of the *"sender"* or in the role of the *"receiver."*

The sender must decide how much of the **$10** dollars to give to the receiver.

For example, say that the sender decides to give X dollars out of the $10 to the receiver. Then the sender will be paid $10-X and the receiver will be paid X.

Assignment of Roles
Roles are chosen randomly. One of you, either you or the person with whom you are paired, will be selected randomly to be in the role of sender, and the other will be in the role of receiver.

Once these roles have been chosen, the sender will decide how much to give to the other person. You will participate in this decision only one time. After these decisions are made, you will fill out a short survey. After the survey, this session will conclude. When you are finished with these instructions and are ready to proceed, click on the "Proceed" button below.

Role Assignment Screen (sender):
You are the sender. You have been randomly assigned the role of the sender and the other person has been assigned the role of the receiver. On the next screen, you will decide how much of the available amount, $10, to give to the receiver. The money will be divided as specified by you. The other person will receive what you have chosen to give, and you will receive the rest.

Role Assignment Screen (receiver):
You are the receiver. You have been randomly assigned the role of the receiver and the other person has been assigned the role of the sender. The other person will decide how much of the $10 to give to you.

Decision Screen (sender):
You are the sender. You should indicate how much of the available amount, $10, to give to the receiver. The money will be divided as specified by you. The other person will receive what you have chosen to give, and you will receive the rest.

For example, say that you decide to give X dollars out of the $10 to the receiver. Then you will be paid $10-X and the receiver will be paid X.

What amount of the $10 do you choose to give to the receiver?
I give the receiver: [[Input dollar amount]] [[Confirmation dialog]]

Confirmation Screen (sender):
You have chosen $X.xx. Next, you will complete a survey.

Confirmation Screen (receiver):
After the conclusion of the experiment, you will be notified of the decision of the other player, and the resulting payment. Next, you will complete a survey.

Subject Instructions: Ultimatum Game, Online Panel

Instructions Screen:
The purpose of this session is to study how people make decisions. If you follow the instructions and make careful decisions, you may earn money for your participation.

In this session, you will be randomly paired with another person from the eLab panel and you will each make decisions. You will never be informed of the identity of this person, either during or after the experiment, and this person will never be told who you are. The amount of money that you earn may depend both on the decisions you make and the decisions that the person you are paired with makes. No other participant will be told the amount of money that you have made. Both you and the person you are paired with are reading the same set of instructions.

A sum of $10 can be divided between you and the other person. The procedure used to decide how this money is divided is explained below.

Procedure
In this decision-making situation, there are two roles. You will either be in the role of the *"sender"* or in the role of the *"receiver."*

The sender must decide how much of the **$10** dollars to offer the receiver. The receiver must decide whether to accept or reject the sender's offer by indicating the smallest amount that the receiver is willing to accept. If the receiver accepts the offer, then the receiver gets a payoff equal to the offer and the sender gets a payoff equal to $10 minus the offer. If the receiver rejects the offer, then **both the sender and the receiver** get zero dollars. The specific procedure is as follows:

- *Sender's decision.*
  The sender decides how much of the available amount, $10, to offer the receiver.
- *Receiver's decision.*
  The receiver decides on *the smallest amount* that the receiver is willing to accept.
- *The division will be determined.*
  If the amount offered by the sender is at least as large as the smallest amount the receiver is willing to accept, then the amount of money will be divided as specified by the sender. If the amount offered by the sender is less than the smallest amount the receiver is willing to accept, then both of you earn zero.

For example, say that the sender decides to offer X dollars out of the $10, and the smallest amount that the receiver is willing to accept is Y.

If $X \geq Y$ (if X is at least as big as Y), then the sender gets paid 10-X dollars, and the receiver gets paid X dollars
If $X < Y$ (if X is less than Y), then both the sender and receiver get paid zero.

Assignment of Roles
Roles are chosen randomly. One of you, either you or the person with whom you are paired, will be selected randomly to be in the role of sender, and the other will be in the role of receiver.

Once these roles have been chosen, the sender will decide how much to offer the receiver and the receiver will decide on the smallest amount that the receiver is willing to accept. You will participate in this decision only one time. After these decisions are made, you will fill out a short survey. After the survey, this session will conclude.

When you are finished with these instructions and are ready to proceed, click on the "Proceed" button below.

Role Assignment Screen (sender):
You are the sender. You have been randomly assigned the role of the sender and the other person has been assigned the role of the receiver. On the next screen, you will decide how much of the available amount, $10, to offer the receiver. The receiver will decide the smallest amount that the receiver is willing to accept.

Role Assignment Screen (receiver):
You are the receiver. You have been randomly assigned the role of the receiver and the other person has been assigned the role of the sender. The other person will decide how much of the available amount, $10, to offer to you. On the next screen, you will indicate *the smallest amount* that you are willing to accept.

Decision Screen (sender):
You are the sender. You should indicate how much of the available amount, $10, to offer the receiver. The receiver will decide the smallest amount that the receiver is willing to accept. If your offer is at least as large as the amount chosen by the receiver, then the money will be divided as you specified. If your offer is less than this amount, then **both of you** earn zero.

For example, say you decide to offer X dollars out of the $10, and the smallest amount that the receiver is willing to accept is Y:

If X ≥ Y (if X is at least as big as Y), then you get paid 10-X dollars, and the receiver gets paid X dollars
If X < Y (if X is less than Y), then both you and the receiver get paid zero.

What amount of the $10 do you choose to offer the receiver?
I offer the receiver: [[Input dollar amount]] [[Confirmation dialog]]

Decision Screen (receiver):
You are the receiver. The sender will decide on the amount to offer you. You should indicate the smallest amount of the $10 that you are willing to accept. If the offer by the sender is at least as large as this amount, then the money will be divided as specified by the sender. If the sender's offer is less than this amount, then **both of you** earn zero.

For example, say the sender decides to offer you X dollars out of the $10, and the smallest amount that you are willing to accept is Y:

If X ≥ Y (if X is at least as big as Y), then the sender gets paid 10-X dollars, and you get paid X dollars
If X < Y (if X is less than Y), then both the sender and you get paid zero.

What is the smallest amount of the $10 that you are willing to accept?
The smallest amount I am willing to accept is: [[Input dollar amount]] [[Confirmation dialog]]

Confirmation Screen:
You have chosen $X.xx. After the conclusion of the experiment, you will be notified of the decision of the other player, and the resulting payment. Next, you will complete a survey.

Subject Instructions: Dictator/Ultimatum Choice Game, Online Panel

Instructions Screen:
The purpose of this session is to study how people make decisions. If you follow the instructions and make careful decisions, you may earn money for your participation.

In this session, you will be randomly paired with another person from the eLab panel and you will each make decisions. You will never be informed of the identity of this person, either during or after the experiment, and this person will never be told who you are. The amount of money that you earn may depend both on the decisions you make and the decisions that the person you are paired with makes. No other participant will be told the amount of money that you have made. Both you and the person you are paired with are reading the same set of instructions.

A sum of $10 can be divided between you and the other person. The procedure used to decide how this money is divided is explained below.

Procedure
In this decision-making situation, there are two roles. You will either be in the role of the *"sender"* or in the role of the *"receiver."*

The sender has two decisions to make. The sender must decide on an offer – how much of the **$10** dollars to offer the receiver – and the sender must decide whether or not the receiver will have the power to reject the offer.

If the receiver is not given the power to reject the offer, the receiver simply keeps whatever amount the sender gives. The sender keeps the rest. If the receiver is given the power to reject the offer, then the receiver must decide whether to accept or reject the sender's offer by indicating the smallest amount that the receiver is willing to accept. If the receiver accepts the offer, then the receiver gets a payoff equal to the offer and the sender gets a payoff equal to $10 minus the offer. If the receiver rejects the offer, then **both the sender and the receiver** get zero dollars. The specific procedure is as follows:

- *Sender's decision.*
  The sender first decides either to give the receiver the power to reject the offer or not to give the receiver the power to reject the offer. Next, the sender decides how much of the available amount, $10, to offer the receiver.
- *Receiver's decision.*
  Only if the receiver is given the power to reject the offer, the receiver decides on *the smallest amount* that the receiver is willing to accept.
- *The division will be determined.*
  If the sender **does not give** the receiver the power to reject the offer, then the amount of money will be divided as specified by the sender.

  For example, say that the sender decides to give X dollars out of the $10 to the receiver. Then the sender will be paid $10-X and the receiver will be paid X.

  If the sender **does give** the receiver the power to reject the offer, then the sender's offer is compared to the smallest amount that the receiver is willing to accept. If the amount offered by the sender is at least as large as the smallest amount the receiver is willing to accept, then the amount of money will be divided as specified by the sender. If the amount offered by the sender is less than the smallest amount the receiver is willing to accept, then both of you earn zero.

  For example, say that the sender decides to offer X dollars out of the $10, and the smallest amount that the receiver is willing to accept is Y.
  If $X \geq Y$ (if X is at least as big as Y), then the sender gets paid 10-X dollars, and the receiver gets paid X dollars
  If $X < Y$ (if X is less than Y), then both the sender and receiver get paid zero.

Assignment of Roles
This explains how the roles of sender and receiver will be determined.

One of you, either you or the person with whom you are paired, will be selected randomly to be in the role of sender, and the other will be in the role of receiver.

If you are in the role of sender, then on the next screen you will see the message:

"You may choose whether or not the receiver will have the power to reject your offer" followed by a summary of these instructions.

If you are in the role of the receiver, then you will be informed that "The other person was given a choice whether or not to allow you to reject the offer." You will also be told what decision the other person made with one of the following messages:
"The other person has chosen **to give** you the power to reject the offer, meaning that you may decide on the smallest amount that you are willing to accept."
Or
"The other person has chosen **not to give** you the power to reject the offer, meaning that you may not decide whether or not to accept the amount you are given."

Once these roles have been chosen, the sender will decide how much to offer the receiver and whether or not to give the receiver the power to reject the offer. You will participate in this decision only one time. After these decisions are made, you will fill out a short survey. After the survey, this session will conclude.

When you are finished with these instructions and are ready to proceed, click on the "Proceed" button below.

Role Assignment Screen (sender):
You are the sender. You have been randomly assigned the role of the sender and the other person has been assigned the role of the receiver. You may choose whether or not the receiver will have the power to reject your offer. After this, you will decide how much of the $10 to offer the other person.

*If you choose **to give** the other person the power to reject the offer, then:*
On the next screen, you will decide how much of the available amount, $10, to offer the receiver. The receiver will decide the smallest amount that the receiver is willing to accept. If your offer is at least as large as the amount chosen by the receiver, then the money will be divided as you specified. If your offer is less than this amount, then both of you earn zero.

*If you choose **not to give** the other person the power to reject the offer, then:*
On the next screen, you will decide how much of the available amount, $10, to give to the receiver. The amount of money will be divided as specified by you. The other person will receive what you have chosen to give, and you will receive the rest.

I choose: [[BUTTONS: "TO GIVE" / "NOT TO GIVE"]] the other person the power to reject the offer.
[[Confirmation dialog]]

Role Assignment Screen (Receiver - give):
You are the receiver. You have been randomly assigned the role of the receiver and the other person has been assigned the role of the sender. The other person was given a choice whether or not to allow you to reject the offer. The other person has chosen **to give** you the power to reject the offer, meaning that you may decide on the smallest amount that you are willing to accept.

The other person will decide how much of the available amount, $10, to offer to you. On the next screen, you will indicate *the smallest amount* that you are willing to accept. If the amount you are offered is at least as large as the smallest amount that you are willing to accept, then the amount of money will be divided as specified by the other person. You will receive what was offered, and the sender will receive the rest. If the amount offered to you is less than the smallest amount that you were willing to accept, then **both of you** earn zero.

Role Assignment Screen (Receiver – not give):
You are the receiver. You have been randomly assigned the role of the receiver and the other person has been assigned the role of the sender. The other person was given a choice whether or not to allow you to reject the offer. The other person has chosen **not to give** you the power to reject the offer, meaning that you may not decide whether or not to accept the amount you are given.

The other person will decide how much of the $10 to give to you.

Decision Screen (Sender – give):
You are the sender. You have chosen to give the receiver the power to reject the offer. You should indicate how much of the available amount, $10, to offer the receiver. The receiver will decide the smallest amount that the receiver is willing to

accept. If your offer is at least as large as the amount chosen by the receiver, then the money will be divided as you specified. If your offer is less than this amount, then **both of you** earn zero.
For example, say you decide to offer X dollars out of the $10, and the smallest amount that the receiver is willing to accept is Y:

If X ≥ Y (if X is at least as big as Y), then you get paid 10-X dollars, and the receiver gets paid X dollars
If X < Y (if X is less than Y), then both you and the receiver get paid zero.

What amount of the $10 do you choose to offer the receiver?
I offer the receiver: [[Input dollar amount]] [[Confirmation dialog]]

Decision Screen (Sender – not give):
You are the sender. You have chosen not to give the receiver the power to reject the offer. You should indicate how much of the available amount, $10, to give to the receiver. The money will be divided as specified by you. The other person will receive what you have chosen to give, and you will receive the rest.

For example, say that you decide to give X dollars out of the $10 to the receiver. Then you will be paid $10-X and the receiver will be paid X.

What amount of the $10 do you choose to give to the receiver?
I give the receiver: [[Input dollar amount]] [[Confirmation dialog]]

Decision Screen (Receiver – give):
You are the receiver. The sender will decide on the amount to offer you. You should indicate the smallest amount of the $10 that you are willing to accept. If the offer by the sender is at least as large as this amount, then the money will be divided as specified by the sender. If the sender's offer is less than this amount, then **both of you** earn zero.

For example, say the sender decides to offer you X dollars out of the $10, and the smallest amount that you are willing to accept is Y:

If X ≥ Y (if X is at least as big as Y), then the sender gets paid 10-X dollars, and you get paid X dollars
If X < Y (if X is less than Y), then both the sender and you get paid zero.

What is the smallest amount of the $10 that you are willing to accept?
The smallest amount I am willing to accept is: [[Input dollar amount]] [[Confirmation dialog]]

Confirmation Screen (sender - give):
You have chosen $X.xx. After the conclusion of the experiment, you will be notified of the decision of the other player, and the resulting payment. Next, you will complete a survey.

Confirmation Screen (sender – not give):
You have chosen $X.xx. Next, you will complete a survey.

Confirmation Screen (receiver - give):
You have chosen $X.xx. After the conclusion of the experiment, you will be notified of the decision of the other player, and the resulting payment. Next, you will complete a survey.

Confirmation Screen (receiver – not give):
After the conclusion of the experiment, you will be notified of the decision of the other player, and the resulting payment. Next, you will complete a survey.

Complete protocols for all seven games for both online and lab subject pools are available from the author.