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Article — Accepted Manuscript (Postprint)

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Journal of Economic Behavior & Organization

Provided in Cooperation with:

WZB Berlin Social Science Center

Suggested Citation: Adena, Maja; Alizade, Jeyhun; Bohner, Frauke; Harke, Julian; Mesters, Fabio (2019) : Quality certification for nonprofits, charitable giving, and donor's trust: Experimental evidence, Journal of Economic Behavior & Organization, ISSN 1879-1751, Elsevier, Amsterdam, Vol. 159, pp. 75-100, <https://doi.org/10.1016/j.jebo.2019.01.007>

This Version is available at:

<https://hdl.handle.net/10419/218840>

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**Quality certification for nonprofits, charitable giving, and donor's trust:
experimental evidence**

Maja Adena, Jeyhun Alizade, Frauke Bohner, Julian Harke, and Fabio Mesters*

This version: July 04, 2018

Abstract

In an experiment, we test the impact of quality certificates on donations to a charity. Compared to the control group, participants presented with a quality certificate chose higher donations by around 10% and reported higher trust in the same charity. The choice of donation values over time shows strong persistence such that the difference between the two groups remained even after all participants were informed about the certificate. Since the initially uninformed donors did not adjust their donations upwards to a sufficient extent, we conclude that quality certification is less likely to affect giving by existing donors. Finally, we find no significant negative effect of information about certificate fees.

JEL codes: D64, C99, D81

Keywords: nonprofit certification, charitable giving, experiment, trust

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1. Introduction

Nonprofit organizations (NPOs) are usually not subject to strict regulations. This creates a potential for malpractice that has become evident in a number of recent scandals (Adena 2016). Nevertheless, our understanding of charitable giving suggests that donors care about the quality of the charitable product and the appropriate use of their donations (see, among others, Vesterlund 2003; Eckel and Grossman 1996; Gneezy, Keenan, and Gneezy 2014). A certifying agency that awards certificates based on a set of known criteria can clearly provide a signal of quality. There are a number of rating agencies specifically designed for nonprofits. They either award an (all-or-nothing) certificate (e.g., BBB Wise Giving Alliance in the US, CBF-Keur in the Netherlands, or DZI Spendensiegel in Germany) or use a more elaborate scoring system (bronze, silver, gold, and platinum by GuideStar or up to 4 stars plus detailed scores by Charity Navigator, both in the US). Many potential donors do indeed seem to look for independent information about charities' performance. For example, GuideStar reported almost 7 million users between October 2014 and October 2015¹ and Charity Navigator had over 7 million visitors in the year 2016.² Although the market for nonprofit certification is huge, the literature on the effects of third-party ratings on charitable giving is surprisingly sparse (see Brown, Meer, and Williams, 2017, for a literature review). In this paper, we provide the first experimental evidence that an (all-or-nothing) certificate has a causal effect on donations to a charity. We also shed some light on the mechanism behind this and the heterogeneity of the effects. Furthermore, we study the effects of the fees that charities pay for such certification on giving behavior. The issues addressed in this paper are relevant beyond the nonprofit sector: The results likely apply to other goods and services whose quality is not easy for customers to assess, and where the relationship between the seller and the buyer has to be trust-based.

In order to study the role of certification for donations, we implemented a large classroom experiment with a total of almost 500 participants in four sessions. We used a real world setting, with the certificate being the German DZI Spendensiegel (henceforth DZI) and the charity being the Björn Schulz Foundation (henceforth BSF). Our chosen charitable organization, BSF, has

¹ <https://www.guidestar.org/profile/54-1774039> (accessed 26.03.2017)

² <https://www.charitynavigator.org/index.cfm?bay=content.view&cpid=628> (accessed 26.03.2017)

been awarded the DZI certificate. We chose a charity that is not widely known for two reasons: (i) The participants are unlikely to know whether the organization is DZI certified; (ii) the subjects might already have high quality prior regarding large and well-known organizations. Indeed, only 5% of our participants indicated having prior knowledge of the organization. In a between-subjects design, we compared the donation decisions of participants who received a standard solicitation letter versus the behavior of those who were additionally presented with a paragraph about the certificate. We asked the participants to choose a donation on a scale between €0 and €17. Subsequently, with a known probability of 5%, the participants were drawn in a lottery, their donative decisions were implemented (henceforth referred to as prize money donation), and they received the remainder in cash (€17 minus the donation). The participants in the certificate group chose significantly higher amounts (an increase of around 10%) and more individuals chose the maximum amount.

In addition to our main outcome variable, we also asked participants to choose a donation between €0 and €17 that they wanted to make with their own money if they were not drawn in the lottery (henceforth referred to as own-money donation). This decision was, however, not enforced. Moreover, we analyzed actual own-money donations (henceforth referred to as actual donations) that were put into the donation boxes at the end of the experiment or paid by bank transfer later on. We found similar effects of being presented with the certificate—it led to higher own-money and actual donations, although they were only significant according to the second measure.

We also implemented a small within element. In the second round, the group that was initially the control group was presented with the certificate for the first time and the group that was initially the treatment group was reminded of the certificate. Participants could then revise their decision to give. We observed a small but significant increase in prize money donations between the two rounds that was similar in both groups. However, the majority of the participants stuck to their first-round donative choice. Thus, the difference between the first-round treatment groups persisted over time and was still statistically significant in between comparisons, suggesting an anchoring effect. Given that the initially uninformed participants did not increase their donations to the level of the initially informed ones, we conclude that quality certification is less likely to affect existing donors.

Our second research question was related to certification fees. Charities have to pay for DZI certification and these costs have to be covered from donation revenue. Given some evidence that donors dislike administrative costs (for example, Gneezy, Keenan, and Gneezy 2014), we conjecture that donors might reduce their giving upon learning about the DZI's certification fees. In the second round, half of the participants received additional information about the fees (basic fee of €500 plus 0.035% of collected donations and VAT). We find a small negative, but not significant, effect.

Finally, in order to see how the certification interacts with trust, we conducted a survey to measure trust in the BSF after the first-round decision. The results suggest that the certificate increases trust in an organization that was awarded it. There is also a strong correlation between trust in a charity and donations.

2. Literature

2.1. Quality information in charitable giving

Most of the literature assumes that donors are interested in the ultimate quality of the charitable product. Vesterlund (2003) and Andreoni (2006) present theoretical models of sequentially organized fund-raising that helps to reveal a charity's quality. A donor who can find out the quality of an NPO on costly inspection and reveal it to the subsequent donors by choosing a high and publicly announced donation sends a positive signal of quality. Indeed, lab and field experiments have confirmed that lead gifts and matching increase donations (see, among other, List and Lucking-Reiley 2002; Eckel and Grossman 2003; Huck, Rasul, and Shephard 2015; Adena, Huck, and Rasul 2017; Adena and Huck 2017). More recent theoretical contributions have been provided by Krasteva and Yildirim (2013 and 2016). Krasteva and Yildirim (2013) find that, in a large population, the majority of donors remain uninformed of charity quality. Since uninformed donors are less generous than informed ones, charities might receive higher revenues if they inform potential donors (for example, by undergoing certification and telling donors about it). Adena (2016) suggests that media organizations that are looking for stories about bad conduct can also act as a mechanism ensuring a higher level of quality in the nonprofit market and reinforcing donor's trust.

Experimental contributions include Null (2011) and Butera and Horn (2017). Null (2011) studies whether charitable giving responds to efficiency in production by varying matching rates over time. She observes that, although donors choose to give to various charities they do not switch sufficiently to charities with increased matching rates, thus forgoing on average 25% of the value of their gifts.³ Butera and Horn (2017) design a two-stage experiment in which the subjects are asked to make decisions to donate to three chosen charities. After a stage-one decision, subjects are asked to guess the Charity Navigator financial efficiency score of their chosen charities. Subsequently, they learn of the true score. The authors find that subjects increase their donations somewhat in response to good news, that is, when real efficiency is higher than predicted. However, this relationship disappears when both financial efficiency and individual donations become public.

A small number of studies address why more information might not be acquired, why it might be ineffective, or why it might have a negative impact on donations. Niehaus (2014) proposes a theoretical model in which “altruists want to *think* that they are helping” (italics in the original). This might limit interest in acquiring actual information. Fong and Oberholzer-Gee (2011) observe that information about recipients and the reasons for their poverty results in a shift in donations away from less preferred types. They find that with endogenous information acquisition about recipients, all types of poor recipients are worse off. Karlan and Wood (2017) study the effect of informing donors about a charity’s effectiveness as measured by scientific research. They find no overall effect of the effectiveness information on donations.⁴ However, they find a negative effect on small donors and a positive effect on large ones. They suggest that those differences result from different motivations—small donors are motivated by warm glow and large donors by altruism—and how it interacts with provided information. In Chlaß, Gangadharan, and Jones (2015) participants give to deserving recipients directly at first and then through another participant-intermediary, who is allowed to keep a fraction of the donation.

³ The reluctance to revise donative choices might be explained by persistence. Donors who have formed their opinion about the charity are less likely to be influenced by new information.

⁴ Their sample consists of previous donors who likely have already formed an opinion about the charity. The null result might again be an effect of persistence.

Although, on average, the participants reduce their giving when the intermediary is present, 41% do not change the amount given and 16% increase it.

2.2. Quality Certification of Nonprofit Organizations

The theoretical papers that explicitly study certification include Svitkova and Ortmann (2005). They propose a model in which a certificate serves as a quality signal for donors, who shift their donations to certified charities.

The most similar study to ours is the study by Brown, Meer, and Williams (2017). They conducted an experiment in which participants could donate to one of ten charities. In one of their treatment conditions, the participants were informed about which of the charities had been approved by the State Employee Charitable Campaign (SECC), while in another treatment, they were told about which charities received three or four stars from Charity Navigator. They found that the ratings have a demonstrable impact on the choice of charities and a potential one on donations (the latter effect is not significant); however, a causal interpretation concerning the impact of ratings on donation level is difficult in their setting given the endogeneity of the choice of charity. In a regression discontinuity framework, Yörük (2016) estimates the effect of having an additional star in the Charity Navigator rating. While he finds minor and insignificant effects overall, the effect is meaningful and statistically significant for small (unknown) charities. Other studies report positive correlations in observational data (see Brown, Meer, and Williams 2017 and Wong and Ortmann 2016 for a literature review). However, causal interpretations in those studies are not possible since positive quality ratings are linked to higher charity quality, and higher charity quality likely results in higher donations.

What do the reviewed studies suggest for our experiment? Since the theoretical models and empirical studies emphasize the importance of quality signals for donations, we expect that the participants who receive the solicitation letter with information about the certificate will, on average, choose higher donations than the participants who are not informed about the certificate. Hence, we formulate the following hypothesis:

H1: A certificate increases individual donations to a certified charity.

2.3. Costs of certification

A number of studies suggest that reported administrative expenses have a negative impact on donations. Most recently, Gneezy, Keenan, and Gneezy (2014), showed in a lab and a field experiment that individuals are less likely to support organizations that have higher administrative costs. Similar results have been shown in a number of empirical papers (e.g., Khanna, Posnett, and Sandler 1995; Khanna and Sandler 2000; Okten and Weisbrod 2000; Posnett and Sandler 1989; Tinkelman 2004). Therefore, we conjecture that participants who learn about the certificate fee could interpret the reported expenses as a “diversion of resources” from the actual cause and thus, on average, indicate lower donations than do participants who do not receive information about the costs of certification.

H2: Information about the cost of certification decreases donations.

3. Experimental design

3.1. Treatments and procedures

Our classroom experiment took place at universities in the Berlin area between January 30 and February 8, 2017, with almost 500 undergraduate students participating in four sessions. All participants were students from HU Berlin, FU Berlin, TU Berlin, and the University of Potsdam and were taking one of the introductory courses in economics.⁵ The classes and our instructions were in German. The experimental sessions took place in the last 15 minutes of a lecture in the third- and second-last week of the fall semester. Participants were asked if they were willing to participate in a decision-making experiment in which they would have a chance to win some money and do good. They were also told that they were free to leave if they did not want to participate.⁶ Participants were randomly assigned to one of the treatments. Our experimental design and the numbers of participants are summarized in Table 1.

⁵ We also conducted a pretest with 33 participants at a research institute and a pilot experiment with 21 participants at yet another university. See Appendix C, Table C1 for details.

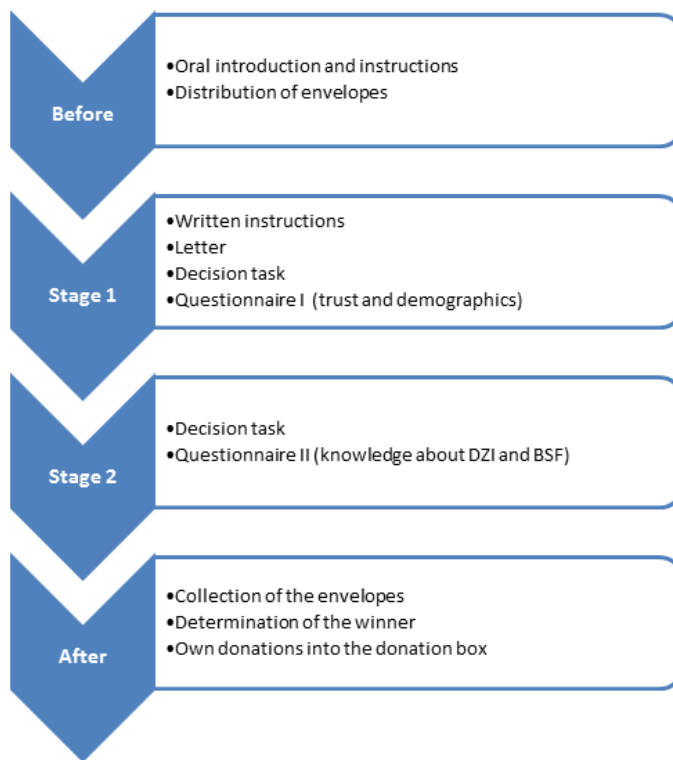
⁶ Few participants left the classroom, with the exception of the students at the University of Potsdam, where a visibly larger proportion of the class left. The potential explanation for this difference might be a different pre-

Table 1: Experimental design

First stage:	Control		Certificate	
	Standard solicitation letter without any mention of the certification		Standard solicitation letter plus info about the certificate and its logo	
N=486	N=245		N=241	
Second stage:	Certificate	Certificate + Fees	Certificate	Certificate + Fees
	New information	New information	Reminder	Reminder plus new information
N=486	N=122	N=123	N=123	N=118

Notes: Numbers exclude questionnaires that were returned completely blank but include some item nonresponse.

Figure 1: Summary of the procedures



announcement by the instructor or scheduling before lunchtime. We had suggested announcing the experiment in class a week before.

Table 2: Additional paragraph in the certificate treatment

Since 2006, the Björn Schulz Foundation has been a holder of a DZI certificate, which certifies verifiable, cost-effective, and appropriate use of the funds in compliance with tax regulations. This certificate is renewed annually, reviewed, and approved.



Figure 1 presents a summary of the procedures. See Appendix C for the wording of the instructions and additional details about the implementation. At the beginning of each session, oral instructions were used to introduce the experimental procedures and to inform participants that more instructions would follow. Subsequently, large envelopes were distributed. Those envelopes contained further instructions, the solicitation letter, a first decision sheet, a questionnaire, and a medium-sized sealed envelope. In the written instructions, the participants were informed about further procedures and were told that all responses would remain anonymous. In the first stage, participants in both the treatment and control groups received a letter in which they were asked to donate to a charity (BSF). BSF is a local charity that assists the families of children and young adults who are suffering from life-threatening conditions. The solicitation letter was identical for both treatments, except for the information about the DZI quality certificate. DZI is the major certification agency for nonprofits in Germany. An organization applying for the certificate must pay a fee and undergo an audit. It either receives the certificate or not, i.e., there is no score or rating involved. The certificate has to be renewed annually.

The control group received a standard letter while the treatment group received a letter that included an additional paragraph. This paragraph informed participants that the charity had been awarded a quality certificate. It explained how the certificate was awarded and was accompanied by the certificate logo (see Table 2). After reading the letter, participants were asked to indicate on 18-point scales (1) how much they would donate if they won €17⁷ with a known probability of

⁷ We ran a pretest and a pilot with donation grids and a prize of €10. Most donations were chosen to be €0, €5, or €10. In order to increase the variability of responses and increase power, we increased the grids and the prize to €17.

5% and (2) how much they would donate if they did not win. Participants knew that their decision would be implemented by the experimenters if they won. Concerning own-money donations, the participants were informed that at the end of the experiment they could put their own money in the envelope provided, seal it, and then put it into a donation box. The envelopes had the same ID numbers as the questionnaires, which meant that we could match the intentions to the actual donations.⁸ The participants were also informed that, if they preferred or were short of cash, they could transfer money at a later point in time directly into BSF's bank account and provide their ID number for reference purposes. The two short decision-making tasks were followed by a survey to measure trust and collect demographic information (questionnaire I).

After completing the decision-making tasks and the survey in the first stage of the experiment, participants were asked to place their sheets in the large envelope and seal it. In the second stage of the experiment, the participants were asked to open the medium-sized presealed envelope. Depending on the treatment group, the participants either received new information or a reminder about the quality certificate. Half of the participants in both groups were also informed about the fees for the DZI certificate (basic charge €500, additional amount 0.035% of the annual total income, plus 19% VAT). The participants were then asked to mark the two giving decisions (indicating their choices if they won or did not win) again and were instructed that they could choose different amounts than previously, and that the new choice would be implemented if they won. Additionally, the participants were asked whether they had known about the DZI and BSF previously (questionnaire II). After completing the decision-making task in the second stage, the participants were instructed to put the form in the medium-sized envelope and seal it. They were expected to keep a small envelope labeled *donation*, and a sheet with bank transfer instructions and their ID. Finally, one of the participants was asked to roll a 20-sided dice in order to determine the winners. A participant won if her last ID digits (set to be numbers between one and twenty) matched the rolled number. The chance of winning was equally likely for all participants at 5%. In order to ensure that payment remained anonymous, at the end of the experiment, one experimenter prepared two envelopes—one labeled *donation* and the other as *to keep*. This was

Note that this amount has no clear focal point: a person can give €0, keep €0, give €5, keep €5, give €10, keep €10, give €15, keep €15, or choose one of the middle values €8 or €9.

⁸ Own-money donation decisions were not otherwise enforced.

done for each winner based on what the participant indicated in the decision-making task in the second round. Another experimenter who did not know the content of the envelopes handed them to the winners outside of the room. The winners were advised to check the amounts in the envelopes, seal the donation envelope, and put it into the donation box. Other participants could put their donation in the small envelope labeled *donation*, seal the envelope, and then put it in sealed donation boxes when exiting the room. This procedure was chosen to prevent social pressure and to ensure that donations were anonymous among participants.

4. Results

Before proceeding with the main analysis, we verified whether the sample was sufficiently balanced on observable characteristics (see Table B1 in the Appendix B and the preceding discussion). The results of this exercise are reassuring when accounting for multiple hypotheses testing (Bonferroni or Holm adjustments). However, since simple t-tests capture some differences, in what follows, we will provide the results after controlling for observable characteristics as well.

4.1. The effect of certification on donations

First, we report the main results for the main outcome variable: prize money donations. In the first round, the average prize money donation was €11.64. The distribution was skewed, with 42% of the participants choosing €17. Nevertheless, all possible values were chosen at least once, with a tendency towards the following amounts: €7 (15%), €10 (12%), €5 (8%), and €12 (6%).⁹

In the control treatment the average prize money donation was €11.13 compared to €12.16 in the certificate treatment (see Table 3). This difference is statistically significant at 5% (both t-test and MWU test).¹⁰ There is a visible shift in the distribution of donations in both groups, corresponding to a first-order stochastic dominance (see Figure 2 and Table 3): In the control group there are more nongivers (3.29% versus 2.10%), the intermediate average is smaller (€7.92

⁹ Figure B1 in the Appendix shows a histogram of donations by treatment.

¹⁰ Note that throughout the paper we report two-sided test p-values, although our hypotheses are directional. We opt for the more conservative approach, and additionally report nonparametric tests when appropriate.

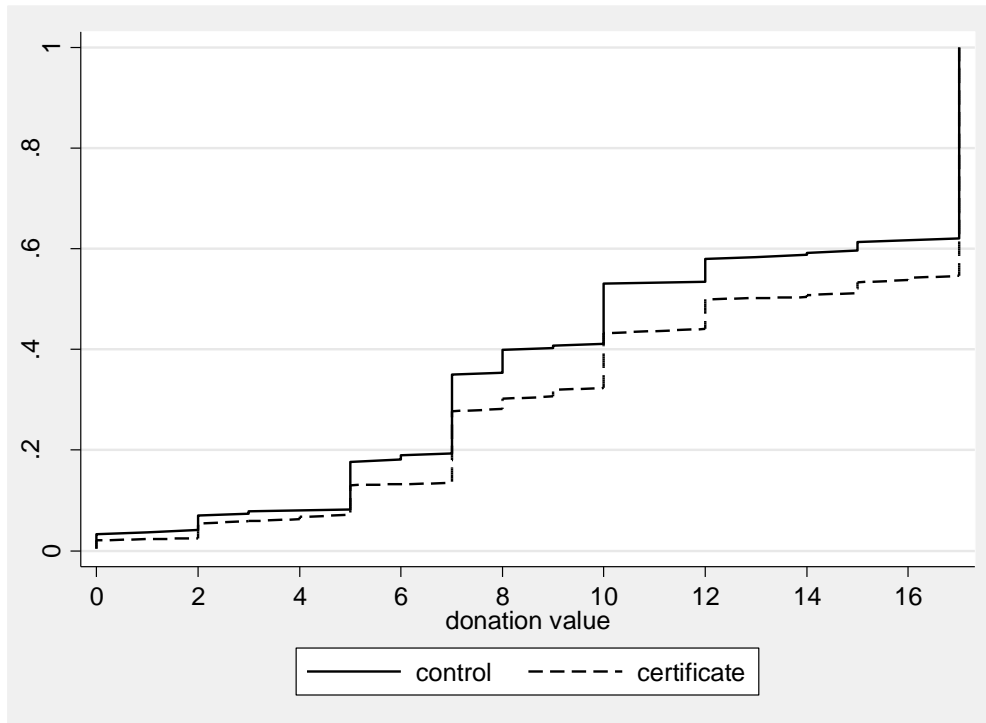
versus €8.40), and fewer participants chose to donate the maximum amount (38% versus 46%, the difference being statistically significant according to a test of proportions with $p < 10\%$).

Table 3: Summary statistics—prize money donations

Treatment	N	Average donation in €	Share of donations equal to €0	Average if less than €17 and more than €0	Share of donations equal to €17
Control	243	11.132 (0.346)	0.033	7.915 (0.262)	0.383
Certificate	238	12.164 (0.337)	0.021	8.403 (0.297)	0.458
t-test p-value		0.033			
MWU-test p-value		0.036			

Notes: means; standard errors in parenthesis.

Figure 2: Cumulative density function of prize money donations by treatment



In Table 4 we provide regression results from OLS and two-sided Tobit regressions, with and without controls. Column I (OLS without controls) presents a simple difference between the control and certificate treatment averages that can be equivalently inferred from Table 3. The coefficient on certificate dummy slightly increases when we add control variables (column II) but

the significance level remains the same. Similar results are obtained if we appropriately account for upper and lower censoring by using a Tobit specification.

Result 1: Study participants presented with a certificate increase their prize money donations compared to those in the control group by almost 10% on average.

Table 4: The effect of the certificate—regression results

	Prize money donation			
	OLS		Tobit m.e.	
	I	II	III	IV
Certificate dummy	1.032** (0.483)	1.200** (0.489)	1.010** (0.490)	1.180** (0.490)
controls		yes		yes
Observations	481	454	481	454
R^2 /Pseudo R^2	0.009	0.091	0.002	0.022

Notes: Columns III and IV present means of the marginal effects on the expected value of the censored outcome for a two-sided Tobit; standard errors in parentheses; controls include age, gender dummy, relative financial situation, university dummies, whether the certificate and the organization was known before; see Appendix Table B3 for full results; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.1.1. Additional results

Hypothetical own-money donations

Beyond our primary measure of donative choices, which is prize money donations, we also collected responses to a nonincentivized question about own-money donations. The average own-money donation was 0.97 cents (counting nonresponse in 28 cases as zero resulted in 0.91 cents). Zero was the most frequently chosen amount (78%); 8% chose €5, 5% chose €2, and 3% chose €10 (the values never chosen were 6, 9, 11, 12, 14, 16, and 17). Once again, the average donation was higher in the certificate treatment than in the control treatment (€1.05 versus 89 cents), though not statistically significantly (see Table B2 for summary statistics and Figure B2 for a histogram). The average positive donation and the share of people donating were also higher in the certificate treatment but the differences are again not significant. Note, however, that this variable is hypothetical, since we do not enforce the implementation of the second choice. Therefore, there is likely more noise in this measure, and due to a substantial nongiving, it has much less power to detect significant differences.

Persistence in donative behavior

In the second stage, individuals in the control group learned for the first time that BSF has obtained a certificate; the individuals in the treatment group were reminded of this fact. One could expect newly informed participants to increase their donations to the level of those who already knew about the certification in the first round (now both groups have exactly the same information). We observed a slightly larger increase in prize money donations in the previous control group (by 14 cents) compared to the previous certificate group (by 10 cents, see Table B4 in the Appendix, II-3 and II-6) but the differences are not statistically significant.¹¹ In fact, we observe strong persistence in donative choices. The correlation between first- and second-round prize money donations is 0.929 (see also Figure B3 in the Appendix). Given this persistence in donative behavior, the first round treatment differences continue to hold in the second round. The first-stage certificate-treatment group still gives 89 cents more than the first-stage control group (see Table B4 in the Appendix, I-3 versus I-6, significant at 10% according to a t-test and an MWU test). A persistence of first-round treatment differences has already been documented for charitable giving in the field. For example, Adena, Huck, and Rasul (2014) documented a strong effect of nonbinding suggestions on the distribution of donations for first time solicitation recipients. The differences in the distribution of gifts between the treatment groups persisted a year later, although no suggestions were made in the second year. Similarly, Adena and Huck (2018a) found that informing new prospective donors that fundraising was regular in nature led to a decrease in average donations by 40% (at equal response rates) as compared to no such information. Although in the second year, all donors learned that the fundraising is regular, the donation level choices mirrored those of the first year, leading to a long-term persistence of first year treatment effects. This literature suggests that once individuals learn what their optimal

¹¹ Given the low number of participants who change their donation between rounds, we may not have enough power to detect significant differences. However, the similar magnitude of the increase in both treatments might point to experimenter demand. Note that a clean within identification (assuming that experimenter demand is absent) would require the inclusion of a group that receives treatments in reverse order. This is not possible for our design, since, once informed about the certificate, we cannot take the certificate away. If the above difference-in-difference effect does not exist, we may still conclude that the certificate has an effect on prospective donors who have not yet formed an opinion about a charity, and not necessarily on actual donors. Those findings are also important for the interpretation of the laboratory experiments on charitable giving in general: Results from between and within designs may differ because they study a different question. Between-subject designs concern reactions to a new situation, like the one that is encountered with new donors. Within-subject design concerns changes in behavior in reaction to changes in the information set.

choice is, they are less likely to be influenced by additional information (similar to an anchoring effect, Kahneman and Tversky, 1974).

All in all, we conclude that certification is less likely to affect existing donors.

Actual donations after the experiment

Table 5 summarizes the actual money donations that were put into the donation boxes at the end of the experiment or donated via bank transfer. When we exclude prize money donations (19 winners), we are left with 53 donations.¹² This is a response rate of 11%.¹³

Table 5: Actual money donations—summary

	Prize money	Positive donations		Total
		actual own money (donation box)	actual own money (bank transfer)	
Average positive (in €)	14.11	4,23 ^a	10	7.01
N=	18 ^b	52	1	69 ^c
Sum (in €)	254	220	10	484 ^d

Notes: ^aAverage including zeros (return) but excluding prize money donations equals 0.45 cents; ^bOne additional person chose zero donation (total number of winners is 19); ^c Two people donated both prize and own money; Five envelopes were empty and therefore not counted; ^d The amount of €9.5 could not be matched: Either it fell out of some of the few unsealed envelopes or was put into the donation box without an envelope. The pilot generated additional €30 (including €5 prize money) resulting in total donations of €523.5.

We observe similar first-round treatment effect of certification even after the end of the experiment, when the participants put their actual donations into donation boxes. The first-round certificate treatment group donated twice as much as the first-round control group (31 cents versus 63 cents, see Table B4 in the Appendix, V-3 and V-6). The difference is significant at 10% according to a t-test and an MWU test.¹⁴ Table 6 shows analogous results from OLS and

¹² This excludes €9.50 that was put into the donation box directly, i.e. without the envelope.

¹³ The response rate is the same when including (53 out of 486) or excluding (51 out of 467) those who won experimental money, since 2 out of 19 winners donated own money on top.

¹⁴ If we winsorize donations at €10 in order to limit the effect of outliers, this results in respective averages of 31 and 59 cents, and a t-test p-value of 0.0621 (not presented).

two-sided Tobit regressions with and without controls.¹⁵ The coefficient on the first-round certificate dummy is significant at 10% (without controls) and at 5% (with controls).

Table 6: The effect of the certificate on actual money donations

	Actual own-money donations			
	OLS		Tobit m.e.	
	I	II	III	IV
Certificate (first round)	0.321* (0.165)	0.376** (0.167)	0.275* (0.153)	0.339** (0.158)
controls		yes		yes
Observations	486	457	486	457
R^2 / Pseudo R^2	0.008	0.038	0.006	0.033

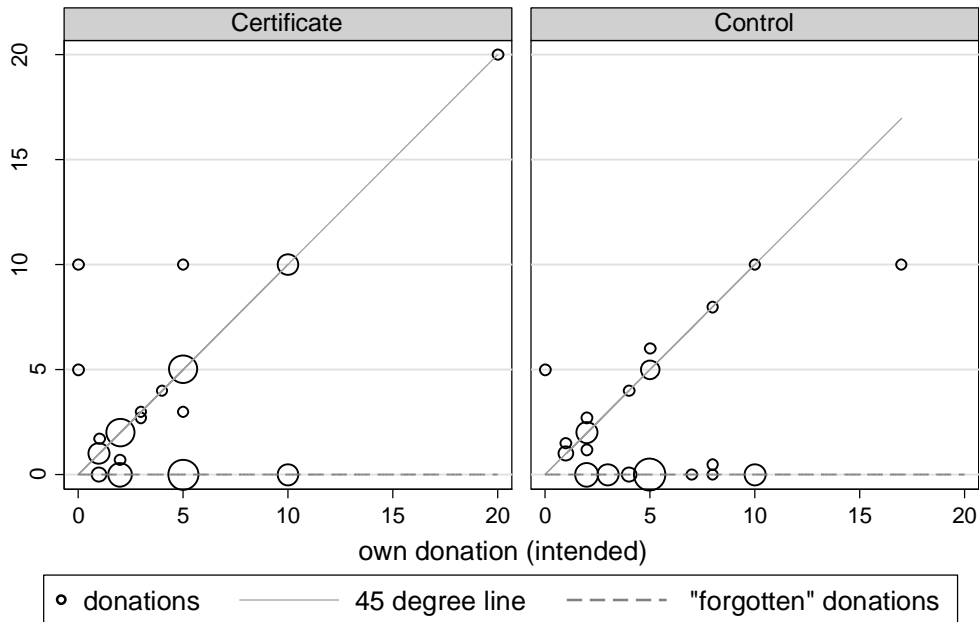
Notes: The sample includes winners, since two of them donated their own money additionally. The results are very similar when winners are excluded. Columns III and IV present means of the marginal effects on the expected value of the censored outcome for a two-sided Tobit; standard errors in parentheses; controls include age, gender dummy, relative financial situation, university dummies, whether the certificate and the organization were known before; see Appendix B, Table B5 for full results; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Next, we shed some light on the difference in results when comparing intended own-money donations (indicated in the second round) and actual donations after the experiment by first-round certificate versus control treatment (see Figure 3). Intentions are followed by actual donations more often in the certificate group than in the control group. In Figure 3, left panel, we see more dots at the 45° line (intended and actual amounts are equal) than at the $y=0$ line (positive intended donations followed by zero actual donations) for the certificate group. For the control group—right panel—the picture is reversed. This is likely why we find a significant effect of the certificate treatment on actual donations while the effect on intended own-money donations is not significant.

To sum up, we see again that the certificate matters and that the design of the first ask is of a great importance.

¹⁵ A specification with additional certificate fee dummy and an interaction effect yields no significant effects, and is thus not presented but can be provided on request.

Figure 3: Actual own-money donations versus intentions by treatment



Note: Own-money donations (intended) as stated in the second round; actual own-money donations collected after the experiment. The larger the size of the circle, the greater the number of individuals choosing the same donation pair.

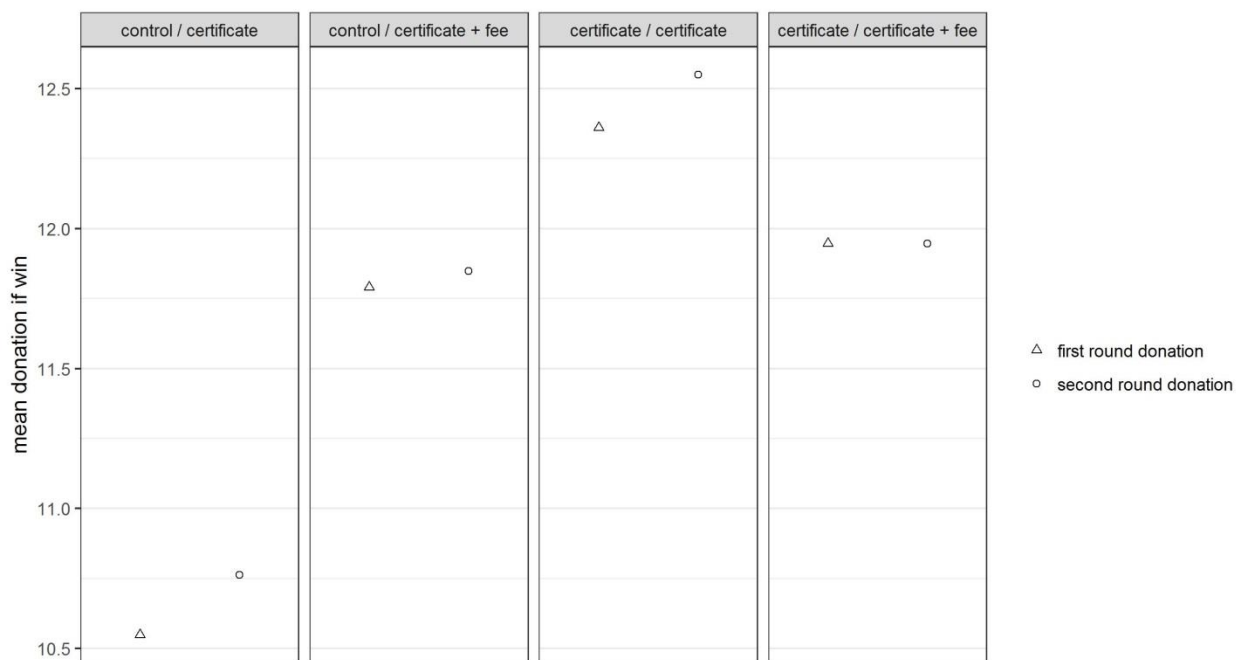
4.2. The effect of a fee on donations

In the second stage, half of the participants in both groups were additionally informed that the annual inspection required to renew the certificate involves the payment of fees (basic fee of €500 plus 0.035% of collected donations, plus 19% VAT), and that those fees amounted to €3,114 for BSF in 2014.

Figure 4 presents first- and second-round average donations by four treatments separately (control and certificate in the first round times fee and no fee in the second round). Without the information about the fee, the first-round control and treatment group both increase donations when presented with or reminded about the certificate in the second stage (see Figure 4, first and third panel). This increase is statistically significant according to a paired t-test that yields $p=0.0528$ (control/certificate and certificate/certificate groups pooled). When presented with the

certification plus fees information, there is (almost) no change in the average donation (the paired t-test does not reject zero change yielding $p=0.8468$). Both effects combined suggest a negative effect of the fee.¹⁶ Figure B3 in Appendix B presents a scatterplot of donations (prize money in panel A and own money in panel B) in the first and second rounds for all four treatments. Two observations can be made. First, most participants do not change the amount they donate between rounds. Second, while almost all switching in the groups without fees information is towards higher donations, in the fee groups, there is some switching towards lower donations as well.

Figure 4: First and second round prize money donations



Note: The separate headings refer to the treatment in the first/second round. For example, control/certificate means control treatment in the first round and new information about the certificate in the second round. The triangles and circles represent average prize money donations in the first and the second round respectively.

Finally, in Table B6 in Appendix B, we present the results of the within regressions that account for individual fixed effects. They also suggest a negative effect of the fee. However, the effects are not significant and small compared to the effect of the certificate in the first round.

¹⁶ The corresponding average differences are presented in Table B4 in the Appendix, column II, rows 1, 2, 4, and 5, and t-test p-values are presented at the bottom of the table.

Result 2: There is no significant effect of the fees, though the participants informed about the fee for certification give less than those who do not receive this information.

Note that the null results might be affected by the persistence of donative behavior (see next section). Presenting participants with the fee information in the first round might have resulted in a more pronounced effect.¹⁷

4.3. Additional results

Trust

We set out to measure how much people trusted our selected charity based on the information and treatment that our participants received during the first part of the experiment. For that reason, we designed a short questionnaire with seven questions relating to trust in BSF and three general trust questions. Appendix A contains the specific questions and details of the design. In the following, we operationalize our trust measures by taking the average of the items concerning trust in BSF (BSF trust score) and items concerning trust in general (general trust score). We expected that a certificate might positively influence trust in the charity. Yet, we did not expect any effect of the certificate awarded to BSF on general trust. The certificate treatment indeed results in a higher average BSF trust score (see Table 7, Column I). The difference between treatment and control group is statistically significant at 10% according to a t-test. The MWU test yields p-value of 10%. But as expected, we find no effect on general trust and the average in the certificate treatment is even slightly lower than in the control treatment. In Appendix B, Table B7, we additionally show the averages by treatment for each item separately. Though they are not significant separately, the pattern remains the same: in the certificate treatment, there are higher averages for all items concerning trust in BSF and lower averages for all items concerning general trust. We conclude that a certificate increases trust in a charity.

Table 8 presents results from OLS regressions that indicate positive correlations between trust in our chosen charity and donations for all three measures: prize money, own money, and actual donations. General trust is positively correlated with prize money donations. Figure B2 in the

¹⁷ An additional treatment was not possible due to limited number of participants.

Appendix B additionally shows scatterplots for the average BSF trust score or the general trust score against prize money donations. This suggests positive correlations as well.

Table 7: The effect of certificate on trust in the charity and general trust

	N	BSF trust score	General trust score
		I	II
control	244	3.751 (0.068)	4.046 (0.064)
certificate	240	3.920 (0.068)	3.983 (0.061)
t-test p value		0.0790	0.4804
MWU p-value		0.1048	0.4232

Notes: Two-sided t-test. Note that we take an average of nonmissing entries. 20 participants skipped one of the questions (or the answer was not clear), and one participant skipped 3 questions. There was no specific pattern of nonresponse. However, if we exclude those 21 participants with positive nonresponse, the t-test p-value for BSF trust score differences increases to 0.1640.

Table 8: Trust and donations — regression results

	Prize money donation			Own-money donation (intended)		Actual own-money donation			
BSF trust score	1.131*** (0.222)	1.064*** (0.242)	0.498*** (0.102)	0.460*** (0.113)	0.245*** (0.075)	0.255*** (0.085)			
General trust score	0.834*** (0.247)	0.513* (0.270)	0.063 (0.114)	-0.124 (0.126)	0.029 (0.083)	-0.028 (0.095)			
Controls	yes			yes		yes			
Observations	481	481	454	453	453	430	484	484	457
R ²	0.051	0.023	0.154	0.050	0.001	0.079	0.021	0.000	0.058

Notes: Results from OLS regressions; standard errors in parentheses; controls include first-round-certificate treatment dummy, age, gender dummy, relative financial situation, university dummies, whether the certificate and the organization was known before; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Prize money versus own money and actual donations

Though not designed to test the house money effect, our study makes a contribution to this literature. The potential effect of house money and the influence on participants' behavior in lab and field experiments have been discussed in a number of papers. The term house money effect was primarily introduced by Thaler and Johnson (1990), who discussed risk behavior depending on prior gains versus losses. They documented that prior gains increase the willingness to accept

gambles and prior losses decrease it. Several studies compared the effect of house money (windfall gain) versus own money in lab and field experiments. Since participants in the lab experiments often receive a budget for their decisions from an experimenter (particularly in public good games), the potential existence of a house money effect raises the question of external validity and the distortion of results (Ackert et al. 2006; Carlsson, He, and Martinsson 2013; Cherry, Kroll, and Shogren 2005; Clark 2002). Clark (2002) found no evidence for a house money effect in a laboratory experiment on public goods, where participants either received windfall money or used their own endowments. However, a reanalysis of Clark's data by Harrison (2007), which used more advanced statistical methods, showed that there is a windfall gain effect. Carlsson, He, and Martinsson (2013) found some evidence for the house money effect in a dictator game, which took place in two different settings—in the lab and field. In both cases, the participants' donation was higher if the participants received a windfall endowment rather than an earned endowment. The absolute and relative difference was larger in the lab than in the field. Reinstein and Riener (2012) demonstrated in a charitable giving experiment that, in addition to the house money effect, tangibility plays an important role for participants' behavior. Participants holding cash were less likely to donate it to a charity than participants with promised endowments.

The house money effect is especially relevant for inferences from laboratory experiments about charitable giving, because in reality private individuals have to contribute out of their own pre-existing income. Our classroom experiment came closer to external validity since we asked for actual donations. We also have a measure similar to windfall money. The difference is that our prize money was distributed by means of a lottery with a 5% probability of winning €17.¹⁸ In addition, we have yet another measure that is sometimes used in nonincentivized survey experiments—hypothetical intended own-money donations. Since our participants made all decisions, we have all measures for each person. However, this created some potential for shifting between the donation types. For example, participants may have considered prize and own money as substitutes, and shifted towards a donation type that has the lower price.

¹⁸ Note that this is equivalent to an experiment with 20 decisions, of which only one randomly chosen one will be implemented.

In Table 9, we compare all decision types in both rounds by presenting the average donations (including donations of zero). While the average prize money donation was approximately 12 times higher than the average own-money donation, it was significantly lower in expectation (i.e., accounting for the 5% chance of winning) and came much closer to actual donations (Table 9, Column II). In expectation, the average prize money donation equaled 58 cents ($0.05 \times \text{€}11.64$), however, this number suffers from a ceiling effect, since the maximum possible amount is 85 cents in expectation ($0.05 \times \text{€}17$).

Table 9: Average donations (including zeros) according to different measures

	number of participants	average	standard deviation	minimum	maximum	Share positive
	I	II	III	IV	V	VI
First stage						
Prize money	481	11.642	5.314	0	17	0.97
Prize money (in expectation)	481	0.582	0.266	0	0.85	
Own money (intended)	481	0.913	2.281	0	15	0.20
Second stage						
Prize money	480	11.727	5.458	0	17	0.96
Prize money (in expectation)	480	0.586	0.273	0	0.85	
Own money (intended)	480	0.917	2.418	0	20	0.19
After the experiment						
Actual own-money donations	486	0.453	1.775	0	20	0.11

Notes: The averages (including zeros). Five participants in the first stage and six in the second stage (different ones) did not answer the prize money question. Missing own money responses were set to zero wherever a response to a prize money question was given.

The 96–97% rate of donating prize money fell to 19–20% for own money. Furthermore, the actual response rate after the experiment was half of the intended response rate in the second stage, i.e., there was a large disparity between intentions and actions (see Table 9, Column VI). Yet, the actual response rate of 11% is remarkably high in a number of respects—the participants donated their own money, they did not know the charitable organization before, and the donations were anonymous. Compared to intentions, some of the participants seem to have forgotten to donate. Either they truly forgot, or they lied both to us and to themselves about their intentions, or ended up not donating for other reasons.¹⁹ The disparity between intentions and actions relates to the discussion about moral wiggle room (see Dana, Weber, and Kuang 2007;

¹⁹ There were enough donation boxes at each session such that there were no queues (see Appendix C, Table C1).

Tonin and Vlassopoulos 2013) and self- and social image in charitable giving (Andreoni, Rao, and Trachtman 2017; DellaVigna, List, and Malmendier 2012; Adena and Huck 2018b).²⁰

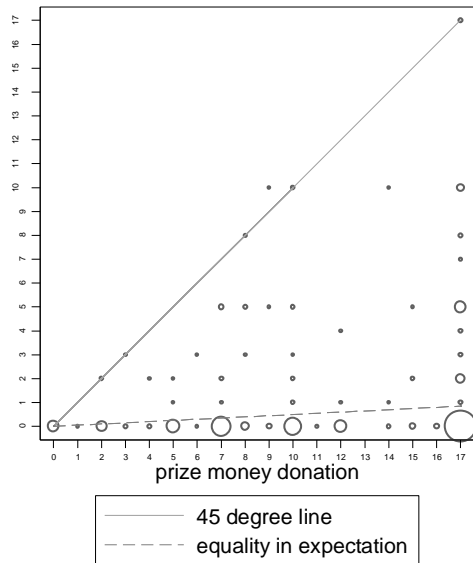
Figure 5 shows pairwise relationships between prize money, own-money (both in the second round) and actual donations after the experiment. Panel A compares prize money and own-money donations (intended). In line with the house money effect, we see that almost all circles lie below the 45° line (own-money donations are smaller than prize money donations; 93% of participants) or even below the line that marks the equality of both measures in expectation (own-money donations are smaller than donations of prize money in expectation; 75% of participants). Panel B sheds some light on individual behavior concerning the difference between donative intentions and actions. The main take away is that most individuals either give exactly the amount indicated (dots lying on 45° line) or give nothing despite indicating a positive amount (dots on the dashed line). Only a few individuals revised their intentions by giving more or less (but nonzero). Panel C compares prize money donations with actual giving, again pointing to a house money effect.

Since a very high share of participants chose zero own-money and actual donations, between-subjects laboratory experiments of a typical size that rely on that measure will likely suffer from low power and find it difficult to uncover potential treatment differences. This is the reason why researchers concerned with charitable giving prefer to offer participants windfall money. Since our treatment resulted in similar effects for all three measures (though treatment differences were not significant in the case of own money), the use of prize money seems to be a superior approach in similar contexts. On top, a hypothetical measure can lead to socially desirable choices being less costly to subjects such that treatment differences might be obscured (as suggested in Figure 3).

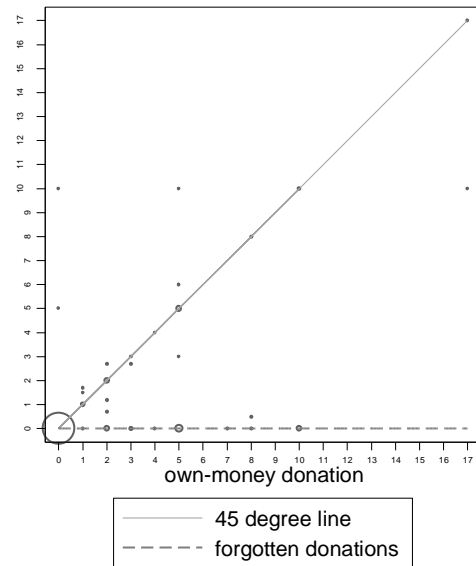
²⁰ However, social image should be less likely to be in play in our context, since the participants knew the procedures in advance and were aware that questionnaires and donations were anonymous and that we were able to link intentions to actual donations.

Figure 5: Relationship between prize money and own-money donations (hypothetical)

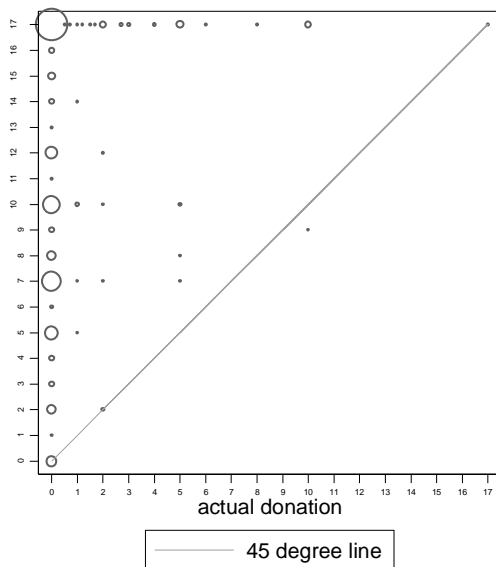
Panel A



Panel B



Panel C



Notes: Donations in the second round and after the experiment. The larger the size of the circle, the greater the number of individuals choosing the same donation pair. There was one own and actual donation of €20 (remark added on our questionnaires) that was capped at €17 for expositional reasons.

5. Conclusions

We find evidence that quality certification has a positive impact on donation level. This supports our first hypothesis. To our knowledge, this is the first paper that experimentally shows a causal relationship of this kind. The magnitude of the effect is around 10%. This, combined with the relatively low costs of obtaining such certificates (marginal cost of 0.035%), strongly suggests that nonprofit organizations should invest in certification. It also suggests that governments interested in raising overall donation levels should establish or support a (voluntary) system of accreditation for nonprofits.

However, given the documented persistence in giving behavior, informing existing donors about certification does not increase their giving to the level of those informed in advance. Therefore, we conclude that quality certification works best for prospective donors and is less likely to affect existing donors. Along these lines, certification also likely works better for small and less-known organizations, i.e., organizations on which donors have not yet formed opinions. This conjecture we leave for future research.

The most puzzling aspect of our findings is that we find that a certificate that 90% of the participants had never previously heard of had an effect. We also do not find any significant level effects of knowing about the certificate before (see Table B3 and B5 in Appendix B) or any interaction effect between the treatment and prior knowledge of the certificate (not presented here). This creates a potential for abuse with nonexistent or unreliable certificates.

Certificate costs seem to have negative effects, but they are not significant. Although we do not reject our second hypothesis, the evidence in favor of it is weak. It is likely that the DZI's certificate fees are in a range that appears less relevant to donors. A lack of a behavioral response to the information about the fee supports the previous conclusion that nonprofit organizations should invest in certification.

Finally, we find that a certificate increases trust in BSF as measured with the scale that was specifically designed for this purpose. We also see strong positive correlations between trust in BSF and donations that points towards a high relevance of trust in the context of charitable giving.

Appendix A: Measuring Trust

Following Sargeant and Lee (2004a, 2004b), we decided that trust in a charitable organization is best operationalized as a multifaceted construct. We adapted the questionnaire provided by Sargeant and Lee (2004a, 2004b), since it was too long for our design. Our questionnaire needed to be shorter, no more than 5 to 7 items, so as to not distract from the main part of the experiment, which was the decision making task. Moreover, we needed to adapt the questionnaire for use with our participants, who were not familiar with the organization. This is in contrast to the regular donors targeted by Sargeant and Lee (2004a, 2004b). We made sure that the resulting questionnaire still constituted a reliable and valid measurement scale that included different facets of what trusting a specific charitable organization encompasses. For the details of the scale's construction and validation, see Adena and Mesters (2017). We also included a short measure of general trust based on three questions: general trust in different groups of people measured using items taken from the 6th wave of the World Values Survey (WVSA, 2010-2014) and an analogous question relating to charitable organizations in general. Our final questionnaire contained the questions presented in Table A1. They were measured on a scale from 0 to 7 and were surveyed only once, at the first stage of the experiment.

Table A1: Trust items

	Trust towards BSF	Scale range
	<i>Please indicate how much you agree with the following statements about the Björn Schulz Foundation. Please don't skip any questions and mark the checkboxes that best reflect your opinions on the Björn Schulz Foundation. There are no right or wrong answers.</i>	High Disagreement (0) - High Agreement (7)
1	<i>Supporting the Björn Schulz Foundation is very important to me.</i>	
2	<i>I share the values of the Björn Schulz Foundation.</i>	
3	<i>I would ask others to support the Björn Schulz Foundation.</i>	
4	<i>I can imagine financially supporting the Björn Schulz Foundation for a longer period of time.</i>	
5	<i>I would be happy to receive further news from the Björn Schulz Foundation.</i>	
6	<i>I think the work of the Björn Schulz Foundation is very important.</i>	
7	<i>I am convinced that the Björn Schulz Foundation uses the donation money towards its projects in the best possible way.</i>	
	General trust	Scale range
	<i>Please answer how much you generally trust the following:</i>	Low Trust (0) - High Trust (7)
1	<i>Charitable organizations</i>	
2	<i>People you know personally</i>	
3	<i>People you meet for the first time</i>	

Appendix B: Additional results and full tables

Power and balancing

Based on ex-ante power calculations, we aimed to recruit 750 participants. Attendance at the lectures was lower than expected towards the end of the semester such that the final sample consisted of almost 500 participants.

There might be a concern that our participants' characteristics are not sufficiently balanced across treatments. In order to address this concern, we will first inspect the potential differences in observables between treatments. Table B1 presents means in observables by treatment. There are some differences that are significant according to separate t-tests: In the control treatment there are more males ($p < 0.1$), TU Berlin is overrepresented ($p < 0.1$), and the individuals state that they are in a better financial situation ($p < 0.05$). However, if we account for multiplicity testing, only the difference in stated financial situation remains (marginally) significant ($p < 0.1$) according to the procedure suggested by List, Shaikh, and Xu (2016). When applying Bonferroni or Holmes corrections, all differences turn out to be not significant. The three potential differences do not uniquely favor the certificate treatment. On the one hand, males give less prize money on average than females (not significant, see Table B8); on the other hand, TU Berlin students give more than students at other universities (difference is significant at $p < 0.01$, see Table B9) and better financial situation is associated with more giving (positive but not significant linear relationship, see Figure B5-A). Indeed, when correcting for differences in observables, treatment effects slightly increase (see Table 4 and 6).

Table B1: Characteristics of participants by treatment

Outcome	Control			Certificate			difference in means	Unadjusted	p-values Multiplicity adjusted		
	mean	std. err.	N	mean	std. err.	N		Remark 3.1	Thm 3.1	Bonf	Holm
Column	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
male	0.572	0.032	243	0.485	0.033	237	0.087	0.064*	0.432	0.64	0.58
age	20.90	0.144	239	20.98	0.144	238	0.079	0.698	0.905	1	1
HU	0.278	0.029	245	0.299	0.030	241	0.021	0.605	0.970	1	1
FU	0.359	0.031	245	0.394	0.032	241	0.035	0.435	0.951	1	1
Uni											
Potsdam	0.229	0.027	245	0.220	0.027	241	0.009	0.818	0.818	1	0.818
TU	0.135	0.022	245	0.087	0.018	241	0.048	0.091*	0.505	0.910	0.728
Certificate											
known	0.091	0.018	243	0.102	0.020	236	0.011	0.681	0.961	1	1
BSF											
known	0.037	0.012	242	0.051	0.014	236	0.014	0.481	0.957	1	1
Financial											
situation	3.811	0.080	238	3.494	0.090	237	0.317	0.010**	0.096*	0.103	0.103
How											
often											
donates	1.570	0.102	242	1.753	0.112	239	0.183	0.235	0.820	1	1

Notes: p-values reported are based on the procedure in List, Shaikh, and Xu (2016). Column VIII displays a (multiplicity-unadjusted) p-value computed using Remark 3.1; column IX displays a (multiplicity-adjusted) p-value computed using Theorem 3.1. Column X displays a (multiplicity-adjusted) p-value obtained by applying a Bonferroni adjustment to the p-values in column VIII; column XI displays a (multiplicity-adjusted) p-value obtained by applying a Holm adjustment to the p-values in column VIII. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure B1: Histogram of prize money donations by treatment

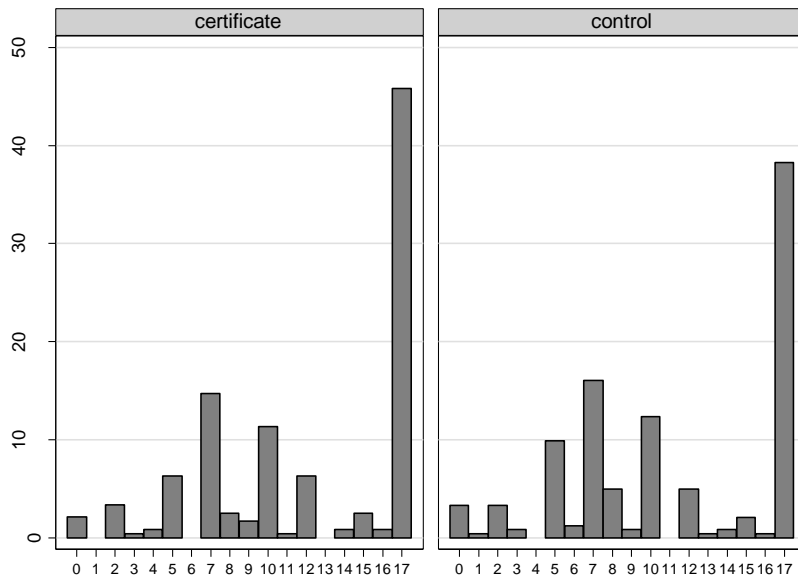


Table B2: Summary statistics—Own-money donation (intended)

Treatment	N	Average donation in €	Average if more than €0	Share of positive donations
Control	225	0.889 (0.140)	4.444 (0.373)	0.200
Certificate	228	1.048 (0.169)	4.780 (0.492)	0.219
t-test p-value		0.469		
MWU-test p-value		0.621		

Notes: Means; standard errors in parenthesis.

Figure B2: Histogram of own-money donations (intended) by treatment

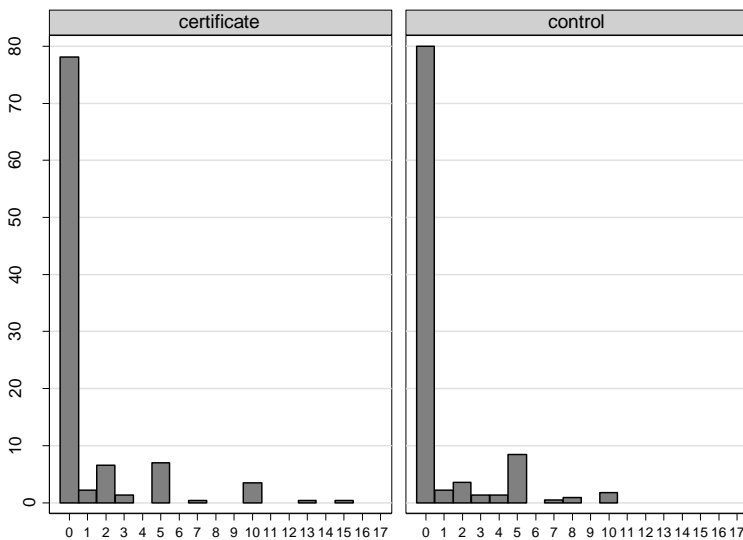


Table B3: Full table for Table 4: The effect of the certificate—regression results

	Prize money donation				Own-money donation (intended)			
	OLS		Tobit m.e.		OLS		Tobit m.e.	
	I	II	III	IV	V	VI	VII	VIII
certificate	1.032** (0.483)	1.200** (0.489)	1.010** (0.490)	1.180** (0.490)	0.159 (0.220)	0.083 (0.224)	0.133 (0.208)	0.088 (0.208)
age		0.152 (0.110)		0.156 (0.110)		0.039 (0.051)		0.035 (0.046)
Financial situation		0.453** (0.186)		0.456** (0.185)		0.179** (0.086)		0.201** (0.084)
male		-1.183** (0.494)		-1.172** (0.495)		-0.679*** (0.226)		-0.455** (0.213)
HU dummy		-3.318*** (0.865)		-3.856*** (0.903)		0.670* (0.393)		0.612 (0.406)
FU dummy		-1.409* (0.841)		-1.802** (0.905)		0.382 (0.384)		0.405 (0.399)
Potsdam dummy		-3.819*** (0.909)		-4.215*** (0.940)		0.223 (0.416)		0.410 (0.420)
Certificate not known		0.016 (0.821)		0.288 (0.819)		0.247 (0.387)		0.142 (0.376)
BSF not known		1.828 (1.180)		1.843 (1.150)		-0.012 (0.556)		-0.478 (0.454)
Observations	481	454	481	454	453	430	453	430
R^2	0.009	0.091			0.001	0.043		
Pseudo R^2			0.002	0.022			0.000	0.019

Notes: Columns III, IV, VII, and VIII present means of the marginal effects on the expected value of the censored outcome for a two-sided Tobit; standard errors in parentheses; controls include age, gender dummy, relative financial situation, university dummies, whether the certificate and the organization was known before; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B4: Second stage—averages by treatment

			Prize money donation		Δ Prize money donation		Own-money donation (intended)		Δ Own-money donation (intended)		Actual own-money donation	
			I		II		III		IV		V	
First stage treatment	Second stage treatment	Row	N	average	N	average	N	average	N	average	N	average
control	certificate	(1)	122	10.762 (0.498)	122	0.213 (0.176)	114	0.605 (0.190)	108	0.093 (0.175)	122	0.324 (0.125)
	certificate + fee	(2)	121	11.818 (0.503)	119	0.059 (0.1669)	119	1.202 (0.239)	113	-0.027 (0.062)	123	0.304 (0.114)
	pooled	(3)	243	11.288 (0.355)	241	0.137 (0.121)	233	0.910 (0.155)	221	0.032 (0.091)	245	0.314 (0.084)
certificate	certificate	(4)	123	12.585 (0.453)	122	0.189 (0.109)	119	0.975 (0.207)	115	-0.096 (0.089)	123	0.618 (0.173)
	certificate + fee	(5)	114	11.737 (0.533)	112	0.000 (0.271)	114	0.982 (0.263)	110	-0.027 (0.263)	118	0.653 (0.230)
	pooled	(6)	237	12.177 (0.348)	234	0.098 (0.142)	233	0.978 (0.166)	225	-0.062 (0.136)	241	0.635 (0.143)
pooled	certificate	(7)	245	11.678 (0.341)	244	0.201 (0.103)	233	0.794 (0.141)	223	-0.004 (0.096)	245	0.471 (0.107)
	certificate + fee	(8)	235	11.779 (0.365)	231	0.030 (0.157)	233	1.094 (0.177)	223	-0.027 (0.133)	241	0.475 (0.127)
pooled	pooled	(9)	480	11.727 (5.458)	475	0.118 (0.093)	466	0.944 (0.113)	446	-0.016 (0.082)	486	0.473 (0.083)
t-test p-value		(1)=(2)		0.1370		0.5248		0.0537		0.5141		0.9074
		(4)=(5)		0.2240		0.5071		0.9817		0.8023		0.9014
		(3)=(6)		0.0743		0.8354		0.7625		0.5679		0.0524
		(1)=(4)		0.0072		-		-		-		-
		(7)=(8)		0.8394		0.3590		0.1857		0.8915		0.9823
MWU-test p-value		(3)=(6)		0.0671		-		-		-		0.0858

Notes: Standard error in parenthesis; N is the number of observations; Δ Prize money donation = second stage prize money donation - first stage prize money donation; Δ Own-money donation = second stage own-money donation - first stage own-money donation; Actual own-money donations exclude prize money donations but include one bank transfer donation.

Table B5: Full table for Table 6: The effect of the certificate on actual money donations

	Actual own-money donations			
	OLS		Tobit m.e.	
	I	II	III	IV
Certificate (first stage)	0.321* (0.165)	0.376** (0.167)	0.275* (0.153)	0.339** (0.158)
Age		0.058 (0.037)		0.050 (0.032)
Financial situation		0.190*** (0.063)		0.162*** (0.061)
Male		0.062 (0.168)		0.031 (0.146)
HU dummy		0.224 (0.296)		0.116 (0.280)
FU dummy		0.255 (0.288)		0.185 (0.271)
Potsdam dummy		0.069 (0.310)		0.156 (0.284)
Certificate not known		-0.241 (0.281)		-0.101 (0.234)
BSF not known		-0.179 (0.404)		-0.391 (0.292)
Observations	486	457	486	457
R^2	0.008	0.038		
Pseudo R^2			0.006	0.033

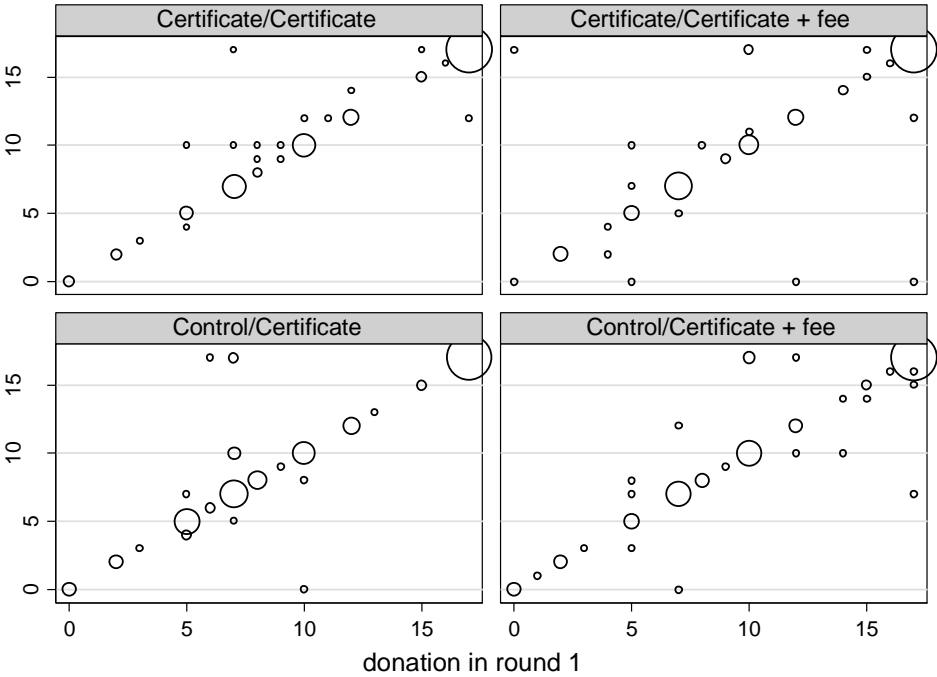
Notes: The sample includes winners since two of them donated own money additionally. The results are very similar when winners are excluded. Columns III and IV present means of the marginal effects on the expected value of the censored outcome for a two-sided Tobit; standard errors in parentheses; controls include age, gender dummy, relative financial situation, university dummies, whether the certificate and the organization were known before; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B6: The effect of a fee—panel data estimation

	prize money donation			own-money donation (intended)		
Fee (second stage) dummy	-0.171 (0.186)	-0.171 (0.186)	-0.154 (0.261)	-0.070 (0.168)	-0.071 (0.168)	0.016 (0.237)
Stage number	0.201 (0.130)	0.180 (0.160)	0.189 (0.184)	0.037 (0.118)	-0.011 (0.145)	0.033 (0.167)
Certification (first stage) dummy		0.041 (0.186)	0.025 (0.260)		0.096 (0.168)	0.008 (0.237)
Fee dummy *			-0.034 (0.372)			-0.176 (0.337)
Certification dummy						
Constant	11.454*** (0.172)	11.454*** (0.173)	11.454*** (0.173)	0.867*** (0.157)	0.867*** (0.157)	0.867*** (0.157)
Fixed effects	yes	yes	yes	yes	yes	yes
Observations	475	475	475	486	486	486
Rounds	2	2	2	2	2	2
R^2	0.005	0.005	0.005	0.000	0.001	0.002

Notes: Fixed effects regressions; standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure B3: Change in donation amount between rounds:
A) Prize money



B) Own money (intended)

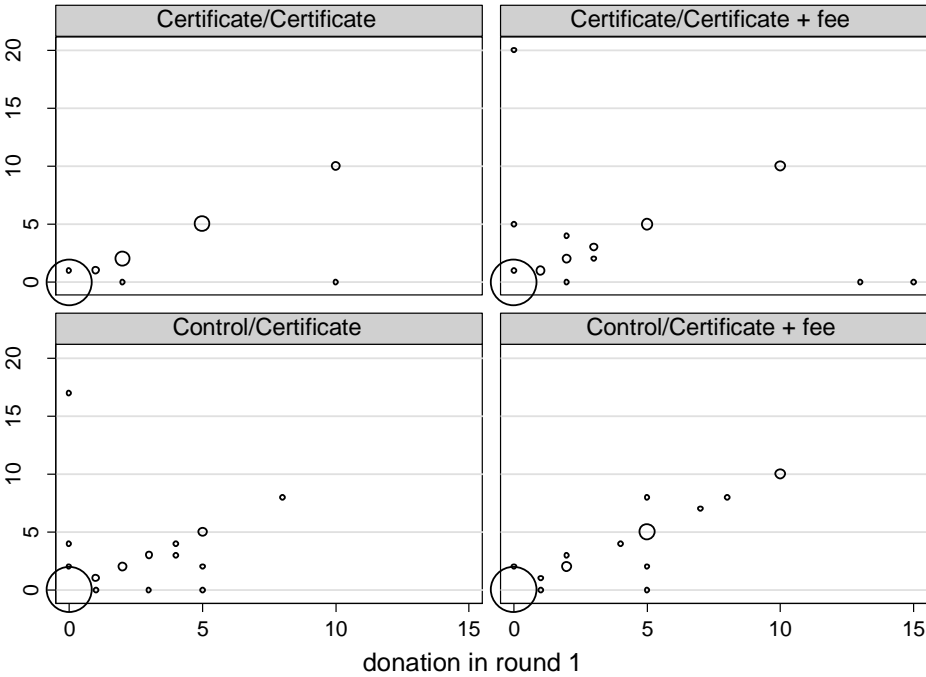
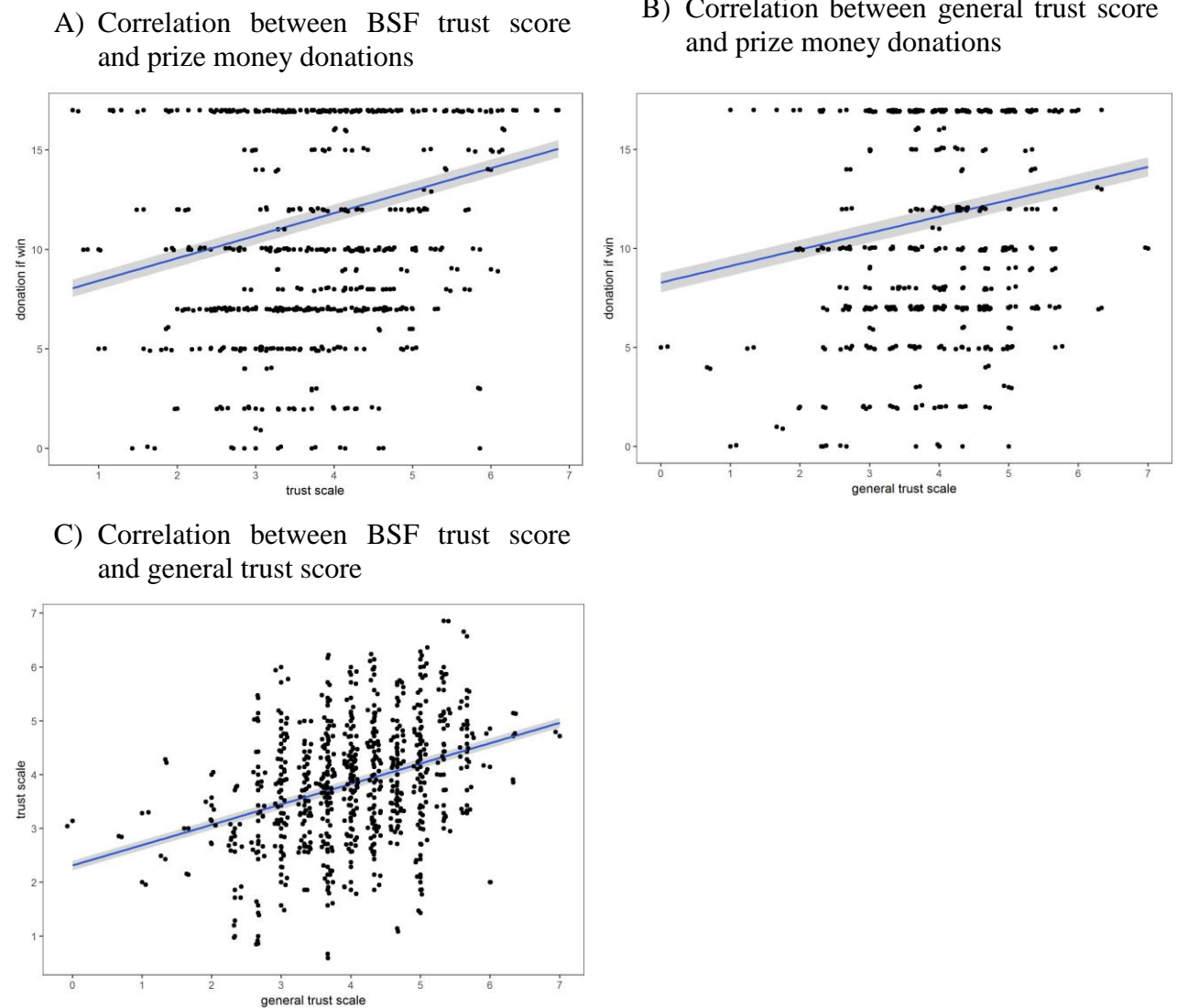


Figure B4: Trust and donations



Notes: Blue lines represent a linear fit and shaded area the 95% CIs respectively; dots are slightly jittered to ease interpretation.

Table B7: Supplement to Table 7

	item	Trust in the charity							General Trust		
		1	2	3	4	5	6	7	1	2	3
Control	mean	3.291	5.388	3.050	1.832	1.766	5.902	5.109	3.860	5.828	2.451
	Sd. err	0.096	0.097	0.117	0.100	0.110	0.084	0.110	0.099	0.074	0.096
	N	244	240	240	244	244	244	239	243	244	244
Certificate	mean	3.502	5.469	3.235	1.945	1.962	5.988	5.301	3.775	5.757	2.414
	Sd. err	0.096	0.094	0.115	0.108	0.118	0.084	0.101	0.098	0.078	0.094
	N	237	239	238	238	239	240	239	240	239	239
t-test p-value		0.1230	0.5496	0.2592	0.4417	0.2237	0.4711	0.1982	0.5417	0.5112	0.7863
MWU test p-value		0.1413	0.5673	0.2259	0.5446	0.2688	0.4265	0.2852	0.4408	0.5619	0.7889

Notes: Means, standard errors in parenthesis, number of observations in square brackets. The score range is between 0 and 7. The differences in the number of responses are due to item nonresponse, and in a few cases due to ambiguous indication.

Individual characteristics and treatment heterogeneity

In Table B8 and B9, we verify the potential heterogeneity with respect to the main treatment by gender and university. Though we find important level differences (e.g., females giving more), both females and males give more in the certificate treatment. The same holds for all universities separately.

Table B8: Prize money donations by gender and treatment

Treatment		Female=Male			
		Female	Male	t-test-p-value	MWU-test p-value
Control	mean	11.577	10.804	0.271	0.266
	Sd. err	(0.493)	(0.482)		
	N	[104]	[138]		
Certificate	mean	12.337	11.929	0.551	0.676
	Sd. err	(0.453)	(0.511)		
	N	[122]	[113]		
Pooled	mean	11.987	11.311	0.1665	0.2125
	Sd. err	0.334	0.352		
	N	[226]	[251]		
Control=Certificate	t-test p-value	0.258	0.112		
	MWU-test p-value	0.276	0.098		

Notes: The table presents simple averages by gender and treatment.

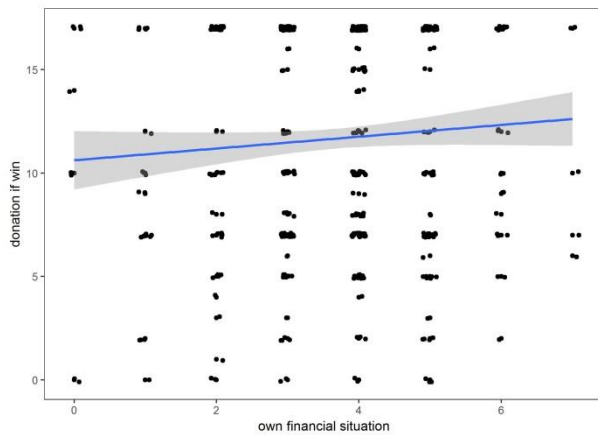
Table B9: Prize money donations by university and treatment

		HU	FU	Potsdam	TU
Control	mean	10.368	11.511	10.185	13.242
	Sd. err	(0.587)	(0.596)	(0.712)	(0.997)
	N	[68]	[88]	[54]	[33]
Certificate	mean	11.070	13.377	10.558	14.524
	Sd. err	(0.621)	(0.494)	(0.734)	(1.010)
	N	[72]	[93]	[106]	[21]
Control=Certificate	t-test p-value	0.41	0.016	0.71	0.39
	MWU-test p-value	0.391	0.028	0.613	0.664

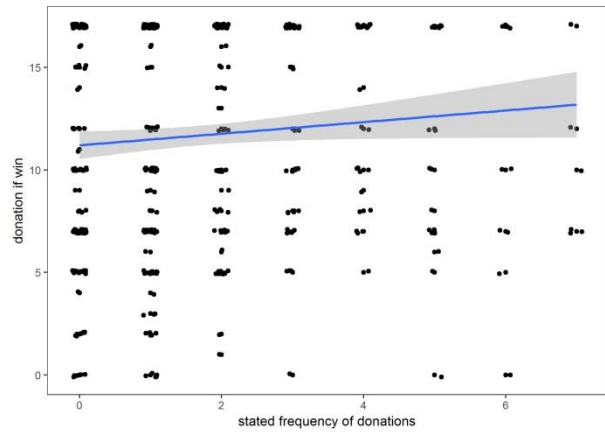
Notes: The table presents simple averages by university and treatment.

Figure B5: Additional results

A) Relationship between own financial situation (*If you were to compare your financial situation to that of your fellow students, it would be: much worse --- much better*) and prize money donation



B) Relationship between regularity of donations (*How regularly do you donate? Never --- very often*) and prize money donation



Notes: Blue lines represent linear fits and the shaded areas represent the 95% CIs respectively; dots are slightly jittered to ease interpretation.

Appendix C: Implementation details

Table C1: Implementation details

	Course title	Date	Time	Number of participants	Number of donation boxes	Notes
WZB (Pretest)	-	December 2016	-	33	-	The pretest mainly served to prepare the trust questionnaire and to test the procedures (only one treatment).
HWR (Pilot)	Introduction to Public Finance	11.01.2017	08:45-12:00	21	1	After the pilot, we changed the maximum donation (and winning amount) in all decision making tasks from €10 to €17.
TU	Macroeconomics I	30.01.2017	16:00-18:00	54	3	
University of Potsdam	Microeconomics I	31.01.2017	12:00-14:00	109	4	
FU	Introduction to Economics	02.02.2017	8:30-10:00	183	4	
HU	Microeconomics I	08.02.2017	12:00-14:00	140	4	

Translation of the instructions and pictures

[Oral Introduction]

Hello. I am Maja Adena from the WZB Berlin Social Science Center and these are my colleagues XY and XY. We would like to conduct a study with you today; it is a decision-making experiment, so you will make decisions. Please think carefully about them, because they have real consequences. Please do not feel compelled to do anything.

We would be very pleased if you participated in this study. You can even win some money and do something good. We will now distribute these envelopes. We ask you to be calm and to remain quiet until the end of the study.

In the envelopes you will find two sheets and another envelope. Please do not open this envelope yet.

Please read the instructions and the text on the back carefully and answer the questionnaire.

Please then put these two sheets back into the large envelope and seal it. Only then are you permitted to open the small envelope and follow the instructions there. Should you have any questions, please raise your hand. We will come to you then and answer your question.

We're going to start.

[Written Instructions]

Welcome to this study!

Thank you very much for taking time to participate in the study!

You can win money and do something good.

Please do not open the enclosed envelope yet.



Please follow the instructions closely.



Please be quiet so as not to disturb the other study participants.



Please raise your hand if you have questions. We will come to you and answer your questions.



Please do not look at other participants' sheets and do not let others look at your sheets.



Of course, this study is completely anonymous. It will not be possible to identify you. You can also refuse to give certain information and discontinue your participation in the study.

Please carefully read the text on the back page before you fill out the questionnaire. Afterwards, put all sheets back into the large envelope (not the other envelope) and seal it. **Only then are you allowed to open the other envelope.**

[Letter, version with certificate in curly brackets {}]

The following letter is an **appeal for donations to the Björn Schulz Foundation**. All the information given is true



Dear Sir or Madam,

The Björn Schulz Foundation assists the families of children and young adults who suffer from life-threatening and life-shortening conditions: from diagnosis throughout the often long course of the illness up to death and beyond.

The Björn Schulz Foundation offers, among other things, socio-medical care, outpatient family care, support for the siblings, or bereavement support groups for bereaved parents. In addition, the Kinderhospiz Sonnenhof offers a protected space for families and children to intensively experience the remaining time together.

The foundation was named after the little Björn, who died of leukemia when he was only seven years old. His early death gave the impetus for his parents to start the self-help association "Kinderhilfe e.V." together with other families, from which the Björn Schulz Foundation emerged.

The work of the Björn Schulz Foundation is largely **financed by donations** and volunteer work. Therefore, we rely on **your help and support**.

{ Since 2006, the Björn Schulz Foundation has been a holder of a DZI certificate, which certifies verifiable, cost-effective and appropriate use of the funds in compliance with tax regulations. This certificate is renewed annually, reviewed and approved.



}

Thank you for your support!

The Björn Schulz Foundation

For further information, see: <http://www.bjoern-schulz-Foundation.de>

[Questionnaire 1] Please answer the following questions. All your answers will remain completely anonymous.

Please imagine you have just won a budget of €17. You can now donate a part of the money to the Björn Schulz Foundation and keep the remainder of the budget.

At the end of this study, we will cast a 20-sided die. If the number on that die matches the last two numbers of your ID number (see above), **then we will in fact donate the amount of money specified in your decision and the rest of the money will be paid out to you. There is a 5% chance of this happening.**

Please indicate the amount of money that you want to donate, if **you win the lottery**. Remember that you will keep the remainder for yourself.



In case of winning the lottery, I will donate (EUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

If you do **not win the lottery**, would you still want to donate to the Björn Schulz Foundation? At the end of the study you can put some of your own money in the small envelope provided by us and throw it in one of the donation boxes at the exits. You can also donate the money directly to the bank account of the charity (instructions to follow). We will ensure that all donations will be given completely to the charity.

Even if I don't win the lottery, I will donate (EUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Please indicate **how much you agree with the following statements about the Björn Schulz Foundation**. Please don't skip any questions and mark the checkboxes that best reflect your opinions on the Björn Schulz Foundation. There are no right or wrong answers.

Supporting the Björn Schulz Foundation is very important to me.

High Disagreement  High Agreement 

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I share the values of the Björn Schulz Foundation.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I would ask others to support the Björn Schulz Foundation.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I can imagine financially supporting the Björn Schulz Foundation for a longer period of time.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I would be happy to receive further news from the Björn Schulz Foundation.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I think the work of the Björn Schulz Foundation is very important.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

I am convinced that the Björn Schulz Foundation uses the donation money towards its projects in the best possible way.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Please answer how much you generally trust the following groups of people:

Low Trust  High Trust 

Charitable Organizations

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

People you know personally

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

People you have just met for the first time

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Please answer the following questions:

Much worse Much better

If you were to compare your financial situation to that of your fellow students, it would be

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

How regularly do you donate?

Never Very often

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Your sex:

☐female ☐male

Your age in years:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

<19	19	20	21	22	23	24	25+
-----	----	----	----	----	----	----	-----

Please put all the sheets of paper back into the big envelope now (not the other envelope) and seal it firmly. **Only then are you allowed to open the other envelope and continue.**

[Questionnaire 2 version B and additional content for <BC> in triangle brackets]

We would like to provide you with the following information:

Since 2006, the Björn Schulz Foundation has been a holder of a DZI certificate, which certifies verifiable, cost-effective and appropriate use of the funds in compliance with tax regulations. This certificate is renewed annually, reviewed and approved.



<An annual inspection for the renewal of the certificate requires the payment of fees, which are composed as follows: Basic charge 500 EUR, additional amount 0.035% of the annual total income,²¹ plus 19% VAT.

In 2014, this fee amounted to €3,114 for the Björn Schulz Foundation given its total donation income of 7,462,193 EUR (thereof about 50% collected income).>

Please answer the following two questions again. You can tick the same amounts or change your decision. This decision will be relevant for the pay-off.

In case of winning the lottery, I will donate (EUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Even if I don't win the lottery, I will donate (EUR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Did you know about the DZI certificate before?	yes	<input type="checkbox"/>	no	<input type="checkbox"/>
Did you know about the Björn Schulz Foundation before?	yes	<input type="checkbox"/>	no	<input type="checkbox"/>

Please put this sheet in the medium-sized envelope and seal it. We will now collect the large and medium-sized envelopes.

²¹ Organizations whose annual total income is more than 10% from collected income.

[Last page]

You can keep this sheet and the envelope for donations.

Now we will roll the dice and you will find out if you won.

If you have won, we would like to ask you to wait a moment at the exit afterwards. A member of our team will prepare the amount of money and another one will bring it to you, without knowing your decision—it remains anonymous. You will get two envelopes: an envelope with the amount of the donation you have chosen, which is then inserted in the donation box, and an envelope with the amount that you are allowed to keep. You can verify the amounts and have to sign a receipt.

If you didn't win and would still like to donate, we ask you to put your money in the small envelope, so that your fellow students can't see the amount. Seal it and throw it into the donation boxes at the exit.

If you have any questions about the study, please contact:

Dr. Maja Adena

Maja.adena@wzb.eu

If you have further questions about the Björn Schulz Foundation:

<http://www.bjoern-schulz-Foundation.de>

or

info@bjoern-schulz-Foundation.de

You want to donate, but don't have any cash with you today?

You can easily use the Foundation's website:

<http://www.bjoern-schulz-Foundation.de/online-spende.html>

Please enter **your ID** in the field for messages

Or use this bank account:

Björn Schulz Stiftung

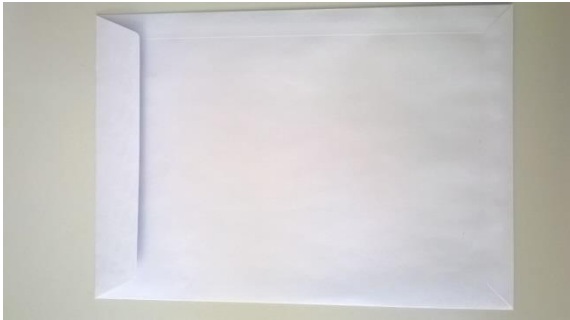
Bank für Sozialwirtschaft

DE34 1002 0500 0001 1456 00

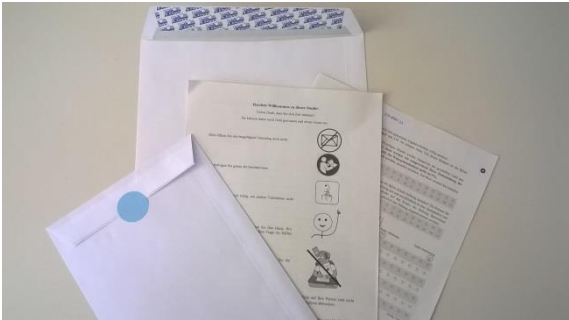
BIC: BFSWDE33XXX

Reason for transfer: your ID

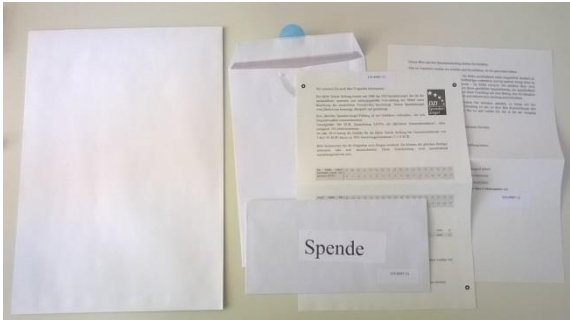
Figure C1: Pictures of the instructions



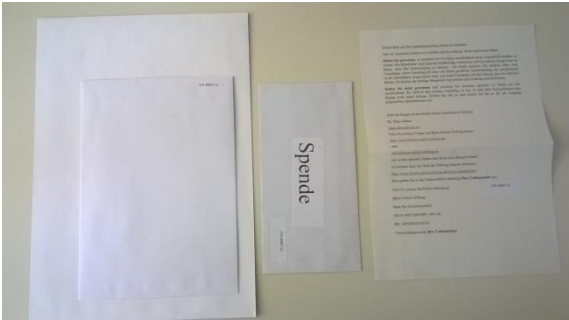
1) Large envelopes



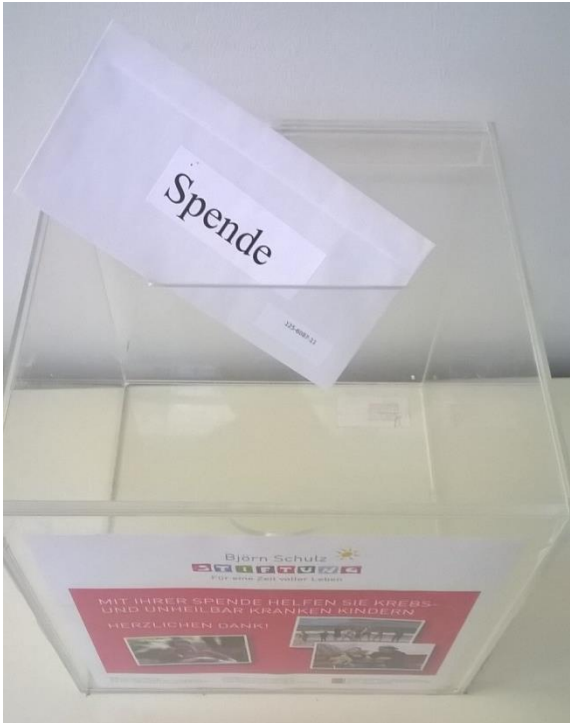
2) Content of the large envelopes



3) Content of the medium envelope



4) Large and medium envelope finished



5) Donation envelope



6) Official sealed donation box

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