I win it's fair, you win it's not. Selective heeding of merit in ambiguous settings

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Abstract

One's willingness to accept an outcome or even to correct it depends on whether or not the underlying procedure is deemed legitimate. We manipulate the role allocation procedure in the dictator game to illustrate that this belief is not independent of the outcome and is self-serving in its nature. Our findings suggest that there may be some positive level of dissatisfaction with virtually any social outcome in the populace without there being anything wrong as far as the

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underlying procedure. We also discuss the perceptions of fairness and merit as potential drivers of the observed behavioral phenomenon.

Keywords: fairness, entitlement, merit, redistribution, procedural preferences, dictator game.

JEL codes: D63, D91.

Introduction

There is a plethora of resource allocation procedures governing our everyday interactions that are conventional or in other words, arbitrary in their nature. As far as final outcomes, often there is a winner and a loser. And quite often, the loser is suspicious of the allocation procedure while the winner is not and yet if the parties were to switch sides, so would their attitudes. Some high profile examples include legal disputes where the losing party requests another jury, sporting events where the losing party calls for an instant replay, and election results where the losing party demands a vote recount. In late 2016, Green Party's presidential candidate Jil Stein raised 4 million USD to recount more than 2.9 million votes in the states of Michigan, Pennsylvania and Wisconsin (Jaffe 2016). Four years later, the incumbent Donald Trump questioned the 2020 election results in six states, spending 3 million USD to recount the votes in Wisconsin alone (Helderman and Gardner 2020). What should we make of those reactions?

One obvious explanation of such behavior is that the losing party may have reasons to believe that there has been an error or that the procedure has been tempered with. An alternative explanation is that one's attitude

towards an allocation procedure depends on whether the final outcome is in their favor or not, which is brought about by the very fact that the procedure is arbitrary to begin with. Since it is often non-trivial to detect objective errors as such, some might even fool themselves into believing the former while being truly motivated by the latter.

This distinction in motivation has far reaching policy consequences since minimizing true errors calls for ancillary infrastructure (e.g., video assisted refereeing in sports) whereas questioning the procedure purely on account of one's dissatisfaction with the outcome calls for restriction of opportunity of such questioning (e.g., increasing the margins that cannot be disputed).

Here, we present an experiment where we introduce an extremely simple and fair (in ex-ante sense; see Trautmann and Kuilen (2016)) allocation procedure while excluding the possibility of mistakes, computational errors or cheating of any kind (which could result in negative reciprocity etc.). The participants do not choose the procedure or agree to its implementation in any way but are free to incorporate it into their decision process or ignore it completely. This makes the question of merit of the procedure an open one, and it is then up to the participants to judge.

Related literature

In principle, people have a reasonably good intuitive understanding of merit since in everyday life, it tends to be associated with effort. In experimental literature, the concept is typically studied by manipulating the procedure behind the initial allocation in the dictator game. In a classic example (Cherry,

Frykblom, and Shogren 2002), the dictators share significantly less with their counterparts if they actually have to earn their endowments. The conclusion is that exerting effort changes the perception of merit (or relative merits of the parties involved) that justifies keeping more for oneself.

The intuition is tested further in the context of stealing (Faillo, Rizzolli, and Tontrup 2016) to reveal that the participants refrain from helping themselves to the money of those who have worked for it. When both players are allowed to compete over the final allocation by exerting effort (Fershtman, Gneezy, and List 2012), they are more than eager to use opportunities to earn merit for themselves.

A related line of research investigating the perceptions of fairness and responsibility shows that people tend to distinguish between factors within individual control and those beyond it (Konow 2000; Cappelen et al. 2007; Cappelen, Sørensen, and Tungodden 2010; Cappelen et al. 2013) while potentially overweigthing the importance of the former (Cappelen et al. 2017). More generally and perhaps even more importantly, perceptions of outcomes are separable from perceptions of procedures that bring those about (Fehr et al. 2020; Grimalda, Kar, and Proto 2016).

However, effort need not be 'real' in the aforementioned sense to affect the attribution of merit. The apparent distinction between commission and omission often observed in moral psychology illustrates that outcomes caused by action are judged harsher than the exact same outcomes caused by inaction (Spranca, Minsk, and Baron 1991; Baron and Ritov 2004; Royzman and Baron 2002; DeScioli, Christner, and Kurzbahn 2011; Patt and Zeckhauser 2000). It seems that the very act of applying oneself can already warrant

some merit even though inaction need not be less effortful.

The perception of merit can also be affected by such innocuous factors as the result of a random draw. There is ample evidence in the literature (List 2007; Hayaschi 2013; Korenok, Millner, and Razzolini 2014) that refusing to share is perceived less harmful than taking despite the fact that the difference between the two actions in the context of the dictator game is that of an arbitrary reference point resulting from an initial allocation brought about by chance.

Unfortunately it is not always possible to judge the true merit of one's action in practice. We posit that in the absence of clear causal links between actions and outcomes, such judgments are inherently self-serving in that people are willing to grant merit to those actions (more generally, procedures) that serve their personal interest but are not willing to do so otherwise. As a result of such *selective heeding*, the haves and have nots are likely to hold opposing views on the same outcome (and consequently, on the underlying procedure) and yet if the positions were to be flipped around, so would be the views. In the end, we expect selective heeding to affect one's preferences over the (re)distribution of outcomes.

To test this hypothesis, we construct a series of situations where both parties perform equally effortful actions that result in an asymmetric outcome but do not affect it in the causal sense. The benefactor is then free to assign (relative) merit to their action, which is elicited via their redistribution preferences. While keeping it ex-ante fair (Trautmann and Kuilen 2016; Andreoni et al. 2018), we manipulate the link between the actions and outcome to find differences in the participants' willingness to make monetary

transfers that are likely to be mediated by their perceptions of fairness.

By considering distributive choices in situations where the interpretation of merit as the source of inequality is equivocal, our work adds to the literature on moral 'wiggle room' (Dana, Weber, and Kuang 2007) as well as to the general discussion of social preferences (Andreoni and Miller 2002; Charness and Rabin 2002; Fehr and Schmidt 1999). Since we manipulate the role allocation procedure in the dictator game, it also falls under the rubric of procedural preferences (Frey, Benz, and Stutzer 2004; Frey and Stutzer 2005; Bolton, Brandts, and Ockenfels 2005; Trautmann 2009).

Experimental design

The experiment builds upon the dictator game where we introduce a role allocation procedure as an additional stage that precedes it.

In the classic dictator game (Forsythe et al. 1994), there is a monetary endowment (essentially, 'manna from heaven') to be shared between two anonymous players. One of the players (the dictator) decides how much of the endowment to *transfer* to the other, passive player (the recipient) while keeping the rest for themselves. The roles are assigned randomly and the game is played only once, which makes it a popular means of investigation into the human nature of self-interest, perceptions of fairness and merit (Engel 2011).

The aforementioned formulation of the game – i.e., with the random role allocation – constitutes our baseline treatment. In the other two treatment conditions, the participants are presented with what we refer to as a necklace

consisting of 19 beads[1] (see Fig. 1). One of the beads is randomly selected by the computer and both participants are asked to guess it. In treatment WIN, the better guess (i.e., the one closer to the selected bead, in either direction) results in the assignment of the dictator role whereas in treatment LOSE, the better guess results in the assignment of the recipient role[2].

Figure 1: Role allocation procedure in treatments WIN and LOSE. Asterisk (*) denotes the bead randomly selected by the computer. Between the two participants, the *better* guess is assigned the role of the dictator (D) in treatment WIN (a), and the role of the recipient (R) in treatment LOSE (b). The better guess is the one closer to the selected bead, in either direction. There were 19 beads to choose from in the actual experiment.

(a) WIN (b) LOSE

In our opinion, it is self-evident that the design allows for no (extra) effort that either participant could exert in order to affect their chance of being assigned the dictator role.

In each treatment condition, the dictator is given 50 indivisible experimental currency units (ECU)[3] to distribute between themselves and the recipient. We employ what is known as the strategy method (Selten 1967) to elicit the transfer decisions from both players in the role of the dictator and

1. We wanted to have a relatively large number of those while at the same time, minimizing scope for focal points implied by visual symmetry, familiarity etc.

2. In case of a tie, the roles are assigned randomly. This happened only twice during the course of the experiment

3. We used an exchange rate of 10 ECU to 1 EUR.

then use the role allocation procedure to determine the final payments for a given pair (if anything, this makes the design more conservative (Brandts and Charness 2011)).

From the participant perspective, the general flow is as follows: (i) learn the rules of the dictator game and role allocation procedure; (ii) guess the bead selected by the computer (unless in the baseline condition); (iii) make the transfer decision in the role of the dictator; and (iv) find out the role assignment and the resulting final payment. Immediately after the transfer decision (i.e., before the roles and consequently, payments are revealed), the participants are asked to evaluate the role allocation procedure in terms of fairness and merit (see What drives selective heeding?).

From our conjecture of selective heeding, it follows that the role allocation procedure is taken into account by the dictators when it is in their favor and disregarded otherwise. This leads to the following two hypotheses:

(i) average transfer in treatment WIN is lower than the baseline;

(ii) average transfer in treatment LOSE is not different from the baseline.

Findings in line with these hypotheses would support our conjecture that people tend to attribute merit to their irrelevant actions but not to irrelevant actions of others.

Results

The experiment was conducted with 130 participants at the economics laboratory of the Friedrich Schiller University Jena. It was programmed in z-Tree

(Fischbacher 2007) and the recruitment was done with the help of ORSEE (Greiner 2015).

The participants were allocated to the treatment conditions randomly and interacted with each other using computer terminals to preserve their anonymity. The game was played once and no repeat participation was allowed. All treatment conditions were run concurrently over 9 sessions. Each session concluded within 30 minutes, and the average payment was 5.0 EUR (including a show-up fee of 2.5 EUR).

One participant was excluded from the analysis, which had no qualitative effect on the results[4]. The final sample of 129 observations includes 81 females, 74 undergraduates, and 32 Business Administration and Economics majors. The average participant age is 24.6 years (SD 3.6) and the average laboratory experience is 7.6 experiments (SD 6.1).

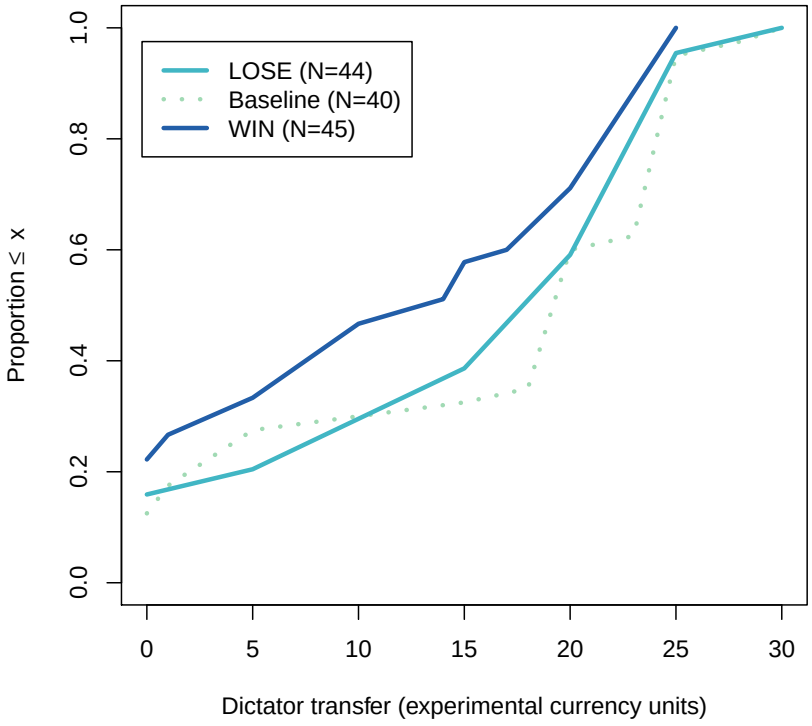
In total, we have 40, 44 and 45 observations in the baseline, LOSE and WIN conditions, respectively. The empirical distribution functions of the dictator transfers are presented in Fig. 2.

As one can see, the empirical distribution function of the dictator transfer in the WIN condition is stochastically dominated by the other two whereas no such claim can be made as far as the comparison between the baseline and LOSE conditions. The resulting average transfers are equal to 16.9, 17.1, and 13.1 (ECU) in the baseline, LOSE, and WIN conditions, respectively.

To test for the statistical significance of the observed differences between the treatment conditions, we estimate the specification given below using

4. We suspect that they were not properly motivated by our incentive scheme since they transferred 80% of their endowment as the dictator. Among other things, they were 42 years old and were not a student.

Figure 2: Empirical distribution function of the dictator transfer by treatment condition.



ordinary least squares and subsequently perform the t-test on the coefficient estimates at the respective treatment variables:

$$y_i = \alpha + \beta \times WIN_i + \gamma \times LOSE_i + \sum_j \{\delta^j \times CNTRL_i^j\} + \epsilon_i,$$

where i indexes the participant; WIN_i and $LOSE_i$ equal one if the participant is assigned to the respective treatment condition and zero otherwise; $\{CNTRL_i^j\}$ represents a set of control variables capturing the effects of age, gender, educational background and previous experience in laboratory ex-

periments.

The regression results are summarized in Table 1. At the significance level of 5%, we reject the null hypothesis that the average transfer in the WIN condition is not larger than the baseline (one-tailed p-value of 0.031 or 0.039, with or without controls)[5] and at the same time, cannot reject the null hypothesis that the average transfer in the LOSE condition is equal to the baseline (two-tailed p-value of 0.582 or 0.946, with or without controls).

Table 1: Regression results (s.e. in parentheses). Dictator transfer measured in experimental currency units, perceptions of fairness and merit measured on a 1–7 scale. Also, estimated effect sizes relative to the baseline.

	Transfer		Fairness		Merit	
Intercept	16.900^{***}	-27.483	4.650^{***}	-1.393	3.725^{***}	7.501^{***}
	(1.551)	(28.337)	(0.324)	(6.118)	(0.142)	(2.666)
WIN	-3.789^{*}	-3.943^{*}	0.817^{*}	0.818^{*}	-0.369^{*}	-0.358^{*}
	(2.132)	(2.094)	(0.445)	(0.452)	(0.195)	(0.197)
LOSE	0.145	-1.175	0.191	0.046	0.548^{***}	0.568^{***}
	(2.143)	(2.132)	(0.447)	(0.460)	(0.196)	(0.201)
Controls	–	+	–	+	–	+
R-squared (N=129)	0.035	0.140	0.029	0.074	0.158	0.202
Cohen's d: WIN	0.382		0.389		0.385	
Cohen's d: LOSE	0.015		0.092		0.697	

Significance (two-tailed): $*** \equiv p < 0.01$; $** \equiv p < 0.05$; $* \equiv p < 0.1$.

Controls: age (quadratic), gender, undergraduate, Business Administration or Economics major, laboratory experience (quadratic).

As additional evidence, consider the effect sizes of the WIN and LOSE manipulations. Using Cohen's d as a quantitative measure results in the actual estimates of 0.382 and 0.015, which we interpret as practically important and practically unimportant, respectively.

5. According to our directional hypothesis. See Experimental design.

Therefore, we find empirical support for both of our research hypotheses – i.e., the participants exhibit *selective heeding* as far as judging the merit of one's action. If they are assigned the role of the dictator through an arbitrary procedure that favors them, they tend to make lower transfers than those who are assigned the role in a completely random manner. However, if an arbitrary procedure favors the other player instead, the dictator transfers do not reflect that.

What drives selective heeding?

In anticipation of the above findings, we measured the participants' perceptions of fairness of the role allocation procedure they were facing (hereafter, *fairness*) as well as their perceptions of how much the designated person deserved to determine the payoff allocation relative to the not designated person (hereafter, *merit*; see Supplementary information).

The perception of fairness was measured on a 1–7 scale where 1 implies an absolutely unfair procedure and 7 implies an absolutely fair procedure as far as the chances of both participants to determine the payoff allocation. The perception of merit was measured on a 1–7 scale where 1 implies that the designated player deserves to determine the payoff allocation more than the other player, 7 implies the opposite, and 4 implies that the two deserve it equally.

Our conjecture was that those perceptions could be responsible for driving the differences in the transfers.

To interpret the data, we follow the same protocol as before only switching

out the dependent variable as necessary. The empirical distributions are presented in Fig. 3–4 and the regression results are summarized in Table 1.

Figure 3: Perception of fairness of the role allocation procedure by treatment condition. 1 implies an absolutely unfair procedure while 7 implies an absolutely fair procedure as far as the chances of both participants to determine the payoff allocation.

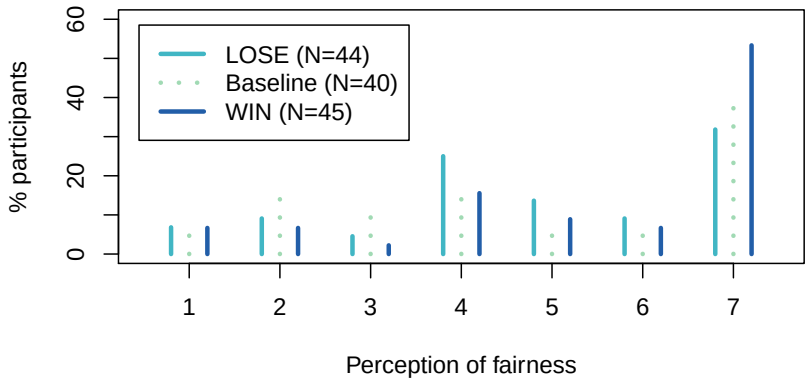
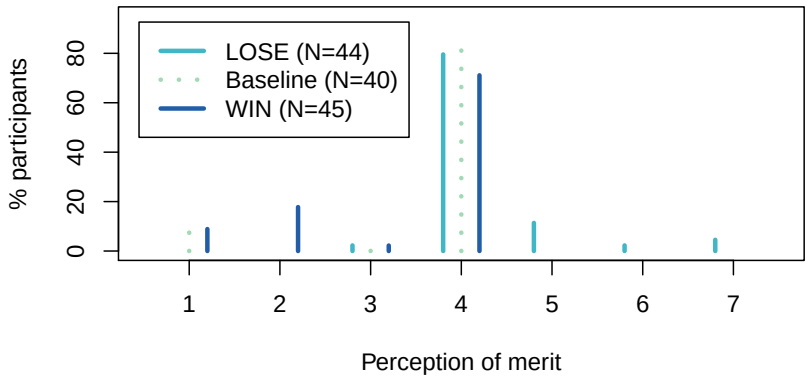


Figure 4: Perception of merit as far as the role allocation procedure by treatment condition. 1 implies that the designated person deserves to determine the payoff allocation more than the other, 7 implies the opposite, and 4 implies that the two deserve it equally.



As far as the perception of fairness, the average evaluation is equal to

4.65, 4.84 and 5.47 in the baseline, LOSE, and WIN conditions, respectively. At the significance level of 5%, the participants in the LOSE condition do not perceive the role allocation procedure to be any different from the baseline (two-tailed p-value of 0.920 or 0.670, with or without controls). In the WIN condition, however, the role allocation procedure is perceived to be significantly fairer (one-tailed p-value of 0.037 or 0.034, with or without controls).

These findings are in line with the effect our manipulations have on the actual monetary transfers, which suggests that selective heeding may be driven by one's perception of fairness. The Cohen's d estimates of 0.092 and 0.389, which we interpret as practically unimportant and practically important, respectively, provide further support.

As far as the perception of merit, the average evaluation is equal to 3.73, 4.27 and 3.36 in the baseline, LOSE, and WIN conditions, respectively. At the significance level of 5%, the participants believe that the designated person deserves to determine the allocation significantly less in the LOSE condition (two-tailed p-value of 0.005 or 0.006, with or without controls) and more so in the WIN condition (one-tailed p-value of 0.036 or 0.030, with or without controls). With the respective Cohen's d estimates of 0.697 and 0.385, both effects are also practically important.

Finding that the participants perceive the designated person to be less deserving of the dictator role in the LOSE condition is particularly interesting here. Also, note that a value of 4.27 implies that the not designated person deserves the dictator role more than the designated person. This suggests that the average transfer not only should be larger than the baseline but also exceed 50% of the endowment to allocate.

Overall, we conclude that the observed differences in the dictator transfers (i.e., selective heeding) are likely to be driven by changes in one's perception of fairness of the role allocation procedure and not by changes in one's perception of the relative merits of the parties involved.

Discussion

We examine a modified version of the dictator game where the player roles are assigned by an ex-ante fair procedure that is linked to the participant actions but in effect is completely random. This enables the eventual dictator to entertain arbitrary beliefs as far as the relative entitlements to the endowment. Subtle modifications to the procedure illustrate that these beliefs are not only dependent on the outcome but are also inherently self-serving in that the participants tend to merit their own actions if the result of the random draw serves their interest but refuse to merit the actions of others if it doesn't.

We refer to this asymmetry as selective heeding and investigate two potential driving forces behind it such as the perceptions of fairness and merit. It appears that the observed differences in the dictator transfers are consistent with the changes in the perception of fairness but not consistent with the changes in the perception of merit even though the latter are in line with the moral imperatives dictated by our manipulations.

Our findings add to the literature on self-centered behavior. As long as people can find situational excuses they tend to relax their moral standards and consequently, behave more selfishly (Dana, Weber, and Kuang 2007;

Mazar, Amir, and Ariely 2008; Shalvi et al. 2011). Apparently, 'winning' a game of pure chance is as good of a reason as one could possibly have. Moreover, there seems to be some inherent asymmetry to the logic: I win it's fair, you win it's not.

The self-centered phenomenon that we document here goes beyond the notions of 'self-serving bias' (Miller and Ross 1975; Bradley 1978) or 'attribution bias' (Tetlock and Levi 1982; Mezulis et al. 2004). In the absence of clear causal links between actions and outcomes it may be all too easy to overestimate one's own merit or underestimate somebody else's. One corollary of this is that there may be some positive level of dissatisfaction with virtually any social outcome in the populace without there being anything wrong as far as the underlying procedure.

When the vote recount of the 2016 U.S. presidential election revealed no major issues, numerous debates started on whether or not the very possibility of a recount needs a revision. Proponents of more stringent recount rules suggest, among other things, to limit the possibility of initiating a recount to those candidates who fall behind by a rather small margin. Their opponents claim that a democratic society should not seek to restrict the possibility at all, advocating that the currently observed practices remain intact. In 2020, Trump's lawyers attempted to contest some of the very same election practices that had been used in 2016. Our findings provide a valuable contribution to the discussion demonstrating that losing candidates may indeed seek to revise election outcomes on false pretenses.

Competing interests statement

Both authors declare no competing interests.

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Supplementary information

Fairness and merit elicitation

To elicit the participants' perceptions of the fairness of the role allocation procedure as well as their perceptions of how much the selected person deserved to determine the final allocation, the following two questions were posed.

> As far as the chances of both participants to determine the actual transfer, is the procedure fair?
>
> ◯ Disagree completely
> ◯
> ◯
> ◯
> ◯
> ◯
> ◯ Agree completely

> Do you think that the selected person deserves to determine the actual transfer as much as the non-selected person?
>
> ◯ The selected person deserves it more
> ◯
> ◯
> ◯ The two deserve it equally
> ◯
> ◯
> ◯ The non-selected person deserves it more[6]

6. Due to a typing error, this option was identical to the other extreme in the baseline. However, we believe that the participants were able to see through that due to the following observations: (i) the very way the question is phrased implies a particular ordering; (ii) there is no considerable increase in the variance; and (iii) there wasn't once a question raised to clarify the issue.

Participant instructions

{*All treatments*}

Experiment Instructions

Welcome and thank you for participating in this experiment. Please switch off your mobile phones and remain silent. If you have any questions, please raise your hand and experimenter will answer you privately.
For your participation you will receive a show-up fee of 2.50 EUR. During the experiment you can earn additional money. Your additional earnings depend on your own decisions, decisions of other participants as well as on chance. During the whole experiment your anonymity is guaranteed. Your additional earnings will be expressed in ECU (experimental currency unit) that will be converted into EUR at the end of the experiment using the following exchange rate:

1 ECU = 0.10 EUR.

Structure of the Experiment

At the beginning of the experiment all participants will be matched into pairs. You stay within the same pair throughout the experiment.

{*Baseline only*}

The experiment will continue as follows.

The participants in the pair will be randomly assigned one of the two roles: **Participant A** or **Participant B**. Each role is equally likely to be selected.

{*Treatments WIN and LOSE only*}

The experiment consists of two parts.

In the first part of the experiment, you and the other person in your pair will be presented with a 'necklace' consisting of several beads. One of these beads will be randomly selected by the computer.

Each of you will be asked to guess which bead it was. We will then compare your guesses and assign the role of **Participant A** to the person whose guess was closer to the bead selected by the computer (in any direction). The other person will be assigned the role of **Participant B**[7]

Consider the following examples, where the computer randomly selects the bead labeled as $*$, one person selects the bead labeled as X, and the other person selects the bead labeled as Y:

The roles will then be assigned in the following way:

(a) Person X will be assigned the role of Participant A, and person Y will be assigned the role of Participant B.

7. In case of a tie, the roles will be assigned randomly (each role is then equally likely to be selected).

(b) Person X will be assigned the role of Participant B, and person Y will be assigned the role of Participant A.

{ *All treatments;*
'I' = 'A' in the baseline and WIN, and 'B' in LOSE;
'J' = 'B' in the baseline and WIN, and 'A' in LOSE; }

[In the second part of the experiment,]$^{\{WIN\ \&\ LOSE\}}$ **Participant I** receives an endowment of 50 ECUs and decides how much from this amount he would like to send to Participant J. Participant I can specify any amount between 0 and 50 ECU in steps of 1 ECU.

The amount specified by Participant I will be deducted from this endowment and transferred to Participant J, and the rest will remain for Participant I.

Participant J does not make any decisions in this [situation$^{\{Baseline\}}$; part of the experiment$^{\{WIN\ \&\ LOSE\}}$].

Before you know the result of assigning the roles, you will be asked to decide as Participant I. After you and the other person in your pair have made your decisions in the role of Participant I, the computer will [randomly select one of you to be the actual Participant I$^{\{Baseline\}}$; assign the roles according to your guesses in the first part of the experiment$^{\{WIN\ \&\ LOSE\}}$] and then implement the respective decision for your pair.

At the end of [this decision situation$^{\{Baseline\}}$; the second part$^{\{WIN\ \&\ LOSE\}}$], you will be informed about the following: the role you have been assigned to, the transfer implemented for your pair, as well as your final payment for participating in the experiment.

We will conclude the experiment by asking you to fill out a short questionnaire.

If you have read these instructions carefully and do not have any further questions, please click the 'Ready' button on your screen. We will then test your understanding of the procedure with a few basic questions. As soon as everybody has answered those questions correctly, the experiment will begin.

Good luck!