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著者	FUKUNO Mitsuteru, OHBUCHI Ken-ichi
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Procedural and Distributive Fairness in Rejection of Unequal Offers

FUKUNO MITSUTERU (福野光輝)¹

(Research Fellow of the Japan Society for the Promotion of Science)

and OHBUCHI KEN-ICHI (大渊憲一)¹

(Tohoku University)

In this study, 101 Japanese students received the three kinds of offers: favorable but unequal, unfavorable and unequal, and equal offers which were made by either the other participant or a computer roulette. They perceived the unfavorable unequal offer as the most unfair and rejected it most among the offers, suggesting that their reactions were determined by both self-interest and fairness concerns. The observed difference between acceptance of intentional and random offers suggested that the fairness judgment was made based on evaluation of outcome and that of procedure.

Key words: ultimatum bargaining, procedural fairness, distributive fairness

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Negotiation researchers have generally assumed that participants in negotiation are rational, that is, they are primarily motivated by their self-interest and try to choose the best alternative to maximize it (e.g., Dixit & Nelebuff, 1991). However, this self-interest assumption has been questioned by a number of empirical findings, which are typically found in experimental studies using a ultimatum bargaining game (Güth, Schmittberger, & Schwarze, 1982; Kahnemann, Knetsch, Thaler, 1986; Straub & Murnighan, 1995). In this game, an allotment of money is granted to be divided between two parties if certain conditions are met. One of the parties, offerer, is given the total allotment initially and is then expected to offer the other party a portion of the allotment. If the other party, respondent, accepts the offer, both parties obtain the entire allotment divided between them based on the terms of the offer. But if the other party rejects the offer, neither of them obtains any of the allotment. Since respondents in this situation are able to gain profit only when they accept offers, the self-interest assumption predicts that respondents will accept offers no matter how unequal they are. However, empirical research has demonstrated that respondents very frequently reject unequal offers (e.g., Güth et al., 1982).

A convincing interpretation has been forwarded in several studies (e.g., Murnighan & Pillutla, 1995; Thaler, 1988) that respondents perceive unequal offers as unfair. It is based on the assumption held by justice researchers that people evaluate or respond to bargaining situation

1. Department of Psychology, Faculty of Arts and Letters, Tohoku University, Kawauchi, Aoba-ku, Sendai, Miyagi prefecture, 980-8576, Japan

such as distribution of resources and their consequences in terms of fairness (e.g., Tyler, Boeckmann, Smith, & Huo, 1997). When respondents perceive unequal offers as unfair, they are motivated to restore fairness. Rejection of an unequal offer means no profit for both parties, but it makes the situation even for both parties. Therefore, it is reasonable to interpret rejection of unequal offers by respondents as motivated by a concern for fairness. Researchers have distinguished procedural and distributive fairness (Lind & Tyler, 1988; Thibaut & Walker, 1975). However, there are no studies clarifying how influential these two types of fairness judgments are in respondents' reactions to the ultimatum bargaining situations. The purpose of the present study was to examine this issue.

Why do respondents perceive unequal offers as unfair even though allocators are originally acknowledged freedom to allocate money? Justice researchers have found that people judge fairness in a bargaining situation in both its procedure and outcome (Lind & Tyler, 1988; Thibaut & Walker, 1975). Regarding outcome, people judge it unfair if it does not meet what they believe they deserve (Adams, 1965; Lerner, 1981). In ultimatum bargaining situations, money is allotted to both parties independently of their contribution, so they may feel equally entitled to the resources i.e., each of them deserves half of the amount. Therefore, respondents may perceive unequal offers as unfair.

From the procedural perspective, respondents sometimes perceive that offerers are not neutral. When respondents perceive that the allocation process is biased by offerers' self-interest, they may judge the offers unfair independently of unequalness of the offers. Changing the procedures of the bargaining so that offers were randomly made by a computer, Blount (1995) found that respondents accepted unequal offers more frequently than when participants made the offers. In the random allocation every participant is given an equal chance to get a large amount of resources. Hence, unequal offers may be perceived as fair based on the procedure.

In Kramer, Shar and Woerner's (1995) study on the effects of the offerers' intentions on respondents' reactions, participants received final offers which were made by adding an extra amount of money to what offerers initially proposed. The extra amount was randomly decided within a range from -100% to +100%. Subjects' reactions to the offers were determined by the offerers' initial offers more than by the final offers, that is, they rejected the final equal offers if the initial offers were unequally small and accepted the final unequally small offers if the initial offers were equal. This finding suggests that respondents were influenced by their ascriptions of the offerers' initial intentions rather than the equality of the outcome.

Based on the above discussion, we predicted that respondents judge fairness of offers in ultimatum bargaining in terms of both outcome and procedure. Randomly made unequal offers may be seen by respondents as unfair in a distributive sense but fair in a procedural sense, while intentional unequal offers by offerers are regarded as unfair in both distributive and procedural senses. Therefore, we predicted that both intentional and random unequal offers would be rated by respondents as unfair (*Hypothesis 1*), but that intentional unequal offers will be rated as even more unfair than random unequal offers (*Hypothesis 2*). Furthermore, respondents will reject intentional unequal offers more frequently than random unequal offers (*Hypothesis 3*).

Early justice researchers postulated that the perceptions of fairness were not influenced by

favorability of outcomes (Adams, 1965), but empirical findings show that people perceive favorable outcomes as more fair than unfavorable ones (Diekmann, Samuels, Ross, & Bazerman, 1997). Therefore, we predicted that respondents would rate favorable unequal offers as higher in distributive fairness than unfavorable unequal ones (*Hypothesis 4*). Walker, LaTour, Lind & Thibaut (1974) found that people perceive procedures used to resolve conflicts as more fair when they obtained favorable outcomes. Therefore, we predicted that respondents would rate favorable unequal offers as higher in procedural fairness than unfavorable unequal offers (*Hypothesis 5*). Based on the assumption that fairness judgment influences reactions to offers, finally, we predicted that respondents would accept favorable unequal offers more frequently than unfavorable unequal ones (*Hypothesis 6*).

Method

Participants.

A hundred and one Japanese university students (42 men and 59 women) participated in the scenario study as one of their requirements in an introductory psychology course.

Procedures.

The design of the study contained two between-participant variables: intentionality of offer (intentional or random) and offer sizes (favorable unequal, equal, or unfavorable unequal). We randomly assigned the participants into one of the six conditions, and gave them a packet consisting of 3 pages. On the 1st page we instructed each participant to assume that he or she were negotiating with another student, with whom he or she was not acquainted, to allocate a certain amount of money between them. We emphasized that only when they reached an agreement in this ultimatum bargaining both of them could obtain profits. On the 2nd page, we explained the rules. The total amount of money allotted was 2,000 Japanese Yen (approximately 16 US dollars). In the intentional offer scenario, we told the participants that the one of the participants was the offerer, who was able to freely divide the money however he or she liked and would make an offer to the other participant, the respondent. In the random offer scenario, we also told the participants that one of them was an offerer, but the amount offered was randomly decided, that is, the offerer must divide the money according to the result of computer roulette. In both scenarios, all the participants were assigned the respondent role, and free to either accept or reject the offer. If they accepted it, both of the players would obtain the accorded allotment, but if they rejected it, neither of them would obtain anything.

On the 3rd page, we informed the participants that the offer was either 200 Yen, 1,000 Yen, or 1,800 Yen, and told them that they had a choice of accepting or rejecting the offer. We attempted to measure the perceived fairness of the offer. In order to measure perceived distributive fairness, we asked the participants to judge how fair the offer itself was by rating on a 7-point scale ranging from *Not at all* (1) to *Absolutely fair* (7). To measure perceived procedural fairness, we asked them to judge how neutral the offerer was in the offer made by rating on a 7-point scale ranging from *Not at all* (1) to *Absolutely neutral* (7).

Results

We analyzed the perceived distributive fairness of offers by ANOVA using intentionality of offers and the offer size as independent variables. All the effects were significant: intentionality, $F(1, 95) = 11.08, p < .01$; offer size, $F(2, 95) = 84.82, p < .01$; and the interaction, $F(2, 95) = 8.86, p < .01$. Figure 1 shows that the participants rated the 1,000 Yen offer as higher in distributive fairness ($M = 6.25$) than the other offers ($p < .01$), with no significant difference between the 200 Yen offer ($M = 2.32$) and the 1800 Yen offer ($M = 2.16$). The effect of intentionality was significant only for the 200 Yen offer, $F(1, 99) = 37.63, p < .01$: the participants rated this offer as higher in distributive fairness when it was made by a roulette than when it was made by the other participant.

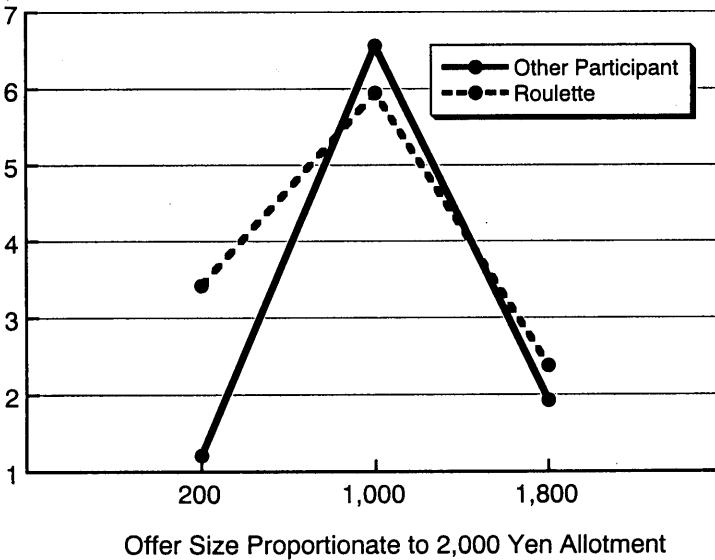
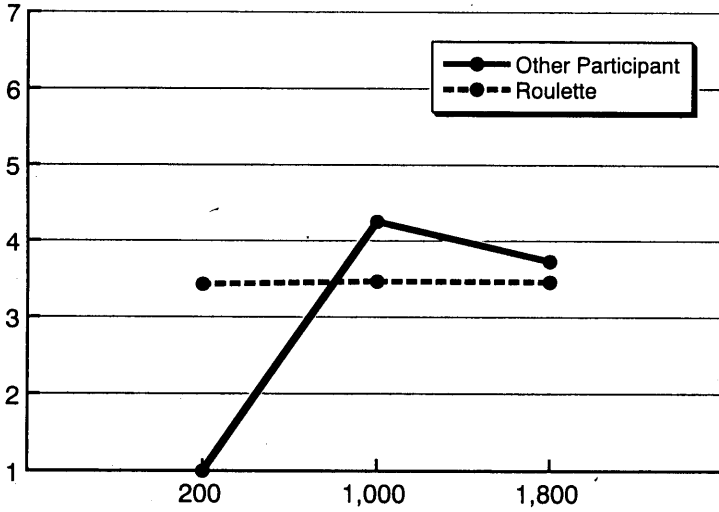


Figure 1. Distributive fairness of offer.

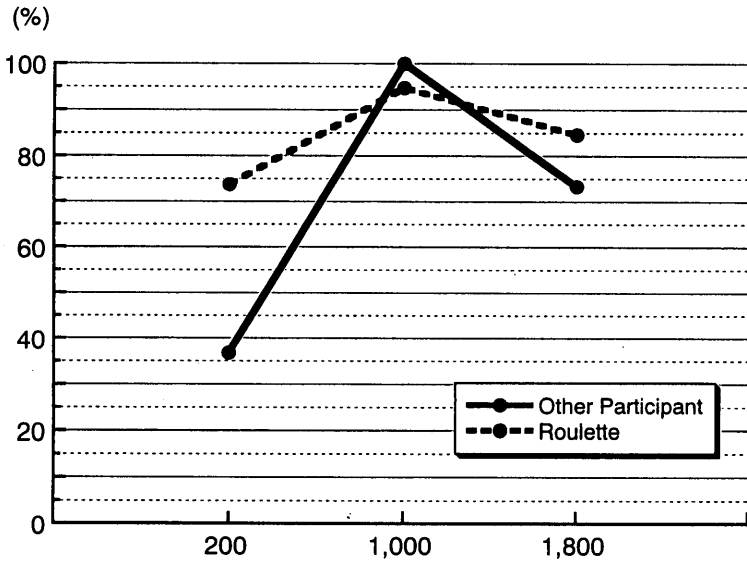
In ANOVA of perceived procedural fairness the main effect of offer size was significant, $F(2, 95) = 10.41, p < .01$, but its significant interaction with intentionality, $F(2, 95) = 10.09, p < .01$, means that the effect of offer size on the perceived neutrality was significant only in the intentional offer scenario, $F(2, 98) = 21.39, p < .01$, but not in the roulette offer scenario, $F(2, 98) < 1$. Figure 2 shows that the participants rated the method of allocation as less neutral when the offerer made the 200 Yen offer than when the offerer made either the 1000 Yen or 1800 Yen offers ($p < .01$), with no significant difference between the latter two offers. Further, the participants rated the offerer who intentionally made the 200 Yen offer as less neutral than those who made the 200 Yen offer based on the roulette ($p < .01$).



Offer Size Proportionate to 2,000 Yen Allotment

Figure 2. Perceived procedural fairness of offerer.

In the loglinear analysis of response category (acceptance or rejection) x intentionality x offer size, parameters of response category x offer size were significant ($p < .05$). As Figure 3 shows,



Offer Size Proportionate to 2,000 Yen Allotment

Figure 3. Percent of respondents who accepted offer.

it means that the participants accepted the 200 Yen offer (55.3%) less frequently than either 1,000 Yen (97.1%) or 1,800 Yen offers (78.6%). Although parameters of response category \times offer size \times intentionality were not significant, we examined differences in acceptance of each of three offers between the intentional and roulette scenarios by the Chi square test in order to test *Hypothesis 3* regarding the effect of intentionality on acceptance. It was found that the participants in the roulette condition accepted the 200 Yen offer more frequently than those in the intentional condition, $\text{Chi square}(1) = 5.21, p < .05$.

Discussion

In the present study, we attempted to determine whether reactions to the ultimatum bargaining situation were determined by concerns of self-interest or by concerns of fairness. The participants rated unequal offers as more unfair than equal offer, but they accepted the unequally large offer (1,800 Yen offer) more frequently than the unequally small offer (200 Yen offer), as we predicted in *Hypothesis 6*. These results suggest that acceptance of offers were more influenced by self-interest concerns. If acceptance was determined only by self-interest, however, the participants should have most frequently accepted the 1,800 Yen offer. This conclusion, however, does not accord with the fact that the actual percentage of acceptance of the 1,800 Yen offer did not significantly differ from that of the 1,000 Yen offer, though it might have been caused by ceiling effect.

As we predicted in *Hypothesis 3*, the participants accepted the 200 Yen offer made by roulette more frequently than that made by the other person. This cannot be explained as a self-interest concern. On the contrary, these findings suggest that acceptance/rejection of offers was influenced by a fairness concern because the participants perceived the intentional 200 Yen offer as more unfair than the random 200 Yen offer. Research with western participants has demonstrated that respondents' acceptance/rejection of offers in the ultimatum bargaining situation is jointly determined by fairness and self-interest concerns (Güth et al., 1982; Thompkinson & Bethwaite, 1995). The present results indicate that this is also true of Japanese participants.

We attempted to distinguish perception of procedural fairness and of distributive fairness by using two different methods of allotments. The random 200 Yen offer was rated by the participants as more fair than the intentional 200 Yen offer on both procedural and distributive scales, consistent with *Hypothesis 2* but inconsistent with *Hypothesis 1*. A possible interpretation for the latter is that the participants might have strongly expected an equal offer in the intentional scenario simply because the offerer had the authority to decide the amount to offer, and the perceived discrepancy between expected offer and actual one might have caused the perception of unfairness in the intentional 200 Yen offer. In contrast, the participants in the roulette scenario might have had lower expectations in a game of chance decided by an wholly neutral and disinterested party which, in this case, was a computer making random choices. Different expectations appear to be made based on different procedures of making offers between the two conditions. Therefore, we concluded that accepting or rejection of offers was determined by

perceived procedural fairness.

By using two kinds of fairness scales, further, we examined whether a concern for self-interest biased perception of fairness or not. The bias was found only in procedural fairness (consistent with *Hypothesis 5*), but not in distributive fairness (inconsistent with *Hypothesis 4*). The finding that the participants rated unequal offers as unfair in a distributive sense, regardless of whether the offers were favorable or not for them, was consistent with early equity research findings (Gergen, Morse, & Bode, 1974; Greenberg, 1988) that people do not feel comfortable with overpayment. The question is, why did the participants regard the procedure for the 1,800 Yen offer as more equitable than that for the 200 Yen offer? Respondents have no control over the decision of offers in the ultimatum bargaining situation, and so they are not responsible for it even if inequality happens. Seeing the unequally large offer in the roulette scenario as being made by chance and that in the intentional scenario as being voluntarily chosen by offerer, the participants might have felt that the offer was justified from the procedural perspective.

Conclusions and Implications

In the present study, we examined behavioral concerns on reactions to offers in the ultimatum bargaining game. By examining differences in acceptance/rejection of intentional and random offers, the study demonstrated that reactions to unequal offers were determined by concern for fairness among Japanese participants, as was found among western participants (Güth et al., 1982; Thaler, 1989). Though not perfectly consistent with our predictions, the results of this study suggest that respondents made judgments based on distributive and procedural fairness. It is noted that acceptance/rejection was more clearly associated with perceived procedural fairness than with perceived distributive fairness. For example, the participants rejected the 200 Yen offer more frequently than 1,800 Yen offer and they rated the former as more unfair in a procedural sense than the latter, but their ratings of distributive fairness did not significantly differ (see Figure 1 and 2). This implies that respondents in the ultimatum bargaining situations are more concerned with fairness of the procedures for making an offer than fairness of the offer itself.

We recognize that there are at least two different factors involved in ultimatum bargaining which determine perception of procedural fairness. One is neutrality of offerer, which we examined in the present study, that is, fair treatment in allocation. The other is fairness in role assignment of offerer and respondent between participants. People perceive that offerers have more control over outcomes than respondents do in the ultimatum bargaining situations (Murnighan & Pillutla, 1995). The experimenter decided the role assignment in the present study. The participants might have seen it as unfair and their feeling of unfairness might have affected their acceptance or rejection of the offer. Future research must examine this issue.

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