Getting a Yes. An Experiment on the Power of Asking

Lisa Bruttel

Florian Stolley

Verena Utikal

CEPA

Center for Economic Policy Analysis

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Lisa Bruttel
University of Potsdam, Department of Economics and Social Sciences

Florian Stolley
University of Potsdam, Department of Economics and Social Sciences

Verena Utikal
University of Erlangen-Nuremberg, Institute of Economics

ABSTRACT

This paper studies how the request for a favor has to be devised in order to maximize its chance of success. We present results from a mini-dictator game, in which the recipient can send a free-form text message to the dictator before the latter decides. We find that putting effort into the message, writing in a humorous way and mentioning reasons why the money is needed pays off. Additionally, we find differences in the behavior of male and female dictators. Only men react positively to efficiency arguments, while only women react to messages that emphasize the dictator's power and responsibility.

Keywords: dictator game, communication, inequality, text analysis, experiment
JEL Codes: C91, D63, D64, D83

Corresponding author:
Florian Stolley
University of Potsdam
Department of Economics and Social Sciences
August-Bebel-Str. 89
14482 Potsdam
Germany
E-Mail: florian.stolley@googlemail.com

1 Introduction

There are numerous situations in which one person asks another one a favor. A person on the street asking you for money, a roommate asking you to share your food with her, a charity organization asking you for a donation or a stranger asking you to share your place on a bench in a beer garden are just some examples of many. There are several aspects in which these situations differ, such as whether the person asking you is familiar or unfamiliar, whether she is more to your liking or less and whether she is the beneficiary of the favor or just an intermediary (e.g. a charity organization). However, there is also an aspect which all of these situations have in common and which seems to be at the heart of the decision whether to do the favor: communication between the potential beneficiary and the potential benefactor.

In this paper, we are interested in the effect of communication on the decision to give something to someone else. While existing studies have shown that communication as such has a positive effect on the giving decision (Andreoni and Rao, 2011; Mohlin and Johannesson, 2008; Langenbach, 2016), they provide only very limited insights into the effects of the content of written communication. This is the main focus of our study. We analyze which arguments of the recipient convince the person being asked the favor. Additionally, we study other aspects of written communication that systematically increase or decrease the chance of a successful request. Finally, we are interested in potential gender differences in these effects since men and women have been shown to react differently to the social conditions of an experiment in general (Croson and Gneezy, 2009; Ellingsen et al., 2013; Kahn et al., 1971; Eagly, 1983) as well as to personal solicitation in particular (Meer and Rosen, 2011).

Closely related to our research question is a study by Althoff et al. (2014), in which the authors use data of requests for a free pizza in the online community Reddit. They analyze the content of the request by employing topic modeling and automatic detection to extract important aspects of the requests. Requests are analyzed regarding factors such as polite-

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ness, provision of evidence for the narrative, intention to reciprocate in the future, sentiment, length, gratitude, status of the one requesting a favor as well as whether the requests refer to narratives of money, job (loss), being a student, family or craving. Among other things, they find that being perceived as needy through the narrative (little money, job loss, family needs), signaling gratitude and the length of a request affect the success probability positively whereas politeness, for example, has no effect.

By using a laboratory experiment to study our research question, we can analyze the effects of differing content on the decision to do somebody a favor in a more controlled way. For example, participants do not self-select to this specific experiment or to a specific role and we provide participants with anonymity in order to prevent status effects. Furthermore, we collect data on the potential beneficiary as well as the potential benefactor which provides us with the possibility to study gender differences in the response to the content of a request.[1] Finally, we use a different technique to analyze messages: several human subjects categorize the messages independently, which has the advantage that we do not rely on lists of narrow keywords to extract differences in the content.

Apart from providing advice for communication in interpersonal interactions, our research may be useful for charitable organizations trying to convince potential donors to give. Our findings might furthermore contribute to research on negotiations by analyzing which aspects of communication can convince the other party to agree to a specific arrangement.

In order to study our research question, we conduct a laboratory experiment in which subjects participate in a modified dictator game. Dictators make a binary decision to either give part of their endowment to the receiver or to keep their endowment for themselves. Before making their decision, dictators receive a free-form message written by the receiver. The decision to give part of their endowment to the receiver results in a decrease in the payoff to the dictator and an increase in the sum of payoffs to both players. This represents a welfare improvement

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[1]Althoff et al. (2014) only observe the identity of the benefactor in a few cases.

which is inherent in most real-life situations of doing somebody a favor or giving something to someone since the party benefitting from the favor usually has a higher marginal utility for the requested good.

We find clear evidence that the content of a message as well as its spelling and length influence the dictator's decision to give. Messages showing that the author exerted effort by writing a long note without spelling mistakes, exhibit higher chances of success. The same holds for humorous messages. It seems that if the author of a message is "kind," the dictator will reciprocate this kindness by giving money. Additionally, informing potential givers as to the reasons why the money is specifically needed is an effective way of increasing generosity. Moreover, our results indicate that there are crucial differences in the responses of male and female dictators. Arguing that giving increases the sum of the payoffs improves the chances of a successful request only if the dictator is male. Women, on the other hand, react positively to statements acknowledging their power and responsibility, which may create subtle social pressure.

The rest of the paper is structured as follows. Next, the relevant literature is discussed. Following, we present the design of our experiment and introduce our message categories in Section 3. Section 4 presents the results of the experiment, which are subsequently discussed in Section 5. Section 6 concludes.

2 Related Literature

Situations in which one party can act altruistically[2] towards another party and in which there is no strategic interaction between these two parties have been studied extensively using the dictator game in the experimental economics literature (beginning with Kahneman et al.,

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[2]In the following, a behavioral definition by which altruistic acts are "costly acts that confer economic benefits on other individuals"(Fehr and Fischbacher, 2003, p. 785) is used.

1986; Forsythe et al., 1994). In the original game, one party (the dictator) can decide how to divide her endowment between herself and another party (the receiver). It has been found that a significant fraction of people behave altruistically to some extent (see Engel, 2011, for a review). Several explanations for this phenomenon have been mentioned in the literature over the previous years, including social preferences such as inequity aversion (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002), feelings of empathy towards the other person (Batson et al., 1988; Batson, 2002; Andreoni and Rao, 2011; de Vignemont and Singer, 2006; Edele et al., 2013), following social norms regarding fairness (Bolton et al., 1998; Camerer and Thaler, 1995; Zhao et al., 2017) which, in turn, is closely related to guilt aversion (Charness and Dufwenberg, 2006; Battigalli and Dufwenberg, 2007)[3] and self-image concerns (Dana et al., 2007; Tonin and Vlassopoulos, 2013; Ploner and Regner, 2013).

Even though communication plays an important role in a variety of social interactions, including the decision to do someone a favor, surprisingly few studies have implemented some sort of communication into their experimental design. Allowing communication in an experiment has the disadvantage that it reduces the level of control and that the analysis of the written data is less straightforward than it would be with numerical data. This is particularly true when free-form communication is used. Nevertheless, considering the great importance of communication, it cannot be disregarded when studying social interactions.

Closest to our experiment is the study by Andreoni and Rao (2011), in which either only the receiver, only the dictator, none of them, or both can write a free-form message. In the treatment most relevant to our research question, in which only the receiver can communicate, givings are significantly higher than without communication. The messages were categorized by independent raters into the categories of Fairness, Friendly Greeting, Flattery, Acknowledge Power and Need. While communication by itself (message + numerical request) has an effect on generosity, the content of the communication does not seem to have an effect. In their

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[3]However, Ellingsen et al. (2010) do not find evidence for guilt aversion in a dictator game.

study, Andreoni and Rao hypothesize that the reason for this may be that the content is too obvious (nearly half of the messages appealed to fairness norms). However, also the number of observations is relatively small, since only 20 receivers were randomly matched to 20 dictators for two rounds. Furthermore, the additional numerical request has a significant effect on the dictator's decision and, hence, may "crowd out" the content of the messages as is suggested by Andreoni and Rao (2011). In our study, we focus on one-sided, free-form communication from the receiver to the dictator without an additional numerical request and modify the design in such a way that it has more power to find systematic differences in dictator's behavior resulting from differences in the content of the particular message. Primarily, this is done by letting dictators make multiple binary giving decisions in response to a sequence of messages sent by different receivers.

Mohlin and Johannesson (2008) compare the results of a dictator game in which the receiver can either write a message to the dictator or not. They find that communication significantly increases giving. Additionally, they use a treatment in which a third party sends a message to the dictator to distinguish between a "content effect" and a "relationship effect." Their results indicate that both effects are important and increase givings by a similar magnitude. Moreover, Mohlin and Johannesson try to analyze the content of the messages further by classifying the messages themselves into different categories. However, they do not find consistent differences in giving behavior with respect to their categories, which could be due to too few observations, as is mentioned by Mohlin and Johannesson, since only 55 dictators participated in their relevant treatment making one decision each. In contrast, in our study 126 dictators make multiple giving decisions leading to nearly 2,000 observations and messages are categorized by independent raters.

Similar to one of the treatments by Andreoni and Rao (2011), Langenbach (2016) studies the effect of a combination of a free-form message and a numerical request sent by the receiver in a dictator game. He also finds that giving is significantly higher with communication than

without communication. Differences between the numerical request and the messages as well as differences in the content of the messages are not analyzed further in the paper.

Some studies have looked at the effect of communication in a dictator game without allowing free-form communication. Charness and Rabin (2005) let receivers express their preference about how they would like to be treated by either sending the message "Help me," "Don't help me" or, in some cases, no message at all to dictators before they decide about the allocation of funds in a series of binary dictator games. They find that more dictators chose the option that benefitted the receiver when the receiver asked for help. Rankin (2006) allows receivers to request a certain amount of money to be given to them by the dictator. When the request is for at most half of the total amount to be divided, the request has a positive effect on the generosity of the dictator compared to a treatment without a request-possibility. A request for more than half, however, has a negative effect on the amount transferred by the dictators to the receivers. This result has also been found by Andreoni and Rao (2011) and Yamamori et al. (2007).

Letting receivers only choose from a set of pre-written messages or letting them only send a numerical request, as it is done in these studies, increases the internal validity of the results because analyzing the data is straightforward. However, at the same time, it decreases the external validity, since such a reduced form of communication does not capture the richness of communication in the real world. Because we are interested in exactly these differences in the content of messages which may have an effect on the decision of dictators, free-form communication is used in our study.

Andreoni et al. (2017) designed a field experiment resembling the lab experiment in Andreoni and Rao (2011). In their study, solicitors for a fundraiser were positioned at one or both entrances of a supermarket. The solicitors either asked passersby verbally ("please give") or merely stood there. Actively asking strongly increased the share of people donating as well as the average amount donated, but had the additional negative effect that people tried to

avoid the solicitor by using a different entrance or exit. The result that actively asking people to donate increases givings has also been found by other authors using observational data on charitable donations (Yörük, 2009; Meer and Rosen, 2011). Related to this, Sanders and Smith (2016) conducted a field experiment in which lawyers asked clients during the process of drawing up a will if they wanted to leave a bequest for a charitable cause. The authors find that highlighting a social norm of charitable giving and mentioning emotional factors strongly increase the proportion of clients who decide to leave a bequest to charity. Furthermore, several field experiments in the area of charitable giving have shown that suggesting specific amounts to give has an effect on donation decisions (Edwards and List, 2014; Adena et al., 2014; Adena and Huck, 2016).

Apart from the effect of communication on altruistic behavior in a dictator game, communication has been studied in the experimental literature in other experimental settings that deal with social interactions. For instance, it has been shown that communication increases cooperation in the public good game (see, for example, Isaac and Walker, 1988, or Bochet et al., 2006).[4]

Besides communication, there are several factors that affect the decision to give in a dictator game which have been studied in the experimental literature so far. Relevant to our study are the following: decreasing the social distance between the dictator and the receiver leads to more generous giving decisions (Bohnet and Frey, 1999; Small and Loewenstein, 2003; Goeree et al., 2010; Hoffman et al., 1996).[5] Subjects give more if the recipient is perceived as needy (Eckel et al., 2007). Increasing the efficiency of a kind act, i.e. multiplying the money transferred from the dictator to the receiver by a factor larger than one, has a positive effect on giving decisions (Engel, 2011). Also, the demographics of the dictators have an effect. For in-

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[4]Dal Bó and Dal Bó (2014) find that messages which appeal to moral norms and to the social benefit of a high contribution significantly increase contributions in a public good game. In their experiment, messages are not sent by other participants but by the experimenters themselves.

[5]However, decreasing the anonymity of the dictator can also have a negative effect on generosity (Dufwenberg and Muren, 2006).

Table 1: Matrix of endowments and payoffs

	A	B	Sum
Endowments	50	20	70
Payoffs if A decides not to give	50	20	70
Payoffs if A decides to give	40	40	80

stance, women tend to give more than men, while students tend to give less than non-students (Ibid.).

3 Experimental Design and Procedures

In the experiment, we use a modified version of the dictator game. There are two types of players, player A (the dictator) and player B (the receiver). Prior to the start of the experiment, subjects are randomly assigned their role, which they keep for the duration of the experiment. At the beginning of each round, A receives an endowment of 50 points, whereas B receives an endowment of 20 points. Player A makes the binary decision to either keep the endowments unchanged or decrease her own points by 10 (to 40 points) while increasing player B's points by 20 (to 40 points). Thus, the decision to give points increases the sum of the points from 70 (50 + 20) to 80 (40 + 40). Table 1 illustrates the allocation of points to A and B depending on A's decision.

This simple game is played for multiple rounds. The number of rounds in a session is set in such a way that every A interacts with every B exactly once (absolute stranger matching). For example, if there are 32 subjects in a session, i.e. 16 A's and 16 B's, the game is played for 16 rounds. In the end, one of the rounds is randomly drawn. This round determines the payoff of the subjects in the experiment.

In the first round, there is no communication between A and B. Thus, A's decision in the

first round can be seen as a baseline decision. From round 2 on, A receives a written message from the matched subject B before making her decision. B writes his message only once at the beginning of the experiment. B knows that this message will be shown to each subject A, except for the subject A with whom he is matched in the first round. Hence, subsequent to the first round, each message is shown to exactly one randomly determined dictator in every round which ensures that the order of the messages does not affect the results. The reason for not letting B write a message every round is that we are interested in the performance of one message encountered by multiple A's, whereas we are not interested in learning effects of B. Subjects are told in the instructions that there are no restrictions regarding the content of the message except that they are not allowed to reveal their identity. The maximum length of a message is limited to 300 characters.

Eight sessions were conducted at the Laboratory for Experimental Research of the University of Erlangen-Nuremberg (LERN) in June 2016. In six of these sessions, 32 subjects took part, and in the remaining two sessions, 30 subjects took part, which led to 252 subjects and 1,986 giving decisions in total. Subjects were students, and nearly 80.0% of these studied management and economics. On average, subjects were 23.5 years old and 50.4% of them were male. In each session, subjects were randomly assigned a seat. At the beginning, they read the instructions[6] and had to complete a short quiz to ensure that everyone understood the experiment.[7] While B's were writing their messages, A's made their decisions for the first round without communication and were then asked whether they could remember a situation in the real world that was similar to their task in the experiment.[8] In the following rounds, A's decided whether or not to give while viewing the message of the matched B on-screen.[9]

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[6]An English translation of the originally German instructions can be found in the Appendix.

[7]The control questions can be found in the Appendix.

[8]The reason for this was to make the experimental situation less abstract by thinking about a similar situation from the real world. Most of the situational descriptions were about beggars asking for money or, more generally, about solidarity within a society, a family or another group of people (e.g. friends, roommates).

[9]Screenshots of the decision screens for subjects A with and without communication can be found in the Appendix.

Following the experiment, subjects answered a questionnaire[10] and received their payoff in private. Points were converted to Euros at a rate of 5 Points = 1 Euro. Sessions lasted for approximately 45 minutes and subjects earned on average 11.45 Euros, including a show-up fee of 4 Euros. The experiment was computerized with z-Tree (Fischbacher, 2007) and the recruitment process was conducted using ORSEE (Greiner, 2015).

To determine which aspects of the messages are particularly important for the giving decision of the dictator, the free-form text messages were analyzed and sorted into eight categories after the main experiment took place. Some of the categories are specific to the particular design of the experiment, others are more general. We followed the same procedure as Andreoni and Rao (2011) and let students from the same subject pool as in the main experiment decide whether a message belonged to one or multiple predetermined categories.[11] An English translation of the instructions for the rating session can be found in the Appendix.

The eight categories are *Friendly Greeting*, *Sum of Points*, *Equity*, *Decency*, *Power / Responsibility*, *Humor*, *Need* and *Random Role*. Messages sorted into the category *Friendly Greeting* are characterized by a particularly friendly or polite greeting. The category *Sum of Points* contains messages in which the receiver argues that giving points to him will result in an increase in the sum of points, an efficiency gain or a welfare improvement. When the receiver tells the dictator that giving points will lead to an equal allocation of points, the message is part of the category *Equity*. When the receiver appeals to the dictator to behave fairly or

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[10]Part of the questionnaire was the Interpersonal Reactivity Index of Davis (1983), which consists of four subscales. The subscale "Empathic Concern", which is later used in the regression analysis, consists of 7 items on a 5-point Likert scale.

[11]27 subjects took part in the rating session. They were divided into three groups consisting of 9 raters each. Every rater read 42 (41 for the last group) messages and subsequently made her decision. The division into groups was done to reduce the number of messages each subject had to rate because it was important for us that raters made an effort and were concentrated when making their decision. Each message could be sorted into one, multiple or no category. Subjects were told that their help was important for our research and that they should take their time with their decisions. They earned 15 Euros for their participation. Thus, as in Andreoni and Rao (2011) we used a non-incentivized procedure in the rating session since we did not want to elicit subjects' expectations about the average opinion but rather their own opinion on whether a message belongs to a category or not.

decently, the message is sorted into the category *Decency*. Messages in which the receiver argues that the dictator has the sole decision power and / or the sole responsibility for both payments are sorted into the category *Power / Responsibility*. A particularly humorous message is sorted into the category *Humor*. Messages sorted into the category *Need* are those in which the receiver explains why he needs the money. Finally, when the receiver emphasizes in his message that the role allocation was random, and that the dictator could also have been a receiver or that the dictator should think about how she would like to be treated if she were a receiver, the message is sorted into the category *Random Role*.[12] Table A.1 in the Appendix describes the eight categories in detail and gives one example message for each category.

4 Results

The following analysis uses 1,941 allocation decisions by subjects A - 1,815 with communication and 126 without communication (from round 1) - and 123 messages written by subjects B.[13] First, some descriptive statistics about dictators' decisions are presented, then messages are analyzed, followed by the main part, in which the effects of the content of the messages on dictators' decisions are analyzed using logistic regressions.

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[12]Regarding the categories used by Andreoni and Rao (2011), we adopted the categories *Friendly Greeting* and *Need*. However, in our study, a *friendly greeting* is defined as being more formal than it is in the study by Andreoni and Rao, in which it is defined as a "greeting usually used amongst friends." The category "Fairness" used in their study is divided into two categories, *Equity* and *Decency*. What Andreoni and Rao called "Acknowledge Power" is called *Power / Responsibility* in our study to emphasize that receivers did not only write about the power of the dictator but also about the dictator's specific responsibility for both payoffs. There were hardly any messages using "Flattery." Hence, this category was not used in our study.

[13]The messages of three subjects B and the corresponding allocation decisions are excluded from the analysis. In the case of one subject B, there was a computer error which led to two messages being sent by this subject. We cannot be sure which message appeared on As' screen when deciding about the allocation of points. Therefore, the observations associated with this subject B had to be excluded. Furthermore, two subjects B wrote messages containing a deal offer in which they told the opposing party that they could meet after the experiment and exchange the welfare gains from giving. The observations associated with these messages are also excluded. The following results are robust to not excluding the observations belonging to these two deal messages.

4.1 Descriptive Statistics about the Giving Decision

Of all the 126 subjects A, 21 subjects (16.7%) always gave points to B, 24 subjects (19.0%) never gave points to B and 81 subjects (64.3%) varied their decisions to give. In round 1, which is the baseline decision without communication, subjects A decided to give points to B in 31.0% of the cases, while in later rounds they gave in 47.7% of the cases.[14] Across all rounds, male A's gave slightly more often than female A's (50.6% compared to 42.7%).[15] However, this difference between male and female dictators is not statistically significant when comparing the average giving decision of men and women per session (Wilcoxon Signed Rank Test $p = 0.1953$).

4.2 Message Analysis

Table 2 shows characteristics of the 123 messages for the whole sample, as well as for male and female B's separately.

On average, messages were 219 characters *long* and included 1.59 *spelling mistakes.* 65% contained at least one *smiley*, 19% contained the word "*please*"[16] and 23% contained the word

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[14]Since all subjects A in one session see the same messages, dictators' decisions after round 2 are not statistically independent observations. Hence, testing for differences between dictators' decisions without communication in round 1 and with communication after round 1 is merely possible at the session level, which leads to only 8 independent observations. Nevertheless, the difference between the average giving decision without and with communication is statistically significant (Wilcoxon Signed Rank Test $p = 0.0078$). Even though not the focus of this research, this finding confirms that communication as such has a positive effect on the decision to give. However, as this is only a within-subject treatment comparison, the result could potentially also arise due to an experimenter demand effect (Zizzo, 2010) or due to an order effect (Harrison et al., 2005) since the round without communication is always the first one.

[15]In general, results from dictator games suggest that women behave more altruistically than men (Engel, 2011). In our setting, however, an altruistic act is relatively "cheap" or "efficient," since giving points to the receiver costs only 2 Euros while increasing the receiver's payoff by 4 Euros, which has been shown to increase the likelihood of altruistic acts more for male dictators than for female dictators (Andreoni and Vesterlund, 2001).

[16]For "*please*," different versions of the word were included ("bitte," "bitteschön," "bitten," "please").

Table 2: Objective characteristics of messages

Variables	Full Sample	Gender of writer	
		Male	Female
Length (in characters)	219	216	222
Number of spelling mistakes	1.59	1.53	1.64
Message contains (dummy variables):			
Smileys	0.65	0.61	0.69
The word "Please"	0.19	0.25	0.12
The word "Thanks"	0.23	0.28	0.17
Number of messages	123	64	59

Values in the table are averages for the full sample of messages, as well as for messages written by only male or female B's.

"*thanks*."[17] There are no significant gender differences in these objective message characteristics except for the use of the word "*please*," which is used more frequently by male receivers; this difference is only significant at a 10% significance level (χ^2 Test $p = 0.062$).

As explained in detail in Section 3, the content of the messages was analyzed by letting 9 independent subjects decide for every message whether it belonged to none, one or multiple predetermined categories.[18] We decided to use the average rating and no binary categorization in the following analysis since an average rating includes information about the level of agreement between raters.[19]

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[17]For "*thanks*," different versions of the word were included ("danke," "dankeschön," "thanks," "thank you," "merci").

[18]Each of the 123 messages was rated by 9 subjects leading to 1,107 rating decision. The decision that a message belonged to no category was made 46 times (4.2%), that it belonged to one category was made 208 times (18.8%), that it belonged to two categories was made 284 times (25.7%), that it belonged to three categories was made 253 times (22.9%), that it belonged to four categories was made 169 times (15.3%), that it belonged to five categories was made 107 times (9.7%) and the decision that it belonged to six, seven or eight categories was made 40 times combined (3.6%).

[19]If, for example, 5 of the 9 raters decide that a message belongs in the category *Need*, this message will have a rating of 5/9 in the category *Need*. If we had used a binary rating instead, such a message would have had a rating of 1, regardless of whether 5 or 9 raters made this decision.

Table 3: Categories of messages resulting from the rating session

| | | Gender of writer | |
Variables	Full Sample	Male	Female
Equity	0.54	0.56	0.52
Decency	0.50	0.47	0.53
Friendly Greeting	0.42	0.41	0.42
Power / Responsibility	0.35	0.34	0.35
Sum of Points	0.32	0.37	0.26
Humor	0.31	0.30	0.32
Need	0.14	0.11	0.17
Random Role	0.14	0.15	0.12
Number of messages	123	64	59

Values in the table are averages for the full sample of messages, as well as for messages written by only male or female B's.

Table 3 summarizes the results of the rating session. An average message has a rating of 0.54 in the category *Equity*, which is the most frequent category. Following this category in order of frequency are *Decency*, *Friendly Greeting*, *Power and Responsibility*, *Sum of Points*, *Humor*, *Need* and *Random Role*, which is mentioned the least often.[20] Men appear to mention the increase in the *sum of points* more often, while women tend to appeal to *decent* behavior and address their particular *need* more often. However, these differences are not statistically significant.[21] To sum up, there does not seem to be a considerable difference between the content written by male and female receivers.

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[20]Table A.2 in the Appendix shows the cross-correlation of all the message characteristics and categories. The highest (positive) correlation is between the three categories *Equity*, *Decency*, and *Power and Responsibility*. A factor analysis did not yield any additional insights.

[21]Wilcoxon Rank Sum Test for *Sum of Points* : $z = -1.433$, $p = 0.1517$; Wilcoxon Rank Sum Test for *Decency*: $z = 1.504$, $p = 0.1325$; Wilcoxon Rank Sum Test for *Need*: $z = 0.666$, $p = 0.5055$.

Table 4: Logit regression results for four models for the full sample

VARIABLES	(1)	(2)	(3)	(4)
Message Categories:				
Equity	0.144		-0.042	-0.041
	(0.144)		(0.152)	(0.203)
Decency	-0.013		0.079	0.096
	(0.177)		(0.177)	(0.244)
Friendly Greeting	0.225**		0.046	0.082
	(0.093)		(0.101)	(0.134)
Power/Responsibility	0.534**		0.416*	0.666**
	(0.245)		(0.243)	(0.323)
Sum of Points	0.345**		0.179	0.268
	(0.141)		(0.135)	(0.177)
Humor	0.780***		0.491***	0.713***
	(0.126)		(0.126)	(0.163)
Need	0.397**		0.473***	0.630***
	(0.156)		(0.161)	(0.210)
Random Role	0.369**		0.239	0.205
	(0.166)		(0.177)	(0.233)
Message Characteristics:				
Length		0.003***	0.002***	0.003***
		(0.001)	(0.001)	(0.001)
# Spelling Mistakes		-0.071**	-0.058*	-0.082**
		(0.029)	(0.030)	(0.040)
Smiley		0.406***	0.339***	0.494***
		(0.083)	(0.083)	(0.114)
Please		0.011	-0.091	-0.119
		(0.091)	(0.092)	(0.124)
Thanks		0.179**	0.159*	0.214*
		(0.089)	(0.093)	(0.123)
Characteristics Dictator A:				
Baseline Give				2.441***
				(0.367)
Male				0.343
				(0.277)
Age				-0.016
				(0.047)
Management/Economics				0.537
				(0.409)
Empathy				0.857***
				(0.233)
Round				0.031***
				(0.009)
Constant	-1.265***	-1.268***	-1.510***	-5.697***
	(0.410)	(0.405)	(0.429)	(1.305)
Observations	1,815	1,815	1,815	1,815

Note: The dependent variable in all four regressions is *give*, which takes a value of 1 if A decided to give points to B. Robust standard errors (clustered on the level of subjects A) in parentheses. All regressions include session dummies.
* significant at 10%; ** significant at 5%; *** significant at 1%.

4.3 Regression Results

Table 4 shows the results of a logistic regression[22] in which the dependent variable is *give*, a variable that takes the value of 1 if the dictator decided to give points to B and 0 otherwise. The first model in column (1) includes only the category ratings of a message as explanatory variables. The second model in column (2) includes only the objective characteristics of a message as explanatory variables. The third model in column (3) includes the category ratings as well as the objective characteristics of a message as explanatory variables. These models show that the content as well as spelling and length of a message influence the decision to give.[23] Including the objective characteristics of a message as explanatory variables in the third model changes the coefficients for the category variables compared to the first model. Especially controlling for the length of a message has an impact, since messages scoring high in the categories *Sum of Points*, *Equity*, *Random Role*, *Power / Responsibility* and also - to a lesser extent - *Decency* and *Friendly Greeting* are on average relatively long messages, as can be seen from the cross-correlation Table A.2 in the Appendix. The length of a message, in turn, has a positive impact on the probability of a successful request. Controlling for the use of *smileys* in a message, which has a positive impact on the likelihood of giving, increases the coefficient for *Need* since messages scoring high in this category include on average fewer *smileys*. On the other hand, messages in the category *Humor* use a lot of *smileys* and, hence, controlling for *smileys* decreases the estimated effect for such a message.

In the fourth model in column (4) of Table 4, characteristics of dictators A are included as explanatory variables. The predicted effects of the explanatory variables regarding the con-

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[22]Using a Probit model or an OLS model does not yield essentially different results. Table A.4 in the Appendix shows regression results for a fixed effects model in which subjects A define the panel. The results are mostly robust to the model used here.

[23]A Wald Test rejects the joint hypothesis that the category variables for the first model (Wald-statistic with 8 restrictions: $\chi^2 = 56.84$, $p < 0.0001$) as well as the subjective category variables and objective characteristics variables for the third model (Wald-statistic with 13 restrictions: $\chi^2 = 68.21$, $p < 0.0001$) are simultaneously equal to 0, i.e. the explanatory variables in the first and the third model do have predictive power.
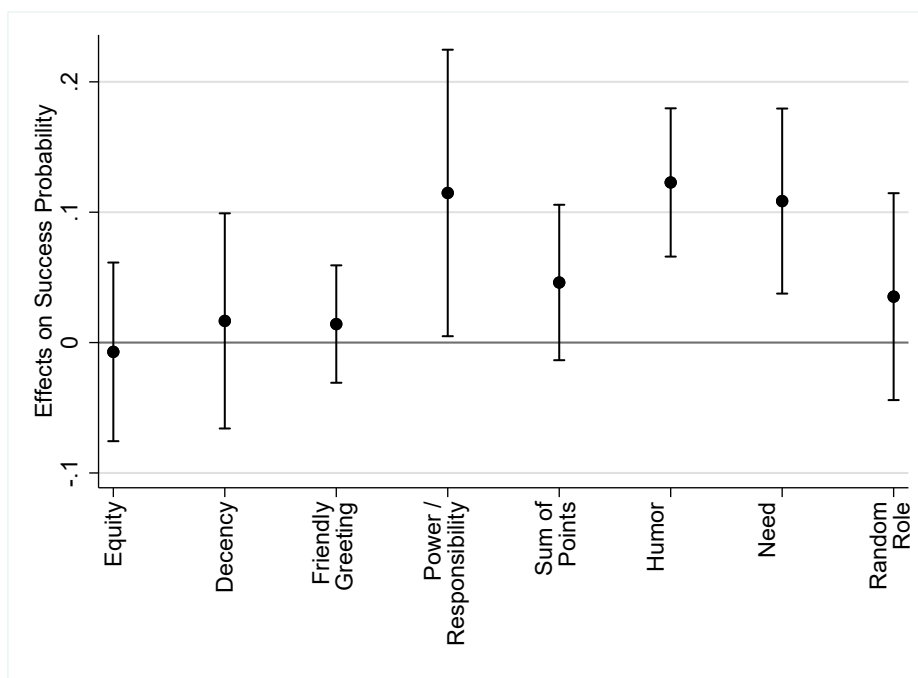
Figure 1: Average marginal effects for the full sample
Note: The figure shows point estimates as well as 95% confidence intervals.

tent as well as spelling and length of the messages change only slightly compared to the third model. Unless otherwise stated, the fourth model is used in the following discussion of the results. Additionally, Figure 1 displays the average marginal effects of all eight categories on the probability of success to provide an idea of the magnitude of the effects.

The regression results show no statistically significant effect of the categories *Equity*, *Decency* and *Friendly Greeting*. Messages that fall in the category *Power and Responsibility*, though, affect the decision to give positively and statistically significant. The model predicts that, on average, a message with a rating of 1^{24} in the category *Power and Responsibility* has a success probability that is around 11.5 percentage points higher than a message with a rating of 0 in this category as can be seen in Figure 1. We find no statistically significant effect for the categories *Sum of Points* and *Random Role* on the likelihood that the dictator will give points to the receiver. The estimated effects are positive but only statistically significant at

[24]A rating of 1 means that all 9 raters decided that a message belongs in the respective category.

a 5% significance level when not controlling for the observable characteristics of a message - in particular, the length of a message. The category *Humor* is estimated to have the largest positive impact on the success probability. The model predicts that, on average, a message with a rating of 1 in this category has a success probability that is roughly 12 percentage points higher than a message with a rating of 0 in this category. This effect is highly significant. Regarding the category *Need*, the regression results show that mentioning the specific need of the receiver results in a higher chance of the dictator giving points to the particular receiver. The model predicts a statistically significant increase in the success likelihood by nearly 11 percentage points for a message with a rating of 1 in the category *Need*, compared to a message with a 0 in this category.

As for the objective message characteristics, Table 4 shows that longer messages affect the giving decision positively.[25] The effect is also highly significant. Additionally, *spelling mistakes* in a message are punished by the dictator by reducing her willingness to give (significant at the 5% level). A *smiley* has a positive and highly significant effect on the probability that a dictator gives points to the receiver. This effect is estimated to be around 8.5 percentage points. Although every child is taught that the word "*please*" is mandatory or at least expected when asking someone a favor in a polite way, surprisingly, the model predicts that using "*please*" in a message does not improve the dictator's willingness to act kindly. Eventually, messages containing the word "*thanks*" seem to have a higher success chance. This effect, however, is only statistically significant at the 10% level ($p = 0.083$).

Considering the characteristics of the dictator, our data confirms that dictators who gave points to the receiver in the baseline round without communication are clearly more inclined to give points in the later rounds when communication is present. Table A.3 in the Appendix additionally displays regression results divided according to dictators who did or did not give points to the receiver in the baseline round (columns (3) and (4)). It could be that dictators

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[25]The coefficient is relatively small because the length is measured in characters.

who are less inclined to give and, hence, have to be actively convinced to give, and dictators who are already inclined to give and, hence, have to be actively dissuaded from giving, react differently to certain aspects of a message. However, the results show no substantial differences in the behavior of dictators who either gave or did not give points in the baseline round.[26] Male dictators and dictators who study management and economics seem to be more generous; however, this is not statistically significant for the gender of the dictator and only significant at a 10% level for the dictator's field of study. Subjects scoring high on the subscale "Empathic Concern" in the post-experimental questionnaire are more willing to give.[27] Finally, the willingness to give increases in later rounds.[28]

4.4   Different Behavior of Male and Female Dictators

Regarding gender differences in the reaction to particular aspects of the message, Figure 2 displays the average marginal effects for the eight categories for male as well as female dictators resulting from a logistic regression, which is shown in Table A.3 in the Appendix. This regression uses the same model as before (fourth model in Table 4) and shows results once only for male dictators in column (1) and once only for female dictators in column (2).

First of all, men and women seem to react differently to messages which emphasize the *power and responsibility* relationship between the dictator and the receiver. The effect of such a message is estimated to be very close to 0 for male dictators ($p = 0.865$) while being positive, very large and highly significant for female dictators ($p < 0.001$); for female dictators an increase in the success probability of nearly 25 percentage points is predicted by the model if a message has a rating of 1 in this category, compared to a rating of 0.

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[26]The results indicate some differences in the reaction to an argument concerning the *sum of points*, which is only successful when trying to convince a dictator who did not give points without communication.

[27]The subscale has a scale reliability coefficient (Cronbach's α) of 0.8126.

[28]Since every message is shown to exactly one A in each round in random order, the positive time trend is of no concern when analyzing the effect of these messages.
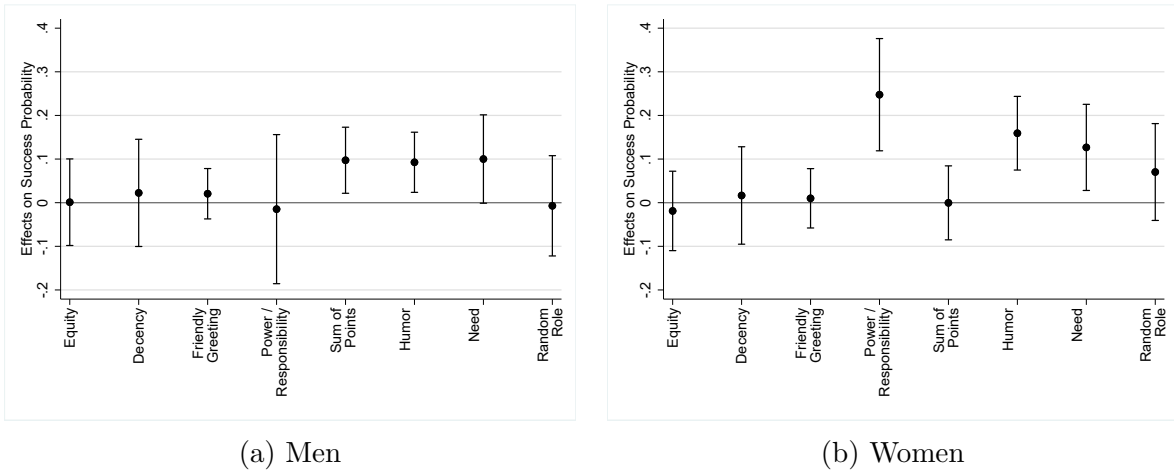
Figure 2: Average marginal effects for male and female dictators
Note: The figures show point estimates as well as 95% confidence intervals.

Furthermore, arguments concerning the efficiency of giving points to the receiver seem to yield different reactions by men and women. For male dictators, the effect of the category *Sum of Points* on the success probability is positive, statistically significant ($p = 0.016$) and relatively large; an increase of 9.7 percentage points is predicted by the model for a message that has a rating of 1 in this category, compared to having a rating of 0 in that category. For female dictators, though, the effect is close to 0.

Finally, men show no reaction to using the word "*thanks*" in a message ($p = 0.811$) whereas it increases the success probability significantly for female dictators ($p = 0.018$). Hence, the statistically significant effects of the category *Power and Responsibility* and of the word "*thanks*" on the willingness to give in the full sample are solely driven by female dictators.

5 Discussion

In the following we will discuss our results about the effect of message content on giving decisions. We will briefly repeat our main results and link them with previous results from the literature as well as answers in the post-experimental questionnaire.

First of all, the content of the receiver's request influences the dictator's decision to give. This result is additionally supported by statements from dictators in the post-experimental questionnaire, in which they were asked how they came to their decision. Ten out of 126 dictators mentioned that they had planned to either never give points to the receiver or always give points, but changed their minds after reading particularly "good" or "bad" messages.

Result 1: Messages including *Humor* affect the dictator's decision to give positively. The *length* of a message and using a *smiley* affect the success probability positively, while it is negatively affected by *spelling mistakes*.

It seems that dictators are more willing to give if the receiver puts effort into writing the message (by writing a longer message without spelling mistakes) and if the message has the potential to contribute to the dictator's well-being (e.g. a message that is humorous or contains a smiley). This finding can be interpreted in terms of reciprocity (Rabin, 1993): since the receiver has done something for the dictator (putting effort into writing the message or contributing to the dictator's well-being), the dictator reciprocates and gives points to B. When asked in the questionnaire about what influenced their decision, dictators most commonly gave answers related to this line of argumentation. They said they were more inclined to give when a message was nice and friendly so that the writer seemed more likeable (41 mentions), when the message was creative (23 mentions), funny and humorous (21 mentions), thoughtful and showed effort (12 mentions) or contained few mistakes (6 mentions).

Result 2: We do not find an effect of a *friendly greeting* or of using the word *"please"* on the willingness to give.

In the light of the above argumentation, it may be surprising that a friendly greeting has no effect on the decision of a dictator. One likely reason is that norms concerning politeness in electronic chats are different to standard norms in personal settings. Likewise, Althoff et al. (2014) also finds no effect of the politeness of a request on the willingness to do somebody a

favor in an online community. One dictator wrote in the questionnaire that she does not like a greeting that is too formal or polite. This could explain why a friendly greeting (and also the use of the word "please") has no effect.

Result 3: Messages including *Need* affect the dictator's decision to give positively.

A message of "need" may serve as an "empathetic stimulus" (Andreoni et al., 2017) since it makes a need salient and also heightens the attachment to the other person by letting the dictator adopt the perspective of the receiver. It has been argued that both the "magnitude of the perceived need" as well as the "strength of the attachment" to the other person increase the empathetic concern for this person (Batson, 1991). The empathy-altruism hypothesis (Batson, 1991; Andreoni and Rao, 2011; Andreoni et al., 2017) states that feelings of empathy towards the person in need may be the main driving force for altruistic actions. Hence, it seems that by increasing the empathic concern, such a message raises the probability of an altruistic act. Additionally, heightening the attachment to the receiver can also be thought of as reducing the social distance between the receiver and the dictator (Mohlin and Johannesson, 2008) which would increase the generosity of the dictator (Bohnet and Frey, 1999; Small and Loewenstein, 2003; Goeree et al., 2010; Hoffman et al., 1996). However, while explaining the particular need has a positive effect on generosity, the specific wording seems to be important: a message inducing pity or showing obvious signs of begging was mentioned most often in the questionnaire as a reason for not giving points to a receiver (14 mentions).

Result 4: We do not find an effect of messages including *Equity* on the success probability.

Arguing that giving points to the receiver also equalizes payoffs of the two players has no significant effect on the decision to give, neither for male nor for female dictators. This result may be surprising since highlighting the aspect that giving points leads to equal payoffs could make inequity averse (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000) dictators more inclined to give. However, in our setting this aspect of the design is very obvious and, thus, it

may not be possible to make it more salient by mentioning it in a message.

Result 5: Messages including *Power and Responsibility* as well as using the word *"thanks"* affect the willingness to give positively for female dictators.

The positive effect of emphasizing the power and responsibility relationship in a message as well as using the word "thanks" is driven solely by female dictators. We believe that both aspects of a message could lead to a subtle increase in the social pressure to behave altruistically without being strongly demanding. Highlighting the responsibility of the dictator for the receiver is a rather clear way to remind the dictator that she is responsible for her (potentially) selfish action and to think about the consequences for the other party, which has been shown to increase giving in a dictator game (Brañas-Garza, 2007). The word "thanks" is mostly used in the end of a message ("thanks in advance") and, hence, signals gratitude but also an expectation that the dictator behaves kindly, which could also increase the social pressure to give in a subtle way.

It has been shown that social pressure has a strong impact on generosity in the area of charitable donations both in field experiments (DellaVigna et al., 2012; Andreoni et al., 2017) as well as in field data (Bekkers and Wiepking, 2011; de Wit and Bekkers, 2016). Men and women may initially feel a different level of social pressure to help the receiver. Psychological research (Eagly, 2009; Babcock and Laschever, 2003) has shown that gender-specific stereotypes exist and that these stereotypes work not only by describing how men and women usually behave (descriptive), but also by claiming how men and women should behave (prescriptive). Hence, such a gender-specific role or stereotype serves as a social norm and men as well as women are expected to behave accordingly, thereby creating social pressure to do so (Eagly, 2009; Babcock and Laschever, 2003; de Wit and Bekkers, 2016). Since women are assumed to be more caring, friendly and "other-oriented" (Deaux and Major, 1987; Babcock and Laschever, 2003; Eagly, 2009), women experience a higher social pressure to act in such a way, i.e. they are

expected to be more generous and help the person in need. In a field experiment, DellaVigna et al. (2013) show that women increase donations to a charitable cause significantly more than men when put under pressure.[29] Hence, a different reaction to a subtle increase in the social pressure to act altruistically may be an explanation for why only women react to arguments concerning the power and responsibility relationship as well as to using the word "thanks" in a message.

Result 6: We do not find an effect of messages including *Decency* on the success probability.

Social pressure to give can also be exerted by messages that explicitly make fairness norms more salient. Such rather demanding messages have no significant effect on dictators' decision and there are no gender difference in this case. In line with this result, several dictators mentioned in the questionnaire that they did not like messages which were too demanding or which told them explicitly how they should behave or what they should do (9 mentions). In this laboratory setting, it is relatively easy to avoid such an explicit form of social pressure since clicking twice is enough to let a message disappear. Hence, it is likely that the effect of explicit and direct social pressure is different in settings in which avoidance is more difficult, as it is the case in most real-life interactions (DellaVigna et al., 2013; Andreoni et al., 2017; DellaVigna et al., 2012).

Result 7: Messages including *Sum of Points* affect the dictator's decision to give positively for male dictators

Our results indicate a clear gender difference when the dictator is faced with an argument mentioning the increase in total points when giving. Men react positively to such an argument, while women show no reaction. This finding corresponds to results by Andreoni and Vesterlund (2001), in which the authors vary the budget and the relative price of altruism in a

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[29]However, for field data from the Netherlands, de Wit and Bekkers (2016) find no evidence that social pressure can explain the different behavior of men and woman in donations.

dictator game and find that men react more strongly to the efficiency of a donation, i.e. they behave more altruistically than women when altruism is relatively "cheap" and less altruistically than women when altruism is relatively "expensive." This gender difference with respect to the relative price of a donation has also been found in field data on charitable donations (Andreoni et al., 2003). A message arguing that giving points to the receiver increases the total sum of points may make this aspect more salient and, thereby, triggers a positive reaction by male dictators.

Due to the fact that our subject pool mainly consists of management and economics students, it could very well be that the effect of the efficiency argument is stronger in this case than it would be in a sample which is more representative of the general population (Engelmann and Strobel, 2006; Fehr et al., 2006).[30] However, since the proportion of management and economics students is similarly high for male and female A's (78 % of the female A's and 82 % of the male A's study management and economics), the different reactions to the efficiency argument cannot be explained by our particular subject pool.

6 Conclusion

In this study, we implemented free-form written communication in a modified dictator game and analyzed its effect on the dictators' decision to give. The content of a message has a clear effect on the dictator's decision. Humorous and friendly messages, as well as messages showing that the author exerted effort, lead to reciprocal behavior by the dictator, i.e. if people feel like they get something in return for their generosity - and it may be just a smile(y) - they are willing to help. Mentioning the receiver's specific need also increases generosity, which emphasizes the importance of empathetic feelings towards the person in need for altruistic

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[30]Vice versa, an appeal for equity may work better if the subject pool consisted of fewer management and economics students (Engelmann and Strobel, 2006; Fehr et al., 2006).

behavior. Only men react positively to an efficiency argument, whereas creating subtle social pressure increases giving only if the dictator is female.

Our research supports the results of Andreoni and Rao (2011), Mohlin and Johannesson (2008) and Langenbach (2016) that communication has a positive effect on dictators' willingness to act kindly. Furthermore and most importantly, we fill the gap in analyzing systematic reactions of dictators in response to certain aspects of written communication, which, to the best of our knowledge, has not been done before in this level of detail. Additionally, our research contributes to the current research on gender differences in the area of altruism (Andreoni and Vesterlund, 2001; DellaVigna et al., 2013; Croson and Gneezy, 2009; de Wit and Bekkers, 2016).

Primarily, our results are relevant for numerous everyday life situations in which one party asks another one a favor. Additionally, such diverse fields as charity work, negotiations and marketing might benefit from our findings, even though, especially the latter two differ considerably from our setting. Nevertheless, since negotiating is about convincing the other party with specific arguments to agree to something and marketing is likewise to a large extent about convincing somebody (i.e. a customer) to do something (i.e. to buy the product), some of our findings may be transferable to these fields.

Especially for charity work, it is important to distinguish between content- and relationship-effects when using our results, since the person who asks a favor is not the person who benefits from the favor in that case. It is very likely that relationship-specific effects are mitigated if an intermediary tries to convince a potential benefactor and not the potential beneficiary of the favor herself. Future research may study the effect of communication in a setting in which an intermediary asks a favor and analyze any differences to our findings.

References

Adena, Maja and Steffen Huck (2016) "A field experiment on crowdfunding for a club good," Discussion Paper (SP II 2016-308), Wissenschaftszentrum Berlin für Sozialforschung.

Adena, Maja, Steffen Huck, and Imran Rasul (2014) "Charitable Giving and Nonbinding Contribution-Level Suggestions — Evidence from a Field Experiment," *Review of Behavioral Economics*, 1 (3), pp. 275–293.

Althoff, Tim, Cristian Danescu-Niculescu-Mizil, and Dan Jurafsky (2014) "How to Ask for a Favor: A Case Study on the Success of Altruistic Requests," Proceedings of the Eighth International AAAI Conference on Weblogs and Social Media, Association for the Advancement of Artificial Intelligence, URL: http://www.aaai.org/ocs/index.php/ICWSM/ICWSM14/paper/download/8106/8101, accessed on April 10, 2018.

Andreoni, James, Eleanor Brown, and Isaac Rischall (2003) "Charitable Giving by Married Couples: Who Decides and Why Does it Matter?" *Journal of Human Resources*, 38 (1), pp. 111–133.

Andreoni, James and Justin M. Rao (2011) "The power of asking: How communication affects selfishness, empathy, and altruism," *Journal of Public Economics*, 95 (7–8), pp. 513–520.

Andreoni, James, Justin M. Rao, and Hannah Trachtman (2017) "Avoiding The Ask: A Field Experiment on Altruism, Empathy, and Charitable Giving," *Journal of Political Economy*, 125 (3), pp. 625–653.

Andreoni, James and Lise Vesterlund (2001) "Which is the Fair Sex? Gender Differences in Altruism," *Quarterly Journal of Economics*, 116 (1), pp. 293–312.

Babcock, Linda and Sara Laschever (2003) *Women don't ask: Negotiation and the gender divide*: Princeton University Press, Princeton, NJ.

Batson, C. Daniel (1991) *The Altruism Question: Toward a Social-Psychological Answer*: Lawrence Erlbaum Associates, Hillsdale, NJ.

——— (2002) "Addressing the altruism question experimentally," in *Altruism & altruistic love: Science, philosophy, & religion in dialogue* eds. by Stephen G. Post, Lynn G. Underwood, Jeffrey P. Schloss, and William B. Hurlbut: Oxford University Press, New York, NY, pp. 89–105.

Batson, C. Daniel, Janine L. Dyck, J. Randall Brandt, Judy G. Batson, Anne L. Powell, M. Rosalie McMaster, and Cari Griffitt (1988) "Five studies testing two new egoistic alternatives to the empathy-altruism hypothesis," *Journal of Personality and Social Psychology*, 55 (1), pp. 52–77.

Battigalli, Pierpaolo and Martin Dufwenberg (2007) "Guilt in Games," *The American Economic Review*, 97 (2), pp. 170–176.

Bekkers, René and Pamala Wiepking (2011) "A Literature Review of Empirical Studies of Philanthropy: Eight Mechanisms That Drive Charitable Giving," *Nonprofit and Voluntary Sector Quarterly*, 40 (5), pp. 924–973.

Bochet, Olivier, Talbot Page, and Louis Putterman (2006) "Communication and punishment in voluntary contribution experiments," *Journal of Economic Behavior & Organization*, 60 (1), pp. 11–26.

Bohnet, Iris and Bruno S. Frey (1999) "The sound of silence in prisoner's dilemma and dictator games," *Journal of Economic Behavior & Organization*, 38 (1), pp. 43–57.

Bolton, E. Gary, Elena Katok, and Rami Zwick (1998) "Dictator game giving: Rules of fairness versus acts of kindness," *International Journal of Game Theory*, 27 (2), pp. 269–299.

Bolton, Gary E. and Axel Ockenfels (2000) "ERC: A Theory of Equity, Reciprocity, and Competition," *The American Economic Review*, 90 (1), pp. 166–193.

Brañas-Garza, Pablo (2007) "Promoting helping behavior with framing in dictator games," *Journal of Economic Psychology*, 28 (4), pp. 477–486.

Camerer, Colin and Richard H. Thaler (1995) "Anomalies: Ultimatums, Dictators and Manners," *Journal of Economic Perspectives*, 9 (2), pp. 209–219.

Charness, Gary and Martin Dufwenberg (2006) "Promises and Partnership," *Econometrica*, 74 (6), pp. 1579–1601.

Charness, Gary and Matthew Rabin (2002) "Understanding Social Preferences with Simple Tests," *Quarterly Journal of Economics*, 117 (3), pp. 817–869.

——— (2005) "Expressed preferences and behavior in experimental games," *Games and Economic Behavior*, 53 (2), pp. 151–169.

Croson, Rachel and Uri Gneezy (2009) "Gender Differences in Preferences," *Journal of Economic Literature*, 47 (2), pp. 448–474.

Dal Bó, Ernesto and Pedro Dal Bó (2014) "'Do the right thing:' The effects of moral suasion on cooperation," *Journal of Public Economics*, 117, pp. 28–38.

Dana, Jason, Roberto A. Weber, and Jason Xi Kuang (2007) "Exploiting moral wiggle room: experiments demonstrating an illusory preference for fairness," *Economic Theory*, 33 (1), pp. 67–80.

Davis, Mark H. (1983) "Measuring individual differences in empathy: Evidence for a multidimensional approach," *Journal of Personality and Social Psychology*, 44 (1), pp. 113–126.

Deaux, Kay and Brenda Major (1987) "Putting gender into context: An interactive model of gender-related behavior," *Psychological Review*, 94 (3), pp. 369–389.

DellaVigna, Stefano, John A. List, and Ulrike Malmendier (2012) "Testing for Altruism and Social Pressure in Charitable Giving," *Quarterly Journal of Economics*, 127 (1), pp. 1–56.

DellaVigna, Stefano, John A List, Ulrike Malmendier, and Gautam Rao (2013) "The importance of being marginal: Gender differences in generosity," *The American Economic Review: Papers and Proceedings*, 103 (3), pp. 586–590.

Dufwenberg, Martin and Astri Muren (2006) "Generosity, anonymity, gender," *Journal of Economic Behavior & Organization*, 61 (1), pp. 42–49.

Eagly, Alice H. (1983) "Gender and social influence: A social psychological analysis," *American Psychologist*, 38 (9), pp. 971–981.

——— (2009) "The His and Hers of Prosocial Behavior: An Examination of the Social Psychology of Gender," *American Psychologist*, 64 (8), pp. 644–658.

Eckel, Catherine, Philip J. Grossman, and Angela Milano (2007) "Is More Information Always Better? An Experimental Study of Charitable Giving and Hurricane Katrina," *Southern Economic Journal*, 74 (2), pp. 388–411.

Edele, Aileen, Isabel Dziobek, and Monika Keller (2013) "Explaining altruistic sharing in the dictator game: The role of affective empathy, cognitive empathy, and justice sensitivity," *Learning and Individual Differences*, 24, pp. 96–102.

Edwards, James T. and John A. List (2014) "Toward an understanding of why suggestions work in charitable fundraising: Theory and evidence from a natural field experiment," *Journal of Public Economics*, 114, pp. 1–13.

Ellingsen, Tore, Magnus Johannesson, Johanna Mollerstrom, and Sara Munkhammar (2013) "Gender differences in social framing effects," *Economics Letters*, 118 (3), pp. 470–472.

Ellingsen, Tore, Magnus Johannesson, Sigve Tjøtta, and Gaute Torsvik (2010) "Testing guilt aversion," *Games and Economic Behavior*, 68 (1), pp. 95–107.

Engel, Christoph (2011) "Dictator games: a meta study," *Experimental Economics*, 14 (4), pp. 583–610.

Engelmann, Dirk and Martin Strobel (2006) "Inequality Aversion, Efficiency, and Maximin Preferences in Simple Distribution Experiments: Reply," *The American Economic Review*, 96 (5), pp. 1918–1923.

Fehr, Ernst and Urs Fischbacher (2003) "The nature of human altruism," *Nature*, 425, pp. 785–791.

Fehr, Ernst, Michael Naef, and Klaus M. Schmidt (2006) "Inequality Aversion, Efficiency, and Maximin Preferences in Simple Distribution Experiments: Comment," *The American Economic Review*, 96 (5), pp. 1912–1917.

Fehr, Ernst and Klaus M. Schmidt (1999) "A Theory of Fairness, Competition, and Cooperation," *Quarterly Journal of Economics*, 114 (3), pp. 817–868.

Fischbacher, Urs (2007) "z-Tree: Zurich toolbox for ready-made economic experiments," *Experimental Economics*, 10 (2), pp. 171–178.

Forsythe, Robert, Joel L. Horowitz, N. E. Savin, and Martin Sefton (1994) "Fairness in Simple Bargaining Experiments," *Games and Economic Behavior*, 6 (3), pp. 347–369.

Goeree, Jacob K., Margaret A. McConnell, Tiffany Mitchell, Tracey Tromp, and Leeat Yariv (2010) "The 1/d Law of Giving," *American Economic Journal: Microeconomics*, 2 (1), pp. 183–203.

Greiner, Ben (2015) "Subject pool recruitment procedures: organizing experiments with ORSEE," *Journal of the Economic Science Association*, 1 (1), pp. 114–125.

Harrison, Glenn W., Eric Johnson, Melayne M. McInnes, and E. Elisabet Rutström (2005) "Risk Aversion and Incentive Effects: Comment," *The American Economic Review*, 95 (3), pp. 897–901.

Hoffman, Elizabeth, Kevin McCabe, and Vernon L. Smith (1996) "Social Distance and Other-Regarding Behavior in Dictator Games," *The American Economic Review*, 86 (3), pp. 653–660.

Isaac, R. Mark and James M. Walker (1988) "Communication and Free-Riding Behavior: The Voluntary Contribution Mechanism," *Economic Inquiry*, 26 (4), pp. 585–608.

Kahn, Arnold, Joe Hottes, and William L. Davis (1971) "Cooperation and optimal responding in the Prisoner's Dilemma game: Effects of sex and physical attractiveness." *Journal of Personality and Social Psychology*, 17 (3), pp. 267 – 279.

Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler (1986) "Fairness and the Assumptions of Economics," *The Journal of Business*, 59 (4), pp. S285–S300.

Langenbach, Pascal (2016) "The values of ex-ante and ex-post communication in dictator games," Preprints, Max Planck Institute for Research on Collective Goods, URL: `http://hdl.handle.net/11858/00-001M-0000-002A-3379-7`, accessed on May 09, 2017.

Meer, Jonathan and Harvey S. Rosen (2011) "The ABCs of charitable solicitation," *Charitable Giving and Fundraising Special Issue*, 95 (5–6), pp. 363–371.

Mohlin, Erik and Magnus Johannesson (2008) "Communication: Content or relationship?" *Journal of Economic Behavior & Organization*, 65 (3–4), pp. 409–419.

Ploner, Matteo and Tobias Regner (2013) "Self-image and moral balancing: An experimental analysis," *Journal of Economic Behavior & Organization*, 93, pp. 374–383.

Rabin, Matthew (1993) "Incorporating Fairness into Game Theory and Economics," *The American Economic Review*, 83 (5), pp. 1281–1302.

Rankin, Frederick W. (2006) "Requests and social distance in dictator games," *Journal of Economic Behavior & Organization*, 60 (1), pp. 27–36.

Sanders, Michael and Sarah Smith (2016) "Can simple prompts increase bequest giving? Field evidence from a legal call centre," *Journal of Economic Behavior & Organization*, 125, pp. 179–191.

Small, Deborah A. and George Loewenstein (2003) "Helping a Victim or Helping the Victim: Altruism and Identifiability," *Journal of Risk and Uncertainty*, 26 (1), pp. 5–16.

Tonin, Mirco and Michael Vlassopoulos (2013) "Experimental evidence of self-image concerns as motivation for giving," *Journal of Economic Behavior & Organization*, 90, pp. 19–27.

de Vignemont, Frederique and Tania Singer (2006) "The empathic brain: how, when and why?" *Trends in Cognitive Sciences*, 10 (10), pp. 435–441.

de Wit, Arjen and René Bekkers (2016) "Exploring Gender Differences in Charitable Giving: The Dutch Case," *Nonprofit and Voluntary Sector Quarterly*, 45 (4), pp. 741–761.

Yamamori, Tetsuo, Kazuhiko Kato, Toshiji Kawagoe, and Akihiko Matsui (2007) "Voice matters in a dictator game," *Experimental Economics*, 11 (4), pp. 336–343.

Yörük, Barış K. (2009) "How responsive are charitable donors to requests to give?" *Journal of Public Economics*, 93 (9–10), pp. 1111–1117.

Zhao, Kun, Eamonn Ferguson, and Luke D. Smillie (2017) "Individual Differences in Good Manners Rather Than Compassion Predict Fair Allocations of Wealth in the Dictator Game," *Journal of Personality*, 85 (2), pp. 244–256.

Zizzo, Daniel John (2010) "Experimenter demand effects in economic experiments," *Experimental Economics*, 13 (1), pp. 75–98.

A Appendix

A.1 Supplementary Tables and Figures

Table A.1: Message categories

Category	Description	Example Message (translated from German)
Equity	Changing the score of points leads to an equal distribution of points.	"...and accomplish identical payments for both of us. Please reduce your endowment by 10 points, so that 20 points are added to my endowment and that there is equity in payments. ..."
Decency	Appealing to A to behave fair and decent	"Please be fair and distribute justly,... . Please do not be selfish and inconsiderate, since you would harm me that way and leave with a bad conscience in the end."
Friendly Greeting	Friendly or polite address	"Hello dear participant A, ..."
Power/ Responsibility	A has the sole decision power but also the sole responsibility for both payments.	"I cannot overrule your decision and maybe not even influence it. ... THE CHOICE IS YOURS :)"
Sum of Points	B argues with an efficiency gain, i.e. an increase in the sum of points.	"... Please share your points with me! That way, the overall welfare will increase. You will receive a little less, in return I get a little more. In total, this would put the two of us in a better position. ..."
Humor	The message is particularly humorous	"Two economists are on a quest for personal happiness (i.e. the maximum utility). Let us do it: Let's increase the overall welfare! In favor of shifting the aggregated budget line, towards higher indifference curves, until we reach the heaven of the best possible Nash equilibrium."
Need	B explains why he needs the points / money	"Hi. On the weekend, I would like to visit my girlfriend. In order to do this, I need some money to buy a bus ticket. So please be a bit fair and share your points with me. Do it for the sake of Love. :)"
Random Role	B mentions the random allocation of roles and / or how A would feel being a B.	"...Perhaps you keep in mind that you could find yourself in my position and you would surely be glad about a friendly A."

Table A.2: Cross-correlation table of message characteristics

Variables	Eq	D	FG	P/R	SoP	H	N	RR	L	SM	S	Pl	T
Equity (Eq)	1.000												
Decency (D)	0.604	1.000											
Friendly Greeting (FG)	-0.006	0.090	1.000										
Power / Responsibility (P/R)	0.580	0.572	0.105	1.000									
Sum of Points (SoP)	0.366	0.225	-0.076	0.408	1.000								
Humor (H)	-0.322	-0.318	-0.013	-0.360	-0.235	1.000							
Need (N)	-0.069	-0.024	0.056	-0.058	-0.151	0.149	1.000						
Random Role (RR)	0.244	0.275	0.195	0.316	0.103	-0.048	-0.090	1.000					
Length (L)	0.371	0.259	0.186	0.338	0.422	0.090	0.017	0.340	1.000				
# Spelling Mistakes (SM)	0.063	-0.043	-0.032	-0.105	-0.029	0.031	0.037	0.179	0.121	1.000			
Smileys (S)	0.014	-0.120	0.077	-0.097	-0.117	0.224	-0.083	0.039	-0.068	0.332	1.000		
Please (Pl)	0.153	0.282	0.044	0.160	0.045	-0.114	0.189	0.008	-0.057	-0.054	-0.173	1.000	
Thanks (T)	0.038	-0.040	0.179	-0.005	0.066	-0.007	0.062	0.034	0.033	0.139	-0.009	0.187	1.000

Table A.3: Logit regression results for subsamples

VARIABLES	Gender		Decision Round 1	
	(1) Men	(2) Women	(3) Baseline=1	(4) Baseline=0
Message Categories:				
Equity	0.007	-0.113	-0.201	0.105
	(0.309)	(0.278)	(0.315)	(0.258)
Decency	0.137	0.098	-0.036	-0.091
	(0.381)	(0.339)	(0.390)	(0.297)
Friendly Greeting	0.125	0.060	0.071	0.060
	(0.184)	(0.207)	(0.408)	(0.146)
Power / Responsibility	-0.090	1.475***	1.057	0.494
	(0.534)	(0.395)	(0.752)	(0.372)
Sum of Points	0.594**	-0.002	-0.500	0.379*
	(0.246)	(0.258)	(0.313)	(0.204)
Humor	0.565***	0.949***	0.791**	0.693***
	(0.211)	(0.243)	(0.327)	(0.196)
Need	0.611*	0.755**	0.770*	0.675***
	(0.325)	(0.298)	(0.410)	(0.247)
Random Role	-0.044	0.419	0.520	0.203
	(0.359)	(0.335)	(0.545)	(0.267)
Message Characteristics:				
Length	0.003***	0.003*	0.006***	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
# Spelling Mistakes	-0.103*	-0.072	-0.192**	-0.065
	(0.056)	(0.060)	(0.075)	(0.043)
Smileys	0.547***	0.487***	0.892***	0.385***
	(0.144)	(0.177)	(0.237)	(0.123)
Please	0.002	-0.243	0.117	-0.144
	(0.177)	(0.192)	(0.344)	(0.141)
Thanks	0.049	0.378**	0.596	0.154
	(0.204)	(0.160)	(0.465)	(0.137)
Round	0.039***	0.027**	0.041**	0.032***
	(0.015)	(0.013)	(0.020)	(0.011)
Constant	-4.437**	-7.208***	-4.027*	-6.206***
	(2.183)	(1.749)	(2.096)	(1.860)
Observations	893	922	501	1,254

Note: The dependent variable in all regressions is *give*, which takes a value of 1 if A decided to give points to the receiver. Robust standard errors (clustered on the level of subjects A) in parentheses. All regressions include session dummies and control for individual characteristics of dictator A (see Table 4).
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.4: Robustness check: logit regression results for a subject fixed effects model

VARIABLES	(1) Full Sample	Gender (2) Men	(3) Women
Message Categories:			
Equity	0.161	0.389	0.022
	(0.309)	(0.461)	(0.422)
Decency	-0.170	-0.315	-0.032
	(0.448)	(0.645)	(0.631)
Friendly Greeting	0.194	0.232	0.191
	(0.228)	(0.341)	(0.314)
Power / Responsibility	0.890	-0.254	1.834**
	(0.571)	(0.842)	(0.793)
Sum of Points	0.396	1.034**	-0.138
	(0.293)	(0.443)	(0.402)
Humor	1.165***	1.135***	1.238***
	(0.293)	(0.438)	(0.403)
Need	1.195***	1.231***	1.166***
	(0.317)	(0.477)	(0.429)
Random Role	0.331	0.161	0.455
	(0.368)	(0.547)	(0.508)
Message Characteristics:			
Length	0.005***	0.005**	0.004**
	(0.001)	(0.002)	(0.002)
# Spelling Mistakes	-0.133**	-0.158	-0.127
	(0.067)	(0.102)	(0.091)
Smileys	0.726***	0.722**	0.720***
	(0.193)	(0.287)	(0.268)
Please	-0.200	-0.073	-0.345
	(0.218)	(0.320)	(0.302)
Thanks	0.356*	0.074	0.578**
	(0.196)	(0.294)	(0.268)
Round	0.050***	0.071***	0.036
	(0.017)	(0.026)	(0.024)
Observations	1,124	488	636
Number of Subjects	78	34	44

Note: The dependent variable in all regressions is *give* which takes a value of 1 if A decided to give. The panel is defined by subjects A.
* significant at 10%; ** significant at 5%; *** significant at 1%.

A.2 Instructions and Control Questions

Instructions for Participants of the Main Experiment

The following section provides the English translation of the originally German instructions which the participants received in the main experiment:

General Instructions

Today, you are participating in a decision-experiment. If you read the following instructions carefully, you can earn money. The payment you receive depends on your decisions and the decisions of other participants.

During the whole experiment, it is not allowed to communicate with other participants. Thus, we ask you not to talk to each other. Please turn off your mobile phone as well. Breaking these rules will lead to exclusion of the experiment and the payment.

In case there is something you do not understand, please take another look at these instructions or give us a hand signal. We will come to your seat and answer your question personally.

During the experiment, we talk about points instead of Euros. The points you earned in the course of the experiment will be converted into Euros as follows:

5 points = 1 Euro

At the end of the experiment, you will receive the earned points, converted into Euros, in cash. For being on time, you will receive an additional 4 Euros.

On the following pages, we will explain the experiment to you in detail. Before the start of the experiment, we will ask you a few control questions on screen which are supposed to help you understand the procedure. The experiment only starts when all participants are completely familiar with the procedure of the experiment and have answered the control questions correctly.

The Experiment

In the experiment, you and the other participants each take on a role. There are two different role types. Half of the participants is participant A, the other half is participant B. Your role will be assigned to you randomly at the beginning of the experiment. You only

decide for your role and you keep this role for the whole experiment. In the following, a participant who takes on role A will be called participant A.

The experiment consists of several rounds in which you interact with alternating participants. In each round, the computer program selects groups of two at random of all the participants present. Each group consists of exactly one participant A and one participant B. Every round, new groups are randomly selected in such a way that you will always be matched with a participant with whom you have not interacted yet. Neither you nor the other participants get to know something about the identities of the participants in the groups; neither before nor after the experiment.

The experiment ends as soon as every participant A has interacted with every participant B once. If there are, for example, 20 participants in this experiment, i.e. 10 participants A and 10 participants B, the experiment will end after 10 rounds. Thus, in every round you are matched with a participant with whom you have not interacted yet.

As soon as the experiment starts, you will be informed about your role and the number of rounds on screen.

Round 1

At the beginning of each round, all participants of this experiment receive an endowment of points. Each participant A receives 50 points, each participant B receives 20 points. Now participant A can decide whether she wants to change the score of points as follows:

- Participant A can reduce her own points from 50 to 40 points which leads to an increase of participant B's points from 20 to 40.

- Participant A can keep her own 50 points; then, participant B also keeps his 20 points.

From round 2 on

As in round 1, participant A can decide about changing the score of points.

Before participant A decides about a possible change of the score of points, participant B sends a text message to participant A. The maximum length of the message is 300 characters. Being a participant B, you may write whatever you like with the only exception that you are not allowed to give any information about your identity. Participant A reads this message before she decides about a possible change of points.

The message that participant B sends to participant A is written only once, namely in round 1. In round 1, this message is not shown but from round 2 on, the message is shown to the matched participant A in the respective round.

Thus, participants B only take an active part in the experiment once (in the first round). In the other rounds, they do not write messages anymore. However, at the end of every round, they are informed about their payoff in points in this round.

Payment

At the end of the experiment, the computer program will choose one of the previously carried out rounds at random. Only the group composition of this selected round and only the decision of participant A for this round are relevant for your payment. For the other rounds, which are not selected, you will not receive any payment. The first round, in which participant A makes a decision without having received a message from participant B before, is equally likely to be selected as every other round. Thus, as a participant A, you should decide very carefully in every round because only after the experiment, you will learn which of your decisions is relevant for the payment. As a participant B, you should think carefully about your message in the first round because, from round 2 on, every participant A you interact with reads this message.

After you have made all decisions, you will learn which round has been selected by the computer program for the payment. Participants A get to know whether they decided for a change of points in this particular round and which payment they receive. Participants B get to know whether their points have been changed by the respective participant A and which payment they receive.

Following the experiment, we are going to ask you to fill in a questionnaire. Then, you will receive your payment in cash. Points are converted to Euro at an exchange rate of 5 points for 1 Euro.

Control Questions in the Main Experiment

The following section provides the English translation of the originally German control questions which were shown to all participants and had to be answered correctly by all participants before the start of the main experiment:

- "If participant A decides not to change the score of points, participant A will receive 50 points and participant B will receive 20 points." (TRUE)

- "If participant A decides to change the score of points, participant A will receive 50

points and participant B will receive 40 points." (FALSE)

- "In the end of each round, participant B learns which decision participant A made in this round." (TRUE)

- "In the beginning of each round, participant B can send a message to participant A." (FALSE)

- "Every round is paid out." (FALSE)

Instructions for Participants of the Rating Session

The following section provides the English translation of the originally German instructions which the participants received in the rating session:

General Instructions

We welcome you at LERN. Thank you very much for being here today.

Please notice: During the whole stay in the laboratory, it is not allowed to communicate with other participants. Thus, we ask you not to talk to each other. Please turn off your mobile phone as well. If you have any questions, please give us a hand signal. We will come to your seat and answer your question personally.

Your task today is the following:

A while ago, we conducted an experiment in which one part of the participants could write messages to the other participants. We would like you to read those messages and sort them into one or several categories.

At the end of the task, you will receive a payment of 15 Euros in cash.

On the next page, you find the instructions of the conducted experiment. Please read these instructions carefully to make sure that the context of the messages becomes clear.

The independent categorization is an important part of our project. We appreciate your collaboration very much.

Your task today

You are going to read messages on screen which have been written by a participant B of the experiment explained above. You should sort these messages into the following categories:

- **Friendly greeting**
  Participant B addresses participant A in a very friendly or polite way.

- **B argues with an efficiency gain due to a change of the score of points.**
  In this context, efficiency gain means that the sum of points of participant A and B increases due to a change of points, i.e. the "pie" that is divided becomes larger.

- **B uses equity as an argument.**
  By changing the score of points the points are distributed evenly. Participant A and B will only receive the same number of points if A decides to change the points.

- **B asks A to act decently.**
  Participant B appeals to participant A to act friendly or fair, for instance by appealing to A's conscience.

- **B emphasizes that A bears the responsibility for both payments.**
  Participant B notices that participant A has the exclusive power to make decisions. He may explicitly point out to A that because of her special responsibility she should make her decision very responsibly.

- **The message is particularly humorous.**
  This category includes, for example, messages in which participant B tells a joke. However, you can also sort messages into this category that you believe to be particularly humorous for other reasons.

- **B explains why he needs the points / the money urgently.**
  Participant B mentions his special need and his dependency on the income from the experiment. In this context he might also explain specifically, what he would spend the additional points on.

- **B mentions the random allocation of roles and / or how A would feel being a B.**
  Messages belonging to this category are about the random allocation of role A and role B in the beginning of the experiment. Participant A could have become a participant B with the same probability.

Important: You can sort each message into **none, one** or **several** categories!

A.3   Decision Screens of Participant A

Figure A.1: Decision screen of participant A in the first round

A participant B has sent you the following message:

Dear A, please share your points with me. Kind regards, B

Now you have the chance to change the points for this round.

At the moment, you have 50 points and participant B has 20 points.

If you change the points, you will have 40 points instead and participant B will have 40 points.

Do you want to change the points?   ○ no
                                     ○ yes

OK

Figure A.2: Decision screen of participant A from round 2 on.