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Conference Paper

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Beiträge zur Jahrestagung des Vereins für Socialpolitik 2024: Upcoming Labor Market Challenges

Provided in Cooperation with:

Verein für Socialpolitik / German Economic Association

Suggested Citation: Grieder, Manuel; Schmitz, Jan; Schubert, Renate (2024) : Asking to give: coordinated fundraising and giving, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2024: Upcoming Labor Market Challenges, ZBW - Leibniz Information Centre for Economics, Kiel, Hamburg

This Version is available at:

<https://hdl.handle.net/10419/302438>

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Asking to give: coordinated fundraising and giving

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March 1, 2024

Abstract

We study the effect of repeated opportunities for pro-social behavior on aggregate pro-social behavior through two laboratory experiments and field data on charitable giving. Our first experiment shows that two consecutive pro-social decisions (donations to a charity) lead to moral licensing, where the presence of a first donation lowers the second donation. However, we also find that offering multiple opportunities to donate increases aggregate contributions compared to control conditions holding the total donation possibility constant. The second experiment studies the potential drivers of this result and finds that people respond positively to each additional appeal, regardless of whether the asks are presented simultaneously or sequentially. We observe similar patterns in field data from 73 charity campaigns sent by the International Committee of the Red Cross (ICRC) to 455,102 individuals between 2013-2020. Our findings indicate that pooling fundraising campaigns can significantly increase giving. This is good news for managers of charitable organizations who are concerned about the effects of too extensive fundraising activities.

Keywords: charitable giving, moral licensing, pro-social behavior, experiments

JEL codes: D01, D91, C91

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We are grateful to Gabriella Bertacchi, Raphael Nguyen Van and Benno Kocher from the ICRC for fruitful exchange and the kind provision of the field data and to Alexander Götz and Felix Schlüter for excellent research assistance. We thank Maja Adena, Alex Imas, Jonathan Meer, René Bekkers, and Egon Tripodi, as well as participants at the 2020 EEA and the 2021 WZB Workshop on Recent Advances in the Economics of Philanthropy for helpful comments and suggestions. This project was funded by the Swiss National Science Foundation within the National Research Program 73 on “sustainable economy” (grant numbers: 407340_172397 and 407340_172431).

1 Introduction

People face multiple opportunities for smaller or bigger pro-social acts of various sorts every day. For instance, they may or may not help an elderly person cross the street in the morning, face the decision to help or not to help a colleague who needs to meet a deadline in the afternoon, and decide whether or not to buy the more expensive fair trade or environmentally-friendly product at the grocery store in the evening. In addition to these daily acts of pro-sociality in personal relationships or in individual consumption decisions, people are also frequently asked to give to charity.

In a recent paper, Gee and Meer (2020) propose the concept of an ‘altruism budget’, questioning whether individuals have a set or expandable budget for altruistic acts and how this may impact overall pro-social behavior in the charitable giving market. However, their literature review suggests that it is uncertain whether the altruism budget is fixed or flexible. The literature on the impact of repeated opportunities for giving on aggregate levels of pro-social behavior is inconclusive. Studies document mixed results on the effects of giving across time and between different opportunities for doing good.¹ Previous research on repeated giving often focuses on questions that are only indirectly related to the effect of repeated opportunities on aggregate levels of giving. For example, many studies include treatments that encourage donations in the first decision (such as matching grants over time Meier, 2007) or compare the differences between a first and second donation. Additionally, most existing studies rely solely on field evidence, which has high external validity, but also makes it difficult to understand the underlying behavioral effects of observed patterns.² For example, it is difficult to determine if smaller donations in subsequent decisions are due to donations to another charity or if the money has been withdrawn from the charitable giving market entirely (Damgaard and Gravert, 2018). Furthermore, it is challenging to determine how large a donation would have been if there had been no initial campaign with field data

¹Van Diepen et al. (2009) and Donkers et al. (2017), for example, find that donations to the same charity or similar charities over time may be substitutes (see also Reinstein, 2011, 2010). Meier (2007) shows a negative effect of solicitation on long-run donations. Adena and Hager (2020) show that campaigns directed to increase donations to one charity may drive giving away from substitute charities. Damgaard and Gravert (2018) and Adena and Huck (2020) show in their field experiments that donors who are solicited too intensely move away from that charity. Speaking to this effect, Ahtziger et al. (2015) report a reduction in pro-social behavior in repeated dictator games. Cooper and Kagel (2016) indicate that subjects adjust their contributions to public goods over time (see also Cooper and Stockman, 2002). Adena and Huck (2019), in contrast, show that the size of future donations depends on the donor’s belief about a future fundraising campaign and that while announced campaigns reduce initial giving, donations are stable over time. This suggests that individuals spread their donations evenly over multiple opportunities to give. Cojoc and Stoian (2014) and Gneezy et al. (2014) likewise report higher anti-social behavior of subjects in the first decision if they have the possibility to clear their conscience through a subsequent donation decision. Contributing to this line of argument, Cairns and Slonim (2011) find that overall giving increases when there is an announced second collection at catholic masses. Similarly, Bekkers (2015), Castillo et al. (2017), and Meer (2017) show that fundraising appeals in general increase giving and do not reduce giving to charity over time. Also Scharf et al. (2017) find no negative effect of initial giving on donations to the same charity over time (but potentially to other charities). Brown et al. (2019) complement research on multiple opportunities to do good by comparing donations of time and money. Schmitz (2019) points out that a negative effect of repeated asks on giving behavior may be short lived and time passed between two donation decisions has a positive effect on donations in the second decision.

²An exception are Adena and Huck (2019) who identify how the belief about future solicitation campaigns affects donations.

alone. Additionally, data investigating donations in response to repeated requests for giving (such as solicitation campaigns) make it difficult to determine if changes in behavior are driven by the repeated decision-making structure or the number of appeals received in total. Moreover, it is often unclear whether there are effects on other behaviors such as donations to other charities, the impact of income changes on giving decisions, and the frequency at which individuals are approached by other charities.

Understanding how multiple opportunities to engage in pro-social behavior impact aggregate pro-social behavior (such as an individual’s altruism budget) is a crucial question for research on pro-social behavior in general, and specifically for charities that incur costs each time they solicit donations. A prevalent line of research examining the effects of multiple opportunities for pro-social behavior suggests that an initial pro-social act may lead to *moral licensing* in subsequent decisions. This means that an initial pro-social act may have negative effects on pro-social behavior in following decision(s), as individuals may feel that they have already done enough good with their previous pro-social act. (Blanken et al., 2015; Clot et al., 2014, 2016; Dolan and Galizzi, 2015; Effron and Conway, 2015; Gneezy et al., 2012; Khan and Dhar, 2006; Mazar and Zhong, 2010; Mullen and Monin, 2016; Sachdeva et al., 2009; Tiefenbeck et al., 2013).³

Moral licensing, if present, has a negative impact on subsequent pro-social behavior (see, e.g., Tiefenbeck et al., 2013). However, the overall effect of repeated triggers for pro-social acts on aggregate outcomes, such as the altruism budget in a market, has (to the best of our knowledge) not yet been studied. Additionally, although concerned with pro-social behavior, the literature on moral licensing is not well connected to the literature on charitable giving (even though donations to charity are sometimes used to measure moral licensing (see, e.g., Khan and Dhar, 2006). Additionally, many studies lack experimental controls that account for factors such as income effects between decisions or the level of giving that would have occurred without an initial donation. This lack of control makes it challenging to accurately identify the effects of moral licensing, if present, on aggregate pro-social behavior (see, e.g., Blanken et al., 2015; Goette and Tripodi, 2020, for literature pointing to the imperfect experimental designs in studies on moral licensing).

This paper presents clear evidence from two economic experiments (*Study 1* and *Study 2*) examining the relationship between multiple opportunities for pro-social behavior (such as charitable donations), moral licensing, and aggregate pro-social behavior (an individual’s altruism budget). *Study 1* estimates the effect of subsequent giving opportunities on aggregate giving in a controlled and simplified manner, and *Study 2* identifies the underlying mecha-

³Note, however, that another line of research points out that initial good deeds may create a “foot in the door” effect leading to *moral consistency*, thus inducing individuals to increase pro-social behavior in subsequent decisions (see, e.g., Bem, 1972; Cherry et al., 2003; Cialdini et al., 1995; Gneezy et al., 2012) and creating positive spillover effects between related behaviors (see, e.g., Carlsson et al., 2020; Götz et al., 2021). Based on their literature review, Mullen and Monin (2016) argue that abstract behavior is more likely to lead to moral consistency whereas more concrete behavior may lead to licensing. Whether certain situations are more likely to lead to moral consistency or moral licensing is not the focus of this paper, however. Instead, we investigate the effects of moral licensing on pro-social behavior in the aggregate. Thus, we concentrate on situations in which moral licensing occurs and analyze its effect on aggregate outcomes.

nisms driving this behavior. Furthermore, we demonstrate the relevance of our laboratory findings by showing that the same behavioral patterns are present in real-world data (*Field Evidence*).

In the first experiment (*Study 1*), we implement three conditions to study the effect of subsequent options to give to charity on aggregate giving: In the *moral licensing (ML)* condition, subjects had the opportunity to give to charity twice. Subjects received an endowment for each decision and decided whether or not to give parts (or all) of the endowment to charity. When arriving at the second decision, they received a new endowment in addition to whatever endowment was left from the first decision. We benchmark giving in the second decision against two control conditions: A *moral licensing control (MLC)* condition in which subjects had only one option to give but their endowment was the same as in the second decision of subjects in the *ML* condition. We compare the second decision in *ML* with the single decision in *MLC*. In this comparison, the only difference between the conditions is that in the *ML* condition subjects already previously had the possibility to make a donation. The *MLC* condition thus allows us to clearly identify the effect of previous possibilities to give on giving in the second decision, i.e., to identify moral licensing according to how the concept is commonly defined in the literature (see, e.g., Blanken et al., 2015; Mullen and Monin, 2016). To capture the net effects of multiple opportunities for donations on aggregate giving, we include a second control condition: In the *substitution control (SC)* condition, we test whether moral licensing is only a form of economic substitution of pro-social behavior between decisions, or may in fact be problematic in the sense that it leads to a decrease in aggregate pro-social behavior (reducing the altruism budget). In particular, subjects in the *SC* condition could only make one donation to charity and for that decision received the entire endowment subjects in the *ML* condition had for both decisions. Comparing aggregate donations (giving in decision one plus giving in decision two) of subjects in the *ML* condition with giving of subjects in the *SC* condition, allows to identify whether multiple options to give impact aggregate giving when measured against an appropriate counterfactual.

In line with moral licensing, we find that previous decisions to behave pro-socially indeed reduce the pro-social behavior in a subsequent decision: giving in the second decision in the *ML* condition is smaller than giving in the single decision in the *MLC* condition.⁴ We compare the behavior of participants in the *ML* condition with the behavior of participants in the *SC* condition who only make one decision. We find that repeated asks to behave pro-socially increase overall doing good: aggregate giving in the *ML* condition is higher than in the *SC* condition. Thus, even though there seems to be an immediate and negative spillover effect of a pro-social act on the next decision to do good, this moral licensing effect does not lead to a reduction in overall pro-social behavior.

At least two behavioral theories may explain why aggregate donations are higher if people have multiple options to give. On the one hand, the opportunity to give, i.e., the ask itself may create the effect. People may find it difficult not to give when they are asked to (see,

⁴Note that this cannot exclusively be explained by diminishing marginal utility of repeated giving in the *ML* condition (see Section).

e.g., Andreoni et al., 2017; Andreoni and Rao, 2011; Cain et al., 2014; DellaVigna et al., 2012; Diederich et al., 2021; Filiz-Ozbay and Uler, 2019; Meer and Rosen, 2011; Schmitz, 2021). This effect may not wear off, or may persist to some extent when asks are repeated. On the other hand, the sequential decision making setup may drive the results since subjects may (narrowly) bracket their decisions and make choices in isolation (taking past decisions only partially into account, see, e.g., Read et al., 1999).

To identify which of the two possibilities mentioned above is best suited to explain the patterns observed in the first study, we conducted a second experiment. In *Study 2*, subjects could, depending on the treatment, again give to charity once or twice. To study whether the first explanation above drives behavior, i.e., whether asking twice affects aggregate giving, we implemented a *simultaneous giving (SIM)* condition in which subjects could give to charity twice but made the decisions simultaneously (on the same computer screen). To identify whether the second explanation, i.e., asking sequentially matters, we compare giving in this *simultaneous giving (SIM)* condition with a *sequential giving (SEQ)* condition in which subjects could give to the same charities but the decisions had to be entered on two sequential screens. To ensure that our results are comparable across studies we further run a *giving once (G1)* condition in which subjects could only give to charity once. In addition, we implemented a variation of each condition in which subjects were explicitly informed about whether or not there was going to be a second option to give.

We find that asking twice has a significant positive effect on donations compared with asking once: total giving in the *SIM* and *SEQ* conditions is larger than in the *G1* condition. Whether or not subjects are asked to give simultaneously or sequentially, however, does not affect aggregate contributions: total giving in the *SIM* and *SEQ* conditions is very similar. It seems that it is mainly the ask that matters: people respond positively (at least to some extent) to every opportunity to do good that is presented to them. This leads to an increase in aggregate levels of giving.

Field evidence from charity campaigns supports our laboratory findings. Our field data comprise information on giving behavior from 455,102 prospective and existing donors in response to 73 fundraising campaigns launched by the International Committee of the Red Cross (ICRC) in Switzerland over seven years (between January 2013 and December 2020). For our analysis, we make use of specific features of our field data. We focus on occurrences where some donors receive multiple appeals within the same month, for instance because of some donors accidentally received the same appeal multiple times or because in case of emergencies, extraordinary campaigns sometimes launched, which target some donors multiple times. The data reveal that individuals behave in line with the evidence from our lab studies: aggregate donations of individuals who were asked more often within a relatively short time span (e.g., same month) are higher compared with giving of individuals who were approached only once during the same time span.

The results from our laboratory experiments and the field data indicate that concerns about moral licensing, as commonly defined in the literature and identified in our Study 1, may be overrated. Multiple opportunities to do good do not have negative effects on

pro-social behavior in the aggregate. While giving decreases between asks, the overall effect of having been asked already once before is not negative. Our findings have important implications for individual charities and the charitable giving sector as a whole. Managers of charitable organizations and policymakers can learn that repeated and simultaneous asks do not negatively affect aggregate giving levels. This is also relevant for policymakers considering policies to promote pro-social or pro-environmental behavior as our data suggests such worries are unwarranted.

Our paper contributes to and combines several streams of literature. First, our findings contribute to the literature on charitable giving by identifying a positive effect of repeated opportunities to give on aggregate giving, i.e., the altruism budget (see, e.g., Gee and Meer, 2020). Our stylized laboratory studies allow to identify effects of repeated pro-social decisions on aggregate levels of giving in a clean way holding constant possible confounding factors such as income effects. With this design, we can identify whether money is withdrawn from the market because of moral licensing or whether it is just shifted between different donation opportunities.

Second, the evidence from *Study 2* about the behavioral mechanisms driving the main result contributes to the literature on the power of asking (see, e.g., Andreoni and Rao, 2011; Andreoni et al., 2017). Specifically, we find that multiple repeated or simultaneous asks are (equally) powerful in the aggregate. This is also relevant in the light of evidence showing that individuals try to avoid being asked to give in the first place (see, e.g., Adena and Huck, 2020; Andreoni et al., 2017; DellaVigna et al., 2012). Our findings (especially from the field) indicate that asking more often may have the potential to trump potential ask avoidance. This finding further contributes to the recent literature on joint fundraising activities (e.g., giving to multiple charities at the same time, see Eckel et al., 2020; Filiz-Ozbay and Uler, 2019; Schmitz, 2021). Our research adds to the literature by demonstrating that both sequential and simultaneous fundraising can lead to similar aggregate levels of giving. Additionally, we found that asking more frequently, whether by the same charity or by different charities, can increase aggregate donations. Our study also provides external validity to our results by supplementing our laboratory findings with supportive field evidence. Our findings suggest that charities can more efficiently organize their fundraising activities and reduce costs by giving donors the option to respond to multiple asks at the same time, such as through bundled fundraising campaigns.

Third, our research also contributes to the literature on moral licensing in social psychology and behavioral economics (see, e.g., Blanken et al., 2015; Dolan and Galizzi, 2015; Khan and Dhar, 2006; Mazar and Zhong, 2010; Tiefenbeck et al., 2013). We qualify existing beliefs about the negative effects of moral licensing by finding a significant moral licensing effect in our study, but also finding that repeatedly triggering pro-social acts does not have negative consequences for aggregate pro-social behavior. In fact, our data suggests that repeated options to give may actually increase overall levels of pro-social behavior. Therefore, even if direct negative spillover effects on later behaviors or behaviors in other domains may exist, they do not appear to be substantial and do not negatively impact pro-social behavior in the

aggregate.

Finally, our findings also contribute to the literature on negative behavioral spillover effects of policy interventions (see, e.g., Colby et al., 2020; d’Adda et al., 2017; de Haan and Linde, 2018; Dimant, 2019; Dolan and Galizzi, 2015; Ghesla et al., 2019; Sunstein, 2017). Policymakers often aim to promote pro-social behavior in various domains through different measures, such as encouraging environmentally-friendly consumption choices and behavior or increasing tax compliance (see, e.g., Allcott, 2011; De Neve et al., 2021; Doerrenberg et al., 2022; Liebe et al., 2021). While immediate negative spillovers may exist, our results suggest that overall effects of such measures are likely to be positive, encouraging the implementation of policies that increase pro-social (or pro-environmental) behavior.⁵

The remainder of the paper is structured as follows: Section 2 presents the design, hypotheses and results of Study 1. Section 3 does the same for Study 2. Section 4 details our field setup and presents findings using observational data on charitable donations from the field. Section 5 concludes.

2 Study 1: The net effect of moral licensing on pro-social behavior

The objective of Study 1 was to investigate the effect of repeated pro-social decisions on pro-social behavior in the aggregate with the aim to test the overall relevance of moral licensing dynamics for pro-social behavior. If moral licensing exists due to consecutive opportunities for pro-social behavior, does it also lead to less pro-social behavior in the aggregate?

2.1 Study 1: Experimental design

To answer this research question, we set up a laboratory experiment with three experimental conditions randomly assigned to participants within a given experimental session (within-session randomization between subjects). In all conditions we used donations to charity as a measure of pro-social behavior: subjects could decide to give part (or all) of their endowment to Unicef.⁶

In the *moral licensing (ML)* condition, subjects had the opportunity to give to charity twice. They received an initial endowment of $e_1^{ML} = x_1$ points for their first donation decision (g_{1i}). For their second donation decision, they received again an endowment of $x_2 (= x_1)$ points plus the points not donated to charity in the first decision ($x_1 - g_{1i}$). Thus, each subject (i) had an endowment of $e_2^{ML} = x_2 + x_1 - g_{1i}$ for their donation to charity in the

⁵See, e.g., Lades et al. (2021) for literature studying the interrelation between pro-social and pro-environmental preferences.

⁶We used donations to Unicef in all conditions since we believe that this is unanimously accepted and important charity helping children around the world. Of course, there might be subjects who may dislike Unicef as a charity for whatever reason. Since subjects could only give to Unicef in all conditions, however, this does not pose a problem to our experimental design as these subjects should be randomly distributed across conditions.

second donation decision.

To identify moral licensing in this setting, i.e., to see whether the opportunity to give in a first decision leads to a reduction of pro-social behavior in the second decision, we introduce the *moral licensing control (MLC)* condition. In this condition, subjects could only make one donation decision and we gave them the exact same endowment on average as the other subjects in the *ML* condition had available for their *second* donation decision. Precisely, to implement this equality in endowments, we matched one subject in the *MLC* condition with one subject in the *ML* condition. The subject (i) in the *MLC* condition then received the same endowment for his or her decision as the matched subject (k) in the *ML* condition. Thus, a subject in the *MLC* condition had an endowment of $e^{MLC} = x_2 + x_1 - g_{1k(ML)}$ for his or her donation decision. Consequently, for their single donation decision, subjects in the *MLC* condition, had, on average, the same endowment as subjects in the *ML* condition for their second decision. The only difference is that subjects in the *MLC* condition did not have the opportunity to give to charity before. Differences in donations between the second donation in the *ML* condition and the donation in the *MLC* condition are thus a direct consequence of a prior donation. This allows cleanly identifying the presence of moral licensing in two consecutive pro-social donation decisions.⁷

Table 1: Study 1: Experimental conditions

| | Moral licensing (ML) (1) | Licensing control (MLC) (2) | Substitution control (SC) (3) |
|-------------------------|--------------------------------|-----------------------------------|-------------------------------------|
| <i>Giving decisions</i> | 2 | 1 | 1 |
| <i>Total Giving</i> | $g_{1i} + g_{2i}$ | g_{1i} | g_{1i} |
| <i>Endowment 1</i> | x_1 | $x_2 + x_1 - g_{1k(ML)}$ | $x_1 + x_2$ |
| <i>Endowment 2</i> | $x_2 + x_1 - g_{1i}$ | - | - |
| <i>N</i> | 206 | 206 | 206 |
| <i>Sessions</i> | 18 | 18 | 18 |

Note: Experimental conditions with differences in number of giving decisions, corresponding endowments for each decision, number of subjects per condition (N) and number of sessions (note that randomization occurred within session such that all conditions were run in each session). Endowment was expressed in “points” during the experiment. With $x_1 = x_2 = 500$ points.

To assess the effect of moral licensing on aggregate giving, we implemented the *substitution control (SC)* condition, in which subjects could only make one donation to charity but received the entire endowment subjects in the *ML* condition had for both decisions. Hence, subjects received an endowment of $e^{SC} = x_1 + x_2$ for a single donation to charity. Comparing

⁷We chose this distribution of endowments over decisions in *ML* and *MLC* to implement an adequate control condition for the moral licensing effect. An equal distribution of endowment over decisions in *ML* (e.g., x_1 in decision one and x_2 in decision two) would mean that we still have to implement endowment in a control condition similar to the way we did in *MLC* to control for income effects ($e^{MLC} = x_2 + x_1 - g_{1k(ML)}$) but that in *ML*, subjects would have less money available to give in the second decision. Another alternative would be to endow subjects in *MLC* with an extra endowment, which matches the donation amount of subjects in *ML* but which they can not use for donation. This alternative, however, also restricts subjects’ giving space and additionally creates a second (mental) income account which may affect decision making in general in *ML* and *MLC*.

aggregate donations (giving in decision one plus giving in decision two) for subjects in the *ML* condition with giving of subjects in the *SC* condition, allows to identify whether multiple options to give impact aggregate giving when measured against an appropriate counterfactual. Table 1 provides a summary overview of the experimental conditions implemented in Study 1.

2.2 Study 1: Experimental procedure

The experiment was conducted at ETH Zurich’s Decision Science Laboratory (DeSciL) between January and March 2019. The study was a double-blind computerized experiment programmed in zTree (Fischbacher, 2007).⁸ The DeSciL used the software hroot (Bock et al., 2014) to recruit participants for Study 1 and Study 2. Participants were mostly students from the University of Zurich and ETH Zurich. Between 27 and 36 subjects participated in each session of Study 1. Subjects were on average 23 years old and 48% of the subjects were male. Upon arrival at the laboratory, subjects were seated at computer terminals and randomly assigned to experimental conditions via zTree.

For participation in the experiment, subjects received a show-up fee of 10 CHF. In addition, they received an endowment (of 10 CHF) to keep for themselves or donate to charity in the respective experimental conditions. Subjects thus received 20 CHF for participation in the experiment. Each session lasted about 35 minutes on average (including time for payouts). During the experiment, payoffs and donations were calculated in points. Subjects received a total of 1000 points and could make donations in increments of 50 points (0.5 CHF). The points were, after the experiment, converted into Swiss Francs. Subjects received their payments in cash immediately after the experiment (payment consisted of the 10 CHF show up fee plus the part of the endowment that a subject did not donate to charity). Donations (1,760.90 CHF to Unicef) were made after the experiment was concluded.

2.3 Study 1: Hypotheses

In this section we present hypotheses with respect to the presence and the effects of moral licensing on pro-social behavior in the aggregate.

We present a simple illustrative model with a varying number of asks to give to charity to derive our hypotheses. Our intuition builds on and extends the framework presented in Schmitz (2021). Following Andreoni et al. (2017) we assume that individuals may face a psychological cost of not giving when being asked for a donation.⁹ Moreover, we assume that utility exclusively depends on private consumption. This means that in this simplified model giving does not create any (altruistic, warm glow or self-signaling) benefit to the donor.¹⁰

⁸The researchers did - at not point of the study - have contact with the subjects. The same research assistant always provided instructions about the procedure from a separate experimental control room. Further instructions were provided on computer screens. Instructions and decision screens are available in Appendix D.

⁹The cost could arise because of a feeling of guilt when not giving, perceived (social) pressure to give, or a general dis-utility from letting down someone asking for help, respectively a donation.

¹⁰Because of anonymity in the experiment, the possibility for subjects to signal pro-social behavior to

Yet, we indirectly include utility from giving as we assume that a donation may eradicate the psychological cost from *not* giving to charity when asked.

The utility of subject i can be described as $U_i = m_i - \theta_i(n, g_{ij})A_i - G_i$, where m_i is subject i 's utility from consumption, i.e., endowment (e_i) not spent on donations in the experiment. Being asked by charity j to give creates a psychological cost of a_{ij} for subjects if they do not give to charity j . If individuals do not respond to the ask by giving amount g_{ij} to charity j , the psychological cost may be positive for some people $a_{ij} \geq 0$. Since we only have one charity in Study 1, we take j to be equivalent to the number of asks by the same charity. A_i in the utility function therefore constitutes the sum of the psychological cost a subject i incurs from all requests to give to charity. Hence, $A_i = \sum_{j=1}^n a_{ij} \geq 0$ and $A_i \leq m_i$, which assumes that utility may not be negative. $\theta_i(n, g_{ij}) \geq 0$ is a function that, on the one hand, depends on the number of asks (n) an individual receives. On the other hand, $\theta_i(n, g_{ij})$ also depends on whether a subject responds to an ask by giving or not. Let the importance of a single ask decrease with the number of asks a subject receives ($\frac{\partial \theta_i(n, g_{ij})}{\partial n} \leq 0$ and $\frac{\partial^2 \theta_i(n, g_{ij})}{\partial n^2} \leq 0$). Thus, $\theta_i(n, g_{ij})$ is concave in the number of asks. When subjects receive an additional ask from the same or another charity, they feel less bad about not responding to the ask compared with the case if they are asked less often for donations. That is, the power of an individual ask diminishes with multiple asks (this is equivalent to assuming a marginal decrease in utility from giving). We base this intuition on the assumption that subjects would probably not bankrupt themselves and give the same amount every time they are approached but might consider each ask less pressing if there are multiple ones. Furthermore, $\theta_i(n, g_{ij} > 0) = 0$. If subjects give to charity when they are asked to give, the psychological cost is zero.¹¹ G_i represents the sum of all donations a subject i makes in response to the sum of all asks A_i ; hence $G_i = \sum_{j=1}^n g_{ij} \geq 0$ and $G_i \leq m_i$ (also the loss in consumption utility from giving to charity may not result in negative overall utility).

To see how subjects' giving behavior differs between the *ML*, the *MLC* and the *SC* conditions, we start with the simple case in which subjects can give to charity only once. The utility of a subject then is: $U_i = m_i - \theta_i(1, g_{i1})a_{i1} - g_{i1}$. Thus, subject i gives if the psychological cost of not giving is higher than the cost of giving $\theta_{i1}(1, g_{i1})a_{i1} \geq g_{i1}^1$ (where superscript 1 (¹) captures the number of giving options or asks).

We now consider the case where a subject is asked to give twice. In this case a subject will give if $\theta_i(2, g_{i1})a_{i1} + \theta_i(2, g_{i2})a_{i2} \geq g_{i1}^2 + g_{i2}^2$ (where superscript 2 (²) captures the number of giving options or asks). Note that, without any loss of generality and for simplicity, we abstain from taking the sequential nature of decisions explicitly into account.¹² Assuming

others was excluded. Further, subjects did not receive a direct monetary benefit from contribution to charity and there were no strategic considerations which could have impacted contributions (which is different in standard linear public goods games with multiple group members). Additionally, subjects did not receive information about the contributions of others. Hence, dis-utility from being asked for donations and utility from giving depends on an individual's own contributions only.

¹¹Note that there might be of course some optimal level of giving in which the cost of not giving is still positive. Since the purpose of this simplified model is to illustrate effects, rather than developing a full theory, we abstain from solving for interior optima in which $a_{ij} > 0$; $g_{ij} > 0$ are possible.

¹²The sequential nature of decisions could be accounted for by modifying parameter $\theta_i(n, g_{ijt})$ to include a temporal component t , i.e., $\theta_{it}(n, g_{ijt})$ explicitly taking past decisions into account. This would change

that $a_{i1} = a_{i2}$ (which is reasonable given the same charity asks twice), total giving increases if the number of asks increases (and the decrease in psychological cost from additional asks is not too extreme: $\frac{\partial \theta_i(n, g_{ij})}{\partial n} < -0.5$, i.e., if $0.5\theta_i(1, g_{i,j}) > \theta_i(2, g_{i,j})$). Similarly, it is easy to show that $g_{i1}^1 > g_{i1}^2$ since $\theta_i(1, g_{i,1}) > \theta_i(2, g_{i,1})$.¹³ Thus, giving to each individual ask decreases, but total giving across all asks increases if there are multiple opportunities to do good. Note that for a comparison of the *ML* with the *MLC* condition we can modify θ_i in the utility function as subjects have been approached before. Therefore, we can assume that θ_i changes to $\theta_i(2, g_{i1}, g_{i2})$ for subjects who have been asked before and θ_i is decreasing in n , i.e., the number of times asked, as well as in $g_i(j-1)$ whether irrespective of having responded to that ask already ($\frac{\partial \theta_i(n, g_{i(j-1)}, g_{ij})}{\partial (j-1)} \leq 0$). Hence, we compare the giving of subjects facing a utility function of $U_i = m_i + \theta_i(2, g_{i1}, g_{i2})a_{i2} - g_{i2}$ with the giving of subjects facing $U_i = m_i + \theta_i(1, g_{i1})a_{i1} - g_{i1}$. Note the available income m_i in decision two is the same between treatments and the difference between decisions could be simplified to a relatively weaker power of the ask from the second decision in the *ML* compared with the *MLC* ($\theta_i(2, g_{i1}, g_{i2}) \leq \theta_i(1, g_{i1})$), which results in lower giving in the *ML* condition compared with the *MLC* condition. Following this short intuitive framework we derive Hypothesis 1 and Hypothesis 2 below:

Hypothesis 1 (Multiple asks to behave pro-socially lead to moral licensing). *Subjects in the ML condition give less in response to an ask compared with subjects in the MLC condition.*

Hypothesis 2 (Multiple asks to behave pro-socially increase pro-social behavior in the aggregate). *Subjects in the ML condition give more in the aggregate compared with subjects in the SC condition.*

2.4 Study 1: Results

Table 2 presents summary statistics for Study 1. Column 1 presents results for the *ML* condition. Subjects give on average 153.3 points in the first donation decision (*Giving 1*) and 170.7 points in the second donation decision (*Giving 2*).¹⁴ This totals to 324 points in both decisions together (*Total Giving*). Column 2 of Table 2 presents summary statistics for the *MLC* condition. In this condition, subjects only make one donation. On average, subjects have the same monetary endowment for their decision as subjects in the *ML* condition have for their second donation decision (846.7 points).¹⁵ Subjects in the *MLC* condition give on

the utility function in case of multiple asks to $U_i = m_{it} + m_{i(t-1)} - \theta_{i(t-1)}(1, g_{i1(t-1)})a_{i1(t-1)} - g_{i1(t-1)} - \theta_{it}(1, g_{i1t})a_{i1t} - g_{i1t}$.

¹³This effect holds as long as $\frac{\partial \theta_i(n, g_{ij})}{\partial n} < -\frac{1}{n}$. E.g., there might be some kind of choice overload effect (Kamenica, 2008) associated with the number of asks. If asked too often, individuals might not incur any psychological cost if they do not respond to the asks and give.

¹⁴The increase from the first to the second donation in the *ML* condition is statistically significant ($p=0.01$). Note that the endowment available for donation in the second decision is larger than in the first, which likely causes this increase.

¹⁵Subjects in *ML* receive an endowment of 500 points for decision one. On average they give about 153.3 points to Unicef in the first decision. They receive again 500 points of endowment for decision two plus the endowment they did not give to Unicef in decision one. Hence, subjects in the *ML* condition have, on average, an endowment of 846.7 points for the second decision. Each participant in the *ML* condition is matched with one participant in the *MLC* condition who receives the same endowment as the matched partner in the *ML* condition.

average 254.8 points to charity. Comparing giving in the second decision of the *ML* condition with giving in the *MLC* condition thus allows us to identify the presence of moral licensing.¹⁶ Figure 1 summarizes the results of Study 1.

Table 2: Summary Statistics by Condition

| | Moral licensing (ML) (1) | Licensing control (MLC) (2) | Substitution control (SC) (3) |
|---------------------|--------------------------------|-----------------------------------|-------------------------------------|
| <i>Giving 1</i> | 153.3 (158.5) | - | 276.0 (306.7) |
| <i>Giving 2</i> | 170.7 (168.2) | 254.8 (274.3) | - |
| <i>Total Giving</i> | 324.0 (311.1) | 254.8 (274.3) | 276.0 (306.7) |

Note: Summary statistics by experimental condition. Standard deviations in parentheses. **Moral licensing (ML)**: Subjects make two consecutive decisions to give to charity. **Moral licensing control (MLC)**: Subjects make only one decision to give to charity and have, on average, the same endowment for their single donation as subjects in ML have for their second donation. **Substitution Control (SC)**: Subjects make only one decision to give to charity and have the same endowment the subjects in ML have for both decisions for their single donation. The charity is the same in all conditions.

The difference of 84.9 points between the *ML* condition and the *MLC* condition is statistically significant (ranksum test: $p < 0.01$),¹⁷ indicating that the opportunity for a previous donation lowers giving in the second decision when controlling for income effects and comparing against a control group, which only had one decision to make. Table 6 in Appendix A.1 presents results from linear OLS regressions (with robust standard errors), with giving in the second decision as the dependent variable. The regressions confirm our result. Supporting Hypothesis 1 we present Result 1:

Result 1 (Repeated opportunities to act pro-socially lead to moral licensing). *Repeated opportunities to act pro-socially (i.e., to give to charity) lead to moral licensing. Compared to the control group, previous pro-social behavior reduces subsequent pro-social behavior.*

The Column 3 statistics of Table 2 allow us to assess whether the decrease in giving because of moral licensing is meaningful in the sense that it lowers aggregate pro-social behavior (i.e., total giving). Column 3 presents summary statistics for the *SC* condition, in which subjects have the same total endowment available for donation in one decision as subjects in the *ML* condition have for both decisions. This condition is thus the relevant counterfactual to measure which level of pro-social (giving) behavior we could expect, if subjects did not make a decision before and had all their endowment available for one donation decision. The Column 3 results show that subjects give on average 276.0 points in the *SC* condition compared to 324.0 points across both giving decisions in the *ML* condition. Thus, in the *ML* condition, subjects actually give 44 points (or 17%) *more* than in *SC*. This difference is sizable and

¹⁶Note that there might be occasional mismatches in terms of the pro-sociality of matched subjects between the *ML* condition and the *MLC* condition. A very selfish subject might be matched with a very pro-social subject or vice versa. Over all matches, however, this mismatch should cancel out.

¹⁷If not stated otherwise, we use ranksum tests for comparisons between experimental conditions throughout the paper. All reported p -values are for two-sided tests.

(marginally) statistically significant ($p = 0.09$). Table 7 in Appendix A.1 presents results from linear OLS regressions (with robust standard errors) and total giving as the dependent variable. The regression results confirm the positive effect of repeated opportunities to give on total giving.¹⁸

We conclude that the effect of moral licensing on aggregate giving is not negative. In fact, if anything, repeated options to behave pro-socially (i.e., give to charity) tend to increase pro-social behavior in the aggregate. In other words, the moral licensing effect is not strong enough to offset the positive effects of additional asks on giving. In line with Hypothesis 2, Result 2 emerges:

Result 2 (Moral licensing has no negative impact on pro-social behavior in the aggregate). *Moral licensing does not have a negative impact on overall pro-social behavior. Although two consecutive pro-social decisions lead to moral licensing, the overall impact of repeated opportunities to do good (i.e., to give to charity) is positive. Repeated possibilities to behave pro-socially increase pro-social behavior in the aggregate.*

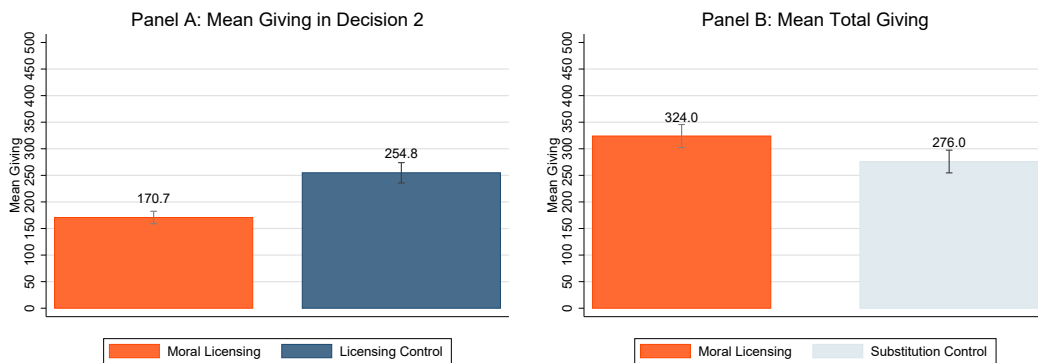


Figure 1: Mean giving in decision 2 and mean of total giving

Note: **Panel A:** Mean of giving in decision 2 in the *ML* condition and mean giving in decision 1 in the *MLC* condition. **Panel B:** Mean of total giving (giving 1 + giving 2) in the *ML* condition and mean of total giving in the *SC* condition.

The results at the intensive margin suggest that although there may be moral licensing, multiple opportunities to do good increase pro-social behavior in the aggregate, i.e., total giving increases. We do not find an effect of repeated options to behave pro-socially on the extensive margin, i.e., the likelihood of giving. Across all decisions, the propensity that subjects make a donation is not impacted by treatment. About 80% of subjects give at least something in either condition (*ML*: 79%; *MLC*: 78%; *SC*: 80%; equality of proportions tests for all comparisons: $p > 0.1$). In addition, there seems to be no crowding out of behaving pro-socially because of a previous decision to give. When comparing the likelihood to give in the second decision of the *ML* condition (73%) to the likelihood of giving in the *MLC* condition (78%) we do not observe a significant difference (equality of proportions test: $p = 0.25$). The positive effect of repeated opportunities to give on aggregate giving is thus purely driven by the intensive margin effects.

¹⁸Table 8 in Appendix A.1 presents p-values from regressions with cluster robust standard errors (at the session level) and with and without multiple hypothesis correction as introduced by List et al. (2019).

Comparing behavior in the first and the second decision of the *ML* treatment rules out that effects are driven by decreasing marginal utility between giving in the first and the second opportunity. Average giving significantly increases between the first and the second ask (153 points in decision one and 171 points in decision two; signed-rank test: $p < 0.01$). Likewise, speaking against decreasing marginal utility as a driving force of behavior, the share of subjects who give in both decisions is similar and ranges between 75% in decision one and 73% in decision two (equality of proportions test: $p = 0.57$).

2.5 Study 1: Discussion

Following typical design recommendations (see Mullen and Monin, 2016) and additionally controlling for income effects, Study 1 identifies the presence of moral licensing in a controlled and quantifiable manner. This result is in line with existing research on moral licensing (e.g., Khan and Dhar, 2006; Mazar and Zhong, 2010).

In addition, and more importantly, we quantify the consequences of repeated donation decisions leading to moral licensing on pro-social behavior in the aggregate. We show that although moral licensing exists, repeated opportunities to behave pro-socially offset the moral licensing effect of the first decision and increase the aggregate level of pro-social behavior. Subjects give more if their option to give to a charity is sequential and split in two decisions compared with the situation in which they can give the same total amount to the identical charity in only one decision.

The increase in aggregate pro-social behavior in the *ML* condition compared to *SC*, however, might be due to subjects responding to being asked more often (as hypothesized above in Section 2.3) to give or potentially also because of choice bracketing, i.e., individuals making their giving decisions somewhat in isolation and not taking the previous decision fully into account when making their second decision. Moreover, subjects in the *ML* condition received an endowment twice, which might be perceived as a positive income shock, whereas in the other conditions subjects only received the total endowment once.

With our design in Study 1 we are unable to disentangle whether sequential decision making (i.e., choice bracketing), the number of asks (i.e., the number of decisions), or receiving an endowment twice affects behavior leading to the overall positive effect on aggregate levels of pro-social behavior (in spite of moral licensing). Hence, we designed Study 2 to investigate these potential mechanisms more directly.

3 Study 2: Behavioral mechanisms

Study 2 aims at identifying the mechanisms driving the results of Study 1. Given the behavioral economics literature, two mechanisms could be particularly relevant. First, (narrow) choice bracketing (see, e.g., Rabin and Weizsäcker, 2009; Read et al., 1999), where individuals make their choices in isolation (and therefore do not fully adjust their subsequent decisions to initial giving), may explain the observed behavior. Second, the power of asking (see, e.g.,

Andreoni et al., 2017; Filiz-Ozbay and Uler, 2019; Schmitz, 2021) might be a driver of the results. According to this latter idea, individuals tend to respond to every ask, i.e., every opportunity to give that is presented to them.

3.1 Experimental design

To identify the mechanisms driving the behavior found in the first study, *Study 2* implements two conditions in both of which subjects could give to charity twice (see Table 3 for an overview of the experimental conditions). In the *Sequential giving (SEQ)* condition, subjects received an endowment of x and could give to charity in two sequential decisions. Subjects thus received two asks and made decisions sequentially (and thus potentially somewhat in isolation). In the *Simultaneous giving (SIM)* condition subjects also received an endowment of x but could give to two charities simultaneously on the same computer screen. In this condition, subjects thus received two asks and were forced to make the donation decisions simultaneously, which eliminates or at least limits the possibility for narrow bracketing. Any difference between these two conditions explains whether asking twice (ask effect) or making decisions sequentially (bracketing) drives the result of Study 1. In particular, if subjects give more in the *Sequential giving (SEQ)* condition we find support for the narrow bracketing argument. If giving is similar in the two conditions, or even higher in the *Simultaneous giving (SIM)* condition, we can conclude that sequentializing the asks does not lead to more giving beyond the effect of asking more often and can thus interpret this as support for the power of asking being the main driver of the results in Study 1.

To relate our findings from Study 2 to Study 1, we benchmark giving behavior in the *SEQ* and *SIM* conditions against the behavior of subjects who received an endowment of x but could only give to charity once (*Giving once, G1*). This allows us to replicate the result that repeated opportunities to give (in *SIM* and *SEQ*) lead to an increase in aggregate pro-social behavior compared to a situation in which subjects only have one opportunity to give but the same total endowment (*G1*).

In addition, we implemented additional control conditions in which we also provided information about whether or not additional giving decisions followed after the initial decision(s) or not. Specifically, in Study 2, we compare the behavior of subjects in the *SIM* condition who knew for sure that they could make at least two donations within the experiment with subjects in the *SEQ* condition who made their decisions sequentially and may therefore have been uncertain about the nature of future decisions within the experimental session. Thus, to account for this uncertainty we implemented conditions in which subjects—at the time of their decision(s)—were informed about the total number of giving options in the experiment (*SIM-Info*, *SEQ-Info*, and *G1-Info*). In the *SIM-Info* condition, subjects knew that they could only give to the two charities presented on the screen and that there would be no further decisions to make. In the *SEQ-Info* condition, subjects knew that they could give to two charities in total when they were presented with the first giving option and that there would not be further decisions. In the *G1-Info* condition, subjects knew that they could only

give to the charity presented on the screen and that there would be no further decisions to make. Table 3 provides a summary overview of the experimental conditions implemented in Study 2.

Table 3: Study 2: Experimental conditions

| | Sequential giving (SEQ/SEQ-Info) (1) | Simultaneous giving (SIM/SIM-Info) (2) | Giving once (G1/G1-Info) (3) |
|-------------------------|--|--|--|
| <i>Giving decisions</i> | 2 | 2 | 1 |
| <i>Giving</i> | $g_{1i} + g_{2i}$ | $g_{1i} + g_{2i}$ | g_{1i} |
| <i>Endowment 1</i> | x | x | x |
| <i>Endowment 2</i> | $x - g_{1i}$ | $x - g_{1i}$ | - |
| <i>N</i> | 180 | 180 | 102 |
| <i>Sessions</i> | 19 | 19 | 3 |

Note: Experimental conditions with differences in number of giving decisions, corresponding endowments for each decision, number of subjects per condition and number of sessions (note that SEQ/SEQ-Info and SIM/SIM-Info conditions were conducted within the same session). Data for G1/G1-Info was collected separately. The table reports aggregate sample sizes for the information and no information conditions. Exactly half of the subjects in SEQ/SEQ-Info, SIM/SIM-Info and G1/G1-Info were assigned to the information and the other half to the no information condition. Endowment was expressed in points during the experiment, with $x = 1000$ points.

Since Study 2 features two donation decisions, we chose to give people the possibility to give to two distinct charities which are nevertheless likely to be close substitutes. This ensures that subjects who gave to one charity may still receive pro-social utility from the initial act of giving when making the decision to give to the other charity. At the same time, we chose this variation because giving to the same charity repeatedly in one experiment (and in the *SIM* condition in particular) may create unexpected results (e.g., reactance to give at all). Thus, subjects could give to two food banks in Switzerland (the country where the study was conducted). Food banks were chosen to be geographically distinct from the region where the study was conducted to avoid that subjects have strong preferences for one of the organizations (see, e.g., Gallier et al., 2019, for literature on spatial preferences for charities). The food banks were located in two cantons (equivalent to federal states) with different language backgrounds compared with the canton in which the experiment was conducted (the experiment was conducted in Zürich, a city in the German speaking part of Switzerland). Thus one of the charities subjects were able to give to was the “Tafel Waadt and Neuenburg”, a food bank which serves individuals in need in the region of Waadt (Vaud) and Neuenburg (Neuchâtel) in the French-speaking part of Switzerland. The other charity to which subjects were able to give was the “Tafel Wallis” a food bank which helps individuals in another of the (mainly) French-speaking cantons of Switzerland (Wallis or Valais). We chose to use food banks as recipients since it is generally accepted that providing food to people in need is a worthy cause. We further chose to rely on two different charities which have the same purpose (feeding the poor) to avoid that differences in behavior across decisions arise because of specific preferences for the cause charities are supporting. Furthermore,

we randomized the order of the charities. Thus, in the *SEQ* condition it was randomly determined whether subjects could first give to the Tafel Wallis and subsequently to the Tafel Waadt and Neuenburg or vice versa. Similarly, in the *SIM* condition, we randomized whether the Tafel Wallis was listed first and the Tafel Waadt and Neuenburg was listed as the second charity on the screen or vice versa. Importantly, also in the *G1* condition, in which participants could only make one donation decision, we randomized whether subjects could give to the Tafel Wallis or to the Tafel Waadt and Neuenburg.

3.2 Study 2: Experimental procedure

Study 2 followed the same procedure as Study 1 and we recruited participants from the same pool, but subjects who participated in Study 1 were excluded from participation in Study 2.¹⁹ Study 2 was conducted in September and October 2019. 36% of the subjects were male and subjects were on average 23 years old. Similar to Study 1, conditions were randomly assigned within sessions and between subjects. An exception was the *G1* condition, for which data had to be collected separately because of an error in the within-session zTree programming.²⁰

For participation in the experiment, subjects in Study 2 received the same remuneration as subjects in Study 1. Donations (908.30 CHF to the Tafel Waadt and Neuenburg and 1,030.40 CHF to the Tafel Wallis) were made after the experiment was concluded.

3.3 Study 2: Hypotheses

We build again on the simple theoretical framework presented in Section 2.3 to derive a rationale for potential drivers of the observed behavior in Study 1. For the comparison between giving once (*G1*) and the multiple asks conditions (*SEQ* and *SIM*), the framework presented in Section 2.3 is sufficient to make predictions. Based on this framework, we hypothesize that total giving in *G1* should be lower than total giving in case of two asks in *SEQ* and *SIM*. Similarly, because of the relatively lower power of asking of each individual ask, i.e., lower relative psychological cost of not giving when asked more often, we expect each of the two donations in *SEQ* and *SIM* to be lower or equal to the single donation in *G1*.

When comparing sequential and simultaneous responses to two asks in *SEQ* and *SIM* we are looking at the same base situation in which subjects are asked twice, however, once sequentially and once simultaneously. We are thus comparing the situation of subjects who make one decision at a time with those who make two decisions at a time. Giving in the first and the second decision of the *SEQ* were separately compared with giving in the *SIM* condition. Hence, our intuition from Section 2.3 also holds in this case. Subjects in the *SEQ* condition maximize the following utility function $U_i = m_i - \theta_i(1, g_{i1}^1)a_{i1} - g_{i1}^1$, and subjects

¹⁹Instructions for Study 2 are available in Appendix D.

²⁰There was an error with regard to the amount subjects were able to give in the *G1* condition in the original program. The donation was limited to 50% of the actual endowment which cut subjects' decision space in half compared to the other conditions. Data, zTree program and results for this condition (and all other conditions) are available upon request.

in *SIM* maximize $U_i = m_i - \theta_i(2, g_{i1}^2)a_{i1} - \theta_i(2, g_{i2}^2)a_{i2} - g_{i1}^2 - g_{i2}^2$. Superscript 1 (¹) or 2 (²) capture the number of asks.²¹ We assume that $a_{i1} = a_{i2}$, i.e., the power of asking from both charities is equally strong. This assumption seems reasonable given the close similarity between charities. From this it is easy to show that since $\theta_i(1, g_{i1}^1) > \theta_i(2, g_{i1}^2)$ it follows that $g_{i1}^1 > g_{i1}^2$.

When looking at the second decision in *SEQ*, the case is less clear. If in this condition, subjects maximize $U_i = m_i + \theta_i(2, g_{i1}^1, g_{i2}^1)a_{i2} - g_{i2}^1$, whether or not $g_{i2}^1 \geq g_{i2}^2$ depends on $\theta_i(2, g_{i1}^1, g_{i2}^1)$, and whether or not $\theta_i(2, g_{i1}^1, g_{i2}^1)$ is greater, equal or smaller than $\theta_i(2, g_{i2}^2)$. Given that we assume that $\frac{\partial \theta_i(n, g_{i(j-1)}, g_{ij})}{\partial (j-1)} \leq 0$, we expect $\theta_i(2, g_{i1}^1, g_{i2}^1) < \theta_i(2, g_{i2}^2)$ which results in lower giving in the second decision of the *SEQ* compared with the *SIM* treatment, $g_{i2}^1 < g_{i2}^2$.

The main question we would like to answer with our Study 2 is, however, whether there is a difference in aggregate pro-social behavior (giving) between the *SIM* and the *SEQ* condition. We predict giving in decision one to be higher in the *SEQ* condition compared to giving to any of the individual charities in the *SIM* condition. We also predict, however, that giving in decision two of the *SEQ* condition is likely lower than giving to any of the charities in the *SIM* condition. The question is thus, whether the effects cancel each other out or are bigger in one of the conditions. We thus need to compare $\theta_i(2, g_{i1}^2) + \theta_i(2, g_{i2}^2)$ and $\theta_i(1, g_{i1}^1) + \theta_i(2, g_{i1}^1, g_{i2}^1)$. Put differently, we need to identify whether $\theta_i(2, g_{i2}^2) - \theta_i(2, g_{i1}^1, g_{i2}^1) \geq \theta_i(1, g_{i1}^1) - \theta_i(2, g_{i1}^2)$. If decisions are made in isolation, previous behavior should not affect decisions and hence $\frac{\partial \theta_i(n, g_{i(j-1)}, g_{ij})}{\partial (j-1)} = 0$. This alone is sufficient to establish that $g_{i2}^1 \geq g_{i2}^2$, which means that giving in the second decision in *SEQ* is likely not smaller than giving to any of the charities in *SIM*. This results in higher aggregate giving in *SEQ* compared with *SIM*, since giving in the first decision in *SEQ* should also be higher than giving to any of the charities in *SIM*. We therefore test the following hypothesis empirically:

Hypothesis 3 (Sequential asking increases aggregate donations compared with asking simultaneously). *Subjects make their pro-social giving decisions in isolation. Asking multiple times sequentially increases total giving compared with asking multiple times simultaneously.*

3.4 Study 2: Results

Table 4 provides summary statistics for Study 2. Panel A presents the results for our three different experimental conditions pooled over information conditions. Panel B and Panel C present the results in the no information and information conditions separately.²²

We first compare total giving in the *SIM+SIM-Info* with the *G1+G1-Info* conditions in order to confirm the robustness of the Study 1 results (see Panel A of Table 4). Subjects in the *G1+G1-Info* conditions give on average 224.1 points. This is significantly less compared

²¹To better distinguish between cases, we add superscripts for the number of asks also in the $\theta_i(\cdot)$ function.

²²There are no order effects with regard to the appearance of the charity, i.e., whether the Tafel Wallis or the Tafel Waadt appeared first or second (in the first (second) decision in the *SEQ* treatments or first (second) on the list in the *SIM* conditions). Hence, we pool the data in Table 4. Summary statistics for the different orders are presented in Table 9 in Appendix B.1.

Table 4: Study 2: Summary Statistics by Condition

| Panel A: Pooled conditions | Sequential giving (SEQ + SEQ-Info) (1) | Simultaneous giving (SIM + SIM- Info) (2) | Giving once (G1 + G1-Info) (3) |
|--|--|---|--|
| <i>Giving 1</i> | 258 (293.4) | 184.2 (175.4) | 224.1 (273.1) |
| <i>Giving 2</i> | 95.61 (124.1) | 194.7 (194.3) | - |
| <i>Total Giving</i> | 353.6 (340.0) | 378.9 (359.8) | 224.1 (273.1) |
| Panel B: No Information conditions | Sequential giving (SEQ) (1) | Simultaneous giving (SIM) (2) | Giving once (G1) (3) |
| <i>Giving 1</i> | 234.2 (280.0) | 163.5 (182.6) | 183.3 (235.2) |
| <i>Giving 2</i> | 77.05 (106.1) | 163.5 (182.3) | - |
| <i>Total Giving</i> | 311.3 (329.9) | 327.0 (360.5) | 183.3 (235.2) |
| Panel C: Information conditions | Sequential giving (SEQ-Info) (1) | Simultaneous giving (SIM-Info) (2) | Giving once (G1-Info) (3) |
| <i>Giving 1</i> | 280.8 (305.4) | 204.4 (166.6) | 264.9 (303.3) |
| <i>Giving 2</i> | 113.4 (137.3) | 225.3 (201.7) | - |
| <i>Total Giving</i> | 394.1 (346.3) | 429.7 (353.7) | 264.9 (303.3) |

Note: Summary statistics by experimental condition. Standard deviations in parentheses. **Panel A:** presents the results for our three different experimental conditions pooled over whether or not subjects received information about how many giving decision they could make in total in the experiment. **Panel B,** presents the results for experimental conditions in which no information about the total number of giving decisions was provided. **Panel C** presents the results for the conditions in which information about the total number of giving decisions was provided.

with 378.9 points subjects give in the *SIM+SIM-Info* conditions in which subjects can give twice on the same screen ($p < 0.01$). It is also significantly less compared with subjects in the *SEQ+SEQ-Info* conditions, who gave on average 353.6 points in two consecutive decisions ($p < 0.01$). Thus, consistent with Study 1 and reinforcing our previous results, we find that multiple opportunities to do good (i.e., give to charity) increase pro-social behavior in the aggregate (i.e., total giving).

We further test whether there is a differential effect of sequential compared with simultaneous pro-social behavior on aggregate pro-social behavior. Thus, we test whether subjects have a tendency to narrowly bracket and make their donation decisions in isolation, such that sequential asks impact donations differently compared with simultaneous asks for which subjects make two donation decisions at the same time.

Subjects in the *SEQ+SEQ-Info* conditions give 353.6 points to charity. While this is less than the 378.9 points subjects give in the *SIM+SIM-Info* conditions, the difference of 25

points (or 7%) is not significant ($p = 0.49$). This indicates that in our laboratory experiment, sequential giving does not affect total contributions compared with giving simultaneously. It seems that subjects tend to respond to each ask and that bracketing effects are rather small. Inconsistent with the narrow bracketing Hypothesis 3, Result 3 emerges:

Result 3 (Individuals respond to each ask by acting pro-socially). *Overall pro-social behavior is similar in sequential or simultaneous pro-social decision making environments. Multiple asks increase giving independently of whether the asks are separated sequentially or not.*

Figure 2 graphically displays the result. Tables 10–12 in Appendix B present results from OLS regressions (with robust standard errors at the individual and the session level) with total giving as the dependent variable. The regression results show that the results reported in the main body of the paper are robust.²³ Panel B of Figure 2 further displays an interesting difference between the pooled sequential giving conditions and the pooled simultaneous giving conditions. The figure displays giving in the first decision and giving in the second decision.²⁴ Although sequential decision making has no additional effect on total giving compared to making two giving decisions simultaneously, the Figure 2 results indicate that the same level of total giving is reached in different ways. A comparison of giving patterns between the *SEQ+SEQ-Info* conditions and the *SIM+SIM-Info* conditions reveals that when subjects make their decisions in the simultaneous giving environment (*SIM+SIM-Info*), they split donations between charities equally (giving 184 points to the charity appearing first and 194 points to the charity appearing second on the screen; signed-rank test: $p = 0.84$). Subjects in the *SEQ+SEQ-Info* conditions, however, give significantly more in the first decision when they have the possibility to give sequentially ($p < 0.01$). They give 258 points to the charity that appears first and 95.61 points to the charity that appears second (the same pattern holds when subjects know that there will be a second decision). This finding indicates that subjects respond to the ask and at the same time try to satisfy most of their utility from giving with the first donation in the sequential environment, even when they know that they would have the option to spread their donations evenly.

A closer look at the information and no information conditions in Panel B and Panel C of Table 4 reveals that information about future giving possibilities may have an effect on pro-social behavior within the different conditions (between the *SEQ* and *SEQ-Info*, *SIM* and *SIM-Info* and *G1* and *G1-Info* condition). Yet, in spite of the uncertainty about future options to give in one condition and the certainty in the other condition, the overall giving patterns between the *SEQ* and the *SIM* and the *SEQ-Info* and *SIM-Info* condition are similar.

Interestingly, the comparison of results from the information and no information conditions (displayed in Panels B and C of Table 4) reveals that certainty about the number of decisions tends to increase the level of giving. The reason may be that subjects save part of their endowment for possible future giving decisions in the conditions without information

²³Table 13 in Appendix B.1 presents p -values from regressions with cluster robust standard errors (at the session level) and with and without multiple hypothesis correction as introduced by List et al. (2019).

²⁴Figure 3 in Appendix B.2 graphs these findings for the information and no information condition separately. The patterns are similar when looking at the no information, information and pooled conditions.

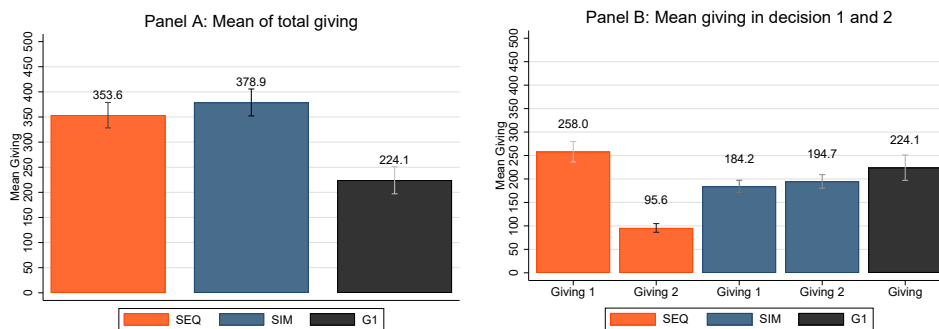


Figure 2: Mean of total giving and mean giving in decision one and two in both information conditions

Note: Mean of total giving and mean giving in decision one and two in both information conditions.

about the number of decisions. We find support for this argument, which also indicates that the altruism budget may not be fixed but the amount someone is willing to spend on doing good (i.e., giving to charity) also depends on the number of options to do so. Instead of satisfying utility from doing good immediately, subjects tend to withhold money to spend on future possibilities to give, which might positively increase their utility. Total giving significantly increases from 327.0 points in *SIM* to 429.7 points in *SIM-Info* ($p = 0.02$).²⁵ Total giving also increases substantially between the *G1* condition and the *G1-Info* condition. The increase of 81.6 points between these conditions is, however, statistically insignificant ($p = 0.26$). Between the *SEQ* and the *SEQ-Info* condition, total giving increases from 311.3 points to 394.1 points ($p = 0.10$). Subjects give 280.8 points in the first decision of the *SEQ-Info* condition, when they know they can give again in the next decision. Combined between the *G1* and the first decision of the *SEQ* condition, where they either only make one decision or do not know whether there would be a second donation, they give on average 218.0 points. This difference of 62.8 points to the *SEQ-Info* where they also give once but know that they can give again is statistically significant ($p < 0.01$). Interestingly, this higher pro-social behavior in the first decision carries over to the second decision in which subjects give more in the information condition as compared to the no information condition (77.1 points in the second decision of *SEQ* vs. 113.4 points in the second decision of *SEQ-Info*; $p = 0.13$). When considering the giving difference between decisions, we observe a similar decline in donations between decision one and decision two in the no information and the information conditions (67% decline between donation one and donation two in *SEQ* vs. 60% decline between donation one and donation two *SEQ-Info*; $p = 0.77$). This reinforces the finding that information shifts giving levels, but behavioral patterns are unaffected by information conditions.²⁶

²⁵We directionally observe a comparable increase between giving to the first charity on the screen (Giving 1) and giving to the second charity on the screen (Giving 2) in the *SIM* conditions, however this difference is not statistically significant ($p = 0.34$).

²⁶Importantly, the information condition does not seem to have an influence on the propensity to give (equality of proportions test for all comparisons: $p > 0.1$) in the giving once (84% in *G1* and in *G1-Info*) and in the sequential giving conditions (85% in *SEQ* and 85% in *SEQ-Info*). However, we observe a difference in the likelihood to give in the simultaneous giving conditions (69% in *SIM* and 85% in *SIM-Info*). This difference

Overall our results indicate that subjects respond to the asks, but uncertainty about the number of asks (or opportunities to do good) affects pro-social behavior negatively. Interestingly, though, if decisions are sequential, subjects tend to satisfy most of their demand for doing good with the first decision, not spreading donations evenly across decisions. This might be the case because individuals may have a need for instant utility (i.e., gratification) when it comes to utility from pro-social behavior.

3.5 Study 2: Discussion

Study 2 corroborates and extends the results of Study 1. First, we show that in all conditions with multiple opportunities to behave pro-socially, levels of pro-social behavior are higher compared with the conditions with only one possibility to act pro-socially. This is in line with findings by Filiz-Ozbay and Uler (2019) and Schmitz (2021), who show that adding options to give increases overall giving. Repeated or simultaneous opportunities to behave pro-socially increase pro-social behavior in the aggregate. Our findings further indicate that negative effects due to moral licensing and connected worries about negative pro-social spillovers may be overplayed. Second, we show that aggregate donations are similar when the multiple giving options are presented sequentially or simultaneously. This indicates that subjects respond to each individual ask rather than narrowly bracketing their decisions. Sequential decision making does not additionally impact aggregate giving.

Interestingly though, the same aggregate level of pro-social behavior is reached when decisions are made sequentially or simultaneously, yet in different ways. In the simultaneous giving conditions, subjects distribute their donations equally between charities. In the sequential donation conditions, subjects give more in the first decision compared with the second. They do so even when knowing about the total number of options to do good within the study. This indicates that i) marginal utility from doing good decreases in the sequential decision making setup and ii) when it comes to pro-social utility, individuals seem to have a desire for instant gratification, i.e., satisfying most of their utility from doing good already in the first donation decision (see, e.g. Ho et al., 2006, for a discussion of instant gratification in the consumption context).

Our findings hold irrespective of whether subjects know how many decisions they are facing. Uncertainty about the number of pro-social decisions seems to impact the overall giving level negatively in all conditions. Subjects presumably save some endowment for potential decisions in later stages. Importantly, though, our between-treatment comparisons and the behavioral patterns are similar in the information and no information conditions.

is statistically significant (equality of proportions test: $p = 0.01$). This disparity in behavior between the *SIM* and *SIM-Info* conditions is somewhat peculiar. While we can make an argument that information about future opportunities to give may not affect the propensity to give in the sequential decision making setup; after all, subjects do have multiple opportunities to give here, we would expect to see the same effects between the giving once and the simultaneous giving conditions on the extensive margin. Overall, the data support the interpretation that subjects in the *SIM* condition were simply less likely to give compared to subjects in all other conditions.

4 Field Evidence

Study 1 and Study 2 provide evidence on the effects of repeated opportunities to do good on pro-social behavior in the aggregate and on the underlying mechanisms. To investigate the real-life relevance of our results we analyze whether similar patterns can be observed in a related and relevant environment in the field. Specifically, we study data on donation decisions provided by the International Committee of the Red Cross (ICRC).²⁷ The data provide suggestive empirical evidence supporting our finding that multiple asks lead to increased aggregate donations.²⁸

We analyze responses to solicitation campaigns sent out by letter between 2013 and 2020 by the ICRC to 445,102 potential and existing individual donors in Switzerland. In total, our dataset contains 5,425,322 individual donation decisions as a response to 73 different charity campaigns over the course of seven years. The campaigns are either targeted at active donors (last donation less than 12 months ago), warm list (last donation less than 24 months ago), sleepy donors (last donation more than 24 months ago) or new prospects. The campaigns often contain different appeals directed at different sub-groups, e.g., suggesting different donation amounts to different donor types. The general content of the mailings is, however, similar most of the time. The ICRC usually campaigns six times a year (in February, April, June, August, October and December) to solicit donations from potential and existing donors. To avoid overwhelming donors, not all campaigns are directed at the same donor types. That is, in some campaigns, warm list and active donors may be targeted while in others, sleepy donors and new prospects may receive a solicitation letter. In addition, the ICRC occasionally runs extraordinary campaigns to collect donations to be used in emergency situations (e.g., to help war victims in Syria or Ukraine). These campaigns are usually targeted at a broader donor-base, including all donors. In our analyses, we exclude the top 0.1% donors and thereby limit observations to donations below 5,000 CHF per appeal.²⁹

Observational field data pose difficulties when trying to identify causal effects of multiple asks on giving. Donors who are asked to give multiple times a year may be different from those who are asked less often. To avoid this selection problem, we solely focus on donors who have received multiple asks per year. We also exclude donors who are only asked once per year (e.g., because they actively opted out of receiving more than one appeal per year by the ICRC).

²⁷Note that the laboratory experiments were designed independently of the field data. We obtained the field data after having run the experiments. We use it to check whether similar patterns can be identified in the field.

²⁸The International Committee of the Red Cross (ICRC) is an international humanitarian organization based in Geneva (Switzerland). Based on the Geneva Convention from 1949, the ICRC has received a mandate by signatory states to protect victims of (international) armed conflicts. The ICRC is one of the most prestigious and honored humanitarian organization and won three Nobel Peace Prizes (1917, 1944, and 1963). Most of its budget (of nearly \$US 2bn) is covered by signatory states of the Geneva convention. Additional to this funding the ICRC regularly solicits for donations within Switzerland where it is based.

²⁹Donations of individuals vary between 0 and 250,000 CHF. By limiting observations to the range between 0 and 5,000 CHF we perform an outlier correction dropping the top 0.1% of donors (i.e., 355 individuals).

We analyze giving of donors who are approached multiple times per year from three different angles: In a first step, in Panel A of Table 5, we test whether there is a general effect of asking more often on aggregate giving. We limit observations to instances where some donors receive multiple appeals at the same time (i.e., within one month) while others only receive one of these appeals at the same time. This comparison allows us to exploit plausibly random variation in our field data. Donors may have received multiples of the same or different appeals within the same month for two reasons. First, most donors who fall in this category have in fact received the same (or similar) version of the same appeal, for instance because of errors when sending out mass mailings. Our data reveal that indeed most of these instances occur in 2013 when the ICRC’s postal fundraising program in Switzerland had not yet been optimized (which is the first year our data cover). Second, receiving multiple appeals may occur because of humanitarian emergencies (due to, e.g., natural catastrophes), which induce the ICRC to solicit for donations outside of their regular schedule. Therefore, some donors, i.e., those who were targeted by the regular campaign anyway, may receive multiple requests to give to the ICRC within the same month, while others, i.e., those who were not targeted by the regular campaign, only receive one request to give in that same month. We have no reason to believe that both forms of double mailings are systematic occurrences.

To alleviate the concern that the double mailings are nevertheless systematic as charities tend to target specific donors more often, we compare the overall frequency with which donors are asked between 2013-2020. Donors who receive multiple asks within the same time period are, on average, targeted 15 times and donors who do not receive multiple asks within the same time period receive, on average, 14.5 asks. This similarity suggests that there are no systematic differences between these types of donors. Moreover, effects are robust when including donor-specific effects, such as, e.g., language or municipality of the donor in Table 14 in Appendix C. This suggests that there are no donor-specific differences that influence results between the donors who receive multiple asks in a short time span and those who do not.

The results displayed in Panel A of Table 5 confirm our results from the laboratory (Study 1). Asking more often substantially and significantly increases total donations (t-test: $p > 0.01$). When asked multiple times within a short time, donors give in total on average 14.44 CHF. Donors who, at the same time in which others are asked twice are only asked once, give on average 6.30 CHF.

In Panel B of Table 5, we look at the data from another angle. Here, we compare the first and the second donation of individuals who received two mailings within a very short period of time (i.e., within one month). When people are asked (almost) simultaneously they give 7.51 CHF in response to the ask they receive first (Column (1)) and 6.93 CHF in response to the second one (Column (2)). The difference of 0.58 CHF is statistically significant (t-test: $p < 0.01$) and the pattern resembles the one observed in the lab (Study 2) as people give similar amounts when two asks arrive within a short period of time.

Finally, in Panel C of Table 5 we compare donors’ average giving when they are asked in

campaigns that are temporally separated but occur within the same calendar year. Specifically, we look at giving in response to the first ask per year (7.12 CHF, see Column (1)) and giving in response to the second ask per year (4.38 CHF, see Column (2)). Similar to the findings from the laboratory, the difference between two temporally separated donations is substantial and significant (t-test: $p < 0.01$).

Table 5: Summary Statistics for giving data from the field

| Panel A: Total giving in appeals with multiple asks | Asked once (1) | Asked twice (2) |
|--|-------------------|--------------------|
| <i>Total Giving</i> | 6.30 (30.43) | 14.44 (63.92) |
| <i>N</i> | 440,763 | 78,305 |
| Panel B: Two appeals within a month | First ask (1) | Second ask (2) |
| <i>Giving</i> | 7.51 (41.92) | 6.93 (42.46) |
| <i>N</i> | 78,305 | 78,305 |
| Panel C: Multiple appeals per year | First ask (1) | Second ask (2) |
| <i>Giving</i> | 7.13 (35.44) | 4.38 (25.05) |
| <i>N</i> | 419,875 | 419,875 |

Note: Summary statistics for observational field data. Mean of variables on the individual donor level with standard deviations in parentheses. **Panel A:** Average total giving (*Total Giving*) for individuals who have been asked once (Column (1) and twice (Column (2)) in appeals in which some donors are asked more often. *N* represents the number of donors who have been asked multiple times at the same time. Note that some donors who have been asked twice in one appeal (Column (2)) have only been asked once in other appeals (Column (1)). This explains the high number of total observations. **Panel B:** Average giving (*Giving*) for individuals who have been asked to give multiple times within the same appeal (at the same time). Column (1): donation in response to first ask. Column (2): donation in response to second ask. *N* represents the number of donors who have been asked multiple times at the same time. **Panel C:** Average giving (*Giving*) for individuals who have been asked to give multiple times per year. Column (1): donation in response to first ask. Column (2): donation in response to second ask. *N* represents the number of donors who have been asked multiple times a year.

The field results show remarkable similarities with our findings from the laboratory. Consistent with Study 1, total giving increases if donors are asked more often (see Panel A of Table 5). Moreover, when extending our analysis to comparing giving to multiple appeals within the same month to giving in consecutive appeals, i.e., two appeals within two months, we observe similarities to patterns established in Study 2. Specifically, we observe that donors give roughly the same amount to each appeal when asked twice within the same month (7.51 CHF to the first letter and 6.93 CHF to the second letter).³⁰ Potentially, donors answer to the asks that come within short time spans simultaneously, for example, by making

³⁰Note that we do not know for certain when these appeals arrive. We take the date when solicitation letters were sent out as indication as to which letter arrived first and which letter arrived second. Further note that we only look at donors who receive two appeals. 395 donors receive up to five of the same appeals. The slight difference between the first and the second donation may be explained by the fact that although appeals are received within the same month, there is a time lag between the donations. This is different to our laboratory set-up where decisions were made exactly at the same time. Moreover, the difference between the first and second donation are statistically insignificant when including fixed effects and control variables (see Table).

donations at the end of a month. When asks are temporally further separated, donations in response to a second ask are substantially lower compared to the first. This finding is in line with the pattern identified in the sequential decision making set-up in the laboratory.

In spite of the strong suggestive evidence and the plausibly random variations leading to additional asks, the field data need to be interpreted with caution. There might be unobserved factors that we cannot control for. Personal donor characteristics such as the income situation of households and giving behavior to other organizations are not known. To get a better idea about donor characteristics, we match the data from the ICRC with administrative data on the municipality level from the Swiss Federal Office of Statistics.³¹ We obtain data on the language spoken (German, French, or Italian), the average size of households, the mean net income and the composition of age groups (share of inhabitants: under 20, between 20 and 65, and above 65) within a municipality. We match these data with donor zip codes in our data-base and use them as additional control variables in our regressions (presented in Table 14 in Appendix C). The regression results confirm our previous analysis of the field data. Taken together, the analysis of the field data provides evidence suggesting that the behavioral patterns identified in the laboratory also play an important role for pro-social decision making in a relevant real-world setting. While behavioral patterns in the field also resemble those of moral licensing decisions, moral licensing does not seem to have economic significance for pro-social behavior in the aggregate.

5 Conclusion and Discussion

A large body of economic and psychological literature discusses whether pro-social deeds lead to more selfishness in future decisions (see, e.g. Blanken et al., 2015; Gneezy et al., 2012, 2014; Mazar and Zhong, 2010). Knowing how repeated pro-social behavior affects future donations is important for our understanding of the dynamics of pro-social behavior (see Gee and Meer, 2020, for a discussion of the ‘altruism budget’) and also for campaign managers in charitable organizations.

Immediately related to the question of the dynamics of pro-social behavior is the issue whether or not policymakers should use behavioral economic tools (such as nudges) to foster pro-social or pro-environmental behavior. If this led to adverse spillover effects in subsequent decision making, caution would be needed when implementing such tools (Colby et al., 2020; d’Adda et al., 2017; de Haan and Linde, 2018; Ghesla et al., 2019; Sunstein, 2017). In our view, the most important question connecting all these literatures and areas is, however, not confined to identifying the immediate effect of doing good on later decisions in isolation. Rather, it should be concerned with the overall impacts of moral licensing in response to multiple triggers to do good: Does any effect of initial pro-social behaviors on subsequent similar decisions also have implications on pro-social behavior in the aggregate? Or put differently, are the effects of moral licensing actually meaningful such that multiple triggers to do good can lower pro-social behavior overall?

³¹See: <https://www.bfs.admin.ch/bfs/en/home.html>.

With this paper, we provide clean evidence on the effect of repeated opportunities for doing good on the aggregate level of pro-social behavior. By use of two laboratory experiments and complementary field data from charitable giving campaigns, we find that even when the initially triggered pro-social behavior leads to lower levels of such behavior in subsequent decisions compared with a control group, there are no negative effects in the aggregate.

In our first experiment (Study 1), our findings are in line with a moral licensing effect. Yet, we do not find a negative effect of moral licensing on overall outcomes (aggregate giving). When evaluated against an adequate control condition, we show that repeated pro-social decisions increase the overall pro-social output. We conduct a second study (Study 2) to identify whether the observed effects are a consequence of sequential decision making, of facing multiple asks to give in general, or of splitting the endowment between decisions. We find that aggregate giving levels are similar, irrespective of how people are asked to give multiple times (simultaneously or sequentially). The giving levels are significantly higher if individuals are asked more often. Finally, we present data from charity campaigns launched by the International Committee of the Red Cross (ICRC) in Switzerland over seven years (between January 2013 and December 2020) and directed at existing and prospective donors. In line with the results from the laboratory, the data show that individuals tend to make higher donations in the aggregate when approached more often, even within a relatively short period of time.

Overall, our results indicate that worries about the negative impacts of moral licensing and behavioral spillover effects are potentially overrated. While moral licensing seems problematic when decisions and outcomes are judged in isolation, our results show that triggers for pro-social behavior that carry negative pro-social spillovers on subsequent decisions may still yield positive effects in the aggregate. This means that *ceteris paribus* asking individuals to behave pro-socially does not reduce the sum of all pro-social behaviors of these individuals, but rather tends to increase overall pro-social behavior; even when compared against adequate experimental control conditions. Our findings also qualify worries about negative effects resulting from ask avoidance of charitable giving appeals. While we cannot exclude that people tend to avoid the ask, our data suggest that asking the same donors more often seems to increase overall donations for charitable organizations. The effect of an additional ask seems to outweigh the potentially negative effect of ask avoidance.

Consequently, our findings advance the understanding of the dynamics of pro-social behavior and suggest that an individual's altruism budget may not be fixed and in fact may be increased by asking more often. Moreover, our results reveal that the time-wise separation of multiple pro-social asks does not matter. Thus, our findings suggest that charities may have the potential to reduce the cost of fundraising by asking for donations simultaneously (e.g., by adding multiple appeals to give in one fundraising letter). This could increase the efficiency of fundraising campaigns.

Our results also carry good news for policymakers worried about adverse consequences from policy interventions aiming at increasing pro-social or pro-environmental behaviors through, e.g., nudging or similar tools. Negative spillover effects resulting from an increase in

targeted pro-social behavior in a first decision on subsequent, not directly targeted behavior do not seem to have negative consequences in the aggregate. Considered in isolation, negative spillover effects due to moral licensing may indeed weaken the positive effects of initial policy interventions affecting pro-social or pro-environmental behavior. Our aggregate perspective, however, suggests that policy makers should not refrain from introducing such interventions, because the overall effects are still very likely to be positive.

The findings presented in this paper, are based on two laboratory experiments studying behavioral responses to two consecutive or simultaneous opportunities to give. Our field data confirm the behavioral patterns identified in the lab thereby highlighting that such patterns occur in real-world situations where pro-social behavior is important. The available field data, however, are confined to giving in response to asks by one humanitarian organization. We should interpret this data with caution as it is possible that donors, when asked by other charities, may behave differently. Future research could assess the robustness of our findings and additionally identify the optimal frequency, timing and number of asks maximizing pro-social behavior in the aggregate. It should be interesting to study whether there is an optimal number of asks that maximizes donations or pro-social activities. The data from our laboratory experiments and the field data suggest that with negligible fundraising cost, the power of asking is strong enough to justify a substantial number of appeals. It is important to verify these findings in randomized control trials varying the number of simultaneous and sequential appeals in the field.

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A Appendix: Study 1

A.1 Study 1: Tables

Table 6: Linear OLS Regressions: Moral Licensing Results

| DV: Giving in Decision II | Robust S.E. | | Session level clustered S.E. | |
|---------------------------|---------------------|---------------------|------------------------------|---------------------|
| | (1) | (2) | (3) | (4) |
| Licensing Control | 84.13*** (22.42) | 76.88*** (22.95) | 84.13*** (21.29) | 76.88*** (21.49) |
| Male | | -61.01** (24.26) | | -61.01** (24.06) |
| Age | | -0.515 (3.320) | | -0.515 (3.607) |
| Income | | -1.346 (6.380) | | -1.346 (5.141) |
| Extraversion Score | | -5.344 (14.92) | | -5.344 (13.17) |
| Conscientiousness Score | | -26.61* (14.44) | | -26.61* (14.58) |
| Openness Score | | 1.987 (18.61) | | 1.987 (20.03) |
| Neuroticism Score | | -13.62 (14.89) | | -13.62 (14.78) |
| Agreeableness Score | | 18.95 (18.00) | | 18.95 (18.99) |
| Constant | 170.7*** (11.72) | 282.8** (135.0) | 170.7*** (6.844) | 282.8* (137.7) |
| Observations | 412 | 412 | 412 | 412 |
| F | 14.08 | 3.085 | 15.61 | 3.716 |
| R ² | 0.0332 | 0.0606 | 0.0332 | 0.0606 |

Note: Linear OLS regressions with robust standard errors (Columns 1 and 2) or cluster robust standard errors at the session level (Columns 3 and 4) in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Giving in decision two in the moral licensing condition *ML* respectively giving in the moral licensing control *MLC* condition is the dependent variable in all regressions. Benchmark condition in all regressions is the moral licensing condition *ML*. Regressions in Columns 2 and 4 include controls for gender (Male), age (Age), personal income outside of the experiment (Income), and Big Five personality characteristics (Extraversion Score, Conscientiousness Score, Openness Score, Neuroticism Score, and Agreeableness Score).

Table 7: Linear OLS Regressions: Pro-social behavior in the aggregate

| DV: Total Giving | Robust S.E. | | Session level clustered S.E. | |
|-------------------------|---------------------|----------------------|------------------------------|---------------------|
| | (1) | (2) | (3) | (4) |
| Substitution Control | -47.96 (30.44) | -63.61** (30.50) | -47.96* (24.67) | -63.61** (24.56) |
| Male | | -60.03* (32.98) | | -60.03* (31.58) |
| Age | | -5.313 (5.007) | | -5.313 (3.195) |
| Income | | -2.930 (7.766) | | -2.930 (6.418) |
| Extraversion Score | | -8.349 (17.63) | | -8.349 (16.74) |
| Conscientiousness Score | | -52.56*** (19.06) | | -52.56** (22.73) |
| Openness Score | | 17.50 (26.59) | | 17.50 (26.07) |
| Neuroticism Score | | 12.89 (18.42) | | 12.89 (15.63) |
| Agreeableness Score | | 41.66* (24.12) | | 41.66** (14.92) |
| Constant | 324.0*** (21.67) | 426.2** (194.8) | 324.0*** (13.98) | 426.2* (213.7) |
| Observations | 412 | 412 | 412 | 412 |
| F | 2.483 | 3.543 | 3.781 | 30.04 |
| R ² | 0.00602 | 0.0579 | 0.00602 | 0.0579 |

Note: Linear OLS regressions with robust standard errors (Columns 1 and 2) or cluster robust standard errors at the session level (Columns 3 and 4) in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Total giving in decisions one and two in the moral licensing condition *ML* respectively giving in the substitution control *SC* condition is the dependent variable in all regressions. Benchmark condition in all regressions is the moral licensing condition *ML*. Regressions in Columns 2 and 4 include controls for gender (Male), age (Age), personal income outside of the experiment (Income), and Big Five personality characteristics (Extraversion Score, Conscientiousness Score, Openness Score, Neuroticism Score, and Agreeableness Score).

Table 8: p -values with and without correction for Multiple Hypothesis Testing (MHT)

| Panel A: Giving in Decision II | cluster robust S.E. (1) | with MHT correction (2) |
|--------------------------------|----------------------------|----------------------------|
| Licensing Control | <0.01 | <0.01 |
| Panel B: Total Giving | cluster robust S.E. (1) | with MHT correction (2) |
| Substitution Control | 0.07 | 0.12 |

Note: P-values from regressions with clustered standard errors at the experimental session level in Column (1) and p -values from multiple hypothesis correction (following the approach used in List et al., 2019) are presented in Column (2). Panel A presents the results on moral licensing comparing the Moral Licensing treatment (base condition) with the Licensing Control treatment. Giving in decision II is the dependent variable. Panel B presents the p -values for Total Giving in the Moral Licensing treatment and the Substitution Control treatment.

B Appendix: Study 2

B.1 Study 2: Tables

Table 9: Study 2: Summary Statistics by appearance of Charity

| Panel A: | Tafel Waadt | Tafel Wallis |
|--------------------------|--------------------|---------------------|
| Pooled conditions | | |
| <i>Giving 1</i> | 174.5 (237.5) | 170.0 (231.4) |
| <i>Giving 2</i> | 141.5 (176.4) | 183.5 (219.2) |
| <i>Total Giving</i> | 316 (331.7) | 353.6 (346.3) |
| Panel B: | Tafel Waadt | Tafel Wallis |
| No information condition | | |
| <i>Giving 1</i> | 150.4 (215.4) | 157.9 (235.6) |
| <i>Giving 2</i> | 116.7 (142.1) | 151.8 (205.3) |
| <i>Total Giving</i> | 267.1 (310.7) | 309.7 (343.8) |
| Panel B: | Tafel Waadt | Tafel Wallis |
| Information condition | | |
| <i>Giving 1</i> | 197.5 (255.5) | 182.2 (227.5) |
| <i>Giving 2</i> | 165 (201.5) | 215.3 (228.7) |
| <i>Total Giving</i> | 362.5 (345.4) | 397.4 (344.7) |

Note: Summary statistics by appearance of charity. Standard deviations in parentheses.

Table 10: Linear Regressions: Total giving in the pooled Sequential giving and Sequential giving - Info, Simultaneous giving and Simultaneous giving-information and Giving once and Giving once - information treatments

| DV: Total Giving | Robust S.E. | | Session level clustered S.E. | |
|-------------------------|----------------------|----------------------|------------------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| Simultaneous giving | 25.28 (36.91) | 25.41 (36.44) | 25.28 (47.65) | 25.41 (46.37) |
| Giving once | -129.5*** (37.03) | -125.7*** (37.95) | -129.5*** (29.15) | -125.7*** (30.23) |
| Male | | -68.91* (36.01) | | -68.91* (34.30) |
| Age | | -3.574 (3.393) | | -3.574 (3.184) |
| Extraversion Score | | -26.11 (17.74) | | -26.11 (23.46) |
| Conscientiousness Score | | -18.73 (19.99) | | -18.73 (18.12) |
| Openness Score | | -6.362 (23.27) | | -6.362 (17.78) |
| Neuroticism Score | | -16.50 (19.04) | | -16.50 (17.81) |
| Agreeableness Score | | 70.30*** (22.69) | | 70.30*** (22.44) |
| Constant | 353.6*** (25.35) | 387.9** (186.7) | 353.6*** (28.37) | 387.9** (174.9) |
| Observations | 462 | 462 | 462 | 462 |
| F | 9.594 | 3.818 | 26.78 | 11.24 |
| R ² | 0.0313 | 0.0648 | 0.0313 | 0.0648 |

Note: Linear OLS regressions with robust standard errors (Columns 1 and 2) or cluster robust standard errors at the session level (Columns 3 and 4) in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Total giving is the dependent variables in all regressions. Observations include subjects in the treatments without and with information (pooled). Benchmark condition in all regression is the Sequential giving + Sequential giving + information treatment $SEQ + SEQ - Info$. Regressions in Columns 2 and 4 include controls for gender (Male), age (Age), personal income outside of the experiment (Income), and Big Five personality characteristics (Extraversion Score, Conscientiousness Score, Openness Score, Neuroticism Score, and Agreeableness Score).

Table 11: Linear Regressions: Total giving in the Sequential giving + Info, Simultaneous giving + information and Giving once + information treatment

| DV: Total Giving | Robust S.E. | | Session level clustered S.E. | |
|----------------------------|---------------------|---------------------|------------------------------|--------------------|
| | (1) | (2) | (3) | (4) |
| Simultaneous giving - Info | 35.54 (51.80) | 33.97 (51.64) | 35.54 (61.92) | 33.97 (61.59) |
| Giving once - Info | -129.2** (55.65) | -114.0* (59.07) | -129.2** (53.54) | -114.0* (56.48) |
| Male | | -108.0** (51.79) | | -108.0* (53.96) |
| Age | | -2.702 (3.631) | | -2.702 (3.347) |
| Extraversion Score | | 0.688 (24.84) | | 0.688 (27.74) |
| Conscientiousness Score | | -1.296 (27.86) | | -1.296 (25.14) |
| Openness Score | | -40.30 (36.98) | | -40.30 (24.95) |
| Neuroticism Score | | -12.72 (29.23) | | -12.72 (31.44) |
| Agreeableness Score | | 29.89 (32.04) | | 29.89 (29.70) |
| Constant | 394.1*** (36.14) | 559.6** (252.9) | 394.1*** (42.78) | 559.6** (221.1) |
| Observations | 234 | 234 | 234 | 234 |
| F | 4.597 | 1.807 | 6.372 | 5.868 |
| R ² | 0.0332 | 0.0685 | 0.0332 | 0.0685 |

Note: Linear OLS regressions with robust standard errors (Columns 1 and 2) or cluster robust standard errors at the session level (Columns 3 and 4) in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Total giving is the dependent variable in all regressions. Observations limited to treatments with information about number of giving decisions. Benchmark condition in all regression is the Sequential giving treatment with information *SEQ+Info*. Regressions in Columns 2 and 4 include controls for gender (Male), age (Age), personal income outside of the experiment (Income), and Big Five personality characteristics (Extraversion Score, Conscientiousness Score, Openness Score, Neuroticism Score, and Agreeableness Score).

Table 12: Linear Regressions: Total giving in the Sequential giving, Simultaneous giving and Giving once treatment

| DV: Total Giving | Robust S.E. | | Session level clustered S.E. | |
|-------------------------|----------------------|---------------------|------------------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| Simultaneous giving | 15.72 (51.98) | 29.68 (51.38) | 15.72 (49.12) | 29.68 (45.96) |
| Giving once | -127.9*** (48.12) | -125.5** (48.47) | -127.9*** (40.88) | -125.5*** (42.50) |
| Male | | -20.45 (50.17) | | -20.45 (34.37) |
| Age | | -4.546 (8.235) | | -4.546 (7.102) |
| Extraversion Score | | -54.22** (24.65) | | -54.22* (27.97) |
| Conscientiousness Score | | -24.74 (29.15) | | -24.74 (30.61) |
| Openness Score | | 28.18 (27.32) | | 28.18 (26.30) |
| Neuroticism Score | | -17.67 (24.47) | | -17.67 (20.57) |
| Agreeableness Score | | 102.0*** (29.47) | | 102.0*** (22.96) |
| Constant | 311.3*** (35.20) | 198.0 (282.8) | 311.3*** (33.89) | 198.0 (226.5) |
| Observations | 228 | 228 | 228 | 228 |
| F | 5.268 | 3.188 | 7.120 | 5.536 |
| R ² | 0.0304 | 0.0979 | 0.0304 | 0.0979 |

Note: Linear OLS regressions with robust standard errors (Columns 1 and 2) or cluster robust standard errors at the session level (Columns 3 and 4) in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Total giving is the dependent variable in all regressions. Observations limited to treatments without information about number of giving decisions. Benchmark condition in all regression is the Sequential giving treatment without information *SEQ*. Regressions in Columns 2 and 4 include controls for gender (Male), age (Age), personal income outside of the experiment (Income), and Big Five personality characteristics (Extraversion Score, Conscientiousness Score, Openness Score, Neuroticism Score, and Agreeableness Score).

Table 13: p -values with and without correction for Multiple Hypothesis Testing (MHT)

| Panel A: Giving 1 | cluster robust S.E. (1) | with MHT correction (2) |
|-----------------------|----------------------------|----------------------------|
| Simultaneous giving | <0.01 | <0.01 |
| Giving once | <0.01 | <0.01 |
| Panel B: Giving 2 | cluster robust S.E. | with MHT correction |
| Simultaneous giving | 0.03 | 0.05 |
| Giving once | <0.01 | <0.01 |
| Panel C: Total Giving | cluster robust S.E. | with MHT correction |
| Simultaneous giving | 0.6 | 0.48 |
| Giving once | <0.01 | <0.01 |

Note: P-values from regressions with clustered standard errors at the experimental session level in Column (1) and p -values from multiple hypothesis correction (following the approach used in List et al., 2019) are presented in Column (2). The Sequential giving treatment is the baseline in all panels. Panel A: Giving 1 as dependent variable. Panel B: Giving 2 is DV. Panel C: Total Giving is DV.

B.2 Study 2: Figures

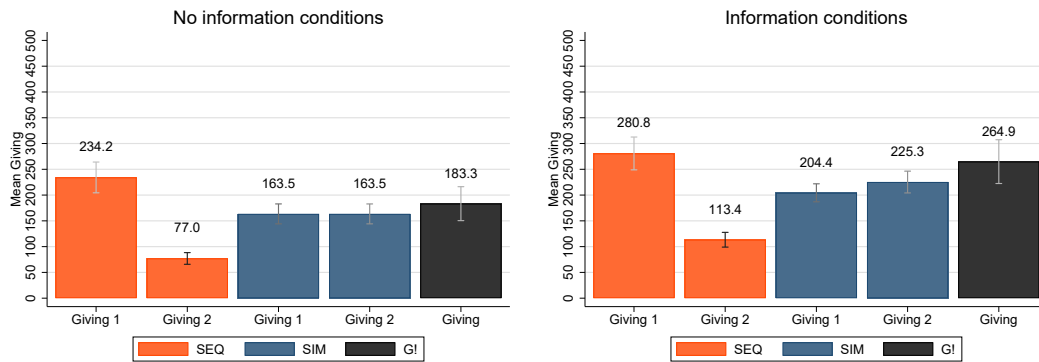


Figure 3: Mean giving giving in decision one and two

Note: Mean giving in decision one and two. **Panel A:** Mean giving in no-information treatments. **Panel B:** Mean giving in information treatments.

C Appendix: Field data

Table 14: Linear Regressions: Multiple asks – Field data

| Dependent Variable | Total Giving (1) | Giving (2) | Giving (3) | Total Giving (4) | Giving (5) | Giving (6) |
|-----------------------------|----------------------|---------------------|-----------------------|----------------------|-------------------|----------------------|
| Second ask same time | 7.012*** (0.266) | -0.480** (0.209) | | 13.39*** (0.698) | -0.591 (0.448) | |
| Second ask in a year | | | -3.541*** (0.0749) | | | -5.976*** (0.183) |
| Constant | 8.318*** (0.0486) | 8.385*** (0.329) | 14.24*** (0.139) | -22.47*** (6.328) | 10.29 (18.48) | 13.01 (8.164) |
| Observations | 4610612 | 168972 | 2557600 | 2027120 | 59680 | 991712 |
| Year fixed effects | No | No | No | Yes | Yes | Yes |
| Campaign Type controls | No | No | No | Yes | Yes | Yes |
| Donor type fixed effect | No | No | No | Yes | Yes | Yes |
| Latin speaking fixed effect | No | No | No | Yes | Yes | Yes |
| Municipality controls | No | No | No | Yes | Yes | Yes |
| F | 696.3 | 5.290 | 2237.2 | 837.0 | 31.75 | 665.3 |
| R ² | 0.000583 | 0.0000264 | 0.00102 | 0.0216 | 0.00824 | 0.0241 |

Note: Linear OLS regressions with cluster robust standard errors at the individual donor level in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Columns (1) and (4) presents evidence for summary statistics presented in Panel A of Table 5. The dependent variable is total giving and the main explanatory variable is the second ask at the same time. Column (2) and (5) present statistical evidence for the Panel B statistics of Table 5. The dependent variable is average giving and the main explanatory variable is the second ask at the same time. Columns (3) and (6) present evidence for statistics presented in Panel C of Table 5. The dependent variable is average giving in the first and second giving decision in a year. The main explanatory variable is the second ask within a year (2013-2020). Observations are limited to donors who are asked multiple times within a year. Regressions in Columns (4–6) include year fixed effects (2014-2020) and controls for the type of campaign (Emergency or other not specified campaigns) as well as for donor types (warm, sleepy, new/unclassified donors) and fixed effects for the language spoken in the area where the donor lives (German or French/Italian). Municipality controls contain information about: the composition of age groups (share of inhabitants under 20, between 20 and 65, and above 65), average size of households, and mean net income of households within the municipality. Baseline condition in regressions with fixed effects and control variables is 2013, general campaigns, active donors, share of under 20 and the German speaking area of Switzerland.

D Appendix: Instructions

Screenshots of Instructions and Decision Screens

This document provides screenshots of instructions and decisions screens used in the two laboratory experiments (Study 1 and Study 2). Note that the experiments were conducted in the local language. We provide English translations below.

Study 1

General Instructions

Welcome

You are taking part in a scientific study at ETH Zurich today. Depending on your choices, you may earn money in the process, which will be paid to you in cash. It is therefore important that you read the following explanations carefully.

The instructions you receive from us are for your private information only. There is a strict ban on communication between participants during the study. If you have any questions, please raise your hand. The research assistant will come to your cubicle to answer your questions. Failure to follow this rule will result in exclusion from the study.

During the study, you will receive all necessary instructions on your computer screen. You will enter your decisions using the keyboard and mouse. Your decisions are anonymous. Your personal identity cannot be matched to your decisions.

Please use only the buttons provided within the study screen. Use the "Continue" button to move to the next page (if possible).

In this study you will make decisions. You will receive points for these decisions. In addition, you will receive 10 CHF (show-up fee) for showing up on time. The exact number of points available to you for your decisions will be communicated to you later. The points will be converted into Swiss francs at the end of the study and paid out together with the show-up fee. The following exchange rate applies:

100 points = 1 CHF

Please click **Continue** to start the study. You will receive all further necessary instructions when you make your decisions.

ML (Moral Licensing) Condition

First decision:

You have **500** points available for this decision.

You can decide whether and how to divide these points (in increments of 10 points) between yourself and UNICEF.

UNICEF is the United Nations Children's Fund. In more than 150 countries, UNICEF works with partner organizations and governments to implement programs that sustainably improve the lives of all children. Most programs are handed over to national governments after three to five years. Your donation will be transferred to UNICEF by the researchers after the study.

Number of points (in increments of 10) from your total **500** points you wish to give to UNICEF:

Second decision:

You get **500** points again for this decision.

In the first decision, you gave **280** points to UNICEF.

Subtracting the points you already gave to UNICEF in the first decision, you have **720** points available in this decision.

You can decide whether and how to divide these points (in increments of 10 points) between yourself and UNICEF.

UNICEF is the United Nations Children's Fund. In more than 150 countries, UNICEF works with partner organizations and governments to implement programs that sustainably improve the lives of all children. Most programs are handed over to national governments after three to five years. Your donation will be transferred to UNICEF by the researchers after the study.

Number of points (in increments of 10) from your total **720** points you wish to give to UNICEF:

MLC (Moral Licensing Control) and SC (Substitution Control) Conditions

You have **1000** points available for this decision.

You can decide whether and how to divide these points (in increments of 10 points) between yourself and UNICEF.

UNICEF is the United Nations Children's Fund. In more than 150 countries, UNICEF works with partner organizations and governments to implement programs that sustainably improve the lives of all children. Most programs are handed over to national governments after three to five years. Your donation will be transferred to UNICEF by the researchers after the study.

Number of points (in increments of 10) from your total **1000** points you wish to give to UNICEF:

Note that in the *SC* condition (depicted above) participants had 1,000 points available for this one donation decision. In the *MLC* condition, the number of points available for the donation was determined by the matched decision of a randomly selected subject in the *ML* condition (see section 2.1 in the paper for a more detailed description).

Study 2

General Instructions (identical to Study 1)

Welcome

You are taking part in a scientific study at ETH Zurich today. Depending on your choices, you may earn money in the process, which will be paid to you in cash. It is therefore important that you read the following explanations carefully.

The instructions you receive from us are for your private information only. There is a strict ban on communication between participants during the study. If you have any questions, please raise your hand. The research assistant will come to your cubicle to answer your questions. Failure to follow this rule will result in exclusion from the study.

During the study, you will receive all necessary instructions on your computer screen. You will enter your decisions using the keyboard and mouse. Your decisions are anonymous. Your personal identity cannot be matched to your decisions.

Please use only the buttons provided within the study screen. Use the "Continue" button to move to the next page (if possible).

In this study you will make decisions. You will receive points for these decisions. In addition, you will receive 10 CHF (show-up fee) for showing up on time. The exact number of points available to you for your decisions will be communicated to you later. The points will be converted into Swiss francs at the end of the study and paid out together with the show-up fee. The following exchange rate applies:

100 points = 1 CHF

Please click **Continue** to start the study. You will receive all further necessary instructions when you make your decisions.

SEQ-Info Condition (two sequential donation decisions with information about the total number of donation decisions to be made)

First decision:

You can make a total of two donation decisions in this experiment. This is the first decision. The second decision follows after you have made the first decision.

You have a total of **1000** points available.

You can decide if and how you want to divide these points (in increments of 10) between yourself and the **Tafel Vaud and Neuchâtel**.

The **Tafel Vaud and Neuchâtel** collects surplus, perfectly good food from wholesalers, producers and retailers and distributes it free of charge to social institutions that care for the poor in the region of Vaud and Neuchâtel.

Your donation will be transferred to the Tafel Vaud and Neuchâtel by the researchers after the study.

Number of points (in increments of 10) out of your total **1000** points for this decision you want to give to the **Tafel Vaud and Neuchâtel** :

Note that in the *SEQ* condition (without information about the total number of donation decisions to be made in the study), the first three sentences at the top of the screen were omitted.

Second decision:

This is the second decision.

In the first decision, you gave **280** points to the Tafel Vaud and Neuchâtel.

Minus the points you already gave to the Tafel Vaud and Neuchâtel in the first decision, you have **720** points available for this decision.

You can decide if and how you want to divide these points (in increments of 10 points) between yourself and the **Tafel Valais** .

The **Tafel Valais** collects surplus, perfectly good food from wholesalers, producers and retailers and distributes it free of charge to social institutions that care for the poor in the Valais region.

Your donation will be transferred to the Tafel Valais by the researchers after the study.

Number of points (in increments of 10) out of your total **720** points for this decision you want to give to the **Tafel Valais** :

Note that we counter-balanced the order in which the charities were presented for either the first or the second decision.

SIM-Info Condition (two simultaneous donation decisions on the same screen with information about the total number of donation decisions to be made)

You can make a total of two donation decisions in this experiment. You make both decisions at the same time on this screen.

You have a total of **1000** points available.

First decision:

You can decide if and how you want to divide these points (in increments of 10 points) between yourself and the **Tafel Vaud and Neuchâtel** .

The **Tafel Vaud and Neuchâtel** collects surplus, perfectly good food from wholesalers, producers and retailers and distributes it free of charge to social institutions that take care of the poor in the region of Vaud and Neuchâtel.

Your donation will be transferred to the Tafel Vaud and Neuchâtel by the researchers after the study.

Second decision:

You can decide if and how you want to divide these points (in increments of 10 points) between yourself, and the **Tafel Valais** .

The **Tafel Valais** collects surplus food from wholesalers, producers and retailers and distributes it free of charge to social institutions that take care of the poor the Valais region.

Your donation will be transferred to the Tafel Valais by the researchers after the study.

Note that you have **total 1000** points available for **both** decisions.

Number of points (in increments of 10) out of your total **1000** points for this decision you want to give to the **Tafel Vaud and Neuchâtel** :

Number of points (in increments of 10) out of your total **1000** points for this decision you want to give to the **Tafel Valais** :

Note that in the SIM condition (without information about the total number of donation decisions to be made in the study), the first two sentences at the top of the screen were omitted. Note also that we counter balanced the order in which the two charities appeared on the screen.

G1-Info Condition (only one donation decision with information about the total number of donation decisions to be made)

You can make a single donation decision in this experiment. You make the decision on this screen.

You have **1000** points available.

You can decide if and how you want to divide these points (in increments of 10) between yourself and the **Tafel Vaud and Neuchâtel** .

The **Tafel Vaud and Neuchâtel** collects surplus, perfectly good food from wholesalers, producers and retailers and distributes it free of charge to social institutions that care for the poor in the region of Vaud and Neuchâtel.

Your donation will be transferred to the Tafel Vaud and Neuchâtel by the researchers after the study.

Number of points (in increments of 10) out of your total **1000** points for this decision you want to give to the **Tafel Vaud and Neuchâtel** :

Note that in the G1 condition (without information about the total number of donation decisions to be made in the study), the first two sentences at the top of the screen were omitted. Note also that we randomly determined to which of the two charities a participant could give in this condition (i.e., half of participants could give to the Tafel Vaud and Neuchâtel, as depicted above, the other half could give to the Tafel Valais).