Влияние когнитивных искажений на щедрость в модифицированных играх «Диктатор»

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Аннотация. Исследование влияния социального давления на решения о пожертвованиях является важным аспектом для понимания процесса построения эффективной системы благотворительности. Целью данного исследования является изучение влияния когнитивных искажений на решения о пожертвованиях. Задачи исследования включают обзор литературы по теме, проведение лабораторного эксперимента игры «Диктатор» в трех вариациях (классической, агрессивной и с временной задержкой) и интерпретацию полученных результатов с возможностью их применения. Метод исследования состоит в проведении лабораторного эксперимента на основе трех версий игры «Диктатор» с использованием программы z-Tree. Выборка состоит из 18 студентов в возрасте 19-20 лет, чьи вознаграждения представляли собой баллы за академические курсы. Результаты показали увеличение пожертвований среди участников с обострением введенных когнитивных искажений по мере прогресса игры. Например, в классической версии игры «Диктатор» в среднем отдавал необеспеченной Жертве 7,6 токенов из возможных 20, так как решение зависело исключительно от желания Диктатора сделать пожертвование. В агрессивной версии Диктатору была предоставлена возможность изменить размер пожертвования от уже начального справедливого распределения пожертвований до 10 из 20 доступных токенов, что привело к увеличению среднего пожертвования до 8,6 токенов. В версии с временной задержкой Диктатор должен был объяснить выбранное распределение пожертвований в текстовом формате Жертве, что увеличило пожертвования в среднем до 10,9 токенов. Результаты исследования могут найти применение в благотворительности: более личное знакомство с нуждающимся может привести к увеличению размера и частоты пожертвований. Основным ограничением исследования является небольшой размер выборки, состоящей только из студентов, награжденных баллами за курсы. Будущие исследования должны использовать случайную выборку участников и денежное вознаграждение.

Ключевые слова: Игра в диктатора, когнитивные искажения, человеческая щедрость, поведенческая экономика, благотворительность, z-дерево

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Introduction

How often are people committed to altruistic motives when adopting their own decisions towards people around them? In the context of studying a given issue, researchers resort to modelling games reflecting real-life situations endowed with social settings and constraints. One of the most widespread methods of studying commitment to altruism is the classic version of the Dictator game, which is most representative of egoistic and rational motives in public decision making.

The aim of the research work is to study the influence of cognitive distortions on the decisions made

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by the participants of the experiment within the framework of the Dictator game and its modifications. To achieve the goal, the following were formulated:

1. To study the theoretical aspects of the influence of cognitive distortions on decision making by economic agents;

2. To conduct an experimental session using the Dictator game;

3. To perform statistical and econometric analyses and interpret the results obtained.

As the object of the study the behavior of people in the case of endowment distribution is applied, the subject of the research reflects the mechanisms influencing the participants' decision-making behavior in the conditions of social framework.

The methodological toolkit of the study includes a number of testing sessions in which the participants were bachelor students; subsequently, the data obtained during the experiment were aggregated using the Stata application and the R programming language.

The experimental session consisted of 3 versions of the dictator game, including the control version (the original Dictator game), as well as 2 modifications of the game. The first modification «Bully Dictator» involves the proposal of an initial equal distribution of the money fund between the Dictator (Player 1) and Victim (Player 2). The second modification «Time-delay» requires the Dictator (Player 1) to motivate the decision to distribute the money fund by writing a message to the Victim (Player 2). It is hypothesized that as the modifications are introduced in the experimental session, the value of the donation will increase and come closer to a fair distribution of the fund.

A review of the academic literature revealed an ambiguous effect of time delay on decision making, whereas social framing tends towards a more socially fair decision that is not censured by public opinion. Thus, the object of the study is the amount of the Dictator's donation to the Victim, and the subject is the mechanisms of influence of cognitive distortions on the Dictator's decisions.

Analysis of the results obtained using statistical and econometric techniques, as well as visualization, demonstrated an increase in the amount of donations in the process of adding modifications in the experimental session. Moreover, the most equitable distributions are inherent in the second modification «Time-delay», in which the average donation amount reached half of the initial endowment and brought the distribution closer to the socially equitable one. The obtained results confirmed the set hypotheses.

Theory

In the existing literature, the impact of decision-making time and experiment framing on choices has been extensively explored both in laboratory settings and in real-life contexts. These aspects are key factors of our experiment, therefore, considering the results of existing experiments is relevant.

Andersen et al. in an experimental study examined whether extended thinking time affects the decisions participants make in dictator and cheating games. The research demonstrated that no significant difference occurred between decisions made immediately in the laboratory and decisions for which participants were given a day to make. This may suggest that lack of time does not have a relevant impact on social or ethical decision making [2].

Carlson et al. investigated if a neural signature that rapidly encodes the motivational significance of an event can predict intuitive prosocial motivation. In the experiment, participants were asked to distribute money between themselves and charitable organizations. The amplitude of the neural signature was greater among participants with higher empathy compared to individuals with low empathy. Consequently, authors concluded that decisions are driven by intuitive prosocial motivation whereas it has often been assumed that altruism arises from reflexive control over prerogative selfish impulses [10].

Chuang et al. explored the effect of time delay on change in reciprocity using data on donation requests from university hospitals submitted to former patients within 4 months of their first clinic visit. The study revealed that a 30-day delay between the provision of a medical service and a donation request reduced the likelihood of a patient contributing a donation by 30%. Thus, reciprocal behavior is time-sensitive and attenuates over time, suggesting the importance of prompt decision-making to benefit [12].

Grolleau et al. studied how the generosity of participants in a dictator game is affected by increasing the decision-making time by conducting an experiment in Tunisia. For the experiment time intervals for making a split choice of 30 seconds, 10 minutes and 30 minutes were applied. The result of the experiment demonstrated that participants donate less under conditions of greater time to consider the allocation of funds in comparison to a situation of less time to decide [14].

In a research paper, Mrkva studied the impact of reflection and decision-making time on the donation of large amounts of money. Notwithstanding the ambiguity of the effect of time to reflect on decision making existing in the literature, the author confirmed the suggestion that reflection and decision-making time increased the willingness to donate large sums of money but had no effect if the stakes were uncostly [23].

The several research articles we considered focusing on Dictator games demonstrated the fact that revealing social contexts and providing various personal information regarding the «recipient» (the second player) enhanced the altruistic motives of the Dictators (the first players) and hence increased the number of more generous donations. At the same time, the absence or insufficiency in providing information about potential recipients of donations prevented more social behavior; in experiments with such conditions, Dictators' behavior was close to the economically rational prediction based on the assumption of egoism and self-interest commitment.

As an example, Elizabeth Hoffman et al.'s research paper, which presents experiments with neutral instructions and anonymity conditions for players, confirmed the hypothesis that increased social isolation between participants leads to a trend towards lower donations for the recipients, or about total self-interested behavior, which corresponds to the theoretical rational prediction in terms of economics. But it is notable that also in these experiments with a neutral context, some participants followed a more altruistic strategy, therefore the average contribution remained positive and was close to 10% of total donations for the second players [17].

This deviation from theoretical expectations may be related to the influence of the experimenter's observation. According to this hypothesis, some of the Dictators tend to believe that if they demonstrate theoretically rational but rather self-interested and greedy donation behavior during the experiment, this may have a negative impact on the assessment of the experimenter observing them. Some participants considered that as a consequence of this negative evaluation and labelling as a «greedy person» could be the potential exclusion from possible future experimental sessions, leading to the loss of some future income. Also, negative side evaluation may stimulate the participant's internal feelings of social disapproval and stigmatization. Therefore, the Dictators were motivated to donate part of the endowment to the recipient in order to preserve their own reputation [5].

The opposite situation is reflected in articles involving non-neutral instructions, no mechanisms to maintain anonymity, and dictators being provided with facts about the recipients of donations. In these cases, more strongly altruistic social motives were observed and, accordingly, the percentage of donations was higher or was close to equal.

In the course of the research, T. Burnham conducted three versions of the Dictator game [7]. In the first variation of the game, the first players viewed the recipients' photos, in the second version, on the contrary, the second players received the Dictators' photos, and in the third version, the participants' photos were not used at all. In this experimental session, photographs were necessary to selectively reduce subjects' anonymity. The photos introduced participants to each other in absentia but did not allow for any verbal communication or the receiving of body signals and facial expressions.

According to the findings of this research, more than 50% of Dictators in both anonymous and photo-based games kept the initial cash fund for themselves. But it is also worth noting that participants who made any donations in the anonymous conditions tended to split the endowment money equally between the Dictator and the recipient in the photo-based versions of the game. It is interesting, as Hoffman and Spitzer in their article noted that face-to-face negotiation also leads to equal distribution of the fund [17]. Accordingly, the presence of photographs during the experiment practically did not change the percentage

ratio of those who kept the money with themselves and those who made donations, however, the behavior of the first players, who nevertheless transferred part of the endowment to the recipients, was close to the situation of real face-to-face negotiations.

The equal distribution in the situation where the recipients viewed the photos of the first players can be explained by the reduced anonymity of the first players and hence the presence of worries about the reputational deterioration, condemnation from the outside. In contexts where decisions need to be made publicly, individuals face public sanctions that can either increase their welfare in the case of prosocial behavior, or conversely decrease it in the case of antisocial actions. More fair donations in a game with photo of recipients is consistent with the notion that people are more likely to empathize and increase donations if they possess some details about the recipients.

Valerio Capraro and Andrea Vanzo's research explores how sensitive agents' preferences are to non-economic cues (the language used to describe available strategies), and how these cues will affect participants' choices beyond the economic consequences these actions will lead to. In their extreme dictator experiment, they manipulated words describing available actions using six terms ranging from very negative (e.g., stealing) to very positive (e.g., donation) connotations. The study found that verbal manipulation significantly influenced participants' decisions. One potential explanation is that participants have moral preferences: they compare the moral goodness of a prosocial action with the moral depravity of a self-protective action and then act prosocially only when the resulting difference is large enough to counterbalance the cost of the prosocial action [8].

Chang et al. in their research study also investigate the impact of rhetorical framing techniques on the decisions of economic agents. They used a laboratory study to test the effects of describing a series of Dictator games with in either politically charged tax- or neutrally-framed language. According to the results of the experiment, subjects' political identities interact with these framings, causing changes in both norms and choices. Framing causes Democrats to favor equal outcomes and Republicans to be reluctant to redistribute payments, even if it disadvantages them [11].

Hillenbrand and Verrina examine how positive narratives (stories favoring prosocial actions) and negative narratives (stories favoring selfish actions) affect prosocial behavior in a series of laboratory and online experiments involving over 1500 subjects. In the experiments, both positive and negative narratives were found to be effective in changing perceptions of actions. However, while positive narratives increase prosocial behavior, negative narratives have little or no effect on aggregate behavior - leading to slightly more prosocial behavior. Negative narratives allow self-serving actors to associate with prosocial actors [16].

Krupka and Weber in their study introduce a method for stimulated elicitation of social norms that utilizes simple coordination games. They observed that the importance of social norm compliance and monetary considerations are fairly consistent across a variety of experiments based on dictator games. This consistency implies that examinees generally show a stable willingness to donate money for socially acceptable behavior; the utility of decision makers depends on the money they receive and the degree to which their actions conform to social norms, in the form of performing actions that are generally considered socially acceptable and avoiding those that are considered socially unacceptable [20].

Jonathan Schulz et al. investigated the effects of affect and deliberation in a series of mini Dictator games. The subjects in the experiment were exposed to varying degrees of cognitive load, which reduced deliberation time and thereby enhanced the effect of affect on decision-making. Researchers revealed an increase in the generosity of the experiment participants under high-load conditions, as subjects became more willing to favor a fair distribution over an unfair one. Consequently, the affect and deliberation state play an essential role in the decision-making process in adapting the decision to a particular situation [25].

Yi Yang Teoh et al. find evidence that varying the decision-making time does not affect the generosity of donations. The Authors provide their own interpretation of dual-processing models of altruistic choice, explaining that time constraints on making decisions reveal individual differences in social preferences of participants. Importantly, the results also point to the significance of prioritizing the attention of processing

constraints [26].

David Rand et al. note that women are expected to behave more altruistically and are punished for contrary behavior to a greater extent than men, so women may internalize altruism as an intuitive response. Analyses of experiments revealed that intuition as compared to deliberation increased giving exactly for women in the Dictator game. Consequently, the findings indicate the relevance of social heuristics in human prosociality. Moreover, traditionally feminine attributes were associated with greater generosity in donations in the Dictator game, whereas traditionally masculine attributes were related to decreased altruism under decision deliberation conditions [24].

Valerio Capraro, Brice Corgnet, Antonio M. Espín and Roberto Hernán-González explore how participants' deliberation in decisions about the allocation of monetary resources affects social efficiency. The results of an experiment conducted in India and the United States demonstrate that an individual's intuition leads to concern for his or her relative benefits, while deliberation leads the participant to reflect on the social efficiency of these resources. Increased deliberation time, as initially anticipated, overcomes the participant's intuitive tendency to be self-interested in the allocation of the monetary endowment [9].

An important aspect of interpreting the results of the Dictator game is emphasized in a study by Nicholas Bardsley. The previously shown liberality in resource allocation in the original version of the experiment and its variations can be interpreted as an artefact of the experiment, while the usual generosity of Dictators can be colossally altered by allowing participants to take their partner's funds. As the author concluded, the data obtained in Dictator games do not reflect a concern for the consequences of other participants. Moreover, the economic side of the analysis should not exclude context-dependent social norms [3].

Previously reported gender differences in experiments using the Dictator game have demonstrated greater altruistic behavior from women rather than men, although these results can be disputed and attributed to the characteristics of student samples. Pablo Brañas-Garza, Valerio Capraro, and Ericka Rascón-Ramírez conduct their own experiment to identify the role of gender in the distribution of endowments in the Dictator game utilizing a sample of 3,500 Amazon Mechanical Turk crowdworkers from the USA. The experimental outcomes pointed out previously explored differences: women are significantly more altruistic than men. Furthermore, a second experiment indicated that both men and women expect women to be more altruistic than men [6].

The influence of cognitive load and time pressure on decision making is widespread in the literature and frequently reveals disparate findings. Gustav Tinghög et al. investigate the role of intuitive thinking conditioned by the time constraint and cognitive distortions in a set of experiments involving a trolley-type dilemma and Dictator games. The sample of 1,400 individuals covered three countries, namely Austria, the United States and Sweden. According to the results of performed experiments, researchers concluded that the different conditions of the experiment had no effect on the moral judgement or altruistic behavior of the participants. Moreover, men in this experiment were more likely to adopt egoistic solutions than women, which again illustrates the existence of gender differences in moral decision-making. Importantly, no association between manipulation in the game and gender was observed in the context of intuitive decision making [27].

Anna Merkel and Johannes Lohse investigate the validity of the «fairness is intuitive» hypothesis. Researchers use Binary Dictator and Prisoner's Dilemma in conditions of time constraints or time delays, as well as manipulating the subjective difficulty of choosing the fairer option over the self-interested one. The research concludes that time frames are not necessarily able to affect fairness of choice in situations where this could be predicted after accounting for the difficulty of choice by the participant in the game. Therefore, the research finds the hypothesis that 'fairness is intuitive', as emphasized by other researchers in their earlier experiments with time constraints in participant decision making, to be questionable [22].

Anja Achtziger, Carlos Alós-Ferrer, and Alexander K. Wagner investigated the effects of a manipulation depleting self-control resources on preferences in the Dictator game. The study illustrates how subtle manipulations of self-control affect the prosociality of an individual's behaviour. In addition to the productivity loss previously mentioned in the literature, authors of this paper point to moral implications for the social

responsiveness of decision makers. Moreover, the ego depletion effect increases as more decisions are made. In the experiment, the authors used a manipulation involving word processing and discovered that depleted Dictators donate less of the endowment, thereby demonstrating a pronounced preference for selfish allocation of the fund. It is important to note that donations decrease for both exhausted and non-exhausted Dictators, but exhausted Dictators start with much lower donations. Consequently, ego depletion leads to short-lived prosocial behavior and reveals tendencies towards egoism [1].

Thus, academic research is not conclusive regarding the impact of delayed reflection time on decisions to split the initial endowment fund. While several studies indicate no effect of deliberation time on the decision, others attribute it to an increase in donations and some to a decrease. Social framing works as a method of coordination by influencing participants' beliefs, their opinions about the fairness of decisions, and the behavior of other people involved in the interaction. Individuals care that their behavior conforms to social norms.

Methods

The Dictator Game is a basic experiment in behavioral economics to test the altruistic nature of economic agents. Dictator is a modified game of Ultimatum. In the original simplified Ultimatum game, there were 2 participants who shared the money fund. The first participant (the proposer) has an initial endowment of money and proposes an offer (some portion of his endowment) to the second player (the responder), who is not endowed with money. The second player (the responder) can accept or refuse the offer of the first player (the proposer). In the first case, the second player (the responder) receives the offered amount of money (the offer), and the first player (the proposer) is left with the difference between his initial cash fund and the accepted offer. In the second case, both players receive 0 [15].

In the case of the Dictator game, the first player (the Dictator) is also endowed with an initial fund of money, while the second player (the Victim) is not endowed with any money. However, in this case, the first player (the Dictator) makes a donation to the second player (the Victim), who simply receives the donated money and is unable to influence the course of the game. At the end, the second player (the Victim) will receive the money donated by the first player (the Dictator), and the first player (the Dictator) will be left with the difference between the original cash fund and the donation to the second player (the Victim).

The original Dictator game developed by Daniel Kahneman in the 1980s involved a third party, so that only one player could influence the outcome and the other two could not [19]. However, the well-known classic Dictator game described above appeared in 1994 in a study by Robert Forsythe and others [13]. Typically, the results of experiments using the Dictator game demonstrate that Dictators tend to donate to second players, which violates the basic assumption that an economic agent maximizes its own welfare and should expectably donate anything to the second player.

The basis of the experiment we conducted was the research work of Ennio Bilancini, Leonardo Boncinelli, Pietro Guarnieri and Lorenzo Spadoni, who performed 6 variations of the dictator game, namely the bully version and the time-delayed version. The bully version of the dictator assumes an initial equal distribution of the endowment, but the final split is decided by the dictator. The time-delayed version provides time to think about the decision to divide the initial fund and to explain the reason for this distribution by providing a written explanation of one's own motivation for making the decision. The results of the study demonstrate that dictators under the bully version gain less compared to the classical version of the game, while a request to explain the decision also reduces the dictator's payoff [4].

The experiment was conducted with the participation of bachelor's degree students of the Faculty of Economics aged 19-20 years old. Motivation of commitment to rational behavior of participants is conditioned by the fact that the initial endowment distributed by participants is represented by points being a part of current academic performance of students directly influencing the final grade for the course.

This study aims to investigate the influence of cognitive distortions and manipulations on decisions about dividing the monetary fund under the conditions of a modified version of the dictator game. The experiment involves the implementation of three versions of the dictator game – a basic (control version) and

two modifications.

The dictator game consists of distributing an initial endowment of money between a Dictator (Player 1) and a Victim (Player 2). Participants are randomly assigned to pairs where one player is the Dictator (Player 1), and the other is the Victim (Player 2). The Dictator (Player 1) has an initial fund of 20 tokens. The goal of the Dictator (Player 1) is to determine the donation amount for the Victim (from 0 to 20 tokens). In this case, the Victim (Player 2) is not endowed with any monetary fund and has no ability to make any decisions. At the end of the game, the Victim (Player 2) receives a profit in the amount of the donation from the Dictator (Player 1), while the Dictator's gain is the difference between his initial fund and the donation to the Victim (Player 2).

Traditionally, the results of the classical version of the Dictator's game show altruistic motives in the distribution of the initial monetary fund, which is reflected in the fact of the presence of 20% donation from the Dictator's endowment, contrary to the economic assumptions of rational behavior of the participants. Moreover, according to statistical data, about 2/3 of the participants offer some kind of monetary donation to the second player.

The first modification is the bully version which assumes an equal initial division of the dictator's endowment (namely 10 tokens to the Dictator (Player 1) and 10 to the Victim (Player 2)), leaving the Dictator to finalize the decision on the division of the funds.

The second modification is the time-delayed version for decision making. It consists in the necessity to obligatory explain the reason for splitting the money fund in the form of a text message to the Victim (Player 2). Moreover, as in the Bully version of the game, the Dictator (Player 1) is initially offered to split the endowment equally, but the final decision belongs to the Dictator (Player 1).

Based on the reviewed literature, two research hypotheses were formulated:

H1: Modified games incentivize the Dictator (Player 1) to increase the size of the donation to the Victim (Player 2).

H2: Time-delayed modification will lead to an increase in the Dictator's donation to the Victim (Player 2) to a greater extent compared to the Bully version.

Results

The experiment obtained empirical data consisting of 81 observations. This experiment involved 18 people. According to Figure 1, on average, the most generous donations were made in the second modification (10.9 tokens), which is higher than the average donation of the first modification (8.6 tokens) and the control version (7.6 tokens). During the implementation of the modifications, as the mean became higher, the 1st and 3rd quartiles also increased, indicating a positive trend with respect to the fair distribution of the endowment by the Dictator.

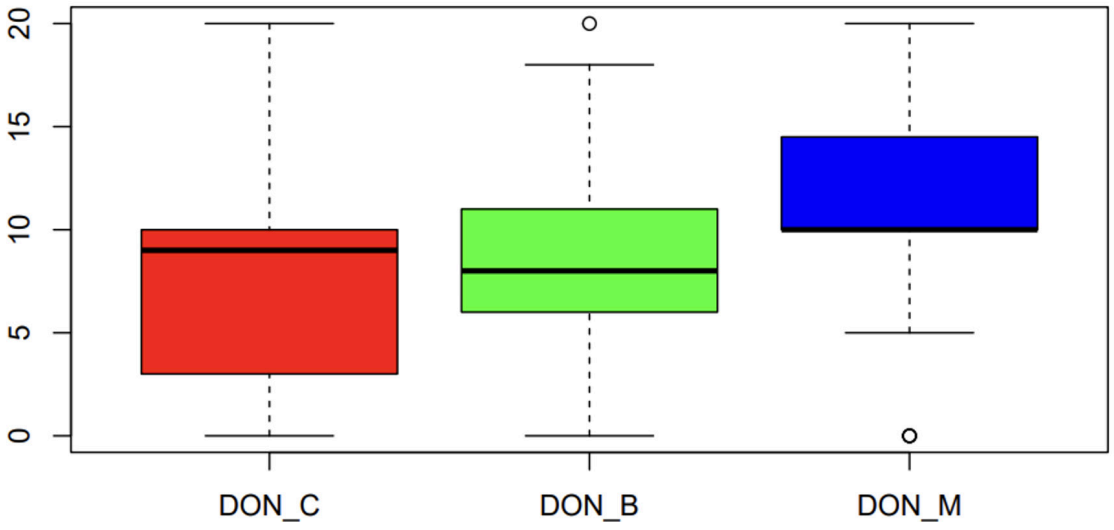

Figure 1. Boxplot of donations in different versions of Dictator game

For more detailed review, the data collected were analyzed using statistical and econometric tools. The sample includes data on the gender and age of the experiment participants. According to Table 1, women were the most frequent participants in the experiment while the average age of the participants is 20 years old. Moreover, the average donation level among all versions of the experiment is 9 tokens with a mean deviation of 5.5 tokens.

Table 1 – Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Donation	81	9.025	5.48	0	20
Bully Version	81	0.333	0.474	0	1
Message Version	81	0.333	0.474	0	1
Sex	81	0.778	0.418	0	1
Age	81	19.778	0.418	19	20

Prior to building the regression, a correlation matrix was constructed. According to Figure 2, there is a weak positive correlation between the second modification and the participant's gender with the size of donations, while other variables show a weak inverse correlation with donation. Consequently, in the Time-delay version, Dictators donate higher amounts of tokens, and among Dictators, more generous donations are typical for female participants.

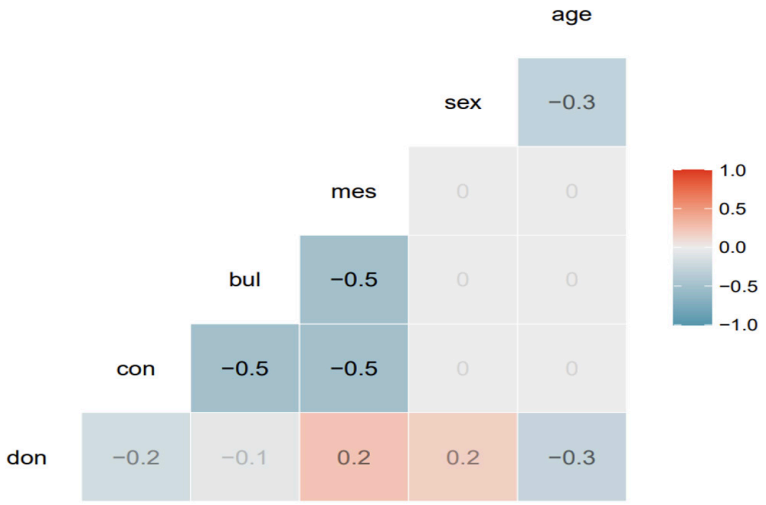

Figure 2. Correlation plot of variables

A Tobit model was chosen to construct the regression, with the dependent variable being the amount of donations, and the independent variables included the dummy variables of modifications to the Dictator game (0 if this modification is not played, 1 if otherwise), as well as gender (0 if male, 1 if female) and age of participants (in years).

According to Table 2, only the age of the participants and the dummy variable of the second modification of the game are proved to be significant variables in the model. In order to interpret the influence of the mentioned variables on the amount of donation, marginal effects are calculated. Younger participants of the experiment (19 years old) donate 11 tokens, while 20 years old participants donate 8 tokens. When using the Time-delay modification, the Dictators' donation is 11 tokens, while all other things being equal, outside of this modification, participants donate 7 tokens.

Among the most frequently used words are 'points', 'equality' and 'fairness', as shown in Figure 3. Consequently, dictators tend to distribute the endowment in a more socially equitable way, which may be

due, among other things, to the desire for mutual assistance between students in obtaining higher grades for a course (since tokens are equivalent to points for a course).

Table 2 – Tobit regression of donations

Variable	Coefficient
Bully Version	1.351
	(1.750)
Message Version	4.007**
	(1.755)
Sex	2.437
	(1.854)
Age	-3.448*
	(1.765)
Constant	73.23**
	(35.34)
Observations	81

*Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1*

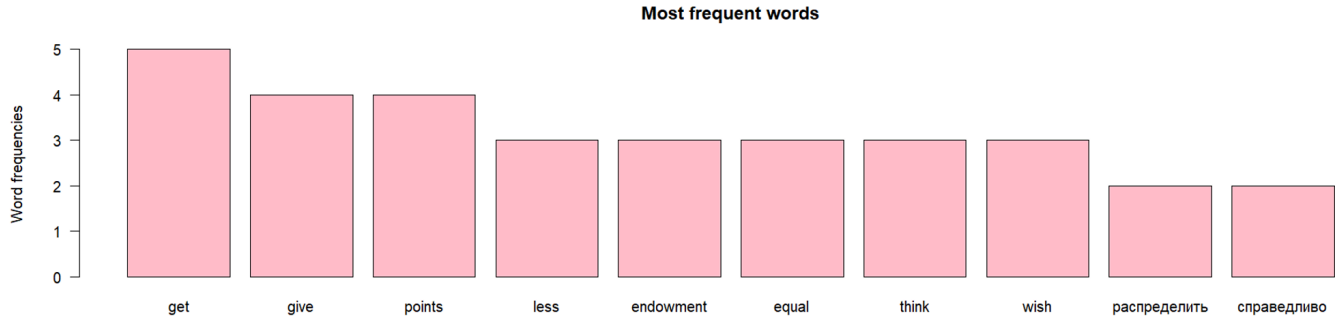

Figure 3. Most frequent worlds of Message Version

Conclusion and Implication

We conducted a study in the course of which we examined the theoretical framework investigating the influence of time for decision making, the rhetorical technique of framing and social norms on choice adoption by economic agents. Subsequently, an experimental session consisting of three versions of the dictator game was conducted: a control game and 2 modifications consisting of offering the Dictator an equal distribution and asking him to motivate the decision made to donate to the Victim. It was expected that the modifications would lead to an increase in the amount of donations and that the most equitable distribution would result in the third version of the game.

The empirical results obtained were analyzed in terms of statistics and econometrics. The results indicate that as modifications were introduced, dictators increased the amount of donations. The fairest donations were made in the Time-delay modification condition, where on average the cash fund was distributed equally. Regression analysis using a Tobit model revealed that younger participants in the experiment donated more, and also confirmed that donation values were higher under the third version of the game. Text analysis revealed that dictators most often explain their decisions in terms of norms of social justice.

In the case of the first modification, when an equal distribution of the fund is initially proposed, the Dictator tends to favor higher donations because the Dictator has the perception of appropriating other people's money if the initially set donation is reduced. As for the second modification, the explanation of the decision creates additional psychological pressure on the Dictator and a feeling of loss of anonymity and more personal interaction with the second player, due to which the average donations reached 10 tokens and the

distribution of the fund became fair. Therefore, both hypotheses were confirmed.

The results of the study prove that the reduction of anonymity and the use of accompanying instruments of social pressure lead to an increase in the size of the donation, which can be useful in the realization of charitable campaigns or crowdfunding. More to the point, reducing social distance and breaking the boundaries between «donor» and «recipient» leads to a more socially equitable distribution of resources. Consequently, a more personal involvement in relation to donations can increase the level of altruism of those who are able to provide material support to the destitute and more underprivileged segments of the population and thus accelerate charitable fundraising processes.

According to a survey conducted by the All-Russian Centre for Public Opinion Research in cooperation with the Naked Heart Charitable Foundation, in most cases Russians prefer to help those they know personally. Moreover, in the group of those who donated money to strangers over the last year, this practice was mostly of the only one-time nature, which indicates that the level of trust is an important factor of involvement in charity practices [28]. Another factor worth mentioning is the recognizable victim effect, a type of cognitive distortion, which suggests that people tend to be more generous to individuals whose difficult situation can be observed directly [18]. Consequently, our results and the effects mentioned above suggest that charitable organizations should introduce potential benefactors to the stories of those requiring help, which will help to enthuse the size and frequency of donations, as directed donations are more frequent and more generous in monetary terms than impersonal payments. This is precisely the approach charities are adopting on TV and social media: even short video introductions to people in need of help encourage greater empathy and, as a consequence, donations.

Nevertheless, this study has some limitations. First of all, the small number of participants in the experiment may not reflect the real state of affairs and the results could be different if the sample was extended. Also, the participants were rewarded with points for the university course and not with money, as is the case in similar experiments, which may also be a weakness of the research. Furthermore, the sample consisted only of students who knew each other in advance, which may skew the results, even though the participants were randomly paired, they still realized that the game was being played with someone they were studying with.

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The effect of cognitive distortions on human generosity in modified Dictator games

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Abstract. Investigation of the influence of social pressure on donation decisions is an essential aspect for understanding the process of building an effective charity system. The purpose of the study is to examine the influence of cognitive distortions on donation decisions. The objectives of the study are to review the literature on the subject, conduct a laboratory experiment of the game Dictator in three variations (the Classic, Bully and Time-Delay versions) and interpret the results obtained with the potential to apply it. The method consists of conducting a laboratory experiment based on the three versions of the Dictator game using the z-Tree program. The sample consists of 18 students aged 19-20 years old, whose rewards were academic course points. Findings demonstrated an increase in endowments among participants with an exacerbation of the introduced cognitive distortions as the game progressed. For example, in the Classic version of the game, Dictators gave an unendowed Victim on average 7.6 tokens out of a possible 20 tokens, as the decision depended solely on the Dictator's willingness to donate. In the Bully version, the Dictator was given the option to change the size of the donation from the already initial fair distribution of the endowment to 10 out of 20 available tokens, causing the average donation to rise to 8.6 tokens. In the Time-Delay version, the Dictator had to explain the chosen allocation of endowment in text format to the Victim, which increased donations to an average of 10.9 tokens. The results of the study may find application in charity: more personal familiarity with the needy person may lead to an increase in the size and frequency of donations. The main limitation of the study is the small sample size, consisting only of students awarded with course points. Future studies should utilize random sampling of participants and monetary reward.

Keywords: Dictator game, cognitive distortions, human generosity, behavioral economics, charity, z-Tree