
PROJECTION BIAS AND SELF-IMAGE CONCERNS IN
CHARITABLE GIVING

AN EXPERIMENTAL STUDY

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Abstract

This paper tackles the question if people are affected by projection bias when making decisions about charitable donations. For this purpose, a two-staged dictator experiment with a charity as a recipient is conducted in which the subjects' willingness to give is manipulated by showing a charity video. Since the experimental setting shows unintended similarities to dictator games with an exit option, self-image effects may occur and have to be controlled for. Even though aggregated results are largely in line with the predictions, decisions on the individual level are inconsistent and there is no statistical evidence for effects caused by projection bias. Furthermore, the participants' behavior seems not to be affected by self-image concerns at all. Due to the modest sample size resulting from limited financial resources, the findings from this paper should rather be seen as an impulse for future research than generalizable results.

Contents

1	Introduction	1
2	Background and literature	3
2.1	The dictator game and explanations for pro-social behavior	3
2.1.1	Altruism and Social preferences	4
2.1.2	Social image	5
2.1.3	Self-image	5
2.1.4	Heterogeneity	6
2.2	Psychological biases that affect charitable behavior	7
2.2.1	Identifiable victims	8
2.2.2	Social distance	8
2.2.3	Other biases	9
2.3	Projection bias	9
2.3.1	Model	9
3	Experiment	10
3.1	Design	10
3.2	Subjects and setting	11
3.3	Video - "If London were Syria"	12
3.4	Cognitive Reflection Test	14
3.5	Big Five personality test	14
3.6	Hypotheses	15
4	Results	16
4.1	Projection bias and self-image concerns	16
4.1.1	Positive donations	16
4.1.2	Impact of the video	16
4.1.3	Cooling-off	19
4.1.4	Self-image concerns	19
4.1.5	Projection bias	20
4.2	Additional results	20
4.2.1	Gender differences	20
4.2.2	Reflective vs. impulsive subjects	21

4.2.3	Big Five personality traits	22
5	Conclusion	23
5.1	Summary	23
5.2	Outlook	24
	References	26
A	Appendix	30
A.1	Instructions - handout	30
A.2	Instructions - screen	32

1 Introduction

The disastrous consequences of shopping on an empty stomach are a phenomenon so common that probably most – if not all – readers are familiar with it. When the feeling of satiety steps in after the consumption of one pizza, you realize there was probably no need to buy a second one...

...and the cheese filled chicken nuggets, the pickled beetroot, the two bottles of strawberry milk, and the family pack of Swedish crispbread (that, in your defense, was on special offer).

Today it is a widely uncontested fact that many people suffer from a systematic distortion when they are supposed to make a prediction of their future affective state, regardless if short-term fluctuations such as hunger in our initial example, or longer lasting changes like general happiness are involved. They seem to "project" too much of their current state onto the image they envision of their future selves, a cognitive bias that has become known as *projection bias* (Loewenstein et al., 2003).

Unfortunately, projection bias is more than a godsend for pizza manufacturers. It is also a major source for irreversible and often welfare-reducing decisions: We are more likely to buy a house with a swimming-pool or a convertible simply because today is a sunny day. (Busse et al., 2000) We engage in risky or unhealthy behavior like smoking or taking drugs because we fail to foresee the changes in our addictive behavior. (Loewenstein et al., 2003) We get divorced too easily after a severe dispute (Wie and Kim, 2015), and some of us even kill ourselves in the midst of a strong, but probably only temporary, depression. (O'Donoghue and Rabin, 2009)

A cognitive bias that has such a strong impact on so many relevant aspects of our lives is unlikely to stop at the gates of other areas. The main goal of this paper is to test if people are affected by projection bias when it comes to charitable donations, a suspicion that has already been expressed in the literature (Loewenstein, 2007, p.368), but, to the best of my knowledge, has never been experimentally tested. While Loewenstein (2007) was interested in the misprediction of utility deriving from donations, this paper takes a different, more direct, approach to projection bias in charitable giving.

For this purpose, a dictator experiment was conducted in which one group was shown an emotionally touching charity video that is supposed to increase their willingness to donate. This way the participants were put in a so-called "hot" emotional state. Instead of estimating the derived utility from giving, and to avoid unnecessary complications, we directly measured the monetary values of their donations as well as their expected donations after a

specified cooling-off period. The focus therefore lies on the subjects' willingness to give and the influence projection bias has (or has not) on the perception of this willingness.

Since the experimental setting shows a coincidental similarity to dictator games with an ex-post exit option, self-image effects were possible to occur and thus had to be controlled for. This was necessary to be able to distinguish between potential effects caused by cooling-off and by self-image considerations.

Structure of the paper This paper is roughly divided into two parts: The first part (Section 2) gives an extended theoretical overview of background information and the state of the art in the literature. In 2.1, common findings of the dictator game, the economist's working horse when it comes to altruistic behavior, and some popular explanations for the existence of this phenomenon, such as social preferences, social- or self-image concerns, and heterogeneity were presented. Subsection 2.2 takes a look at psychological biases that are known to affect charitable behavior and lead to avoidable inefficiencies, among them the identifiable victim effect and the impact of varying degrees of social distance. In the following subsection 2.3, the model of projection bias, as defined by Loewenstein et al. (2003), is introduced.

In the second part (Sections 3 & 4), the conducted laboratory experiment is described. The design of the experiment is outlined in 3.1 while the following subsection 3.2 gives information about the environment of the lab and the participating subjects. 3.3 explains the choice of the charity video-ad that was shown to some of the participants. The next two subsections present two tests that were used in the experiment, the Cognitive Reflection Test (3.4) and a version of the Big Five personality test (3.5). In 3.6, several hypotheses are derived from the underlying theory.

Section 4 describes and analyses the results from the experiment, differentiating between the primary research question, projection bias and self-image concerns, in 4.1 and additional results (4.2) that are linked to demographics, cognitive reflection, and personality traits.

In Section 5, results are summarized (5.1) and an outlook on possible future research is offered (5.2).

2 Background and literature

2.1 The dictator game and explanations for pro-social behavior

Altruistic behavior in economic lab-experiments became a major issue at the latest when Güth et al. (1982) published the results of their famous Ultimatum Game experiment. In this game, one player was endowed with a certain amount of money and had to decide if she wanted to share her endowment and transferred a positive amount to the other player. The second player could either accept the proposed distribution, in which case both players were paid according to it, or could reject it, which resulted in both players receiving nothing. Subgame perfect Nash equilibrium predicts that first movers will give the smallest positive amount possible and second movers will accept all positive offers. In reality, however, actual offers were significantly higher and some positive offers, less than the equal split, were frequently rejected.

In what should become known as the first dictator game experiment, Kahneman et al. (1986) abandoned the second player's power of rejecting offers. Subjects were endowed with an amount of \$20 and could choose between either an equal split with a randomly assigned partner or keeping \$18. An impressive share of 76% of all participants chose the equal distribution. In contrast to the ultimatum game, where allocations perceived as unfair could be rejected by the receiving player, this was completely voluntary since the second player had neither any power to influence the final distribution nor an opportunity for retaliation.

Forsythe et al. (1994) introduced an experimental setting that became the "standard form" of the dictator game. Analogous to the ultimatum game, players could divide a \$5 or \$10 endowment in 1 Cent-increments. The two most frequent offers were nothing (\$5: 36%, \$10: 21%) and the equal split (\$5: 22%, \$10: 21%), the rest were almost exclusively positive offers between these two options. Offers that exceeded half of the endowment were rare exceptions. These outcomes turned out to be robust and have been confirmed in numerous replication studies.

The results from these early dictator games questioned standard economic theory's image of homo economicus as a selfish payoff maximizer and gave rise to the notion of fairness concerns. Over the next decades, several hundreds of dictator experiments were to be conducted¹ and multiple theories compete for the explanation of prosocial behavior.

¹A good overview about common findings in dictator experiments is provided in a meta-study by Engel (2011) in which he analyses the aggregated results of 129 dictator game papers.

2.1.1 Altruism and Social preferences

Altruistic preferences in the broadest sense can be described in a way that an individual cares about her fellow men and derives utility from their well-being. For an early description of altruistic preferences, see e.g. Becker (1974) who addresses "charity motivated by a desire to improve well-being".

Andreoni (1989) developed a model of impure or "warm-glow" altruism. People are not only interested in the benefits that a public good provides but also derive utility in the form of a "warm-glow" from the act of giving itself.

Rabin (1993) criticised that existing models of simple altruism cannot account for the psychological complexity of altruistic behavior. He believes that reciprocity plays a big role in economic behavior and that people are "willing to sacrifice their own material well-being to help those who are being kind [...]and to punish those who are being unkind". (Rabin, 1993, p.1282) Other models of reciprocity were for example proposed by Dufwenberg and Kirchsteiger (2004).

For Bolton and Ockenfels (2000) are preferences not only defined by absolute payoffs but also by their relative performance compared to other players. People therefore want to have what they see as their fair share of the pie. Fehr and Schmidt (1999) went one step further by "extending" the model in the other direction, such that individuals not only show inequality aversion if others are better off, but even if it is in their own favor.

In a series of experiments by Charness and Rabin (2002), a great share of the subjects were willing to implement efficiency-increasing behavior, even if it was at the expense of increasing inequality. They also experienced that people were more willing to sacrifice some of their material wealth in favor of others if they were way better off than their fellow players. Inequality aversion did badly in predicting the exhibited behavior which could be better explained by concerns for efficiency and Rawlesian preferences. Engelmann and Strobel (2004) tested the predictive power of the models by Bolton and Ockenfels (2000) and Fehr and Schmidt (1999) in simple distribution games and found similar experimental evidence for both efficiency and maximin-concerns.

What all of these different theories have in common, however, is the assumption that the dictator's utility is somehow directly influenced by the other player's payoffs or in the case of (Andreoni, 1989) the conduct of an actual payment.

2.1.2 Social image

Hoffman et al. (1994) challenged the interpretation of dictator-giving as a result of fairness by creating a complex environment that ensured double-blind-anonymity between dictators, recipients, and experimenters. Even though pro-social behavior was not completely eradicated, they experienced a dramatic decrease in dictator-offers which resulted in the lowest level of donations reported in the literature so far (84% of dictators offered \$0 or \$1). They concluded that, instead of demonstrating fairness-concerns, donations were rather a product of social influences and expectations. This interpretation was however heavily criticised by Eckel and Grossman (1996) who, under the same level of anonymity, exhibited partly generous donations if the receiving player had been replaced by a charity.

Dana et al. (2006) included an unannounced ex-post exit option that gave dictators the option of receiving \$9 (of the initial endowment of \$10), with the second player being left completely unaware that a dictator game had been played. A significant proportion of players chose to opt-out quietly, among them both players who offered a positive amount and those that kept all the endowment. They concluded that dictators were not actually interested in the other players' payoffs but rather did not want to violate their expectations. A related study with non-costly opting-out was conducted by Lazear et al. (2012) and yielded similar results.

Andreoni and Bernheim (2009) took a similar approach and added various levels of positive probability that a random event ("nature") occurs that overrides the dictator's initial decision and leaves the second player with only a small positive payoff. Recipients knew the probability and the result of the event but not if their final payoffs were enforced by the dictator or nature. Equal-split offers drastically fell when levels of uncertainty were increased, with the share of offers skyrocketing that matched exactly the amount indistinguishable from the nature-induced outcome.

2.1.3 Self-image

While the influence of audience effects on other-regarding behavior is largely uncontested today, only in recent literature was self-signalling, though extensively studied in social psychology (e.g. Bem, 1972; Quattrone and Tversky, 1984), recognized as a potential motive force behind pro-social behavior.

Bénabou and Tirole (2006) created a sophisticated formal model which accounts for material self-interest, altruism, and both social and self-image concerns as driving forces of

other-regarding behavior.

Dana et al. (2007) gave dictators the choice between an even and an uneven (but for the dictator favorable) distribution of payoffs. They manipulated transparency in a way such that the dictator could choose to stay unaware of the receiver's payoffs and found a significant increase in selfish behavior even if the dictators were still able to enforce equal distribution. Many subjects seemed to make use of this "moral wiggle room" (Dana et al., 2007, p. 69) to uphold their self-image of not being selfish.

Of major significance for the experimental design in this paper are the findings of Tonin and Vlassopoulos (2013). Similar to Lazear et al. (2012), they offered a cost-free ex-post opting-out option from a double-blind anonymous dictator game where the recipient is either the experimenter or a charity. Subjects were told about this unannounced exit option just the moment before they were supposed to receive their final payment. Due to anonymity, potential audience effects were reduced only to the dictator herself. More than a third of subjects that had initially given a positive amount decided to make use of the exit option and kept the whole endowment. The authors drew the conclusion that participants, since they actually committed to a donation, have thus already confirmed their positive self-image and felt now free to refrain from this commitment.

In a recent publication, Grossman (2015) included uncertainty in a similar manner as Andreoni and Bernheim (2009) so that there was either a high or a low probability that the distribution proposed by the dictator was enforced. He failed to find a statistically significant increase in anonymous dictator-giving to a charity if choice-probability had been lowered and argued that concerns for self-image play only a subordinate role compared to audience-effects.

2.1.4 Heterogeneity

All the above listed models have in common that they lack the ability of predicting pro-social behavior on the individual level since economic behavior in the laboratory is characterised by high levels of heterogeneity. (e.g. Fischbacher et al., 2001) Demographic factors like age and gender, social status, or individual character traits, like generosity or spitefulness, all play a crucial role in explaining and predicting pro-social behavior.

Gender and age Eckel and Grossman (1998) found striking differences between the sexes in dictator-behavior. In a double-blind dictator game setting, women donated on average double the amount of what men did, a finding that is backed by the results of the meta-study conducted by Engel (2011). Andreoni and Vesterlund (2001) conducted a modified

dictator experiment with varying costs of dictator giving. They observed a higher amount of generosity from women when giving is relatively costly, whereas men were more generous when giving is relatively cheap. Ben-Ner et al. (2004) found women to be sensitive towards the gender of the recipient in a way that they gave significantly less to other women than to men or players of unknown sex. They concluded, however, that much of this behavior can rather be explained by personality measures and cognitive ability.

When it comes to donations for charitable causes outside of the lab-environment, the gender gap between women and men – women give considerably more than men – is a widely known phenomenon. These striking differences in pro-social behavior are usually explained by a higher capability for empathy among women. (e.g. Mesch et al., 2011)

Cognitive abilities Brandstätter and Güth (2002) discovered that subjects, who scored high in an intelligence test, tended to give less in dictator and ultimatum games. Ponti and Rodriguez-Lara (2015) experienced more self-regarding behavior in standard dictator games when subjects showed a higher degree of cognitive reflection, as measured by (Frederick, 2005)’s Cognitive Reflection Test, that was also part of this paper’s experiment.

Personality traits Ben-Ner and Kramer (2011) checked for a connection between dictator-giving and the different personality dimensions of the Big Five model, described below in 3.5. They experienced a linear correlation between extroversion and dictator-giving as well as several quadratic relationships: A positive-diminishing effect for agreeableness, neuroticism and a u-shaped relationship for extroversion and conscientiousness.

Becker et al. (2012) studied the relationship between key economic preferences, such as risk, time, and social preferences with personal characteristics, like the Big Five. They found significant positive correlations between the character traits neuroticism, openness, and agreeableness alongside dictator giving in the setting of Eckel and Grossman (1996) with agreeableness having the strongest correlation.

2.2 Psychological biases that affect charitable behavior

Cognitive biases have been discussed in psychological literature since the early seventies. (Kahneman and Tversky, 1973) With the rising popularity of behavioral economics and experimental microeconomics, the effect of these psychological biases on economic behavior became a research field of vital interest. In the context of charitable donations, however, relatively little has been written. Most of these publications were somehow related to the

effective altruism movement that shifted the focus from the question “Why do people behave altruistically?” to “How can they do this in a more efficient way?” One main assumption of effective altruists is that monetary donations are a scarce resource and therefore must be allocated in an efficient way to do “the most good you can do”²

2.2.1 Identifiable victims

The *identifiable victim effect* describes the phenomenon that people show more empathy and have an increased willingness to donate for single identified victims than for anonymous statistical victims. This effect can be traced back to Schelling (1968) who writes

”There is a distinction between individual life and statistical life. Let a 6-year-old girl with brown hair need thousands of dollars for an operation that will prolong her life until Christmas, and the post office will be swamped with nickels and dimes to save her. But let it be reported that without a sales tax the hospital facilities of Massachusetts will deteriorate and cause a barely perceptible increase in preventable deaths – not many will drop a tear or reach for their checkbooks.”

The identifiable victims effect has been studied extensively in economic and psychological literature since. (e.g. Small et al., 2007; Kogut and Ritov, 2005) In another recent dictator experiment, Charness and Gneezy (2008) found that donations are significantly higher if the dictator was told the last name of the recipient. From a utilitarian perspective, such behavior must be classified as biased since a preference for identified victims over statistical victims cannot be justified by general welfare implications.

2.2.2 Social distance

Beyond family bonds that have biological reasons, many people prefer to help those individuals they regard as socially closer to them as others, such as members of the same state, ethnicity, or religious group. (Baron and Szymanska, 2011) Under the utilitarian assumption that every life should be valued the same, such in-group biases lead to severe distortions of distributional efficiency. Experimental results seem to underpin the strong impact of social distance on generosity. Hoffman et al. (1994) experienced the highest proportion of self-regarding behavior measured so far in an anonymous double-blind setting that effectively maximized social distance between the dictator and recipient. At the other end of the continuum, Bohnet and Frey (1999) found a tremendous increase in dictator-giving when subjects

²This is also the title of the EA movement’s informal manifesto by Peter Singer (Singer, 2015)

were identified and asked to look at each other for a few seconds before they made their distributional choice.

2.2.3 Other biases

Baron and Szymanska (2011) give an overview of numerous biases that donors suffer from and therefore undermine efficient distributional outcomes. Some of which we have not introduced yet were the evaluability bias, diversification of donations, or the neglect of marginal benefits.

Not included in their list, however, is projection bias which has – to the best of my belief – not yet been studied in the context of charitable donations.

2.3 Projection bias

Loewenstein et al. (2003) introduced the term (intertemporal³) projection bias to describe a special type of error in affective forecasting that often arises in the presence of hot/cold interpersonal empathy gaps. They describe the effect of projection bias like this:

”[P]eople tend to understand qualitatively the directions on which their tastes will change, but systematically underestimate the magnitudes of these changes. Hence, they tend to exaggerate the degree to which their future tastes will resemble their current tastes.” Loewenstein et al. (2003)

2.3.1 Model

A person’s experienced utility in time period τ can be described by $u(c_\tau, s_\tau)$ with c_τ being the current level of consumption and s_τ describing the current ”state” that subsumes all internal and external factors that cannot be controlled by the individual, like affective state, hunger and thirst, past consumption behavior, the weather etc., but too have an impact on the experienced utility and can aptly be described as the person’s taste.

If a fully rational person in a current state s' who is not affected by projection bias tried to predict her future utility from consumption of c in a future state s , this prediction $\tilde{u}(c, s|s')$ would be equal to the actual utility $u(c, s)$.

³I use the word ”intertemporal” to emphasize the often neglected differentiation between intertemporal and interpersonal projection bias, the latter of which is also known as ”false consensus”-effect described by Ross et al. (1977)

Predicted utility exhibits simple⁴ projection bias if

$$\exists \alpha \in [0, 1] \text{ s.t. } \forall c, s, s'$$

$$\tilde{u}(c, s|s') = (1 - \alpha)u(c, s) + \alpha u(c, s')$$

Note that a value of $\alpha = 0$ results in an unbiased estimation, whereas a person with $\alpha = 1$ does not predict any change in her taste at all. For all values of α between these two extremes, individuals recognize that their taste will change, know the direction of the change, but fail to correctly predict the intensity of this change.

In the following experiment, we are not interested in predictions of future utility but future willingness to donate money to a charity. Disregarding utility functions seems like an adequate reduction of complexity since monetary donations already are a quantifiable measure and the focus of this paper does not lie on potentially utility reducing effects. In this setting, I therefore want to prove that projection bias also exists in predicting future donations $d(s)$. We speak of projection bias in prediction future donations if

$$\exists \alpha \in [0, 1] \text{ s.t. } \forall s, s'$$

$$\tilde{d}(s|s') = (1 - \alpha)d(s) + \alpha d(s')$$

3 Experiment

3.1 Design

The experiment consisted of two sessions: The first session was the treatment group, the second one was the control group. Both groups received a €10 windfall payment of which they could either keep the whole amount or donate an arbitrarily large share to a charity organization for children's rights (*Save the Children*). Participants were given two opportunities to make their donation, one at the beginning of the session and one at its end. One of the two decisions was later randomly chosen with each having the same probability. This distribution of the €10 was relevant for the final payoff. Subjects were told about the second decision upfront, and right after their first decision they were asked for a prognosis of how much they were going to donate at the end of the experiment.

⁴In the appendix of their paper Loewenstein et al. (2003) also presented a more general version of projection bias. In the remainder of this paper the term "projection bias" is always used as a synonym for "simple projection bias"

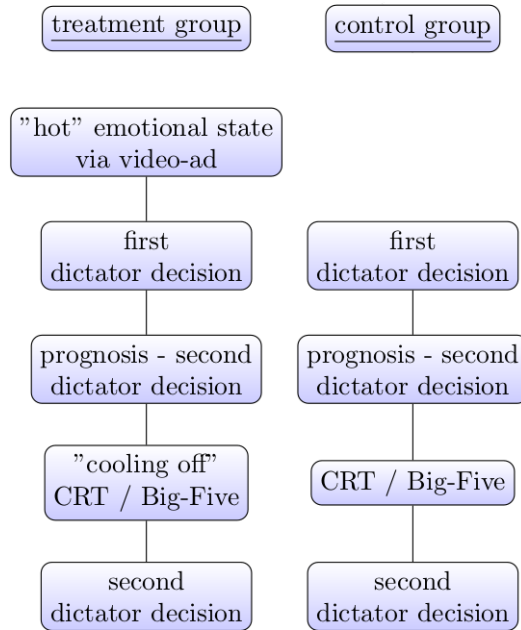


Figure 1: Visualization of the experiment

The difference between the treatment group and the control group was that members of the former were being put in a "hot" emotional state in which their willingness to donate money was (presumably) strongly increased by watching an emotional charity video-ad before their first decision.

Between the first and the second decision, both groups were supposed to take the so-called Cognitive Reflection Test (CRT) and a Big Five personality test. The main purpose of these measures was to emotionally "cool-off" the members of the treatment group by distracting them from the video and their first spending decision. A convenient side effect was the generation of additional data that could be analyzed.

On top of their earnings, all subjects that had arrived on time received a €5 show-up-fee that they kept regardless of their spending decision.

3.2 Subjects and setting

The experiment was programmed with the software z-Tree (Version 3.6.7) (Fischbacher, 2007) and was conducted in the experimental laboratory of the WZB Berlin Social Science Center located at the Technical University of Berlin. Participants were recruited via the Online Recruitment System for Economic Experiments (ORSEE (Greiner, 2015)). The pool consisted

of students in all stages of their university education and of all fields except Psychology⁵. Also excluded from participation were students that had already taken the Cognitive Reflection Test in preceding experiments or had participated in another dictator experiment before. Additionally, an approximately equal distribution between the sexes was enforced.

The treatment group consisted of 22 subjects. When asked in the questionnaire, 10 of them identified as male and 11 as female. A third option, "other sex / prefer not to answer", had been offered and was chosen by one person. 10 of the participants were undergraduate students, 11 were graduate students and one person was doing her PhD. All fields of study were either MINT-subjects or economic sciences. A vast majority of 19 out of 22 were German citizens.

The control treatment was conducted on the same day but after a one hour break that should prevent contact between members of the two groups in front of the lab. The control group were initially 24 subjects. One person had to leave the experiment on health grounds such that the final group size was 23. Of this group 11 identified as male, 11 as female and again one person chose the third option. The group was almost equally split between 11 undergraduate students and 11 graduate students; one person was enrolled in an orientation study program. Regarding the branch of studies, the group was slightly less homogeneous than the treatment group. 18 students were either MINT or economic sciences, the remaining five were distributed among other fields. Out of the 23 students, 4 had a non-German citizenship.

Every participant was assigned to a computer by randomly drawing a token with a number on it which they kept until they were paid at the end of the session. The printed instructions were handed out to all participants and also read out aloud by the experimenter, the language of the experiment was German. All instructions both printed and on the screen are available in Appendix A.1 and A.2 The overall duration of one session was approximately one hour.

3.3 Video - "If London were Syria"

For inducing a "hot" affective state of mind, I opted for a video called "If London were Syria" that was created by the content agency *Don't Panic London for Save The Children UK*.

The video shows a close-up view of a little girl in the style of a second-a-day video in which a hypothetical civil war in the United Kingdom begins to evolve in the background that forces the family to flee their home. The intensification of the conflict is mirrored in the

⁵The reason for excluding Psychology students was the high likelihood that they have been confronted with a Big Five personality test during their studies.



Figure 2: Screenshot of the video "If London were Syria"

face of the little girl that loses her father during the flight. The video ends in a refugee camp with a fixed emotionless stare at the camera that paints a picture of the horrors of war the girl has experienced.

The video was chosen deliberately for several reasons:

- The video was well-received by both audience and press and went viral. It has been watched over 55,000,000 times under the name "Most shocking second a day" on YouTube⁶.
- The video was awarded with the *Golden Radiator Award 2014*⁷ for charity videos that forgo the reproduction of stereotypes. Unlike many other charities that depict poverty porn in their ads this video is presumably less likely to cause donation-related "acts of defiance".
- It was commissioned by a non-denominational organization, *Save The Children UK*, that is less likely to scare off non-religious donors and donors of a religion other than the one of a confessional charity organization.
- From the above presented cognitive biases we can expect a strongly increased willingness to donate since the video exploits both the identifiable victims effect by focusing on one single victim and the Reference group effect by relocating the conflict from Syria to Europe in a clever way.

⁶The video is available online under <https://www.youtube.com/watch?v=RBQ-IoHfimQ>.

⁷<http://www.rustyradiator.com/golden-radiator-award-2014/>

3.4 Cognitive Reflection Test

After their prognosis, students were asked to answer the three questions of the *Cognitive Reflection Test* by Frederick (2005). The test consists of the following three questions, all of which have in common that there exists an intuitive, but wrong, answer that many people tend to give when they do not reflect on the question but rather answer spontaneously:

- (1) A bat and a ball cost \$1.10. The bat costs \$1.00 more than the ball. How much does the ball cost? ____ cents

Intuitive answer: 10 - Correct answer: 5

- (2) If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? _____ minutes

Intuitive answer: 100 - Correct answer: 5

- (3) In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? _____ days

Intuitive answer: 24 - Correct answer: 47

The test is a good way to distinguish between those individuals that tend to behave rather impulsively and those that engage in further reflection before acting. Doing well in the CRT-Test is also strongly correlated with good results in conventional intelligence-tests. (Frederick, 2005)

In accordance to Cueva et al. (2016), we split our participants into three groups. Subjects that answered two or three of the questions correctly form the group of the *reflective* subjects. Those subjects who gave the intuitive answer in two or more questions are assigned to the *impulsive* group. The remaining students are subsumed under *others*. For the experiment the questions were translated into German (see Appendix A.2).

3.5 Big Five personality test

In the experiment, the B5T® personality test by Satow (2012) was used following the CRT. This test is one of the most popular Big Five personality tests in the German-speaking area and yielded very good results when the German consumer organization *Stiftung Warentest*

compared several personality tests. The underlying test concept was rated the best possible grade ”++” (very good).⁸

The B5T® consists of 72 items that test for the five main character-dimensions, *extroversion*, *neuroticism*, *conscientiousness*, *openness to experience* and *agreeableness* as well as the underlying desires for *acknowledgment & performance*, *power & influence* and *safety & peace*. It also includes the additional dimension *honesty* by controlling for a distortion of the test results caused by dishonest answers that serve a positive self-promotion. The test results are seven interval-scaled variables on a stanine scale that range from 1 (very low degree of a character trait) to 9 (very high degree). Unfortunately, the author does not allow to include the test manual as a whole in the appendix but it can be requested online for free under <http://www.drstatow.de/tests/persoenlichkeitstest/>.

As mentioned above, the main purpose of the test was distraction and cooling-off. To further increase the perceived distance from the decisions made on the screen, a pen and paper version of the test was used.

3.6 Hypotheses

From Eckel and Grossman (1996), we expect that a significant share is willing to donate to a charity even in a setting of double-blind anonymity.

According to Small et al. (2007) and Baron and Szymanska (2011), we expect that watching the video ad will additionally increase donations. This results in the first working hypothesis.

H1: The level of donations in the first dictator-decision in the treatment group will be above the level of the control group.

One necessary condition that has to be satisfied to test for effects of projection bias is that subjects are in a different emotional state (or have ”cooled down”) when they make their second decision. Therefore, the second hypothesis is:

H2: The level of donations in the second dictator-decision will be below the level of the first one for the treatment group.

The experiment can also be interpreted as a dictator game with a preannounced probabilistic exit option. Even though this setting is evidently different, similarities to Tonin and

⁸The complete test article is available online under <https://www.test.de/Persoenlichkeitstests-im-Internet-Was-bin-ich-4727586-0/>

Vlassopoulos (2013) are striking. We therefore expect that self-image effects occur which have to be distinguished from the effect that results from projection bias.

H3: The level of donations in the second dictator-decision will be lower than in the first one for the control group.

Projection bias in predicting future donations exists if $\exists \alpha \in [0, 1]$ s.t. $\forall s, s' \tilde{d}(s|s') = (1 - \alpha)d(s) + \alpha d(s')$.

This means if *H2* does hold:

H4: The prognosis lies between the two levels of dictator-giving for the treatment group.

4 Results

4.1 Projection bias and self-image concerns

4.1.1 Positive donations

Individual offers and prognoses for both the treatment and the control group are depicted in Table 1 and Table 2. In both groups, there was a significant share of subjects that made a donation. 15 out of 22 subjects (68.18%) in the treatment group chose a positive amount in at least one of their two decisions. The proportion of donors (69.57% or 16 out of 23) was about the same in the control group. This is only a slightly smaller share than in the experiment of Eckel and Grossman (1996) where 72.9% of the participants donated money to a charity. Three subjects (treatment group: 2, control group: 1) even gave the whole amount of €10 in both decision situations. The most frequent positive offer was €5 which indicates what a strong impact the "50-50 norm" (Andreoni and Bernheim, 2009) seems to exert even under anonymity and with a charity as a recipient. At the end, a total amount of €120.51⁹ was donated to *Save the Children*.

4.1.2 Impact of the video

Average donation in decision 1 was €3.27 for the group that had watched the video and €2.11 for the control group. A one-sided unpaired Wilcoxon Rank Sum Test results in a p-value of 0.09838 which is only marginally below the critical level of 0.1 for a 10%-significance. That the results are not as pronounced as we had hoped, is most certainly due to the relatively small

⁹This odd amount was caused by one person that gave exactly 1 Cent. It later turned out that the computer workstation this student was assigned to was also the only one that was missing its pen.

donation 1	prognosis for donation 2	donation 2
2.5	5	3.5
3	3	2
5	4	3
0	0	0
0	0	0
4	0	0
0	0	0
0	0	0
5	5	5
10	10	10
3	3	3
5	3	4
5	5	6
6.5	6.5	6.5
5	5	5
0	0	0
1	1	1
0	2	0
2	2	2
0	0	0
5	5	2
10	10	10
$\phi = 3.27$	$\phi = 3.16$	$\phi = 2.86$

Table 1: Treatment group - donations and prognosis in €

donation 1	prognosis for donation 2	donation 2
0	0	0
0	0	0.2
0	0	0
7	8	9
0	1	1
0	0	0
0	0	0.01
10	10	10
0	3	0
0	0	0
2.5	2	2
5	5	5
1	1	1
1	2	2
5	5	5
5	5	5
3	3	3
1	1	1
3	2	1
3	3	3
0	0	0
0	0	0
2	3	1.5
$\phi = 2.11$	$\phi = 2.35$	$\phi = 2.16$

Table 2: Control group - donations and prognosis in €

sample size. That we still found significances can therefore be interpreted as an indicator for the effectiveness of the video *If London were Syria*.

4.1.3 Cooling-off

In the treatment group, the average amount given in the second decision was €2.86, which is more than 40 Cents less than in the first one (€3.27). On the individual level, five participants decided to give less at the end of the experiment than at the beginning. There were, however, two subjects that unexpectedly donated a higher amount in the second decision. Comparing the means with a one-sided paired Wilcoxon signed-rank test again leads to $p = 0.07172$ and a rejection of the null at a 10%-significance-level.

4.1.4 Self-image concerns

If participants behavior was driven by the desire of upholding a positive self-image, we would expect the members of the control group to donate less in the second dictator-decision than in the first one. In the control group, the second donation was on average €2.16. Contrary to what we expected, this was even slightly more than the average donation in the first decision which amounted €2.11. Only three students reduced their payment in the second donation (on average €1 less, none of them went down to zero) while five students even increased their donation.

Self-Image concerns seemed to play no role in the subjects' decision which is in stark contrast to the findings of Tonin and Vlassopoulos (2013) where between 21% and 29% of participants decided to opt-out and thus fully refrained from their donation towards a charity. It is therefore worth taking another, closer look at their paper: The authors argue that the observed opting-out behavior has to be explained by self-image motivations because the recipient (a charity) is unaware of the dictator's backdown and "the only candidate audience [...] is the person herself". (Tonin and Vlassopoulos, 2013, p.1) If this was the case, how can it be explained that self-image seems to play no relevant role in our experiment, where the exact same level of anonymity and recipient's awareness is provided? The two major differences in our setting is that the exit option is 1) announced in the instructions and 2) only enforced by a probability of 50%. Since it is elusive why people should refrain from their decision to keep their money after all if their exit option is probabilistic, we are most likely left with the first explanation. Tonin and Vlassopoulos (2013) of course used the unannounced exit option to make sure that donations were sincere. In this paper's experiment this was likewise ensured

by the fact that both decisions are potentially enforced. Thus, it cannot be ruled out that the authors unintentionally hustled some of their participants into an opting-out decision by prominently pointing out the possibility to refrain right before they were supposed to receive their payment and this way created an artifact rather than measuring self-image effects.

4.1.5 Projection bias

Since self-image effects seem to play no role at all, it is sufficient to test if donation 1 is significantly greater than donation 2 and the prognosis lies between these two levels of donations. At first look, the aggregated results reassure us that the idea of projection bias having an impact is at least not an absurd one. As already stated above, the second donation is, with an average of €2.68, significantly (even if only at a 10%-level) smaller than in the first situation where students donated an average amount of €3.27. The average value of the prognosis is €3.16 which lies in between the two donations. This is in line with our model $\tilde{d}(s|s') = (1 - \alpha)d(s) + \alpha d(s')$ and a necessary condition for the existence of projection bias where subjects expect themselves to donate a smaller amount after cooling-off but eventually end up donating even less than what they expected. Conducting a paired one-sided Wilcoxon Rank Sum Test shows that a significant difference (again at a 10%-level) exists only between the mean value of the prognosis and the second ($p = 0.07172$) but not the first dictator donation ($p = 0.4461$).

On the individual level, results become even more ambiguous. Four students seemed to have temporarily been affected by the video and donated less at the end of the experiment, but there were also two of them who gave a higher amount. Two players gave a prognosis that was below their initial donation, but again the same share predicted that they were going to donate more in the second decision. Ultimately only 1 out of 22 subjects behaved exactly as predicted (donation 1 > prognosis > donation 2). The main question of this paper, if projection bias exists the context of charitable donations, thus cannot be answered affirmatively.

4.2 Additional results

4.2.1 Gender differences

From Eckel and Grossman (1998), we expect women to give significantly more for a charitable cause in anonymous dictator-experiments. In the treatment group women gave on average €3.50 while their male counterparts gave only €2.35. Conducting a one-sided Wilcoxon Rank

	donation 1	prognosis	donation 2
<u>treatment group</u>	$\phi = 3.27$	$\phi = 3.16$	$\phi = 2.86$
male	$\phi = 2.35$	$\phi = 2.35$	$\phi = 2.35$
female	$\phi = 3.50$	$\phi = 3.27$	$\phi = 2.68$
<u>control group</u>	$\phi = 2.11$	$\phi = 2.35$	$\phi = 2.16$
male	$\phi = 2.36$	$\phi = 2.73$	$\phi = 2.46$
female	$\phi = 2.05$	$\phi = 2.18$	$\phi = 2.05$

Table 3: Gender differences - average donations and prognoses in €

Sum Test, this difference prove to be significant on the 10%-level ($p = 0.08383$). The average donation for women in the second situation dropped to €2.68, the amount men give remained with €2.35 unchanged such that there is no more significant difference ($p = 0.1727$). Since average male donations stayed exactly the same, the difference between the average donation at the beginning of the experiment and after cooling-off that we found in 4.1.3 is largely caused by the behavior of the female participants who donated significantly more, directly after having watched the video ($p = 0.0412$).

In the control group, female donations averaged €2.05 in both situations which was below the level of donations by men, both in the first ($\phi = €2.36$) and in the second dictator-decision ($\phi = €2.46$). There are, however, no significant differences between any of the values of the donations or prognoses.

What is eye-catching when comparing the first donations between the two groups is that, while male donations were almost exactly identically, female participants in the treatment group donated about 70% more than members of the same sex in the control group which corresponds to a difference at a 5%-significance-level ($p = 0.0412$).

This implies that male subjects were basically untouched by the video whereas women were strongly influenced in their behavior.

4.2.2 Reflective vs. impulsive subjects

Table 4 depicts the differences in behavior between reflective (≥ 2 correct answers in CRT) and impulsive (≥ 2 intuitive answers in CRT) subjects. As expected from to the findings of Brandstätter and GÜth (2002) and Ponti and Rodriguez-Lara (2015), subjects that did well in the CRT were much less prone to donate than those who choose the intuitive answer in the majority of cases.

	donation 1	prognosis	donation 2
<u>treatment group</u>	$\phi = 3.27$	$\phi = 3.16$	$\phi = 2.86$
reflective	$\phi = 2.09$	$\phi = 2.27$	$\phi = 1.90$
impulsive	$\phi = 5.06$	$\phi = 4, 28$	$\phi = 4, 17$
<u>control group</u>	$\phi = 2.11$	$\phi = 2.35$	$\phi = 2.16$
reflective	$\phi = 1.85$	$\phi = 2.08$	$\phi = 1.67$
impulsive	$\phi = 2.69$	$\phi = 3.00$	$\phi = 3.13$

Table 4: Reflective and impulsive subjects - average donations and prognoses in €

The difference between donations by reflective (€2.09) and impulsive participants (€5.06) in the treatment group’s first situation is significant at a 5%-level. (one sided WRS-test: $p = 0.01117$) The same holds for the difference between impulsive subjects’ first donation in either the treatment (€5.06) and the control group (€2.69). ($p = 0.04012$) Donations of impulsive students seem to be strongly affected by the video-ad. For reflective subjects, no significant differences between donations and prognoses can be found.

There seems to be a weak correlation between impulsiveness and being female. Testing for a significant relationship with the Phi-coefficient, however, yields no significant results. ($\Phi = 0.19, \chi^2 = 1.37 p = 0.2418$)

4.2.3 Big Five personality traits

To check the role that character traits play in explaining charitable giving, we take a look at table 5 that shows the correlation structure as well as their significances (Pearson’s r). In the control group, all correlations are below 0.3 and insignificant. Due to the very small numbers of observations, this is not very surprising.

Interesting is, however, that we nevertheless find medium and strong correlations in the treatment group that prove to be significant. Neuroticism and the desire for safety are both positively correlated with charitable giving, with neuroticism showing the by far strongest correlations with donations in the first ($0.57, p = 0.0071$) and second decision ($0.70, p = 0.0005$) that are both significant at the 1%-level. Agreeableness and openness that Becker et al. (2012) found to be even stronger positively correlated with altruistic behavior seem to play only a subordinate role in our setting. Since strong correlations only occur in the treatment group, a plausible explanation might be that neurotic subjects react more sensitively to the video impulse.

	neu	ext	con	ope	agr	ack	pow	saf	hon
<u>treatment group</u>									
donation 1	0.57***	0.02	0.12	-0.05	0.04	-0.22	-0.27	0.37*	-0.08
p-value	0.0071	0.9235	0.6087	0.8218	0.8611	0.3374	0.2307	0.0957	0.7199
donation 2	0.70***	0.02	0.20	-0.07	0.10	-0.14	-0.01	0.46**	-0.07
p-value	0.0005	0.9341	0.3762	0.7598	0.6713	0.5418	0.5074	0.0371	0.7569
<u>control group</u>									
donation 1	0.09	-0.23	0.19	-0.22	-0.08	-0.11	0.19	0.16	-0.02
p-value	0.6893	0.3020	0.3846	0.3198	0.7096	0.6194	0.3997	0.4672	0.9296
donation 2	0.00	-0.20	0.27	-0.25	-0.02	-0.16	0.12	0.14	0.00
p-value	0.9923	0.3815	0.2220	0.2583	0.9273	0.4801	0.6095	0.5465	0.9922

Table 5: Pearson correlation structure

5 Conclusion

5.1 Summary

Projection bias is a powerful bias that strongly affects numerous aspects of our everyday life. The experiment that was conducted and described in this paper was an attempt to find experimental evidence for the existence of projection bias in the context of charitable giving. My main finding is that, even though the aggregated results seem to point in the right direction, behavior on the individual level is inconsistent and there is no statistical evidence that projection bias has a significant impact on the prediction of future donations.

The manipulation of the subjects' emotional state itself seemed to be a success, even if differences in giving were not as pronounced as desired. More distinct effects were found for female participants and for participants of both sexes that were categorized as "impulsive" due to their answers in the CRT or showed high degrees of neuroticism and a strong desire for safety. Similar statements can be made in regard to the expected cooling-off during the session that was reinforced by conducting the CRT and the pen and paper version of a five-factor personality test. Donations were on average lower after the cooling-off period, this effect is, however, only weakly significant.

A necessary condition for projection bias is that the subjects' prognosis of their future willingness to give lies between the two different levels of donations in the hot and the cold affective state. This is not the case: Prognoses are not significantly different from the initial

donation which means that there is no support for the necessary condition that people "tend to understand qualitatively the directions on which their tastes will change".(Loewenstein et al., 2003)

Since the experiment can be interpreted as a dictator game with a probabilistic exit option, we had to test for possible self-image effects that could falsely be interpreted as a result of cooling-off. The level of giving in the control group turned out to be almost exactly the same at the beginning and at the end of the experiment such that there are no signs for an impact of self-image effects at all. This result is remarkable since it is in stark contrast to the findings of Tonin and Vlassopoulos (2013) who experienced opt-out rates between 21% and 29%. It seems unlikely that the difference in exiting behavior is caused by the probabilistic nature of our exit option. This leaves us with the only plausible explanation that the stark differences were caused by the fact that Tonin and Vlassopoulos (2013) had not announced the exit option at the beginning but introduced it right before the payment. It is possible that subjects in their setting were pushed towards an opt-out stronger than the authors intended.

Since self-image seems to have no visible effect, differences in donation 1 and 2 of the treatment group can exclusively be explained by cooling-off such that our above performed approach of directly measuring projection bias was appropriate.

5.2 Outlook

What should be brought to mind at this point is that the paper at hand was written as a master's thesis and was therefore subject to financial limitations that resulted in a quite modest sample size. The findings from this paper should therefore rather be seen as an impulse for future research than as generalizable results. So, how could subsequent research possibly look like?

The most obvious point of reference would be a repetition of this paper's experiment with a larger sample size. A conducted power analysis yields that for a two-sided Wilcoxon-test with an alpha-level of 5% and a power of 0.8 a sample size of approximately 300 subjects would be necessary.¹⁰ Due to the incoherent behavior we observed on the individual level, it is, however, all but certain that a simple increase in sample size will lead to valid results.

Another insightful task could be a re-examination of the paper by Tonin and Vlassopoulos (2013) under the light of our (non-)results. If their observations actually turned out to be an artifact caused by the timing and the obtrusiveness of their exit option, a further critical re-

¹⁰The estimated underlying distributions in the treatment group were Poisson distributions with $\lambda = 3.27$ for the first decision and $\lambda = 2.86$ for the prognosis.

evaluation of the magnitude of self-image effects in pro-social behavior, as already commenced by Grossman (2015), should follow.

Lastly, by focusing on their potential donors' empathy charity organizations often fail to make use of the resources of men and reflective individuals. To successfully target these reluctant but financially strong groups, more research is necessary. A first promising starting point is provided by a recent study of Willer et al. (2015) who found that men's willingness to donate can be increased by rather focusing on the societal consequences of poverty, such as an increasing crime rate than calling upon their empathy.

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A Appendix

A.1 Instructions - handout

Herzlich Willkommen bei unserem Experiment!

Während des Experiments ist es Ihnen nicht erlaubt, elektronische Geräte zu benutzen oder mit anderen Teilnehmern zu kommunizieren. Bitte benutzen Sie nur die für das Experiment vorgesehenen Programme und Funktionen. Bitte sprechen Sie nicht mit den anderen Teilnehmern. Sollten Sie eine Frage haben, dann heben Sie bitte Ihre Hand. Wir werden dann zu Ihnen kommen und Ihre Frage im Stillen beantworten. Bitte stellen Sie Ihre Fragen auf keinen Fall laut. Wenn die Frage relevant für alle Teilnehmer ist, werden wir sie laut wiederholen und beantworten. Sollten Sie gegen diese Regeln verstoßen, müssen wir Sie vom Experiment und der Auszahlung ausschließen.

Das Experiment, an dem Sie nun teilnehmen werden, ist Teil eines vom Lehrstuhl für Finanzwissenschaft der Humboldt-Universität zu Berlin finanzierten Projekts. Es dient dazu, ökonomisches Entscheidungsverhalten zu analysieren.

Die vorgesehene Dauer des Experiments sind 40-50 Minuten. Alle Angaben, die Sie im Zuge dieses Experiments machen werden, sind anonym und können Ihnen auch im Nachhinein nicht zugeordnet werden. Bitte bestätigen sie immer alle Eingaben am Monitor mit einem Klick auf OK. Das Experiment kann immer erst dann fortgesetzt werden, wenn alle Teilnehmer ihre Eingaben bestätigt haben.

Für das pünktliche Erscheinen zu diesem Experiment erhalten Sie einen Betrag von 5 Euro, den Sie in jedem Fall ausgezahlt bekommen. Zusätzlich wird Ihnen in zwei Entscheidungssituationen, eine davon zu Beginn des Experiments und eine an dessen Ende, ein weiterer Betrag von 10 Euro zur Verfügung gestellt. Sie müssen sich dann jeweils entscheiden, ob Sie den vollen Betrag behalten oder einen beliebig großen Teil davon einer Wohltätigkeitsorganisation zukommen lassen möchten. Es handelt sich dabei nicht um eine fiktive Entscheidungssituation, sondern ihre Spende wird in voller Höhe an die Organisation ausgezahlt.

Jedoch ist nur eine Ihrer beiden Entscheidungen auszahlungsrelevant. Welche das ist, wird am Ende des Experiments durch einen Zufallsgenerator entschieden. Beide Entscheidungen sind dabei gleich wahrscheinlich. Sie können in diesem Experiment also maximal 15 Euro verdienen.

[Only for treatment group: Ganz zu Beginn des Experiments, noch bevor Sie die erste Entscheidung treffen, wird Ihnen ein kurzes Video der Wohltätigkeitsorganisation gezeigt, das Sie sich aufmerksam ansehen sollen. Sie werden dieses Video im Laufe des Experiments kein weiteres Mal zu sehen bekommen.]

Direkt nach der ersten Entscheidungssituation werden Sie um eine Einschätzung gebeten, wie Ihre Entscheidung in der zweiten Situation am Ende des Experiments ausfallen wird.

Haben Sie Ihre Vorhersage getroffen, werden Sie darum gebeten, drei kurze mathematische Textfragen zu beantworten. Außerdem bekommen Sie in Papierform einen Fragebogen ausgehändigt, den Sie gründlich und ehrlich ausfüllen sollen. Dies wird einige Zeit in Anspruch nehmen.

Wenn Sie den Fragebogen ausgefüllt haben, treffen Sie die zweite Entscheidung zur Aufteilung der erhaltenen 10 Euro und der Zufallsgenerator entscheidet darüber, welche der beiden Entscheidungen die auszahlungsrelevante ist.

Notieren Sie ganz am Ende des Experiments den auf dem Monitor angezeigten Endbetrag auf der Ihnen hierfür ausgeteilten Quittung und unterschreiben Sie diese. Bleiben Sie bitte noch sitzen, bis das Experiment für beendet erklärt wird und holen Sie sich dann Ihre Auszahlung

im Raum links neben dem Experimentallabor ab.

A.2 Instructions - screen

Stage 1:

Herzlich willkommen zu diesem Experiment!

Stage 2:

Save The Children ist eine politisch und konfessionell ungebundene Hilfsorganisation, die sich weltweit für die Rechte und den Schutz von Kindern einsetzt. Die Schwerpunkte der Arbeit liegen vor allem in den Bereichen Schule und Bildung, Schutz vor Ausbeutung und Gewalt, Überleben und Gesundheit. Außerdem hilft die Organisation Kindern und ihren Familien in Katastrophensituationen.

[Only in treatment group: Im nächsten Fenster wird Ihnen ein Video der Organisation gezeigt. Bitte sehen Sie sich das Video aufmerksam an, Sie bekommen es in diesem Experiment nur ein einziges Mal zu sehen.

Setzen Sie bitte jetzt ihre Kopfhörer auf und klicken Sie auf OK.]

Stage 3:

[Only in treatment group: *Video*]

Stage 4:

Sie erhalten jetzt 10 €.

Sie können den kompletten Betrag behalten oder einen Teil davon an Save The Children spenden, um ihre Arbeit zu unterstützen.

Wie viel möchten Sie spenden? ----

(Eingabeformat: x.xx)

Stage 5:

Am Ende des Experiments werden Sie noch einmal vor die gleiche Entscheidung wie eben gestellt.

Was denken Sie, wie viel werden Sie dann an Save The Children spenden? ----

(Eingabeformat: x.xx)

Stage 6:

Sie bekommen jetzt drei Fragen gestellt, die Sie beantworten sollen.

Stage 7:

Ein Schläger und ein Ball kosten 1.10 €. Der Schläger kostet 1 € mehr als der Ball. Wie viel kostet der Ball?

Antwort in Cent: ----

Stage 8:

Wenn 5 Maschinen 5 Minuten brauchen, um 5 Produkte herzustellen, wie lange brauchen 100 Maschinen, um 100 Produkte herzustellen?

Antwort in Minuten: ----

Stage 9:

Ein Teil der Oberfläche eines Sees ist mit Seerosen bedeckt. Die bedeckte Fläche verdoppelt sich dabei jeden Tag. Wenn es 48 Tage dauert bis der gesamte See mit Rosen bedeckt ist, wie lange dauert es bis die Hälfte des Sees bedeckt ist?

Antwort in Tagen: ----

Stage 10:

Sie bekommen jetzt einen Fragebogen ausgeteilt. Überprüfen Sie bitte, dass bei "Nachname" rechts des Bindestrichs die richtige Platzzahl eingetragen ist und lassen Sie die anderen Felder zu den persönlichen Angaben frei. Bitte füllen Sie nun den Fragebogen gründlich und ehrlich

aus.

Sobald Sie damit fertig sind, drücken Sie bitte auf OK.

Stage 11:

Sie erhalten jetzt 10 €.

Sie können den kompletten Betrag behalten oder einen Teil davon an Save The Children spenden, um ihre Arbeit zu unterstützen.

Wie viel möchten Sie spenden? ----

(Eingabeformat: x.xx)

Stage 12:

Alter: Geschlecht: männlich / weiblich / anderes - keine Angabe

Nationalität: -----

Studienfach: -----

Angestrebter Abschluss: Bachelor / Master / PhD / anderer

wenn anderer, dann welcher: -----

Stage 13:

Bitte tragen Sie den Betrag in die Quittung ein, unterschreiben Sie diese und klicken Sie auf OK.

Bitte bleiben Sie noch an Ihrem Platz sitzen, bis das Experiment offiziell für beendet erklärt wird.

Vielen Dank für Ihre Teilnahme an diesem Experiment!

Declaration of authorship

I, Benjamin Schwab, hereby declare that I have not previously submitted the present work for other examinations. I wrote this work independently. All sources, including sources from the Internet, that I have reproduced in either an unaltered or modified form (particularly sources for texts, graphs, tables and images), have been acknowledged by me as such. I understand that violations of these principles will result in proceedings regarding deception or attempted deception.

Berlin, June 1st, 2017

A handwritten signature in black ink, appearing to read 'B. Schwab', with a stylized flourish at the end.

Benjamin Schwab