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Selfish in payments, selfish in opportunities to obtain the payment

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Abstract

Following the contemporary analysis on justice and preferences in distribution decisions, the present study analyzes the responses given by the participants in a laboratory experiment where they had to compete developing a real effort task and decide, in a distribution game, how the opportunities of winning and payments of both participants will be distributed. It is shown that preferences in distributions of opportunities of winning the game are extreme, that is, perfect equality or perfect inequality is preferred, while intermediate distributions are rare. Furthermore, those who prefer unequal opportunity distributions are also more likely to choose inequitable payments distributions.

Keywords: Distribution Game, Inequality, Selfish, Experimental Design

1 Introduction

Being preferences in payments distributions one of the most studied topics within experimental economics [Sefton, M. (1992).] ; [Boone et al., (1996).] ; [Ben-Ner et al., (2004).] ;[Hoffman et al., (1994)], this research focuses on understanding how preferences are in distributions of opportunities to win a game when they are determined by the players themselves and to study if these preferences are related to the preferences shown by the participants when they distribute payments. In order to illustrate what is being investigated, suppose the following example: Two runners, A and B, must travel a certain distance carrying a weight of 10 pounds. Both face on equal terms, that is, the track is the same, the distance is the same, the wind for or against it is the same for both, etc. The first to reach the finish line will be the winner and will receive a prize of $10. Is this championship considered a fair game? Should the winner share his prize with the loser considering that they both made their best

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effort in the race? This debate is widely studied [Charness Rabin 2002] and political ideologies [Kerschbamer Muller 2020], sense of justice [Fehr, E., Schmidt, K. M. (1999).], social norms [Fehr, E., Fischbacher, U. (2004).], among others, are considered as possible explanatory variables, analyzing the distribution responses in a dictator games and distribution games.

Now, if we consider that player A chooses the pounds that each one should carry in the race, how uneven will be the distribution that the competitor will want to implement? Will Player A choose a distribution of the pounds that allows both of them to give their best effort and "may the best man win"? In general, it is considered that equality of conditions and opportunities in a game is desired and entails a distribution of payments that mainly measures the effort of each one [Overlaet, B. (1991).]. But on the contrary, if player A chooses a weight distribution of 0 pounds for himself and 10 for player B, Is there a relationship between this preference and the decision to share the prize in an equal opportunity career?

This example represents what is observed very often in everyday life, for example, in the debate about increasing taxes on the highest incomes. Opinions on whether this represents greater justice for society are varied, some pointing to the fact that having a higher salary is the consequence of a greater effort and therefore taxing these payments rewards those who make the least effort. But these salaries depend on the quality of education that each individual receives [Card, D., (1999)], so if the debate focuses on whether the quality of education that citizens can choose should be the same for everyone, then opinions are more homogeneous and it tends to desire equality in quality, which would imply equal opportunities and therefore, even if salaries are uneven, they are still fair [Norton, M. (2014).], since these would be determined mainly by meritocracy. Following this exemplary situation, it is worth asking how are the preferences of the people when they decide to distribute the opportunities to win a prize? Are these preferences related to preferences in payment distributions?

These opinions and value judgments are generally about third parties, that is, it is criticized if player A chooses not to share the prize or if he chooses a weight distribution that favors him, but if it is oneself who is in the race and said championship is taken to a realm of competition and profit, where every second and energy is translated into labor income, preferences on how payments and opportunities should be distributed, change. In this research, we focus primarily on two questions: First, how people decide to distribute payments and opportunities in a real effort task when these distributions affect their own possible winnings in the game? in other words, what will be the weight that they will decide for themselves and for their opponent by having to run the aforementioned race, being the pounds they must carry a simile of the opportunities they have to win each competition in the experiment? Second, what is the relationship between preferences on distribution of

opportunities with preferences in distribution of payments in competitive games?.

In the existing literature, preferences for payments distributions have been a frequent topic of study and discussion, giving a large number of reasons and variables that influence the preferences of individuals about when and how inequitable payments are considered fair or unfair [McCall, L. (2013).]. As mentioned above, one of the main characteristics in which people who accept or do not accept differences in payments differ is how much they value or identify with the concept of meritocracy [Cappelen et al., (2007).], that is, people who accept differences in the distribution of payments when they respond to differences in the performance in a specific task. Thus, one of the closest studies to the experiment presented in this research corresponds to the article *"A Meritocratic Origin of Egalitarian Behavior"* [Cappelen 2019] where it is shown that the most meritocratic people become more egalitarian when there is uncertainty about the performance of the players, being a third party who must decide about the two competitors how the payment will be distributed. This study is especially relevant to understand part of the decisions shown in this study, where people must decide how to distribute their own and their opponent's earnings, ignoring the respective performances, although the design differs in which payments should be chosen over others versus payments on himself and the opponent.

Some other reasons given in the research to understand selfish or altruistic decisions regarding the election to share payments in the dictator's game point to players manipulating "the manner in which they process information to justify taking egoistic actions while maintaining this feeling of morality ", as explained in [Gino 2016]. Also, the fact that the opponent has knowledge about selfish decisions is a factor in choosing more selfish distribution of payments, reasons demonstrated in the research entitled *"What you don't know won't hurt me: Costly (but quiet) exit in dictator games"* [Dana 2006] where it is explained that in a dictator game where there is the possibility of acting selfishly "leaving the game" without the other participant finding out and keeping a large part of the prize "the receiver's knowledge is the key factor in the dictator s decision to exit." The latter is especially relevant in the design of the investigation presented here, allowing players to act selfishly without the opponent knowing.

Another of the variables that influence the preferences about being willing to give money to the other corresponds to the relative income, as studied in [Erkal et al., (2011).]. In this research and in the present study, a real effort task is used to determine the participants' gains, a type of task that is endorsed and frequently used in experimental studies, since they are characterized by "realism", it is incorporated the "social dimension of work", in addition to the fact that participants can "actually experience exerting effort" [Carpenter 2019].

The gender of the participants seems to be another variable that should be considered

when determining selfishness or altruism in the decision to share payments, finding that "females give more in the Dictator Game, but are also more likely to retract their gifts, to the extent that expected transfers in the end become similar across gender" as evidenced in the paper [Klinowski 2018]. Thus, it is relevant that the study is not biased in terms of containing more of a gender than of the other.

Continuing with the reasons that explain the preferences in payment distributions, we find that these preferences are based on initial inequities of the game, such as, for example, the initial endowments of the players, as shown in [Becker 2009], where inequities are considered both in absolute value and in the relative value of the endowments to determine distributions of payouts, while [Akbas 2018] shows that each player's chances of winning are decisive in choosing payout distributions that are considered fair. This last one is the closest investigation within the scope of preferences in opportunity distributions, since it addresses the problem of the distribution of payments considering inequity in opportunities. However, in the mentioned study, it is not possible for the subjects to choose the winning opportunities that each player will have, in addition to studying only decisions and judgments of fairness about third-party winnings and not their own. Following this line of research, the research presented below aims to provide an answer to how people distribute the chances of winning a game and how these preferences are related to those of payment distributions, being the first study that addresses both problems and the way in which that these are related.

Another of the investigations close to this study corresponds to [Krawczyk 2010], where it is shown that in the face of the difference in earnings that comes from a difference in performance, more than luckily it is increase the amount transferred by 20%, in addition to showing that greater differences in opportunities do not imply greater transfers. Again, this study presents the preferences in payout distributions with differences in opportunities, but the latter being exogenously dissimilar, that is, it is not the participants who define the winning opportunities of each player. Following the consideration of luck in the results of the game, it is shown that the responsibility of the participants in the decisions taken in terms of controllable and uncontrollable luck also seems to determine how a third party decides on distributions of payments on two other subjects [Mollerstrom 2015], therefore, the random determination of some of the variables that will be defined in the experiment will be considered within the reasons for distributing payments and opportunities.

With the aim of giving an answer to the two main research questions, an experimental study is developed that allows subjects to choose how the payments should be distributed in a competition where a real effort task must be carried out and having equal opportunities to win. Then, individuals are asked how they want to distribute said opportunities in a new part of the game, finding that the distributions in payments follow a mostly selfish trend, while in opportunities, the trend of equality is as frequent as the selfish one. Further, a strong

correlation between preferences in distribution of opportunities and those of payments is proven. The rest of the investigation proceeds as follows. Chapter 2 describes the experiment, Chapter 3 analyze data on performances and preferences in distributions. In Chapter 4 the results are presented and discussed. Finally, Chapter 5 concludes.

2 Experimental Design

In order to analyze and understand the preferences that individuals show in decisions to allocate opportunities and payments and how these preferences are related, the design of the research contemplates that the participants can choose how they want to distribute the payments in a championships with equality and inequality of opportunities, the latter scenario being one where the chances of winning of each one are determined by themselves. Inequality of opportunities is no longer an exogenous variable as it has been studied so far [Kamei K., (2016)] ,[Tyran, J., Sausgruber, R., (2006)], as they have the possibility of revealing their preferences in opportunity distributions.

The research design contains two treatments, each with 3 independent parts, plus a final section of questions that measure risk aversion, impatience, trust, altruism and reciprocity, characteristics that will be considered as control variables in the results. Each participant is randomly assigned to one of these treatments, with a total of 46 players for each one. We will call the treatments as Treatment A "TA" and Treatment B "TB" and each part for the versions will be represented by $TA(i)$ with $i = 1, 2, 3$. In each of the parts, although in a different order for each treatment, the participants will have to play alone to get an idea of their own performance, they will have to compete with equal opportunities and distribute payments according to their preferences and then, they will be able to determine what the possibilities of win from each one, being able to distribute opportunities to win the game. In each part of the treatments where they play as a couple, the participants will be consulted on how they think their performance and that of the other player were, as well as how they think their opponent chose the payout and opportunity distributions, being all this information unknown to the players, allowing to measure beliefs about the performance and behavior of their rivals being these complete unknown.

The study was conducted with 92 people through the Cloud Research platform (preview), all located in the United States, and with the requirement of having carried out at least 500 experiments and having a 95% approval rate in the platform. Cloud Research is a website initially belonging to Amazon Mechanical Turk but with the specific objective of being able to collect high-quality data on the responses and behaviors of ordinary people participating in surveys, experiments or jobs that involve remuneration depending on their performance [Bottum et al., (2017)]. This allows the answers obtained in this research to be as close as possible to the real preferences that individuals have about the distribution of earnings and

opportunities in a competitive and work environment, in addition to allowing questions to be asked that verify that the participants are responding carefully and reading all the questions without compromising scale validity [Kung, F.Y., Kwok, N. and Brown, D.J. (2018)]. According to the general data provided by the CloudResearch platform, 58% of the sample is male, 42% female, 92% is between 22 and 61 years old and only 9% is over 61 years old, while, with respect to race, 77% of them are declared white and 12% black or African American. Data on demographic variables are not available for each of the participants. Payment for all participants is made upon completion of the study for all participants, which is expected to be within 20 days of the completion of the study, information that is explained to all contestants at the beginning of the study.

2.1 Treatment A

In the first treatment of the experiment and after accepting the informed consent and explaining that only one of the following three parts of the study will be considered to make the payment to avoid a possible wealth effect, this being chosen randomly, it begins with a single play of each participant $TA(1)$, who must carry out the encoding of letters according to a table that indicates the number to mark for each letter to be encoded. The time they have for this task is 5 minutes which is shown on a timer at the top of the screen. Each correct answer is rewarded with US $0.03 and at the end of this part, they are made aware of the number of letters correctly coded they did with the aim of having a guess of their performance for the following stages. At this stage, the players are unaware that they will then be paired with another participant to compete by performing the coding task, so the objective of this first part is for the players to have a notion about their own performance, making them known the number of letters correctly encoded in this first part.

In the second part, $TA(2)$, each player is randomly paired with an opponent who will be taking the same treatment to play a championship where the task to be performed is equal to the part $TA(1)$, that is, they have 5 minutes to encode as many letters as possible, each correct answer having a score of 5 points. They do not know who the other player is, what his performance was in the first half and no communication is allowed between them. It is explained to them that the player with the highest number of points will be the winner and will be awarded US$3 while the loser will not have a payout. The participants, after completing the task, do not know what their own score was and that of the opponent, so they are asked what they think was their own result in terms of number of points and that of the couple, having an incentive of US$0.03 when hitting the result. After that, they are asked the following: "If you were the winner of this part, you have the possibility of redistributing the payment with your gambling partner, that is, you must decide how much of the US$3 you want to keep and how much you want to give to the other participant. Your decision will only be implemented if you are indeed the winner and if part 2 is randomly

selected to be paid", that is, it is explained to him that his choice of payment distribution will be implemented if he is the one who obtained the highest score and if part 2 is randomly chosen to be considered for payment, as explained at the beginning of the experiment.. Both players are consulted the same, so we are able to obtain the preferences for the distribution of payments in an equal opportunity game, that is, where each letter correctly coded has the same return.

Finally, he is asked how much he thinks his gambling partner keep for herself and how much she distributed to him, since both must answer it without knowing who is the true winner of the game. This question aims to measure the beliefs about the opponent's payment distribution preferences, also encouraged by obtaining US$0.03 when the answer is correct. It is important to mention that these beliefs about the decisions of the other participant correspond to the beliefs that the player has about the total population, since it is unknown who the other player is and no type of communication is allowed.

When advancing to part 3 of Treatment A, $TA(3)$, participants are informed that they will have to perform the coding task described above again and the participant with whom they have been paired remains the same from part $TA(2)$, but before to carry out the competition, each one must choose the return that each correctly coded letter will have for each one, that is, they must choose between the options: (10,0); (9,1); (8,2); (5,5);. . . ;(2,8); (1,9); (0,10), being the first coordinate the number of points that each correct answer will add up for themselves and the second coordinate, the number of points that each success will add for the opponent. The values that are presented are assimilated to the opportunities to win the game for each one who wishes to be implemented, starting with the perfect inequality of opportunity (10,0) where it is impossible for the opponent to win, passing through the perfect equality of opportunities, (5,5), where the return of the first part of the game is maintained. Both participants must choose the distribution of points they want to use in the game, but only one of them will be randomly chosen to be implemented [Blount, S., (1995)]. The implemented opportunity distribution is not disclosed to the contestants.

The 5 minutes championship is carried out again, coding the list of letters, again, without revealing the results of both players, so they are asked about the beliefs they have about their own performance, the opponent's performance (both monetarily incentivized with US$0.03 to hit the result) and their preferences to distribute the payment of US$3 if they were the winners of this game. The decision to select a distribution (10,0) could be interpreted as he is trying to have the control of the distribution of payments by predicting that they will again have the possibility of distributing the profit as they were consulted in part 2, that is, a distribution is chosen that ensure they win and then have the power to choose how to distribute payments based on their sense of fairness. This problem is controlled by comparing the results with version B of the experiment, explained in the next section.

Finally, and after developing the championship without knowing which distribution was implemented, his performance or that of the opponent, he is consulted on how he wishes to distribute the prize of US$ 3 between him and his playing partner, this distribution of payments being implemented only in if he is the player with the most points in this part of the game and if stage 3 of the game is randomly chosen to determine the payouts.Then, they are asked their beliefs about his performance and that of his opponent, and how their opponent had distributed payments and opportunities in this part of the game, both questions encouraged in the same way as the previous questions of beliefs.

2.2 Treatment B

The second treatment in the experiment originates from the question about how to interpret the reasons that the participants have for choosing unequal opportunity distributions. A possible explanation being the fact that they can predict that they will have the possibility of distributing payouts after playing the third part of the game, so they prefer to play a championship that favors them in terms of opportunities and then be able to distribute the profit in a less unfair way or how they deem appropriate, so the decision to choose opportunities close to (10,0) would respond to a preference to be able to decide distribution of payments and not to real interests of how to carry out the championship.

Under this logic, the Treatment B is implemented, which consists of the same 3 stages described above, but reversing the order of parts 2 and 3 of Treatment A and maintaining the fact that only one of the parts will be chosen randomly to make the payment. Specifically, the first part of Treatment B, $TB(1)$, is exactly the same as part $TA(1)$, that is, participants must play alone, encoding as many letters as possible in 5 minutes and each one will have a profit of US$0.03, maintaining the objective that the participants become familiar with the task to be developed and have an approximation of their own performance in the following stages.

For Part 2 of this treatment, $TB(2)$, part 3 of Treatment A $TA(3)$ is carried out, starting by explaining to the participants that they were randomly matched to another player and that both must compete in a championship repeating the task of coding Part 1. For the mentioned championship, they will have 5 minutes to correctly code as many letters as possible and the winner will be who obtains the highest number of points, who will receive US$3 while the loser will not obtain any payment, winnings that will be valid only if Part 2 of the game is the one chosen to be paid. Before starting the game, they must choose how many points each letter correctly coded will be worth for him and for his opponent, having the same options as in section $TA(3)$. This choice of opportunities in advance of the play and the distribution of payments, allows their answers to correspond to the real preferences about how they want to play the championship, being able to choose, as in Treatment A,

perfect equality of opportunities (5.5) up to the distribution that ensures they win (10.0), with $\frac{1}{2}$ probability that their preference will be effectively implemented. After their decision, they hold the championship, without revealing which distribution of opportunities was implemented, what was their performance or that of their opponent.

Then, they proceed to answer the questions about their beliefs about their performance, their partner, and if they want to distribute the payment if they are the real winners of the game. They are then asked how they think the other player distributed opportunities and payouts, all of these questions prompted by $0.3 if they answer it right.

The third part of this treatment, $TB(3)$, corresponds to the same championship played in the $TA(2)$ stage, that is, the contestants are informed that they will have to repeat the letter coding game for 5 minutes, that each correctly coded letter will equal 5 points and that the player with the highest score will be the winner of this game. In this play, the participants should not choose the distribution of opportunities, but can foresee that at the end of this play, they will be given the option to redistribute payouts. The latter should not affect the decision they make when distributing the payments after playing, since this decision corresponds to the choice to share the payment in a game of equal opportunities and is not conditioned on the previous parts since they know that only one part will be randomly chosen to be considered for payment. The questions about beliefs of the own performance, of the opponent, of the decision to distribute payments of the opponent are repeated for the last time and continue to be incentivized monetarily.

Both treatments of the experiment include a final section on psychological variables about risk preferences, impatience, beliefs about people's behavior, altruism, and positive and negative reciprocity, which will be used as control variables in the results section. Furthermore, both treatments contain comprehension and attention questions, which cause that, if answered incorrectly, the study is terminated and no payment is obtained, a condition that is explained at the beginning of the study. Only the responses of the participants who completed the entire study were considered in the research.

3 Data Analysis

3.1 Correct Answers and Beliefs

Of the total of 92 observations, 46 participants developed Treatment A of the experiment and the other 46 the Treatment B, each obtaining a fixed payment of US$2 and an average of US $1.45 per bonus in Treatment A and US $1.41 in Treatment B for the same concept. The average number of correct answers in each part of both treatments is shown in Table 1, both with increase as the experiment progresses, showing that the participants become

more skilled the more they practice letter coding.

	Treatment A			Treatment B		
	Part 1	Part 2	Part 3	Part 1	Part 2	Part 3
Correct Answers	55.65	51.02	61.89	58.36	64	61.08
Beliefs own corrects answers	-	58.45	60.15	-	50.04	51.82
Beliefs other's correct answers	-	54.69	57.43	-	44.43	48.47

TABLE 1: Correct Answers and Beliefs for each Treatment

The average of the beliefs that the participants have regarding the number of correct answers that they and their opponents obtained is shown in the same table for Parts 2 and 3 of each treatment of the study. In all of them, on average, the correct answers they believe they have is greater than the one they believe their playing partner obtained, which shows that the participants have, on average, the belief that they were the winners of each part. The importance of this lies in the fact that the answers obtained in the following questions about how they want to distribute the payments are answers that they really believe will be implemented, since as explained previously, their preferences will only be executed when the player has been effectively the winner of the game.

3.2 Payments Distributions and Beliefs

As shown in Table 2, when participants are asked how much of the total amount (US$3) they want to distribute with the other player, it is observed that the average in the parts where there is equal opportunity to win is US$0.31 for Treatment A and US$0.54 for Treatment B, being these values, the averages of the amounts that players wish to give to the other in the event that they have won the game. In the parts where they had the possibility to distribute the chances of winning, the transfer averages are US$0.25 for Treatment A and US$0.61 for Treatment B, that is, the participants want to transfer a lower amount to the opponent in the third part of the game, even when the order of the parts with equal and unequal opportunities has been reversed.

	Treatment A		Treatment B	
	Part 1	Part 2	Part 1	Part 2
Amount you what to transfer	.31	.25	.61	.54
Amount you think the other transferred to you	.32	.39	.40	.45

TABLE 2: Average Transfers and Beliefs

Regarding the beliefs that the players have about the amounts that they think that the opponent decided to transfer them, these show an increase in both treatments when comparing the second part with the third. In other words, the participants decrease the amount to transfer in Part 2 vs Part 3, but believe that the other player will increase the amount that they transfer to them as the study progresses, showing an increase in the average of beliefs about the amount that the other will transfer to them of US$0.065 for Treatment A and US$0.054 for Treatment B.

3.3 Opportunities Distributions and Beliefs

In parts $TA(3)$ and $TB(2)$, they are asked how many points they want their own and their opponent's correct answers to be worth for the next part of the game. The average of the preferences for the return of their own letters correctly coded and that of the other are shown in Table 3, the preferences obtained in Treatment A being slightly more unequal than in Treatment B. In both treatments of the study unequal preferences are shown, with an average preference due to the return of their own correct answers of 7.5 points and 2.4 for the opponent in Treatment A and with 7.2 and 2.7 points respectively for Treatment B, both treatments moving away from the perfect equality of opportunities (5.5) what implies a fair game.

	Treatment A	Treatment B
Own Opportunities	7.58	7.23
Beliefs other's Opportunities keep	7.04	6.82
Other's Opportunities	2.41	2.76
Beliefs Opportunities other give	2.95	3.17

TABLE 3: Average Opportunities and Beliefs

It is important to note that of the 92 observations, all of them show preferences in distribution of opportunities between $(10, 0)$ and $(5, 5)$, that is, the participants choose between perfect equality and the inequality that favors themselves, but they never choose distributions that harm them, that is, distributions between (4,6) and (0,10). This partly proves that the decisions were made conscientiously and that in no case they wanted to give the opponent an advantage in terms of chances of winning the game.

When consulting the players what they think their game partners decided, it is observed that their beliefs are close to what they themselves preferred, although in both versions it is believed that the distribution of opportunities decided by the other is slightly less unequal than their own.

4 Results

In order to show the preferences in distribution of payments and opportunities without the effect of foreseeing that they will be able to decide opportunities and payments in the next part respectively, the frequencies in the responses obtained in parts $TA(2)$ and $TB(2)$ are considered, where, in the first, the players must decide how much of the payment they want to share with the opponent after a game with equal chances of winning and, in the second, how they want to distribute the returns of each letter correctly coded for each one. The decisions made in these parts of the treatments are considered "clear" since they correspond to the first part of the game where they compete in pairs, without having notion of the decisions that they will have to make next, for example, foreseeing the decision to distribute payments later to decide opportunity distributions for the case of Treatment B or the decision to distribute opportunities after playing a game with equal return for Treatment A.

4.1 Payments Distributions Preferences

When taking the answers of the $TA(2)$ where the participants must, after holding the championship with equal opportunities to win and without knowing the results of this, decide how much of the total amount of the prize they want to share with their opponent, a decision that will only be implemented in the payment if Part 2 is the one selected randomly to be paid and if they were really the winners of this game, we see that 69.56% of the participants decide not to share the prize at all, choosing that the amount they want to keep for themselves is US$3, as shown in Figure 1. The next highest percentage, although by much difference, is the decision to share US$1 and keep US$2 for themselves, with a percentage of 13.04%. These choices are consistent with the Economic Model, where the willingness to distribute

the payment in equal parts is scarce and selfishness prevails when it comes to sharing profits.

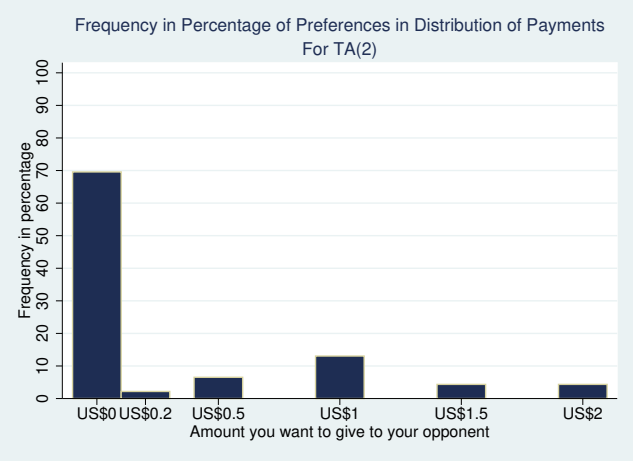

FIGURE 1: Preferences in Distribution of Payments

Given the marked tendency of preferences to not distribute the payment at all, we will analyze the differences that exist between the people who decide to distribute the payments to some extent (the amount they want to keep is different from 3) and those who decide to keep the whole of the prize. The variables that we will use to verify if there are significant differences are: number of Correct Answers in Part 1 (known by the participant), number of Correct Answers in Part 2 (unknown by the participant), Beliefs about the return that the other wants that you earn for each correct answer in Part 3 and Beliefs about the amount that your gambling partner decided to transfer to you in Parts 2 and 3, in other words, beliefs about the preferences of opponent's fairness about winning opportunities and distribution of payouts.

According to the results shown in Table 4, the performance of the participants who want to share the payment in Parts 2 and 3 of Treatment A does not differ from the players who do not want to share it, that is, the number of correctly coded letters does not show a significant difference when comparing both types of preferences in distribution of payments.

Amount of money you want to keep	Correct Answers P1	Correct Answers P2	Beliefs Opportunities Other Give to you	Beliefs Amount other Transfered to you in P2	Beliefs Amount other Transfered to you in P3
$\neq 3$	52.71	56.92	4.14	.53	.71
=3	56.93	64.06	2.43	.23	.25
P-value $H_0 : \mu_1 = \mu_2$	.51	.33	.04**	.09*	.04**

TABLE 4: Differences in Correct Answers and Beliefs for the two types of individuals

The third column shows the average number of points that the participant believes that the opponent decided as a return on his correct answers, having an average of 4.14 points for those who choose share the payment and 2.43 points for those who choose to not share any of the prize. A statistically significant difference in these averages is observed at 5%, which can be interpreted as that the decisions in distribution of payments respond to beliefs about how selfishly their opponent will behave when choosing the distribution of opportunities. The same happens with the last column of the table, which shows the averages of beliefs about how much of the prize the opponent will share in Part 3 of the game, also showing a statistically significant difference at 5%.

Regarding the beliefs about how the opponent will behave in the distribution of payments from Part 2 (with equal opportunities), the statistical difference for people who decide to share the payment versus those who do not is 10%.

It is important to note that the correlation between beliefs about the opponent's behavior and the decision to share or not share the payment has two possible interpretations: They act selfishly because they believe that others are selfish, or they are intrinsically selfish and therefore project their preferences on the behavior of the other. Although it is not possible to determine which of the interpretations is correct in this study, beliefs will act as control variables rather than of interest in the results shown in the next chapter.

4.2 Opportunities Distributions Preferences

When we observe the frequencies of the different opportunity distributions shown in $TB(2)$, it can be seen that, contrary to payment distributions, preferences in this case have two values that carry the vast majority of responses, these being those of perfect equality of opportunities (5-5) and that of perfect inequality (10-0) with a frequency of 45.65% and 36.9% respectively, results shown in the Figure 2. These results show the non-homogeneity in the preferences for the distribution of opportunities compared to the distributions of payments, clearly defining that a high percentage of people endorse equal opportunities even when

their opponent is unknown and they face a real effort task in a competitive environment.

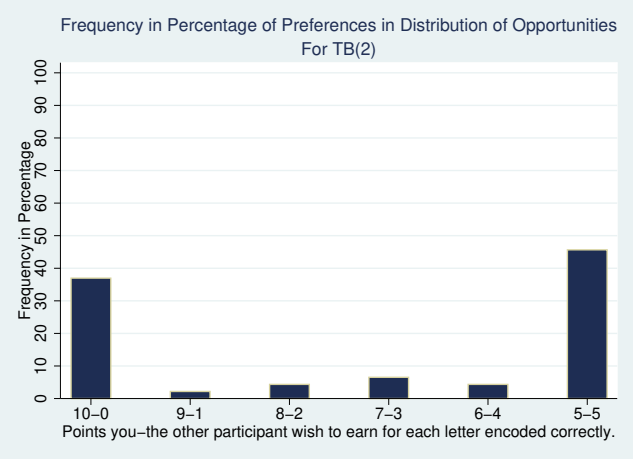

FIGURE 2: Preferences in Distribution of Opportunities

This result is especially striking and important since it manages to answer our first research question, that is, how preferences are distributed in the distribution of opportunities in a competition, showing the proportion of people who prefer equality or inequality in terms of opportunities , this distribution being its own decision and not an exogenous variable. In addition, it shows the existing difference in the proportion of people who choose selfishly in terms of chances of winning the game versus in terms of payout distributions, having by majority preferences of the type (5-5).

When analyzing how people who prefer perfect equality of opportunities differ from those who selfishly decide on this term for $TB(2)$, we observe the averages they have in the same variables considered for the possible differences that exist in the people who decide to share payments and those who do not in the Table 5. It should be considered that to carry out this analysis by categorizing the participants between preferences of perfect equality of opportunities (5.5) and perfect inequality of them (10.0), the sample is reduced to 38 individuals by leaving out the participants with intermediate preferences.

Distribution of Opportunities	Correct Answers P1	Correct Answers P2	Beliefs Opportunities Other Give to you	Beliefs Amount other Transfered to you in P2	Beliefs Amount other Transfered to you in P3
5-5	49.76	55.57	4	.57	.61
10-0	50.70	57.94	2.05	.08	.29
P-value $H_0 : \mu_1 = \mu_2$	.871	.734	.029**	.010**	.173

TABLE 5: Differences in Correct Answers and Beliefs for the two types of individuals

For the first and second variables shown in the table above, they do not show statistically different averages, that is, the decision to prefer equality or inequality of opportunities does not seem to be related to the performance of the participants. In other words, the participants of better performance are not more selfish in terms of opportunities, this considering that the competition is performed after showing your preferences for opportunity distributions.

In the next column, which shows the beliefs about how the opponent wants to distribute opportunities in Part 2, it is observed that there is a statistical difference at 5% between those who want perfectly unequal opportunities and those who want opportunities (5.5). As in beliefs about how the opponent distributed the payouts, the direction of the effect of these beliefs is ambiguous, since it can happen that the players choose selfishly because they believe that the other will also do it or, on the contrary, they are intrinsically selfish and that makes them think that the other acts in the same way, and as in the previous analysis, these beliefs will be considered with caution to avoid erroneous conclusions, but they are still useful to isolate the results that are shown later. Finally, the last column, that considers the beliefs of the participants about how the other will distribute payments in part 3, does not show statistical significance for the two types of preferences in distribution of opportunities.

These first results give us the first signs of how beliefs affect players' decisions about payout and opportunity distributions, signs that will be seen in detail in the following sections.

4.3 Explaining Opportunities Distribution Preferences

The variable that will be explained in this section will be the opportunities that the participant wants his opponent to have to win the game, which are measured as the points that each correctly encoded letter of his playing partner will have in return in part $TB(2)$. Two approaches will be considered to predict preferences in opportunity distributions: the first consists of the linear regression model using as explanatory variables the beliefs in own successes, of the other and the difference of these in addition of the beliefs in the opportunities distribution that the opponent chose, that is, the return of each success that the other participant chose for me and the return difference he chose for me and himself. The second

approach, which considers that the two most chosen distributions correspond to equitable opportunities (5.5) and inequitable opportunities (10.0), will consist of predicting under a Probit Model how the same explanatory variables mentioned affect in choosing a distribution of perfect equal opportunities, where $Y = 1$ when opportunity distribution chosen is (5.5) and $Y = 0$ when (10.10) is selected. As the preferences in intermediate distributions are left out, the amount of data available decreases to 38 in the Probit model.

$$Y_i = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5 + \gamma * X_c + \epsilon$$

Where,

Y_1: Points I want my opponent's correct answers to count.
X_1: Belief about how many letters I coded correctly.
X_2: Belief about how many letters my opponent coded correctly.
X_3: Belief about the difference between the letters correctly coded by me and my opponent.
X_4: Belief about the points that my opponent wanted my correct answers to count
X_5: Belief about the difference between the points my opponent wants his correct answers and mine to count
X_c: Controls.

Table 6 shows the results obtained in the linear model regression, being the first 5 columns the coefficients obtained from the regressions without control variables and the following 5 considering the controls on psychological variables. The coefficients shows that the variables on the beliefs of their own correct answers, of the other and the difference of these do not has statistical significance, although the sign of all of them follows the expected logic. In the other hand, the variables that show statistically significant effect correspond to the beliefs that the player has about how the other will choose the returns of each one, being not possible to reject that the coefficients are different from 0 at 5% of significance. By adding the control variables in the regressions (6) – (10), the results are maintained but the significance decreases to 10%. Specifically, it is obtained that by increasing the number of points that I think the opponent wants my points to count, the greater the return I will want to implement for his hits, while the greater the difference in points that the opponent wants his hits and mine to be worth, less return I will give. Explained in another way, the results show that in deciding how the chances of winning the game will be distributed, it is mostly important how the other player will make the same decision, rather than how the performances of each one will be.

TABLE 6: Model 1

	(1) Points for the other	(2) Points for the other	(3) Points for the other	(4) Points for the other	(5) Points for the other	(6) Points for the other	(7) Points for the other	(8) Points for Points for	(9) Points for the other	(10) Points for the other
Beliefs Own Correct Answers	-0.00806	-0.0442		-0.0252	-0.0252	-0.00934	-0.0151		0.00166	0.00166
	(-0.48)	(-1.65)		(-0.92)	(-0.92)	(-0.57)	(-0.48)		(0.05)	(0.05)
Beliefs other's Correct Answers		0.0533*		0.0463	0.0463		0.00872		0.00221	0.00221
		(1.70)		(1.53)	(1.53)		(0.22)		(0.06)	(0.06)
Beliefs Difference in Correct Answers			-0.0457*					-0.0163		
			(-1.73)					(-0.53)		
Beliefs Opp. other gave to me				0.280**					0.262*	
				(2.16)					(1.99)	
B. Difference of points other keep and gave					-0.140**					-0.131*
					(-2.16)					(-1.99)
Constant	3.164***	2.608***	3.017***	1.076	2.476***	2.109	2.066	1.825	0.771	2.082
	(3.47)	(2.75)	(8.24)	(0.93)	(2.71)	(1.01)	(0.97)	(0.95)	(0.36)	(1.02)
Controls	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
N	46	46	46	46	46	46	46	46	46	46

t statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

Continuing with the following Table 7 which contains the coefficients obtained from the Probit Model, the results found are accentuated. The probability that the player chooses a distribution $(10, 0)$ or $(5, 5)$ does not seem to respond to the beliefs about the correct answers of each one, but to the belief about how the other player decided to distribute the returns of each correct answer, an effect that is significant at 5% and is not affected when including the control variables, as shown in the last 5 columns of the same table. When we observe the Table 8 where the marginal effects of the variables used in this model are shown, it is found that for each additional point that the player believes that the opponent will decide for his letters correctly coded, the probability that he will choose the distribution of opportunities (5.5) increases on average by 0.0615 percentage points, while when the belief about the difference in points that the opponent chose for himself and for him increases by 1, said probability decreases by 0.03 percentage points, both coefficients with a significance of 5%.

TABLE 7: Model 2

	(1) P(y=1) (5,5)	(2) P(y=1) (5,5)	(3) P(y=1) (5,5)	(4) P(y=1) (5,5)	(5) P(y=1) (5,5)	(6) P(y=1) (5,5)	(7) P(y=1) (5,5)	(8) P(y=1) (5,5)	(9) P(y=1) (5,5)	(10) P(y=1) (5,5)
Beliefs Own Correct Answers	-0.00566	-0.0284		-0.0129	-0.0129	-0.00369	-0.00555		0.0135	0.0135
	(-0.57)	(-1.55)		(-0.63)	(-0.63)	(-0.33)	(-0.24)		(0.50)	(0.50)
Beliefs other's Correct Answers		0.0320		0.0288	0.0288		0.00273		0.00132	0.00132
		(1.52)		(1.27)	(1.27)		(0.09)		(0.04)	(0.04)
Beliefs Difference in Correct Answers			-0.0288					-0.00648		
			(-1.58)					(-0.28)		
Beliefs Opp. other gave to me				0.188**					0.236**	
				(1.98)					(2.04)	
B. Difference of points other keep and gave					-0.0939**					-0.118**
					(-1.98)					(-2.04)
Constant	0.400	0.0866	0.247	-1.087	-0.148	-0.219	-0.221	-0.310	-2.218	-1.038
	(0.78)	(0.15)	(1.12)	(-1.30)	(-0.25)	(-0.15)	(-0.16)	(-0.23)	(-1.22)	(-0.67)
Controls	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
N	38	38	38	38	38	38	38	38	38	38

t statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

TABLE 8: Margins Effects from Model 2

	(1) P(y=1) (5,5)	(2) P(y=1) (5,5)	(3) P(y=1) (5,5)	(4) P(y=1) (5,5)	(5) P(y=1) (5,5)	(6) P(y=1) (5,5)	(7) P(y=1) (5,5)	(8) P(y=1) (5,5)	(9) P(y=1) (5,5)	(10) P(y=1) (5,5)
Beliefs Own Correct Answers	-.0022244	-.0105641*		-.0043792	-.0043792	-.0010997	-.001655		.0035091	.0035091
Beliefs other's Correct Answers		.0119208*		.0097238	.0097238		.000815		.0003438	.0003438
Beliefs Difference in Correct Answers			-.0107287*					-.0019305		
Beliefs Opp. other gave to me				.0634931 **					.0615619 **	
B. Difference of points other keep and gave					-.0317466 **					-.0307809 **
Controls	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
N	38	38	38	38	38	38	38	38	38	38

* $p < .10$, ** $p < .05$, *** $p < .01$

Finally, the conclusion about what are de determinants for the preferences in distribtion od opportunities is the following: it is the beliefs about how their opponent behaved that define in a greater extent the preferences that they will show, even when the control variables are considered and when the approach is changed to a Probit Model, being the beliefs about the performance of both participants irrelevant for mentioned decision. In other words, the decision to choose opportunities that are equal for both versus opportunities that do not allow the other player to be the winner responds as a mirror variable to what the other is believed to do, while it is not shown that they respond to competitive decisions, for example, choosing distributions (10,0) when it is believed that the opponent has better performance and that therefore said distribution is needed to win the game.

4.4 Using Opportunities for Explain Payments

In this section, it will be explained how preferences in distribution of opportunities to win the game maintains a correlation with preferences in distribution of payments in an equal opportunity game, that is, it will be predicted the amount that the player will want to share with his opponent in the section where both have equal return ($TA(2)$ and $TB(3)$) using the preferences he shows when he is asked how he wants to distribute the return of the correct answers of both.

For this, the totality of the data will be used, that is, the responses of the preferences to distribute payments in equal opportunities of sections $TA(2)$ and $TB(3)$ and the responses for distribution of opportunities of sections $TA(3)$ and $TB(2)$, for which it must first be proved that both the $TA(2)$ and $TB(3)$ treatments as well as the $TA(3)$ and $TB(2)$, have similar distributions functions of the preferences, since being the Parts 2 and 3 in different order for Treatments A and B, preferences may be biased by the questions that were asked by entities in each of the parts.

The following figures shows the frequencies in percentages of the preferences in distribution of payments and opportunities for each treatment. Apparently, the distributions do not differ for the preferences in distribution of opportunities (Figure 4), but this is not so evident for the distributions of payments (Figure 3), so it will be tested if the distributions are equal using the Kolmogorov-Smirnov Test.

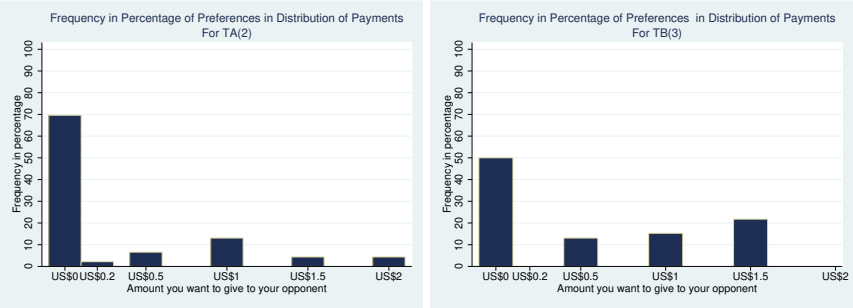

FIGURE 3: Frequency in Percentage of Preferences in Distribution of Payments for TA(2) and TB(3)

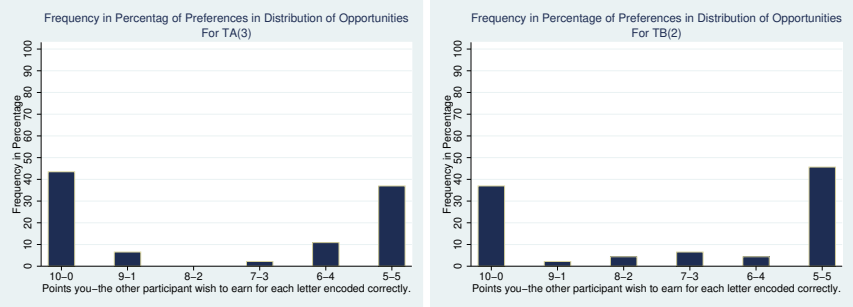

FIGURE 4: Frequency in Percentage of Preferences in Distribution of Opportunites for TA(3) and TB(2)

The results of the tests for both variables are shown in Table 9 and Table 10 where, with a p-value of 0.227, it cannot be rejected that the functions for preferences in payment distributions of both treatments are equal, as in the case of preferences in opportunity distributions, where with a p-value of 0.949 the null hypothesis of equality in distribution function cannot be rejected either.

Group	D	P-Value
Treatment A	.2174	.114
Treatment B	-.0435	.917
Combined K-S	.2174	.227

TABLE 9: Results K-S Test for Payments Distributions

Group	D	P-Value
Treatment A	.1087	.581
Treatment B	.0000	1.000
Combined K-S	.1087	.949

TABLE 10: Results K-S Test for Opportunities Distributions

With the above, it is possible to use the data from both treatments to measure the correlation between preferences in distribution of payments and distribution of opportunities, ignoring that these decisions are made in a different order for each treatment. Then, we proceed to make the following estimation:

$$Y_i = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \gamma * X_c + \epsilon$$

Where,

Y_1: Amount that I what to transfer to my opponent.

X_1: Points I want my opponent's correct answers to count.

X_2: Belief about the difference between the letters correctly coded by me and my opponent.

X_3: Belief about the difference between the amount that my opponent kept for himself and that which he transferred to me.

X_4: Belief about the difference between the points my opponent wants his correct answers and mine to count

X_c: Control variables.

Table 11 contains the results of the linear regressions considering the dependent variable as the amount that the participant wishes to transfer to his opponent in the parts where there is equal opportunities ($TA(2)$ and $TB(3)$) and the explanatory variables being the points that the player wants each correct answer of the opponent to count, the beliefs in the difference of correct answers that each one had, beliefs in difference between the amount that the other player decided to keep for himself and transfer and beliefs in difference in the amount of points that the opponent decided for himself and for him. As in the previous approaches, the first 4 regressions do not consider the control variables and in the next 4 they are included.

TABLE 11: Model 3

	(1) Amount to transfer	(2) Amount to transfer	(3) Amount to transfer	(4) Amount to transfer	(5) Amount to transfer	(6) Amount to transfer	(7) Amount to transfer	(8) Amount to transfer
Points for the other	0.103***	0.0980***	0.0791***	0.0582**	0.0842***	0.0828***	0.0695***	0.0485*
	(4.12)	(3.92)	(3.54)	(2.48)	(3.16)	(3.11)	(2.89)	(1.90)
Beliefs Difference in Correct Answers		-0.00717	-0.00384	-0.00271		-0.00533	-0.00307	-0.00202
		(-1.61)	(-0.97)	(-0.70)		(-1.20)	(-0.76)	(-0.51)
Beliefs Diff. of amount other keep and trasnf.			-0.216***	-0.206***			-0.199***	-0.195***
			(-5.17)	(-5.02)			(-4.59)	(-4.60)
B. Difference of points other keep and gave				0.0242**				0.0232**
				(2.38)				(2.13)
Constant	0.165*	0.203**	0.719***	0.840***	-0.365	-0.289	0.305	0.419
	(1.89)	(2.27)	(5.65)	(6.27)	(-1.19)	(-0.93)	(0.99)	(1.37)
Controls	No	No	No	No	Yes	Yes	Yes	Yes
N	92	92	92	92	92	92	92	92

t statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

The results suggest that the decision to distribute opportunities, measured as points for the correct answer for the opponent, has a positive and statistically significant correlation with the amount to be transferred to the opponent. In other words, people who prefer unequal payouts and are therefore less willing to share the prize of a competition, also show more unequal preferences for chances to win the game, approaching distributions where their own hits are worth more than the correct answers of his opponent. Mentioned significance remains at 1% in the first 7 specifications and falls to 10% when the variable of beliefs about the differences of points that return the correct answers that the other participant chose for himself and for him is added and the control variables are considered. Again, the beliefs about the performance of each one measured as the difference of correct answers does not show a significant effect to predict the amount to be transferred, which is why the conclusion is maintained that the participants do not respond to a sense of merit, but rather

beliefs about how the other behaved and therefore respond in a similar way. Within these beliefs, the variable of beliefs about how the opponent distributed the payments is the one that shows the greatest effect and that maintains its significance at 1% in all specifications.

The following analysis consist in carried out a Probit Model where the predicted variable corresponds to the probability that the individual chooses a selfish distribution of payments $(3,0)$ taking the dependent variable value 1 when this happens and 0 when it does not. On this occasion, the explanatory variables are kept for the beliefs about performance, and distribution of payments and opportunities that the other chose, but preferences about distribution of opportunities will be considered as a dummy variable that takes the value 1 when the distribution of returns $(10,0)$ is chosen and value 0 when $(5,5)$ is selected. Under this specification, it is possible to obtain the correlation in terms of percentage point of the occurrence between people who prefer the perfect inequality in payments and opportunities. For this model, the data is reduced to 75 individuals, since the data of the players who chose distributions return of intermediate hits are eliminated. The results of these regressions are shown in Table 12 and again, the first 4 regressions do not consider control variables and the following ones do.

TABLE 12: Model 4

	(1) P(y=1) (3,0)	(2) P(y=1) (3,0)	(3) P(y=1) (3,0)	(4) P(y=1) (3,0)	(5) P(y=1) (3,0)	(6) P(y=1) (3,0)	(7) P(y=1) (3,0)	(8) P(y=1) (3,0)
P(y=1)	1.235***	1.199***	1.161***	0.935**	1.090***	1.085***	1.094**	0.902*
(10,0)	(3.75)	(3.60)	(3.24)	(2.40)	(2.76)	(2.72)	(2.57)	(1.92)
Beliefs Difference in		0.0151	0.00856	0.00525		0.0107	0.00368	-0.000693
Correct Answers		(1.20)	(0.63)	(0.36)		(0.77)	(0.25)	(-0.04)
Beliefs Diff. of amount			0.429***	0.461***			0.446***	0.514***
other keep and transf			(3.44)	(3.46)			(3.10)	(3.17)
B. Difference of points				-0.0847**				-0.0975**
other keep and gave				(-2.38)				(-2.33)
Constant	-0.132	-0.154	-1.009***	-1.203***	1.486	1.285	0.323	0.0836
	(-0.65)	(-0.75)	(-2.97)	(-3.26)	(1.49)	(1.25)	(0.29)	(0.07)
Controls	No	No	No	No	Yes	Yes	Yes	Yes
N	75	75	75	75	75	75	75	75

t statistics in parentheses
* $p < .10$, ** $p < .05$, *** $p < .01$

When analyzing the coefficients obtained from the regressions of Table 12 and the marginal effects of Table 13, it is observed that the Probit Model specification reaffirms what was found in the linear regression model: the probability of choosing distribution of payments (3.0) depends on and correlates with preferences in distribution of opportunities as well as the beliefs of how the opponent decided to distribute payments. With the marginal effects, it is concluded that people who choose unequal distribution of opportunities (10.0) have an average of 18 percentage points more than choosing selfish distribution of payments (3.0), a result that is significant for all the specifications of the Probit Model and that considering beliefs and control variables is located at a significance of 5%.

TABLE 13: Marginal Effects from Model 4

	(1) P(y=1) (3,0)	(2) P(y=1) (3,0)	(3) P(y=1) (3,0)	(4) P(y=1) (3,0)	(5) P(y=1) (3,0)	(6) P(y=1) (3,0)	(7) P(y=1) (3,0)	(8) P(y=1) (3,0)
P(y=1) (10,0)	.3797539 ***	.3599627 ***	.2957994 ***	.2154929 **	.2865295 ***	.2823465 ***	.2431728 ***	.1822745 **
Beliefs Difference in Correct Answers		.0045302	.0021815	.0012094		.0027849	.000819	-.00014
Beliefs Diff. of amount other keep and transf			.1092629 ***	.1062721 ***			.0991725 ***	.1039691 ***
B. Difference of points other keep and gave				-.0195407 ***				-.0197122 ***
Controls	No	No	No	No	Yes	Yes	Yes	Yes
N	75	75	75	75	75	75	75	75

Finally, in this section it has been proven that under the linear regression model and the Probit model, there is a statistically significant correlation between the preferences that individuals show on distribution of payments and opportunities, with the greater the selfishness in the decision to share payouts, the greater the difference in opportunities of winning the game that the player wants to implement. These results are robust for both specifications and considering control variables as psychological characteristics of the sample. Thus, our second research question is answered, finding that the relationship between how people want to distribute the winnings of a game and how to distribute the chances of winning it is positive and statistically significant.

5 Conclusion

This study documents and analyzes the preferences of individuals regarding distribution of payments and opportunities in a real effort task, implemented in the CloudResearch platform and monetarily incentivized, and how these preferences are related. The results obtained point to an evident tendency and in line with previous investigations of little willingness to distribute payments in a tournament, while the results about preferences of distribution of opportunities present two majorities, the one of perfect equality of opportunities and the other, the perfect inequality. This revelation of preferences in distribution of opportunities is especially important since, given the non-existence of previous studies where it is the participants who choose the winning opportunities of each player, it is proven that these preferences are very dissimilar compared to preferences in distribution of payments that have been documented to date.

When analyzing the variables that affect the decision to distribute the opportunities to win the tournaments, the results are conclusive: it is exclusively the beliefs about the behavior that the other player will have that define the decision on equality or inequality of opportunities to win the game, these results being robust to the linear regression model approach and Probit model, in addition to the inclusion of control variables.

When analyzing the relationship that exists between preferences in payment and opportunity distributions, it is concluded that there is a positive correlation between them, which is robust both in the linear regression and Probit model and considering the control variables, that is, the people who have preferences for more equitable opportunity distributions also have preferences for payment distributions, while people who choose perfectly unequal opportunity distributions are more likely to choose perfectly selfish payment distributions.

References

[Akbas 2018] Akbaş, Merve & Ariely, Dan & Yuksel, Sevgi, "When is inequality fair? An experiment on the effect of procedural justice and agency" *Journal of Economic Behavior & Organization, Elsevier, vol. 161(C) (2019)*, pp. 114-127., September, 2018.

[Becker 2009] Becker, A., Miller, L.M., "Promoting justice by treating people unequally: an experimental study." *Exp Econ 12, 437–449 (2009)*, pp. 437–449, January 28, 2009.

[Ben-Ner et al., (2004).] Ben-Ner, Avner Kong, Fanmin Putterman, Louis. (2004). Share and share alike? Gender-pairing, personality, and cognitive ability as determinants of giving. Journal of Economic Psychology. 25. 581-589. 10.1016/S0167-4870(03)00065-5.

[Blount, S., (1995)] Sally Blount, When Social Outcomes Arent Fair: The Effect of Causal Attributions on Preferences, Organizational Behavior and Human Decision Processes, Volume 63, Issue 2, 1995, Pages 131-144, ISSN 0749-5978, https://doi.org/10.1006/obhd.1995.1068.

[Boone et al., (1996).] Boone, Christophe Brabander, Bert, van Witteloostuijn, Arjen Arjen,. (1996). The impact of personality on behavior in five prisoner's dilemma games. Maastricht : NIBOR, Netherlands Institute of Business Organization and Strategy Research, Research Memoranda.

[Bottum et al., (2017)] Bottum, J., Atkins, D., Blatecky, A., Mcmullen, R., Tannenbaum, T., Cheetham, J., Wilgenbusch, J,. Bhatia, K., Deumens, E., von Oehsen, J., Ziolkowski, M., Bedrossian, A., Fay, D., Fox, G., (2017). The Future of Cloud for Academic Research Computing. 10.13140/RG.2.2.10071.88489.

[Cappelen et al., (2007).] Cappelen, Alexander, W., Astri Drange Hole, Erik Ø Sørensen, and Bertil Tungodden. 2007. "The Pluralism of Fairness Ideals: An Experimental Approach." American Economic Review, 97 (3): 818-827.

[Cappelen 2019] Cappelen, Alexander W. and Mollerstrom, Johanna and Reme, Bjørn-Atle and Tungodden, Bertil, "A Meritocratic Origin of Egalitarian Behavior" *GMU Working Paper in Economics No. 19-16 (2019)*, May 14, 2019.

[Card, D., (1999)] Card, David, 1999. The causal effect of education on earnings. Handbook of Labor Economics, in: O. Ashenfelter D. Card (ed.), Handbook of Labor Economics, edition 1, volume 3, chapter 30, pages 1801-1863, Elsevier.

[Carpenter 2019] Carpenter, Jeffrey and Huet-Vaughn, Emiliano, "Handbook of Research Methods and Applications in Experimental Economics", pp. 368–383, July 26, 2019.

[Charness Rabin 2002] Charness, G., Rabin, M. (2002). Understanding Social Preferences with Simple Tests. The Quarterly Journal of Economics, 117(3), 817–869. http://www.jstor.org/stable/4132490

[Dana 2006] Dana, Jason and Cain, Daylian M. and Dawes, Robyn M., "What You Don't Know Won't Hurt Me: Costly (but Quiet) Exit in Dictator Games" *Organizational Behavior and Human Decision Processes 100 (2006) 193–201*, pp. 193-201, July, 2006.

[Erkal et al., (2011).] Relative earnings and giving in a real-effort experiment. American Economic Review, 101 (7), 3330–3348.

[Fehr, E., Schmidt, K. M. (1999).] A Theory of Fairness, Competition, and Cooperation. The Quarterly Journal of Economics, 114(3), 817–868. http://www.jstor.org/stable/2586885

[Fehr, E., Fischbacher, U. (2004).] Third-party punishment and social norms. Evolution and Human Behavior, 25(2), 63–87. https://doi.org/10.1016/S1090-5138(04)00005-4

[Gino 2016] Gino, Francesca and Norton, Michael I., and Weber, Roberto A., "Motivated Bayesians: Feeling Moral While Acting Egoistically" *Journal of Economic Perspectives, 30 (3) (2016)*, pp. 189-212, Summer, 2016.

[Hoffman et al., (1994)] Elizabeth Hoffman, Kevin McCabe, Keith Shachat, Vernon Smith, Preferences, Property Rights, and Anonymity in Bargaining Games, Games and Economic Behavior, Volume 7, Issue 3, 1994, Pages 346-380, ISSN 0899-8256, https://doi.org/10.1006/game.1994.1056. (https://www.sciencedirect.com/science/article/pii/S0899825684710566)

[Kamei K., (2016)] Promoting Competition or Helping the Less Endowed? Distributional Preferences and Collective Institutional Choices under Intragroup Inequality. J Conflict Resolut. 2018 Mar;62(3):626-655. doi: 10.1177/0022002716656446. Epub 2016 Jul 4. PMID: 30886442; PMCID: PMC6375366.

[Kerschbamer Muller 2020] Kerschbamer, R., Muller, D. (2020). Social preferences and political attitudes: An online experiment on a large heterogeneous sample. Journal of Public Economics, Volume 182, 2020, 104076, ISSN 0047-2727, https://doi.org/10.1016/j.jpubeco.2019.104076.

[Klinowski 2018] Klinowski, D., "Gender differences in giving in the Dictator Game: the role of reluctant altruism." *Journal of the Economic Science Association volume 4, pages 110–122 (2018)*, pp. 110-122, October 31, 2018.

[Krawczyk 2010] Krawczyk, Michał, "A glimpse through the veil of ignorance: Equality of opportunity and support for redistribution" *Journal of Public Economics Volume 94, Issues 1–2, (2010)*, pp. 131-141, February, 2010.

[Kung, F.Y., Kwok, N. and Brown, D.J. (2018)] Kung, F.Y., Kwok, N. and Brown, D.J., Are Attention Check Questions a Threat to Scale Validity?. Applied Psychology, 67: 264-283. https://doi.org/10.1111/apps.12108

[McCall, L. (2013).] McCall, L. (2013). The Undeserving Rich: American Beliefs about Inequality, Opportunity, and Redistribution. Cambridge: Cambridge University Press. doi:10.1017/CBO9781139225687

[Mollerstrom 2015] Mollerstrom, Johanna and Reme, Bjørn-Atle and Sørensen, Erik Ø., "Luck, choice and responsibility — An experimental study of fairness views" *Journal of Public Economics Volume 131, (2015)*, pp. 33-40, November, 2015.

[Norton, M. (2014).] Norton, M. 2014. "Unequality: Who Gets What and Why It Matters." Policy Insights from the Behavioral and Brain Sciences 1(1): 151-155.

[Overlaet, B. (1991).] Merit criteria as justification for differences in earnings, Journal of Economic Psychology, Volume 12, Issue 4, 1991, Pages 689-706, ISSN 0167-4870, https://doi.org/10.1016/0167-4870(91)90006-F.

[Sefton, M. (1992).] Incentives in simple bargaining games. Journal of Economic Psychology, 13(2), 263–276. https://doi.org/10.1016/0167-4870(92)90033-4

[Tyran, J., Sausgruber, R., (2006)] A little fairness may induce a lot of redistribution in democracy, European Economic Review, Volume 50, Issue 2, 2006, Pages 469-485, ISSN 0014-2921, https://doi.org/10.1016/j.euroecorev.2004.09.014.