

The Effect of Simultaneous Solicitations on Charitable Giving: Experimental Evidence on Donor Decision Making *

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Abstract

Simultaneous solicitations are an important part of the modern, competitive philanthropic landscape. Typical simultaneous solicitations are time-limited giving opportunities involving a list of approved charities. Examples include Giving Tuesday, community giving campaigns, and workplace giving campaigns. To grapple with this phenomenon, it is important to understand how donor decision making regarding lists of charities differs from their decision making regarding a series of single-organization solicitations. This paper presents evidence from an online survey experiment comparing simultaneous (list) vs. sequential (one-by-one) solicitation decision making. While the donation amount did not differ between groups, simultaneous respondents donated to fewer organizations. Simultaneous respondents were also more likely to compare the organizations to each other, which disadvantaged low-familiarity organizations. Simultaneous respondents reported higher donor satisfaction and lower decision difficulty, which may explain the rising popularity of these giving schemes. Finally, simultaneous respondents were better able to remember the amount they donated, which indicates that sequential giving may benefit from a lower incidence of mental budgeting behaviors. Taken as a whole, these results suggest that simultaneous solicitations induce simpler decision making rules, which may lead to a shift in the distribution of gifts among organizations as such solicitations become more popular.

Highlights:

- Giving options were presented simultaneously or sequentially (one at a time)
- Presenting giving options simultaneously did not change contribution amount
- Donors gave to fewer organizations; familiarity was relatively more important
- More donors were able to recall amount donated, suggesting more mental budgeting
- Subjects had higher satisfaction and less decision difficulty in simultaneous scenarios

1 Introduction

In the United States, the number of nonprofit organizations registered with the IRS in 2017 was 1.2 million (IRS, 2017). This represents an 18.9% increase in the last 5 years (IRS, 2012). One consequence of this growth is a shift in the types of decision making frames donors encounter. More donor decisions are now simultaneous decisions among organizations, rather than discrete, sequential decisions about whether or not to support any one organization. In particular, Giving Tuesday and other competitive, time-limited giving days are becoming an important part of the philanthropic landscape in the United States. Although Giving Tuesday only began in 2012, it has grown quickly, and the 2018 drive raised approximately \$380 million (Joslyn 2018). Giving Tuesday is part of a longer tradition of time-limited, collaborative campaigns to encourage giving, such as United Way and the Combined Federal Campaign. One of the hallmarks of these campaigns, especially when coordinated by a central organization like a community foundation, is presenting donors with a list of participating charities in a low-information environment, inducing a simultaneous solicitation decision.

Simultaneous donation decision making can be contrasted with sequential donation decision making, which occurs when donors consider charitable choices one at a time. Examples of sequential donation decision making are direct mail or telemarketing appeals, where individual organizations are communicating with donors directly. Contrasts between direct mail appeals and giving days are especially relevant, since critics of Giving Tuesday have hypothesized that crowding out is occurring between these two forms of year-end giving (Ogden 2012, 2013). The broader literature on consumer choice, discussed in Section II, documents several mechanisms that may make simultaneous donor decision making different from sequential decision making, including choice overload, differences in mental accounting by donors, and induced comparison and diversification of giving.

Although most of the experimental literature on charitable giving focuses on single-organization donation decisions, researchers increasingly recognize the need to extend the literature to simultaneous donation decisions (Ek 2017, Filiz-Ozbay and Uler 2018, Null 2011, Reinstein 2011). The previous work on simultaneous solicitations examines patterns of decision making across multiple organizations, generally using modified dictator games, but typically does not systematically ex-

amine the differences between multi-organization and single-organization decision making. This paper explores whether simultaneous donation decisions differ from decisions resulting from a series of single-organization solicitations by using an online experiment and provides suggestive evidence regarding the mechanisms underlying the differences.

In the present paper, an online experiment was conducted to understand differences in donor decision making when donors receive sequential or simultaneous solicitations. In the experiment, subjects are randomized to receive either simultaneous or sequential solicitations. Subjects are told that they may be randomly chosen to receive an “additional bonus payment” of \$100 (1 in 200 will win). Subjects are encouraged to commit to donating portion of the payment to nonprofit organizations. Then subjects receive a total of 12 solicitations for national human service organizations in the United States, accompanied by a short description of the organization. In the sequential version, solicitation decisions come one-by-one, while in the simultaneous version, all options are presented one screen. After making the donation decisions, subjects are asked information about their giving decision making process, the extent to which they normally set giving budgets, and their knowledge of and impression of the 12 organizations.

Simultaneous respondents did not donate significantly less than sequential respondents. However, they gave to fewer organizations, leading to an increase in average gift sizes. Most importantly, the mechanisms underlying the decision making process were different between the two solicitation scenarios. Simultaneous respondents were also more likely to compare the organizations to each other, which tended to disadvantage low-familiarity organizations but not organizations with high overhead rates. Simultaneous respondents were better able to remember the amount they donated, which indicates that sequential giving may benefit from “charitable forgetting” or a lower incidence of mental budgeting behaviors. Respondents in the simultaneous scenario also reported higher donor satisfaction, which helps to explain the rising popularity of these giving schemes. Finally, simultaneous respondents reported lower decision making difficulty, which, combined with the results on satisfaction and comparison, suggests that respondents in the simultaneous scenario may be employing less mentally taxing decision making rules.

The findings here contribute to the experimental evidence on individual charitable giving decision making and the related literature on effective fundraising techniques. Much of the literature in this area has been focused on distinguishing between rational motivations for giving, particu-

larly between warm glow, a self-regarding motivation for giving, from altruism, a motive based on concern for the provision of a public good (see Versterlund 2016 for a summary). However, the results of this literature are inconclusive, and are perhaps best explained by acknowledging that the context, including the type of solicitation, matters (Vesterlund 2016). This paper extends a much smaller literature on influences on donor decision making that are not purely rational. In particular, this paper provides initial evidence that various types of solicitations may cause donors to activate mental budgets differentially.

The findings also contribute to the experimental and quasi-experimental literature on competition among charitable organizations. Other experimental papers in this literature vary the level of competition using price of giving changes (Filiz-Ozbay and Uler 2018, Krieg and Samek 2017), contests (Deck and Murphy 2019), or temporary shocks to the attractiveness of one cause (Reinstein 2011, Smith et al 2017). The present paper shows that simultaneous solicitations also increase the level of competition when compared to sequential solicitations. In addition, the two situations lead to competition along different dimensions, with simultaneous solicitations activating familiarity as a salient feature.

Finally, the work extends important findings from the non-charitable giving literature related to the effects of simultaneous decision frameworks. The present study provides additional evidence to support Besedeš et al. (2015), which showed that individuals making simultaneous decisions over lotteries employed simpler decision rules and were more likely to prefer the simultaneous decision framework. The present paper extends these findings to the more subjective charitable decision making space, demonstrating that the salient decision characteristics change and donors are more satisfied in simultaneous solicitation settings.

2 Donor Choice in Simultaneous Solicitation Settings

Research suggests that sequential and simultaneous donation decisions are psychologically distinct in three ways. First, simultaneous donation decisions may induce individuals to consider their charitable giving budget more carefully, and this budget awareness may cause them to give less. Mental accounting research from the fields of psychology and behavioral economics demonstrates that consumers have implicit (or perhaps even explicit) budgets for certain categories of

purchases (formative citations include Thaler 1985, 1999). One category of purchase where consumers form budgets is charitable giving (LaBarge and Stinton 2014). Budgeting helps consumers control spending, and so charitable giving situations which cause individuals to consider their budget are likely to raise less money. Charitable giving situations can avoid activating donors' budgets by framing the gift as small or unusual, and therefore outside the budget process (Gourville 1998, Sussman and Alter 2012, Sussman et al. 2015).¹ In particular, Sussman and Alter (2012) found that when exceptional expenses are presented sequentially, rather than simultaneously, individuals spend more on these expenses. Although they did not test this finding on charitable donation spending, it seems probable that simultaneous solicitations may be perceived as a larger spending decision and encourage budget-setting behaviors.

Second, simultaneous donations decisions may induce consumers to compare or rank organizations, changing the distribution of gifts among nonprofits. In a lab experiment, Soyer and Hogarth (2011) found that individuals gave more when randomly presented with more comprehensive lists of nonprofit organizations (3, 8, or 16 organizations). However, the distribution of gifts changed. Adding more simultaneous giving options actually increased giving to the most well-known charity, but other, less-popular charities lost donations as the number of options increased. Another study found that substitution between charities in the lab was stronger when the organizations' missions were more similar; for dissimilar charities, substitution was approximately half as strong (Ek 2017).

Donor decision making over dissimilar options is related to a more general behavior known as the diversification heuristic or diversification bias. When consumers group items together and think of them as one purchase bundle, they are more likely to diversify, even if this involves purchasing some items that they would not if they were selecting them sequentially (Simonson 1990, Read and Loewenstein 1995, Ratner et al 1999). In a previous charitable giving experiment by Null (2011), donors showed a preference for variety by selecting multiple charities within a similar mission area even when doing so earned fewer dollars in matching funds.

Finally, a long list of choices may cause donors to be overwhelmed by their options and refrain from giving. "Choice overload," as this feeling is known, can cause individuals to refrain from

¹The mental accounting literature suggests that small purchases are less likely to be recalled by the buyer and therefore less likely to be added to the total in any mental budget (Heath and Soll 1996), while exceptional expenses are noticed but are not a good fit for existing budget categories (Sussman and Alter 2012).

making any choice and to feel less satisfied with their choices (Iyengar and Lepper 2000). While early choice overload literature focused on varying the number of choices, researchers have also explored other aspects of the choice framework. Besedeš et al. (2015) compared subjects' choices over lotteries when the information was presented simultaneously or sequentially. They find that subjects made more optimal choices when information was presented sequentially.² Within the nonprofit context, Scheibehenne et al. (2009) found some limited evidence of choice overload. Specifically, they found that choice overload (measured by opting out of giving) was activated when donors faced a long list of charitable giving options and were asked to justify their choice. Since Giving Tuesday asks donors to use social media to talk about their selected nonprofits, the situation has many of the characteristics which seem to elicit individuals to opt out due to choice overload. In contrast, sequential donor decision making requires only one decision at a time, a much simpler cognitive task.

It is important to note that simultaneous choice settings which are associated with choice overload do not necessarily lead to dissatisfaction. Besedeš et al. (2015) found that donors actually preferred simultaneous choice settings, even though their choices in this setting were more often suboptimal. They suggest that subjects adopted simpler decision rules in the simultaneous setting, which made the decision process easier and less time-consuming, but which also made the decisions less accurate. These findings have not been tested in the charitable giving setting, but the popularity of Giving Tuesday suggests that simultaneous solicitations may be associated with donor satisfaction.

The present work builds on previous studies by comparing simultaneous solicitation decision making with the more standard single-organization decision present in sequential decision making. Although previous work has documented instances some of these mechanisms in the simultaneous context, the literature has not systematically or experimentally tested differences between the two giving contexts and connected the mechanisms with differences in giving outcomes. The present work randomly varies the giving decision frameworks and uses both user self-reports and observations of giving and related behaviors to provide suggestive evidence for the role of mental

²The present work differs from much of the core literature on choice overload in two ways. First, the core literature typically looks at single consumption decisions (i.e. choice of a health insurance plan), while a donor can give to multiple charities in this study. Second, the core literature often compares the choice made to an observable, optimal choice; in charitable giving, there is not and objectively optimal choice.

accounting, choice overload, and diversification in the decision making process.

3 Method

To compare simultaneous and sequential solicitations, an online experiment was conducted using 700 Amazon Mechanical Turk (mTurk) participants. An experiment is the preferred method of investigating this research question because it allows the researcher to control the key aspects of the two solicitation situations. The two situations primarily differ in how and when the information about nonprofits is presented as well as how and when the donation decisions are made. Both of these aspects can be effectively manipulated in the online survey environment. In addition, the online setting allows the researcher to quickly recruit subjects at a relatively low cost.

3.1 Stimuli

The experiment randomized mTurk participants into either a sequential or simultaneous treatment. In both treatments, subjects were told that, in addition to the \$1.50 standard payment to take the survey, one of the participants would be randomly selected to receive an additional bonus payment of \$100. The probability of receiving the bonus payment was 1 in 200. This amount, which formed the giving endowment, could be kept or donated to 12 nonprofit organizations. Information on the 12 organizations was presented in a sequential or simultaneous manner.

3.1.1 Giving endowment

In the consent form, the participants learned, “If you complete the entire survey, you will be entered into a drawing to receive an additional bonus payment up to \$100.” In the full survey instructions, the subjects learned that they could give a portion of their additional payment to one or more nonprofit organizations. The language used was:

We will give \$100 to one participant in this study. We ask you to decide in advance how much of this \$100, if any, you would like to give to these organizations. You can give any amount you wish, including nothing. If you are selected, this \$100 is yours, and you are free to keep or to give away any amount you wish, including nothing.

While many people give some away, it is expected that most people will keep at least some of this amount for themselves.

These instructions were designed to follow other published research encouraging charitable giving by participants in a survey experiment with a giving endowment. The specific text is adapted from Fong and Luttmer (2011).

The endowment and its description were designed with three features in mind. First, the amount was selected to provide a large range of possible gift amounts. The large range provides substantial variation in the dependent variable, which provides greater power to the analysis.

Second, participant choices were randomly enacted so that participants would take the decisions in the survey seriously. This technique has become a common way of adding realism to charitable giving decisions in surveys while maintaining a reasonable experimental budget (for example, Mazar and Zhong 2010, Fong and Luttmer 2011, Null 2011, ? 2019). Some observers have argued that this practice may alter subject behavior by making the pay for a given action probabilistic. However, previous research has found that results from experiments paying only a subset of participants (sometimes known as Random Incentivized Systems) do not differ substantially from experiments paying all participants (Charness et al. 2016, Clot et al. 2018). In this case, one in 200 participants would have their decisions enacted, a probability of 0.5%.³

Finally, the phrasing was chosen to encourage participants to think of the money as earnings, not a windfall. Earnings tend to be treated differently than windfalls by experimental participants and real-world consumers, and windfalls typically result in more giving (Carlsson et al. 2013 summarizes this literature). If experimental participants think of the giving endowment as a windfall, this would not bias results (as the treatment arm should not affect the perception of the endowment). However, a more realistic giving setting is preferred, and most real-world donors give from earnings.

³This probability was not explicitly stated in the survey statements about the bonus payment, which read “We will give \$100 to one participant in this study.” This statement was designed to accord with MTurk “batches” of 200 participants. It was expected that survey respondents would understand that 1 of 200 members of the batch would receive the payment. In the actual survey execution, respondents were not able to view the actual survey batch size. Instead, they viewed the number of surveys remaining in their batch. This may have caused respondents to overestimate their probability of receiving the payment. For instance, if they saw that 50 surveys were remaining in the batch, they may have believed they had a 1 in 50 chance of receiving the bonus payment.

3.1.2 Organizations selected

After consenting to participation and reading survey instructions, subjects received a total of 12 solicitations for national human service organizations in the United States. The list of included organizations is shown in Table 1.

Organizations were selected based on mission type and charitable giving appeal/popularity with donors. The organizations had one of four mission types in the broad areas of health and human services: basic needs, children's health, children, and disease research/support. Within each mission type, two organizations were selected that have a high level of popularity with donors (based on national rankings of dollars donated), and one organization was selected which tends to have a lower level of popularity with donors. Thus, each of the four mission types had three organizations, for a total of 12 different mission type-popularity combinations.

Mission type was varied to increase the probability that each survey respondent sees organizations that they are personally interested in. Religious organizations, organizations serving animals, and organizations with a strong political association were excluded because these organizations can sometimes be polarizing, and the goal was to select organizations with widespread appeal.

Level of charitable giving appeal/popularity with donors was assessed using Forbes "Largest U.S. Charities for 2016" list, the Chronicle of Philanthropy's "Philanthropy 400" list, and past giving through the CFC as tabulated in "A Million Donors Choose." Organizations with high levels of charitable giving appeal were included to increase the probability that each survey respondent sees organizations they recognize and are personally interested in. Organizations with lower charitable giving appeal were included to ensure there was variation in the level of respondent knowledge about the organizations.

For each organization, subjects saw the name of the organization, a 25-word organization description, the organization's website, and the organization's overhead rate. Both the organization description and the overhead rate came from the 2016 Combined Federal Campaign documents submitted by the organization.

Table 1. 12 Organizations Included in Experiment

Name of Organization	Mission Area	National Ranking	AFR
Alex’s Lemonade Stand Foundation	Children’s Health	Lower	11.9
American Cancer Society	Disease Research/Support	Higher	26.1
American Heart Association	Disease Research/Support	Higher	18.6
American Kidney Fund	Disease Research/Support	Lower	2.4
Boys & Girls Clubs of America	Children’s Services	Higher	17.1
Feeding America	Basic Needs	Higher	1.4
KaBOOM	Children’s Services	Lower	13.5
Make-a-Wish Foundation of America	Children’s Health	Higher	21.3
Rape, Abuse, & Incest National Network	Basic Needs	Lower	6.7
St. Jude Children’s Research Hospital	Children’s Health	Higher	4.4
Toys for Tots Foundation	Children’s Services	Higher	2.7
Wounded Warrior Project	Basic Needs	Higher	17.1

Note: "AFR" denotes the Administrative and Fundraising Rate, also known as the overhead rate.

3.1.3 Sequential and simultaneous treatments

In both the sequential and the simultaneous treatments, participants viewed information about 12 nonprofit organizations. The information was followed by a request to donate. The language used in the solicitation itself was, “If you are randomly selected to receive the \$100, how much would you donate to this organization? (Enter a dollar amount between 0 and 100)”. In both treatments, the nonprofit order was randomized at the respondent level (each respondent viewed the nonprofits in a different order to minimize order effects).⁴ The full survey instrument is available in the Online Appendix.

In the sequential version, nonprofit information and solicitation decisions came one-by-one.⁵ Immediately after each donation decision, the subjects were also asked about their knowledge and impression of the organization. The questions read: “What is your level of familiarity with this organization?” (7-point scale from “Very unfamiliar” to “Very familiar”) “What is your impression of this organization?” (7-point scale from “Negative” to “Positive”) “To what extent do you think

⁴Due to a programming error, the Wounded Warrior Project was always viewed last in the sequential treatment. Results are consistent when this organization’s data and gifts are dropped from all analyses.

⁵In both treatments, respondents were told that they would be receiving solicitations from 12 organizations before beginning. This aspect was held constant between the two treatments to avoid uncertainty about future solicitations confounding the sequential decision making. In a year-end-giving scenario, individuals may not know the precise number of solicitations they will receive, but likely know an approximate number from past experience. An individual forms and expectation about typical year-end solicitations because organizations’ solicitation lists are determined by the individual’s own actions, such as past giving, volunteering, and email list sign-ups.

a donation to this organization would make an impact?” (7-point scale from “Not at all” to “Very much so”). The phrasing of these questions was based on previous work by Simonin and Ruth (1998), Lafferty et al. (2004), and Sharma and Morwitz (2016).

Asking these questions between the solicitations lengthened the time between each giving decision. Longer time gaps more closely approximate real-world giving decisions, although the experimental setup cannot mimic the true spacing of charitable solicitations. To further replicate real-world conditions, participants were not allowed to navigate back to previous giving decisions.

In the simultaneous version, all information was presented on one screen and the subjects made all donation decisions on the same screen. After the subjects made the donation decisions, they progressed to questions about organizational knowledge, then overall impression, then perceived impact. The question text was the same as in the sequential treatment. For each of these questions, subjects provided the answers for all the nonprofits on one screen, using a simultaneous list format.

Based on the predicted association between simultaneous decision frameworks and choice overload and mental budgeting, it is hypothesized that the simultaneous solicitation will decrease total giving across the twelve organizations. In addition, based on Soyer and Hogarth (2011), it is hypothesized that simultaneous solicitation will change the distribution of gifts among organizations; the most highly-rated organizations (impactful, impressive, and familiar) are expected to receive more gifts in the simultaneous solicitation setting.

3.1.4 Other information collected

After making the donation decisions, participants were asked information about their giving decision making process and their demographics. These questions were designed to reveal information about the factors which distinguish sequential and simultaneous giving and may induce differences between the two treatments.

First, respondents were asked a series of questions about decision difficulty, including “Did you find it difficult to make a decision?”, “How certain are you that you made the right choice?”, and “If you could put off the giving decision until a later date, how likely is it that you would?” The difficulty questions tested the choice overload hypothesis and were influenced by Carroll et al. (2011). A difficulty index was created, with the item about choice certainty reverse coded (Cronbach’s alpha = 0.78). In addition, the Qualtrics software tracks a more objective measure survey

difficulty by recording the total time to complete all questions. Previous research by Besedeš et al. (2015) suggested that respondents use simpler decision rules in simultaneous decision frameworks, and therefore find the process less difficult. However, the act of giving may be different in its mental load, as there is not an objective right answer, so this result cannot necessarily be assumed to hold in a charitable giving framework. Here, respondents are hypothesized to find the simultaneous solicitation setting to be less difficult and to spend less time on this version of the survey.

Next, respondents were asked several questions related to their budgeting process. The respondents were asked to recall their giving, which helped to understand if some sort of mental accounting had taken place. They were also asked if they had set a giving budget, “Please explain how much you agree with the following [statement]: I decided how much I wanted to donate before viewing the specifics about the nonprofit organization.” In addition, respondents were asked to recall the number and dollar amount of their giving. More accurate responses to this query would occur if respondents were keeping track of their total contributions, which would be an indicator of budgeting behavior. Because the mental budgeting literature suggests that larger purchases and exceptional purchases presented simultaneously are more likely to be salient (Heath and Soll 1996, Sussman and Alter 2012), respondents are hypothesized to report more budgeting and have more accurate recall in the simultaneous solicitation setting.

In the next question, participants described the extent to which they ranked or compared organizations. This question tests whether conscious comparisons between organizations explain changes in the distribution of giving among organizations. Questions included “Please explain how much you agree with the following [statement]: I compared the organizations to each other when making my donation decision.” In addition, the participants were presented with one objective measure which could be used to compare charities, the administrative and fundraising (or overhead) rate. If individuals are comparing and ranking organizations in a simultaneous giving framework, one would expect to observe that AFR scores play a more important role in decision making. Here, it is hypothesized that the simultaneous solicitation will lead to more reported comparison between organizations. In addition, it is hypothesized that AFR will be more predictive of giving in the simultaneous context.

Next, respondents reported whether they had purposely spread their donations among organiza-

tions with different missions. Two questions asked whether respondents are consciously applying a diversification heuristic when faced with a simultaneous solicitation. Respondents were asked how much they agreed with statements such as, “The organizations I chose to give to had a lot in common with each other” and “I avoided giving to multiple organizations with similar missions.” Based on other work which reports more variety seeking in joint decision making frameworks, also known as the diversification bias, it is hypothesized that the simultaneous solicitation setting will lead to lower agreement on the first statement and higher agreement on the second statement. In addition, donations by individuals who chose more than one organization are analyzed to measure the proportion of gifts within the same mission area, and it is hypothesized that simultaneous solicitation settings will lead a lower proportion of gifts within the same mission area.

Finally, respondents were asked 3 questions about their satisfaction with the decision they had made. The questions, including “Overall, how satisfied are you with the nonprofit organizations and donation amounts you chose in the first part of this survey?” and “If you could repeat the choice, would you choose the same nonprofit organizations and donation amounts again?” were adapted from Scheibehenne et al. (2009). A satisfaction index was created (Cronbach’s alpha = 0.79). Donor satisfaction with simultaneous giving may help to explain the rise of Giving Days and other similar methods of solicitation. In addition, in this setting, the simultaneous solicitation leads to less opportunities for regret. Here, because of less opportunities for regret in the simultaneous setting, it is hypothesized that respondents will have higher satisfaction in the simultaneous solicitation treatment.

After inquiring about the decision making process, the survey ended with a series of demographic questions. Demographic questions about participants’ gender, age, education, income, geography were included. These questions were adapted from the General Social Survey. Finally, the participants were asked about the frequency and annual amount of their donations, and these questions were also adapted from the General Social Survey. The full survey instrument is contained in the Online Appendix.

3.2 Sample size and power

An initial pilot was conducted to facilitate power calculations and determine the sample size for the full survey. The pilot revealed that 20% of respondents would not pass the understanding check questions and would need to be excluded from the results.⁶ The power calculations and expected understanding-related exclusions indicated that a sample of 160-604 per arm was necessary for an 80% chance of a significant result.⁷ Because of funding limitations, a sample size of 350 per arm was established. This sample was designed with the power to find an actual \$6.57 mean difference between treatments to be significant at the 5% level 80% of the time.

3.3 Participants

A total of 700 participants were recruited through Amazon Mechanical Turk (mTurk). Each participant was paid \$1.50. Any mTurk user registered in the United States could take part in the survey. The benefit of using this population is that it is more similar to the U.S. donor population than some other typical experimental populations, such as undergraduate students.

Respondent demographic characteristics are shown in the first two columns of Table ???. The demographic characteristics of the sample are roughly similar to the average mTurk respondent (Berinsky et al. 2012).⁸ The average respondent was 35 years old, around half of respondents had completed a Bachelor's degree, and 41% of respondents reported household income over \$50,000. More men than women participated (57% males), which was a larger proportion than had been reported previously. Many respondents reported that they had given to charity in the past 12 months, with 55% saying they had made two or more gifts, and 47% saying they had donated \$50 or more.⁹

⁶The pilot results indicated that, on average, simultaneous respondents who passed the understanding checks gave \$19.30. Sequential respondents gave \$54.30 on average. The standard deviations for the two groups were 23.6 and 139.6, respectively. In the pilot, some sequential respondents who passed the written understanding checks nevertheless did not follow the survey directions and gave far more than \$100. When those individuals' total gifts were capped at \$100, the mean for sequential donors was \$26.80 (standard deviation of 35.2). When those individuals' total gifts were capped at their maximum individual donation, the mean for sequential donors was \$24.30 (standard deviation of 31.1).

⁷The sample size and exclusion calculations indicated a sample of 160 per arm was necessary for the unadjusted data. The capped data required a sample of 313 per arm, and the data where outliers were set to their max individual contribution required a sample of 604 per arm.

⁸On average, mTurk respondents are around 32 years old, with 15 years of education, and a household income of \$55,000. Around 84% of workers are white, 60% are female, and 39% are married (Berinsky et al. 2012).

⁹According to the Panel Study of Income Dynamics, approximately 55.5% of households donated \$25 or more to charity in 2014, the most recent year for which data is available (Osili and Zairins 2018). The present sample appears

Table 2. Summary Statistics and Balance Checks

	All		Sequential		Simultaneous		T-Test	
	Mean	SD	Mean	SD	Mean	SD	Diff	T-stat
All understanding check correct	0.64	0.48	0.66	0.47	0.62	0.48	0.04	1.09
Number correct understanding checks	3.41	0.94	3.44	0.93	3.39	0.95	0.04	0.62
Age, in years	34.49	9.86	34.39	9.95	34.59	9.77	-0.21	-0.28
Gender								
Male	0.59	0.49	0.57	0.50	0.60	0.49	-0.02	-0.65
Female	0.41	0.49	0.42	0.49	0.40	0.49	0.02	0.65
Education								
Less than a Bachelor's	0.50	0.50	0.48	0.50	0.52	0.50	-0.04	-0.98
Bachelor's or higher	0.50	0.50	0.52	0.50	0.48	0.50	0.04	0.98
Income								
\$50,000 or more	0.42	0.49	0.41	0.49	0.43	0.50	-0.01	-0.30
Less than \$50,000	0.58	0.49	0.59	0.49	0.57	0.50	0.01	0.30
Region								
Northeast	0.20	0.40	0.19	0.39	0.22	0.42	-0.03	-1.11
Central	0.21	0.41	0.20	0.40	0.21	0.41	-0.01	-0.44
South	0.34	0.47	0.34	0.47	0.34	0.47	0.00	0.08
West	0.25	0.43	0.27	0.45	0.23	0.42	0.04	1.36
Giving in last 12 mo								
Less than 2 times	0.46	0.50	0.45	0.50	0.46	0.50	-0.01	-0.21
2 times or more	0.54	0.50	0.55	0.50	0.54	0.50	0.01	0.21
Dollars donated last 12 mo								
Less than \$50	0.53	0.50	0.55	0.50	0.52	0.50	0.04	0.96
\$50 or more	0.47	0.50	0.45	0.50	0.48	0.50	-0.04	-0.96
Duration (in seconds)	537.19	986.05	573.64	1,360.63	501.36	329.22	72.28	0.97
Observations	702		348		354		702	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All respondents.

The demographic characteristics of respondents assigned to the simultaneous treatment and the sequential treatment were similar. Column 3 – Column 6 of Table ?? show the demographic characteristics of respondents in each treatment. Column 7 and 8 report the difference between two group and shows that a t-test of differences in means found no significant differences between the two groups.

Although 700 respondents completed the survey, analyses in Part III only include respondents who passed the experiment's four understanding checks.¹⁰ Understanding checks included questions such as, "If you commit to donate \$10 each to two organizations in this survey and you are

to include slightly more donors than the PSID does, but the difference is not substantial.

¹⁰Data and results for the complete sample are available upon request.

not selected to receive the \$100, how much will your total Amazon Mechanical Turk Payment be?” (Correct answer: \$1.50). Any incorrect answers received a message explaining the correct response. On average, subjects answered 3.4 questions correctly.¹¹ As indicated in Table ??, the proportion of respondents giving all correct answers was not different between the two treatment arms. Appendix A1 compares the demographics of those individuals who passed the understanding checks to those who failed. It shows that individuals passing the understanding checks were likely to be older and better educated, which makes sense given that the checks required both reading comprehension and math skills. No other significant differences were found.

Appendix A2 compares the other survey responses between the two groups. In general, individuals who did not pass the understanding checks answered most questions similarly to those who passed. However, there were differences in amount donated, which is explored in Appendix A3. Another difference is in their recall of donation amount and number of gifts, which may be related to the differences in level of education (and therefore math skills). Finally, the two groups also differed in is in reported diversification behaviors, with those failing the understanding checks more likely to say that their choices had a lot in common and also say that they avoided giving to similar organizations, which seems somewhat contradictory.

Appendix A3 provides additional information on the incorrect responses to the understanding checks and the respondents’ giving behaviors. It also examines the giving behaviors of those individuals who answered all four questions correctly and those who answered most questions correctly. Questions exhibited varying proportions of correct answers, ranging from 75% to 92% correct.¹² The most commonly missed questions were check 2 and check 3. Appendix A3 also shows that many individuals who failed the understanding checks gave over \$100 (incorrectly), which largely explains the difference in this group’s mean giving from Appendix A2.

¹¹Here, 452 of the 702 respondents (64%) answered all questions correctly, while an additional 142 (20%) answered 3 of 4 questions correctly. The proportion of individuals who did not pass the understanding checks was higher than in the pilot, most likely because an additional understanding check question was added. The new sample size of 452 is powered to detect a mean difference of \$15 between unadjusted gifts to be significant at the 5% level 80% of the time (based on the large standard deviations in the unadjusted data). When gifts above \$100 are capped (lower standard deviation), the sample of 452 is powered to detect a mean difference of 7.5. When gifts above \$100 are dropped, the sample is powered to detect a mean difference of 6.9, which would be approximately 27% of the mean sequential value.

¹²This is not dissimilar from other experiments on giving. For instance, in Crumpler and Grossman (2008), 73% of respondents answered the single understanding check question correctly. Unfortunately, many lab experiments either fail to conduct or fail to report the results of understanding checks of this type.

4 Results

Because the treatment in this experiment was randomly assigned, I analyze the results primarily with simple OLS and logit regressions. Controls are minimal, due to the experimental setup and the fact that the balance results show that the random assignment was successful.¹³

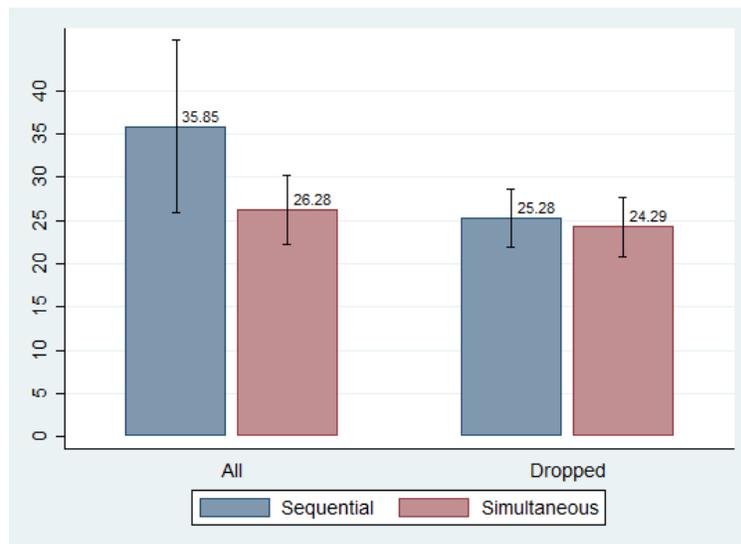
4.1 Effect of simultaneous vs. sequential treatment on total donations

Although respondents gave more when donation decisions were displayed sequentially, the differences were not significant. Figure ?? first shows the results when all respondents passing understanding checks are included. Sequential treatment respondents gave an average of \$35.85, while simultaneous treatment respondents gave an average of \$26.28. This difference was not significant at the 0.05 level (see Table ??). In addition, this effect was driven largely by respondents who gave more than \$100, despite the fact that they passed understanding checks indicated they comprehended the total giving budget. These responses occurred primarily in the sequential solicitation. When these overzealous respondents are dropped (second set of results in Figure ??), the difference between the sequential and simultaneous treatments shrinks. The new average for sequential donors is \$25.28 and for simultaneous is \$24.29. Based on this analysis, I do not find support for the hypothesis that individuals give more in response to sequential solicitations.

Because the results of the analysis were sensitive to the handling of respondents who gave more than \$100, I explored several ways of handling these respondents in Table ?. The best approach to handling the respondents depends on what one believes is behind their overzealous giving. There are two major reasons why a respondent might give more than \$100. First, they may have simply miscalculated the sum of their giving. In this case, the most appropriate technique would be to assume that in real life, the respondent would also forget their total gifts. In this case, no data changes should be made. This is shown in Model 1. Alternatively, one could cap giving at \$100 (allocating the \$100 proportionally based on specified donations in both cases), with the logic that a real donor would note when he or she runs out of money. This is shown in Model 2. These two models replicate results from Figure ??—when all respondents' giving is included, the sequential solicitation raises more money, but when donors are constrained by the specified budget, the result

¹³In addition, the inclusion of controls did not substantially reduce standard errors.

Figure 1. Mean Donation (in \$), Simultaneous and Sequential



Note: Whiskers represent 95% confidence intervals. “All” includes all respondents who pass understanding checks. “Dropped” also excludes individuals contributing more than \$100.

becomes non-significant.

Alternatively, respondents who gave more than \$100 may be doing so because they did not understand the instructions, even though they answered the understanding check questions correctly. In this case, the amount they intended to give would be substantially less than \$100. Respondents may have mistakenly believed they were being offered a separate \$100 lottery associated with each organization. Conservatively, their willingness to give could be approximated using their single largest gift (it may be higher, but a conservative approach is warranted to distinguish this scenario from Model 2). The result of modifying overzealous donors’ giving based on their largest gifts is shown in Model 3. An even more conservative approach would be to exclude these individuals completely, with the justification that they have failed an implicit understanding check. This approach is shown in Model 4. These two more conservative approaches decrease the point estimate on the sequential solicitation gifts in particular, and the differences between the sequential and simultaneous solicitations remain non-significant.

In addition to looking at overall giving, I examined how the treatment affected the decision to give (extensive margin) and the amount donated, conditional on giving something (intensive margin). The results were similar (and are presented in Appendix A4 and Appendix A5). As

Table 3. Effect of Treatment on Amount Donated

	OLS			
	(1) All	(2) Capped	(3) Modified	(4) Dropped
Simultaneous	-9.572 (5.446)	-2.536 (2.658)	-3.364 (2.691)	-0.995 (2.455)
Constant	35.85*** (5.058)	28.19*** (1.909)	28.03*** (2.058)	25.28*** (1.721)
Observations	452	452	452	439
Adjusted R^2	0.004	-0.000	0.001	-0.002

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Model 1 includes all respondents who pass understanding checks. In Model 2, individuals indicating donations more than \$100 were top-coded as contributing \$100. In Model 3, values for individuals contributing more than \$100 were set to their highest individual organization donation. In Model 4, individuals contributing more than \$100 were dropped.

before, there were no significant differences between the treatments. Tobit results, logit results for the decision to give, and log transformation of the variables also produced consistent results.

4.2 Differences in selected organizations

Donations and survey responses related to the 12 organizations included in the study are summarized in Table ???. Note that, in both the simultaneous and the sequential treatments, the order of organizations was counterbalanced so that the order of presentation would not impact the results.¹⁴ For each organization, the table reports summary statistics, including the average gift, the proportion of respondents giving to the organization, and the average organizational score for the impact, familiarity, and impression questions. The average for organizational familiarity is reflective of the estimated popularity of these organizations at a national level from Table 1.

¹⁴This randomization allows the effect of the presented order itself to be analyzed. Appendix A6 shows the mean donation for each presentation place, by treatment. The standard errors on the estimates are relatively large. Appendix A7 shows the mean and standard errors for each presentation place by treatment. The difference between the first and last organization is 2.10 (se=0.370) in the sequential treatment and 1.54 (se=0.465) in the simultaneous treatment. This indicates that order effects are present in both the sequential and simultaneous solicitations, and that the first organizations shown (which were random) received significantly more donations than the last organizations shown.

Table 4. Organization Summary

	Donation, in \$	Giving	Impact	Familiar	Impression
Alex's Lemonade Stand Foundation	1.73 (5.20)	0.25 (0.43)	3.95 (1.77)	2.14 (1.72)	4.73 (1.45)
American Cancer Society	2.88 (6.97)	0.34 (0.47)	3.89 (2.08)	5.52 (1.60)	4.71 (1.64)
American Heart Association	1.83 (5.43)	0.26 (0.44)	4.05 (1.94)	5.36 (1.54)	4.81 (1.55)
American Kidney Fund	2.01 (6.25)	0.28 (0.45)	4.40 (1.95)	2.94 (1.85)	4.93 (1.36)
Boys & Girls Clubs of America	1.86 (6.44)	0.24 (0.43)	3.94 (1.82)	5.03 (1.78)	4.70 (1.51)
Feeding America	4.44 (8.07)	0.48 (0.50)	4.98 (1.94)	3.82 (2.01)	5.25 (1.37)
KaBOOM	1.60 (5.31)	0.23 (0.42)	3.87 (1.74)	1.54 (1.14)	4.53 (1.42)
Make-A-Wish Foundation of America	2.55 (5.98)	0.33 (0.47)	4.13 (1.95)	5.81 (1.40)	5.02 (1.51)
Rape, Abuse, & Incest National Network	3.22 (7.31)	0.37 (0.48)	4.37 (1.85)	2.48 (1.77)	5.00 (1.40)
St. Jude Children's Research Hospital	4.75 (8.97)	0.50 (0.50)	4.91 (2.00)	5.68 (1.56)	5.58 (1.32)
Toys for Tots Foundation	2.28 (5.33)	0.34 (0.48)	4.64 (1.87)	5.29 (1.79)	5.27 (1.30)
Wounded Warrior Project	2.03 (5.63)	0.28 (0.45)	3.95 (1.92)	4.80 (1.93)	4.60 (1.63)
Average	2.60 (6.58)	0.33 (0.47)	4.26 (1.94)	4.20 (2.24)	4.93 (1.49)
Observations	5424	5424	5424	5424	5424

Note: All respondents passing understanding checks. Standard deviations in parentheses.

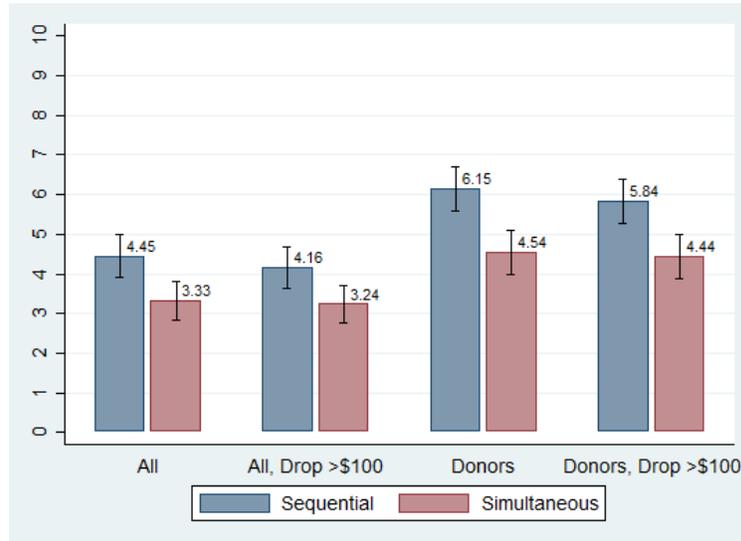
Based on previous results by Soyer and Hogarth (2011), it was hypothesized that the most highly-rated organizations (impactful, impressive, and familiar) would receive more gifts in the simultaneous solicitation setting. What we instead see is that respondents donate to fewer organizations in the simultaneous treatment; as a result, several organizations receive significantly smaller mean donations.

4.2.1 Number of organizations selected

Respondents chose to give to fewer organizations in the simultaneous treatment. This is reflected in Figure ???. On average, sequential treatment respondents gave to 4.45 organizations, while respondents in the simultaneous treatment gave to 3.33 organizations. These results were significant at the 0.01 level and did not change substantially when donors giving more than \$100 were dropped from the analysis. When only donors are considered, the difference increases, which is reflective of the fact that a slightly lower proportion of respondents gave in the simultaneous treatment. Figure 2 shows that donors in the sequential treatment gave to an average of 6.15 organizations, while donors in the simultaneous treatment gave to an average of 4.54 organizations. Appendix A8 shows the relevant regression results with standard errors and tests of significance.

The average gift to each organization was significantly higher in the simultaneous treatment. This is the expected effect, given the previous two results. Because donors are giving a similar amount to fewer organizations, the average gift is naturally higher. Table ??? shows that this effect persists whether looking at all respondents (Models 1 to 3) or donors only (Models 4 to 6). Capping donors at \$100 in total gifts and dropping donors over \$100 increased the magnitude of the difference between the sequential and simultaneous decision frameworks.

Figure 2. Number of Charities Selected, Simultaneous and Sequential



Note: Whiskers represent 95% confidence intervals. “All” includes all respondents who pass understanding checks. “Drop >\$100” also excludes individuals contributing more than \$100. “Donors” includes all donors who passed understanding checks. “Donors, Drop >\$100” also excludes donors contributing more than \$100.

Table 5. Avg Gift to a Chosen Organization, by Treatment

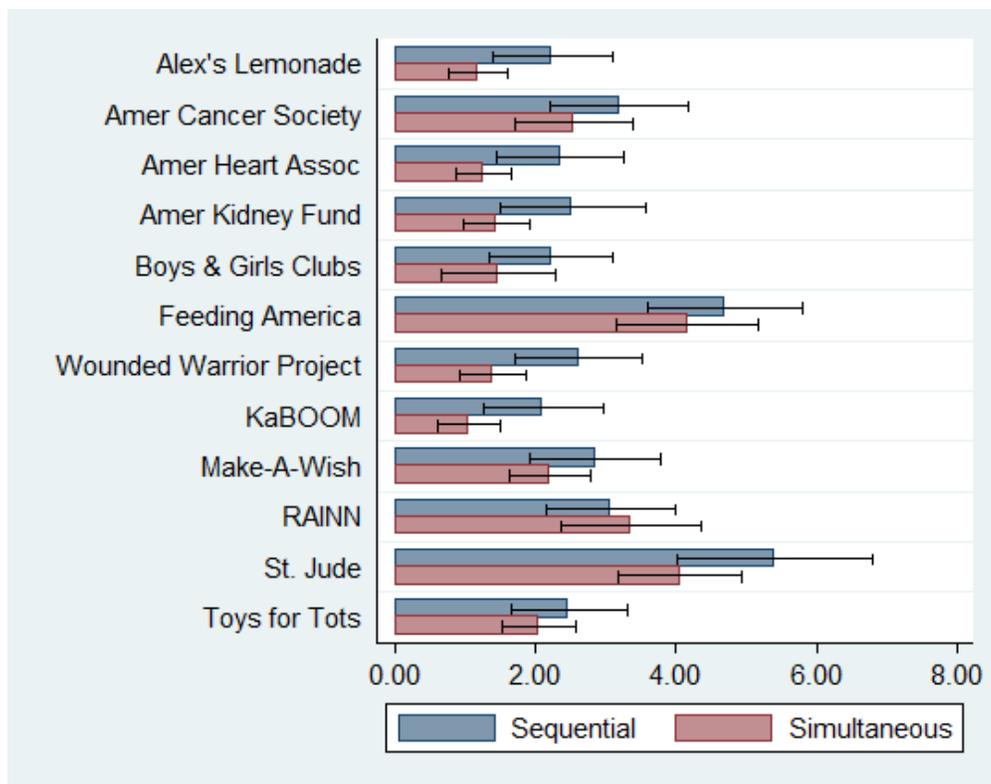
	OLS, Including Nondonors			OLS, Excluding Nondonors		
	(1) All	(2) Capped	(3) Dropped	(4) All	(5) Capped	(6) Dropped
Simultaneous	1.607* (0.798)	2.186** (0.704)	2.203** (0.714)	2.078* (0.952)	2.880*** (0.814)	2.860*** (0.835)
Constant	6.014*** (0.518)	5.371*** (0.364)	5.232*** (0.375)	8.319*** (0.632)	7.429*** (0.402)	7.351*** (0.423)
Observations	452	452	439	329	329	316
Adjusted R^2	0.007	0.019	0.019	0.011	0.035	0.033

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. “All” includes respondents passing understanding checks. “Capped” includes the same respondents, but donations more than \$100 were top-coded as contributing \$100. “Dropped” also excludes individuals contributing more than \$100.

4.2.2 Specific organization selections

Figure ?? provides a graphic summary showing how average donations to each organization change between the simultaneous and sequential treatments. Four of the twelve organizations (Alex’s Lemonade Stand, the American Heart Association, the Wounded Warrior Project, and KaBOOM) receive smaller average gifts in the simultaneous treatment, and these results are statistically significant when including all respondents passing understanding checks. Donations to each organization, by treatment, are shown in Appendix A9, with the difference between the two treatments included in Column 3. The t-statistic and test for statistical significance are included in Column 4. Appendix A10 notes that most of the significant results disappear once donors who spent more than the budget of \$100 are excluded, making the results of this analysis difficult to interpret.

Figure 3. Mean Donation (in \$) by Organization, Sequential and Simultaneous



Note: Whiskers represent 95% confidence intervals. All respondents passing understanding checks included.

The pattern underlying these results is somewhat opaque. Two of the organizations (Alex’s Lemonade Stand and KaBOOM) are among the least familiar of the nonprofits in the set. The

Wounded Warrior Project scored relatively low on impact and impression when compared to other organizations in its mission area. The American Heart Association was rated relatively well on impact, impression, and familiarity.

Because examining results at the organization level are difficult to interpret, I turn to the individual-organization level (because each individual received 12 solicitations either simultaneously or sequentially, there are approximately 5,400 individual-organization solicitations in the cleaned data) to understand the relationship between organizational characteristics and amount donated. I compute simple Logit and OLS regressions based on organizational characteristics (administrative and fundraising rate, also known as overhead or AFR, and mission area) and individual ratings of the organization's familiarity, impact, and impression. By fully interacting characteristics with treatment status, I find cases where the effect of these characteristics differs based on the treatment.

Table ?? shows these results. Column 1 and 2 relate characteristics with the likelihood of giving any amount to a particular organization. I report odds ratios based on a logit regression. The significant result for the interaction between simultaneous and impact reveals that impact is less important in the simultaneous treatment than it is in the sequential treatment. Column 3 and 4 show OLS regression for donation amounts. These results show that impact and impression are relatively less important in the simultaneous treatment, although only impression remains significant after dropping respondents giving more than the budgeted \$100. Column 5 and 6 examine only donors (respondents who give to at least one organization). Results are similar to those using all respondents, and reveal that impression and perhaps impact become less important in the simultaneous treatment. Taken together, these results are somewhat surprising. It does not seem that the best overall organizations are benefiting most in the simultaneous treatment. Instead, the role of impact and impression is decreased. As a consequence, the relative role of familiarity increases, which is consistent with the observation that multiple less-familiar organizations lost donations in the simultaneous treatment. It appears that respondents in the simultaneous solicitation situation use a decision rule with greater emphasis on familiarity.

Table 6. Influences on Giving

	Gave Indicator, Logit		Conditional Giving, OLS		Giving Amount, OLS	
	All	Drop Large	All	Drop Large	All	Drop Large
Impact	1.309*** (0.0375)	1.285*** (0.0376)	1.063*** (0.128)	0.448*** (0.0644)	0.889*** (0.0961)	0.412*** (0.0475)
Familiar	1.091*** (0.0231)	1.090*** (0.0234)	0.343*** (0.0871)	0.175*** (0.0462)	0.278*** (0.0661)	0.136*** (0.0350)
Impression	1.531*** (0.0715)	1.504*** (0.0713)	0.906*** (0.110)	0.748*** (0.0864)	0.692*** (0.0801)	0.552*** (0.0624)
AFR	0.989 (0.00586)	0.987* (0.00602)	-0.0311 (0.0270)	-0.0359** (0.0137)	-0.0227 (0.0204)	-0.0244* (0.0105)
Children's Health	0.786* (0.0955)	0.785 (0.0972)	-0.0883 (0.557)	-0.203 (0.304)	-0.116 (0.420)	-0.171 (0.236)
Children's Services	0.618*** (0.0767)	0.605*** (0.0772)	-1.248* (0.490)	-1.299*** (0.260)	-1.017** (0.368)	-0.986*** (0.200)
Disease Research/Support	0.714** (0.0909)	0.713** (0.0932)	-0.719 (0.538)	-0.862** (0.268)	-0.511 (0.403)	-0.616** (0.205)
Simultaneous	0.900 (0.304)	0.749 (0.259)	3.580*** (0.981)	0.590 (0.657)	2.938*** (0.723)	0.662 (0.480)
Simultaneous × Impact	0.864*** (0.0344)	0.886** (0.0360)	-0.601*** (0.149)	0.0344 (0.0974)	-0.542*** (0.113)	-0.0505 (0.0736)
Simultaneous × Familiar	1.002 (0.0307)	1.005 (0.0314)	-0.0536 (0.106)	0.111 (0.0740)	-0.0242 (0.0805)	0.110 (0.0564)
Simultaneous × Impression	0.967 (0.0652)	0.982 (0.0680)	-0.390** (0.137)	-0.300* (0.117)	-0.299** (0.102)	-0.218* (0.0871)
Simultaneous × AFR	0.996 (0.00865)	0.998 (0.00888)	-0.0120 (0.0326)	-0.0143 (0.0219)	-0.00840 (0.0248)	-0.0118 (0.0168)
Children's Health × Simultaneous	1.171 (0.206)	1.185 (0.213)	-0.652 (0.686)	-0.490 (0.497)	-0.482 (0.523)	-0.385 (0.385)
Children's Services × Simultaneous	1.057 (0.193)	1.089 (0.204)	-0.331 (0.625)	-0.211 (0.460)	-0.201 (0.472)	-0.174 (0.351)
Disease Research/Support × Simultaneous	1.029 (0.191)	1.041 (0.197)	-0.632 (0.654)	-0.523 (0.448)	-0.543 (0.494)	-0.452 (0.341)
Observations	5424	5268	3948	3792	5424	5268
Adjusted R^2			0.117	0.132	0.097	0.104

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. All respondents passing understanding checks included. Excluded mission area is "Basic Needs". Odds ratios reported for logit models. Models 5 and 6 include only donors.

4.3 Mechanisms

The next several results deal with potential mechanisms underlying the differences in donation number and organizations selected. As indicated earlier, the three mechanisms of interest are

mental budgeting, diversification, and choice overload. These analyses do not differ substantially based on how respondents donating more than \$100 are treated, so I report only one set of results (keeping respondents donating more than \$100).¹⁵

4.3.1 Mental budgeting

If mental budgeting plays an increased role in simultaneous solicitation situations, then respondents would be expected to report more budgeting behaviors and have more accurate recall of donation counts and amounts. In the present experiment, when asked directly about budgeting, respondents in the simultaneous treatment and sequential treatment answered similarly. In both treatments, more respondents disagreed than agreed when asked if they set a budget for the number of organizations they chose or how much they would donate, and differences were not statistically significant. Table ?? displays the OLS results for reported budgeting.

Table 7. Effect of Treatment on Reported Budgeting

	(1) Dollars	(2) Count
Simultaneous	0.0493 (0.220)	0.0916 (0.216)
Constant	3.589*** (0.151)	3.026*** (0.151)
Observations	452	451
Adjusted R^2	-0.002	-0.002

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. All respondents passing understanding checks included. “Dollars” refers to a Likert scale indicating agreement with the statement “I decided how much I wanted to donate before viewing the specifics about the nonprofit organizations.” “Count” refers to a Likert scale indicating agreement with the statement “I decided how many organizations I wanted to donate to before reading the information about the nonprofit organizations.”

However, when asked to recall the amount they had given or how many organizations they had donated to, the respondents in the simultaneous treatment were much better able to remember. In the sequential treatment, 61% of respondents correctly recalled their donation, while 89% of respondents correctly recalled in the simultaneous treatment. Similarly, 70% of respondents in the

¹⁵The lack of substantive or significant differences is intuitive because these individuals are not outliers in their responses to mechanism-related questions.

sequential treatment and 87% of respondents in the simultaneous treatment correctly recalled the number of organizations they chose. Table ?? shows that these results were large and significant using both Logit and OLS models. The presence of substantial forgetting in the sequential treatment indicates that respondents may be engaging in less mental accounting in this setting. This lends support to the original hypothesis of increased mental budgeting in simultaneous solicitations.¹⁶

Table 8. Effect of Treatment on Recall of Donation Amount and Count, Logit and OLS

	Logit, All		OLS, All	
	Dollars	Count	Dollars	Count
Simultaneous	5.239*** (1.337)	2.464*** (0.591)	0.281*** (0.0384)	0.150*** (0.0383)
Constant	1.567*** (0.212)	2.397*** (0.346)	0.610*** (0.0322)	0.706*** (0.0301)
Observations	452	452	452	452

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. Odds ratio reported for logit results. “Dollars” and “Count” are indicator variables that take a value of 1 if respondent correctly recalls their donation. All respondents passing understanding checks included.

4.3.2 Comparison and diversification

In the simultaneous decision making framework, it was hypothesized that respondents would report more comparison among organizations, and that this comparison would lead to an increased role for objective decision criteria like overhead rate (AFR) in the simultaneous solicitation. As expected, respondents in the simultaneous treatment reported more comparison between organizations than respondents in the sequential treatment, as is shown in Table ??, Model 1. This result was larger when only donors were included in the analysis (Model 4). Although respondents report more comparison in the simultaneous solicitation setting, the basis for this comparison does not seem to be the objective AFR criteria. Table ?? shows that the interaction between AFR and treatment is not significant in any model, so the hypothesis of a differential effect of AFR in the

¹⁶An alternative explanation relates to the time that respondents took with each treatment. The average survey duration for the sequential treatment was 573 seconds, while the average duration for the simultaneous treatment was 501 seconds. The difference was not significant ($t(700)=0.97$).

simultaneous treatment is not supported.

In addition to increasing comparison, it was hypothesized that the simultaneous solicitation situation will increase diversification as measured by diversification self-reports and observed mission area heterogeneity among the organizations selected for donations. The results in Table ?? show that respondents in the simultaneous treatment tended to believe that the organizations they chose were not similar to one another (Models 2 and 5). However, respondents did not report that they avoided giving to organizations that were the same, suggesting that any diversification was a passive rather than an active process (Models 3 and 6). Table ?? also shows that the responses to both of these questions were not significantly different between those exposed to the simultaneous and sequential decision frameworks. The non-significant result is intuitive when one considers that there should be no differences between the treatments for the non-donors. However, this result does not appear to be driven by non-donors or respondents who only gave to one organization (see Appendix A10).

In addition to comparing self-reports of diversification as in Table ??, one can compare the diversification among mission area which is observed in the respondents' donations. A simple examination of those respondents who gave to 2 or 3 organizations reveals that 7% of those in the sequential and 20% of those in the simultaneous solicitation situation gave all their donations within a single mission area. This difference was not significant at the 5% level (Fisher's exact test $p=0.136$). Next, a Herfindahl-Hirschman-style concentration index was constructed by squaring and summing the share of donations to each of the four mission areas. As shown in Appendix A11, giving by multi-organization donors in the simultaneous solicitation scenario was significantly more concentrated (a higher HHI), even after controlling for the number of gifts. These analyses do not support the hypothesis that simultaneous solicitation leads to more diversification; in fact, the analyses suggest that simultaneous solicitation actually leads to more donation concentration. While the respondents in the simultaneous solicitation situation reported more comparison among the organizations, none of the self-reported or observational evidence provides evidence that this comparison was based on AFR or lead to more diversification in the simultaneous treatment.

Table 9. Effect of Treatment on Reported Comparisons Between Organizations and Similarity of Choices

	OLS, All respondents			OLS, All donors		
	(1) I compared	(2) Orgs similar	(3) Avoid same	(4) I compared	(5) Orgs similar	(6) Avoid same
Simultaneous	1.120*** (0.186)	0.0188 (0.162)	0.140 (0.179)	1.262*** (0.192)	0.0106 (0.184)	0.295 (0.194)
Constant	3.474*** (0.125)	3.239*** (0.111)	2.537*** (0.119)	3.831*** (0.134)	3.428*** (0.125)	2.364*** (0.121)
Observations	449	451	449	327	328	326
Adjusted R^2	0.073	-0.002	-0.001	0.115	-0.003	0.004

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. All respondents passing understanding checks included. The second set of models includes only donors. “I compared” refers to a Likert scale indicating agreement with the statement “I compared the organizations to each other when making my donation decision.” “Orgs similar” refers to a Likert scale indicating agreement with the statement “The organizations I chose to give to had a lot in common with each other.” “Avoid same” refers to a Likert scale indicating agreement with the statement “I avoided giving to multiple organizations with similar missions.”

4.3.3 Choice overload and choice satisfaction

Based on previous research, it was hypothesized that the simultaneous solicitation would increase choice overload, as evidenced by perceived difficulty and percentage opting out of giving. Respondents in the simultaneous treatment actually indicated that the choices they made were less difficult. Table ?? shows that these results were statistically significant and grew larger when looking specifically at donors. Furthermore, while the proportion of respondents who gave in the simultaneous solicitation was slightly lower at 73.3% vs. 74.5%, these differences were not significant (see Appendix A4). Based on these results, the choice overload hypothesis cannot be used to explain changes to giving when solicitations are simultaneous.

Another idea that is associated with choice overload is choice satisfaction. Here, it was hypothesized that simultaneous solicitation would increase satisfaction because of the decreased opportunities for regret. As shown in Table ??, respondents indicated that they were more satisfied with their choices in the simultaneous solicitation (and expressed less regret or interest in revising their choices), supporting the hypothesis.

Table 10. Effect of Treatment on Self-Reported Satisfaction, Difficulty

	OLS, All respondents		OLS, All donors	
	(1) Satisfaction	(2) Difficulty	(3) Satisfaction	(4) Difficulty
Simultaneous	0.400*** (0.113)	-0.392** (0.135)	0.543*** (0.129)	-0.592*** (0.155)
Constant	5.498*** (0.0828)	2.978*** (0.0997)	5.407*** (0.0946)	3.202*** (0.114)
Observations	452	452	329	329
Adjusted R^2	0.025	0.016	0.049	0.040

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. All respondents passing understanding checks included. Satisfaction and difficulty are index variables constructed from the responses to the survey questions related to each construct. (See survey instrument in the online appendix.)

5 Discussion

This paper finds a few notable differences between giving to simultaneous solicitations and sequential solicitations. Simultaneous solicitation respondents gave to fewer organizations, although the evidence does not support the hypothesis that they donated statistically less in total. Simultaneous respondents were better able to remember the amount they donated, which indicates that sequential giving may benefit from charitable forgetting or a lower incidence of mental budgeting behaviors. Simultaneous respondents were also more likely to compare the organizations to each other, which tended to disadvantage low-familiarity organizations, but not organizations with higher overhead rates. Here, there is evidence that familiarity, rather than overall charity rating, is more important in simultaneous settings, although this result is based on post-hoc self-reporting by respondents, and should therefore be interpreted with caution. There was no evidence that diversification increased in the simultaneous solicitation setting, and some surprising observational evidence that mission type concentration actually increased. Finally, simultaneous respondents reported higher donor satisfaction and lower decision making difficulty (and were no more likely to opt-out of making a decision), which helps to explain the rising popularity of these giving schemes and does not find support for a “choice overload” hypothesis.

This paper makes three important contributions to the literature. First, it demonstrates that the

mechanisms underlying donor decision making are shaped by the type of solicitation offered. In particular, this paper provides initial evidence that sequential solicitations may cause donors to activate mental budgets differentially. Surprisingly, there was no evidence of choice overload or diversification acting as important mechanisms in the simultaneous solicitation context.

This paper also shows that competition is more pronounced in simultaneous solicitation situations. This is demonstrated by the fact that respondents report more comparison among organizations and fewer charities are ultimately chosen in the simultaneous situation. In addition, there is evidence that the dimensions on which charities compete differ depending on the type of solicitation, with more subjective considerations playing a more important role than previously found.

Finally, the present paper suggests that previous findings on decision frameworks from the non-charitable giving literature may apply to the charitable giving context. Specifically, the present paper provides additional evidence that simultaneous decisions induce simpler decision-making rules, which is aligned with previous work by Besedeš et al. (2015). This paper provides evidence that the simplified decision rules need not be objectively rational, but may be based on subjective characteristics like familiarity. Furthermore, the paper also supports Besedeš et al.'s finding that the simultaneous decision making context is preferred. While the previous work had documented this preference in an objective, single-decision framework, the preference for simultaneous decision making frameworks seems to extend to the charitable giving space, in which there are not objectively "correct" choices and multiple donations (choices) are possible. In the donation context, satisfaction may be valuable because it may lead to increased willingness to give again.

5.1 Opportunities for future research

The present paper provides evidence that individuals respond differently to simultaneous giving decisions, such as Giving Days and workplace giving, when compared to sequential giving decisions, such as direct mail. However, differences between the lab and real-world giving scenarios should be considered. Future research provides an opportunity to test the effect of these variables on the results.

In this experiment, the sequential respondents knew how many solicitations they would be receiving, while in the real world, the number of direct mail solicitations is not known in advance. In

a working paper, Eckel et al. (2018) examine how foreknowledge of solicitations, which they describe as a type of information asymmetry, affects differences between simultaneous and sequential solicitation, particularly the order effects also observed in the present study. The authors find that when the number of sequential solicitations is not known in advance, respondents give less overall, but more to the first organizations to solicit. This concurrent work is an important complement to the present study, since each paper documents distinct mechanisms underlying differences between simultaneous and sequential solicitations.

Furthermore, the source, size, and timing of the donation requests in this study was somewhat different from real world Giving Tuesday solicitations or other similar simultaneous and sequential solicitation. First, participants in this study made gifts from an endowment which was both uncertain (only some individuals had gifts enacted) and may have been regarded as a windfall by some participants. Because this gift endowment was not different between the two treatments, these factors should not bias the results. Furthermore, as explained earlier, previous work has found that uncertain endowments do not appear to affect experimental results (Charness et al. 2016, Clot et al. 2018). Regardless, future work may wish to vary the source of gifts, as Giving Tuesday donors typically give from earnings. Secondly, the giving amounts in this study were somewhat different than is typical on Giving Tuesday. In 2018, the average online gift to Giving Tuesday was approximately \$105 (Giving Tuesday 2019). The present study yielded average gifts of approximately one-third of that amount (by donors who were committing to a future lottery prize). A more certain, larger gift from one's own earnings may be more likely to trigger charitable budgeting behavior and recall of the amount donated. Finally, the sequential requests in the present study were made one after the other, while in the real world, a longer time would pass between sequential year-end solicitations. Time between solicitations is likely to increase the effects of charitable forgetting. In summary, the present results should be reexamined in other giving contexts which vary the source, size, and timing of gifts. In particular, the relationship between gift size and mental budgeting and gift timing and "charitable forgetting" are important avenues for future research on charitable giving.

One additional factor to consider when contrasting simultaneous and sequential solicitations is that most organizations do not rely only on simultaneous solicitations. Typically, organizations follow the simultaneous solicitation with a targeted solicitation. Fully understanding the effect of

simultaneous solicitations on donor decision making requires researchers to not only understanding the differences between the two solicitation types, but also the effects when the solicitations are paired. In particular, the effect of following a simultaneous solicitation with a targeted sequential solicitation is the most important question to practitioners and charitable leaders.

Ultimately, researchers should not only explore the differences between simultaneous and sequential solicitation at a particular point in time, but should engage in longitudinal research to understand if simultaneous solicitations like Giving Days lift or shift total donations to nonprofit organizations over time. While a giving lift might enhance the sector as a whole, a giving shift is more likely to create winners and losers among charitable organizations. By showing that donors make decisions differently and preference more-familiar organizations in simultaneous settings, this paper shows that Giving Tuesday and other modern simultaneous solicitations have the potential to shift giving and transform the philanthropic landscape in ways that we do not yet fully understand.

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A Online Appendix (Supplementary Tables and Figures)

Table A1. Balance Checks by Level of Understanding

	Fail		Pass		T-Test	
	Mean	SD	Mean	SD	Diff	T-stat
All understanding check correct	0.00	0.00	1.00	0.00	-1.00	.
Number correct understanding checks	2.36	0.86	4.00	0.00	-1.64***	-40.76***
Age, in years	33.51	9.94	35.03	9.78	-1.52*	-1.96*
Gender						
Male	0.57	0.50	0.60	0.49	-0.02	-0.60
Female	0.42	0.49	0.40	0.49	0.01	0.34
Education						
Less than a Bachelor's	0.56	0.50	0.47	0.50	0.09*	2.31*
Bachelor's or higher	0.44	0.50	0.53	0.50	-0.09*	-2.31*
Income						
\$50,000 or more	0.46	0.50	0.40	0.49	0.06	1.55
Less than \$50,000	0.54	0.50	0.60	0.49	-0.06	-1.55
Region						
Northeast	0.22	0.41	0.20	0.40	0.02	0.57
Central	0.21	0.41	0.21	0.41	-0.00	-0.04
South	0.34	0.47	0.34	0.47	-0.00	-0.09
West	0.24	0.43	0.25	0.44	-0.01	-0.39
Giving in last 12 mo						
Less than 2 times	0.45	0.50	0.46	0.50	-0.01	-0.26
2 times or more	0.55	0.50	0.54	0.50	0.01	0.26
Dollars donated last 12 mo						
Less than \$50	0.54	0.50	0.53	0.50	0.01	0.20
\$50 or more	0.46	0.50	0.47	0.50	-0.01	-0.20
Observations	250		452		702	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All respondents.

Table A2. Summary Statistics, Answers by Understanding Level

	Fail		Pass		T-Test	
	Mean	SD	Mean	SD	Diff	T-stat
Total donated, in \$	55.58	111.71	31.17	58.96	24.41***	3.79***
Total number of donations	4.45	4.44	3.90	3.98	0.55	1.69
Mental Budgeting						
I budgeted, 1 Strongly disagree 7 Strongly agree	3.75	2.20	3.61	2.33	0.14	0.76
I decided number in advance, 1 Strongly disagree 7 Strongly agree	3.40	2.19	3.07	2.29	0.33	1.83
Correct recall of donation amount?	0.66	0.47	0.75	0.43	-0.08*	-2.37*
Correct recall of number of gifts?	0.70	0.46	0.78	0.42	-0.08*	-2.43*
Difficulty						
How likely to put off the giving decision, 1 Not at all 7 Extremely	2.94	1.94	2.85	1.96	0.09	0.56
How frustrated feel, 1 Not at all 7 Extremely	2.71	1.79	2.50	1.71	0.21	1.51
How difficult giving decision, 1 Not at all 7 Extremely	3.15	2.02	2.94	1.96	0.21	1.33
How certain right choice, 1 Not at all 7 Extremely	5.06	1.72	5.15	1.68	-0.09	-0.69
Difficulty index, 4 items, alpha=0.78	2.93	1.41	2.79	1.45	0.15	1.29
Satisfaction						
How satisfied with orgs and amounts, 1 Not at all satisfied 7 Very satisfied	5.49	1.39	5.61	1.43	-0.13	-1.13
Satisfied compared to all orgs known, 1 Not at all satisfied 7 Very satisfied	5.43	1.39	5.58	1.44	-0.15	-1.33
Would you choose same orgs and amounts again, 1 Probably no 7 Probably yes	5.65	1.60	5.89	1.58	-0.24	-1.91
Satisfaction index, 3 items, alpha=0.79	5.52	1.27	5.69	1.22	-0.17	-1.74
Variety						
Choices had a lot in common, 1 Strongly disagree 7 Strongly agree	3.62	1.85	3.25	1.72	0.37**	2.67**
Avoided giving to similar, 1 Strongly disagree 7 Strongly agree	2.93	1.90	2.61	1.89	0.32*	2.15*
Comparison						
I compared, 1 Strongly disagree 7 Strongly agree	4.21	1.97	4.02	2.04	0.19	1.19
Observations	250		452		702	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All respondents.

Table A3. Understanding Check Responses and Giving Patterns

	No Gift		Gift \leq \$100		Gift $>$ \$100		All	
	Count	(Pct)	Count	(Pct)	Count	(Pct)	Count	(Pct)
Understanding Check 1								
Correct	170	(0.90)	437	(0.93)	33	(0.75)	640	(0.91)
Incorrect	18	(0.10)	33	(0.07)	11	(0.25)	62	(0.09)
Understanding Check 2								
Correct	161	(0.86)	403	(0.86)	21	(0.48)	585	(0.83)
Incorrect	27	(0.14)	67	(0.14)	23	(0.52)	117	(0.17)
Understanding Check 3								
Correct	144	(0.77)	367	(0.78)	17	(0.39)	528	(0.75)
Incorrect	44	(0.23)	103	(0.22)	27	(0.61)	174	(0.25)
Understanding Check 4								
Correct	170	(0.90)	439	(0.93)	35	(0.80)	644	(0.92)
Incorrect	18	(0.10)	31	(0.07)	9	(0.20)	58	(0.08)
Most (3+) Correct								
Pass	157	(0.84)	415	(0.88)	22	(0.50)	594	(0.85)
Fail	31	(0.16)	55	(0.12)	22	(0.50)	108	(0.15)
All (4) Correct								
Pass	123	(0.65)	316	(0.67)	13	(0.30)	452	(0.64)
Fail	65	(0.35)	154	(0.33)	31	(0.70)	250	(0.36)
Observations	188		470		44		702	

Note: All respondents. Check 1: “If you commit to donate \$10 each to two organizations in this survey and you are not selected to receive the \$100, how much will your total Amazon Mechanical Turk Payment be?” (Correct answer: \$1.50) Check 2: “If you commit to donate \$10 each to two organizations in this survey and you are selected to receive the \$100, how much will your total Amazon Mechanical Turk Payment be?” (Correct answer, \$81.50) Check 3: “If you commit to donate \$10 each to two organizations in this survey and you are selected to receive the \$100, how much will be sent to nonprofit organizations?” (Correct answer, \$20) Check 4: “Respondent Jane Doe has written that she would donate \$60 of her \$100 gift card to Organization 2. Can she also commit to donating \$50 to Organization 4?” (Correct answer: No, because the total amount of the gift card, and therefore the total potential donation, is \$100.)

Table A4. Effect of Treatment on Choice to Give

	All		Drop >\$100	
	Logit	OLS	Logit	OLS
Simultaneous	1.052 (0.223)	0.0101 (0.0420)	1.085 (0.231)	0.0164 (0.0430)
Constant	2.609*** (0.384)	0.723*** (0.0295)	2.469*** (0.366)	0.712*** (0.0305)
Observations	452	452	439	439

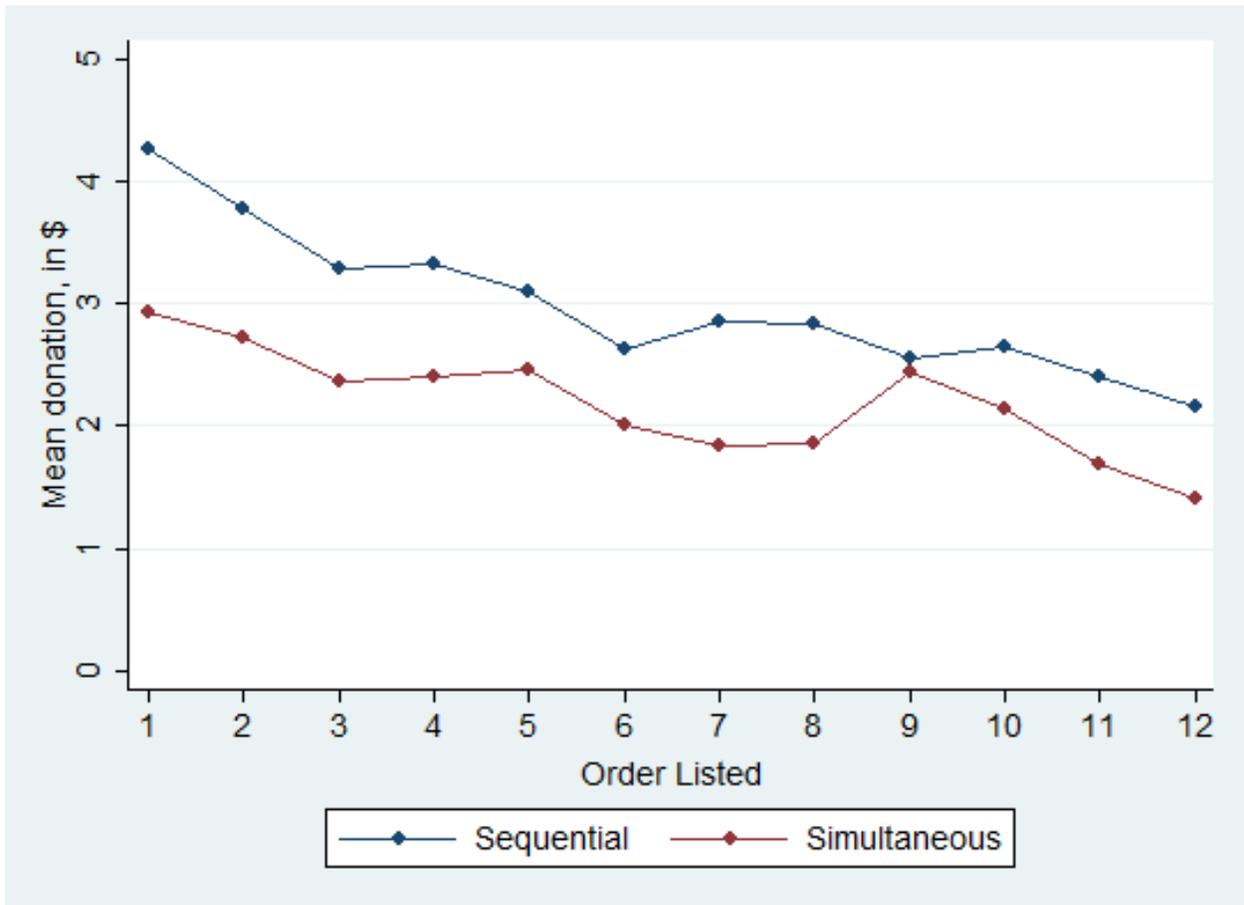
Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Logit results presented as odds ratios. All respondents passing understanding checks included.

Table A5. Effect of Treatment on Amount Donated, Conditional on Giving Something

	OLS			
	(1) All	(2) Capped	(3) Modified	(4) Dropped
Simultaneous	-13.74 (7.099)	-3.996 (2.964)	-5.123 (3.055)	-2.166 (2.722)
Constant	49.59*** (6.702)	39.00*** (2.109)	38.78*** (2.367)	35.52*** (1.882)
Observations	329	329	329	316
Adjusted R^2	0.008	0.002	0.005	-0.001

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Model 1 includes all respondents who passed the understanding checks. In Model 2, individuals indicating donations more than \$100 were top-coded as contributing \$100. In Model 3, values for individuals contributing more than \$100 were capped at their largest single donation. In Model 4, individuals contributing more than \$100 were dropped.

Figure 4. Order Effects on Mean Donation (in \$), Sequential and Simultaneous



Note: All respondents passing understanding checks included.

Table A6. Order Effects on Giving, by Treatment

	Sequential		Simultaneous	
	Mean	(SE)	Mean	(SE)
Order=1	4.275	(0.568)	2.940	(0.413)
Order=2	3.775	(0.510)	2.723	(0.423)
Order=3	3.284	(0.483)	2.375	(0.305)
Order=4	3.338	(0.461)	2.402	(0.340)
Order=5	3.102	(0.486)	2.459	(0.397)
Order=6	2.626	(0.456)	2.004	(0.442)
Order=7	2.848	(0.471)	1.845	(0.273)
Order=8	2.841	(0.519)	1.859	(0.281)
Order=9	2.548	(0.476)	2.443	(0.461)
Order=10	2.645	(0.616)	2.135	(0.369)
Order=11	2.398	(0.442)	1.692	(0.255)
Order=12	2.169	(0.473)	1.400	(0.246)
Observations	2772		2652	
Adjusted R^2	0.136		0.147	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. All respondents passing understanding checks included.

Table A7. Effect of Treatment on Number Charities Selected

	OLS, All		OLS, Donors	
	(1) All	(2) Dropped	(3) All	(4) Dropped
Simultaneous	-1.116** (0.370)	-0.923* (0.363)	-1.606*** (0.402)	-1.399*** (0.399)
Constant	4.446*** (0.274)	4.158*** (0.267)	6.150*** (0.283)	5.842*** (0.279)
Observations	452	439	329	316
Adjusted R^2	0.018	0.012	0.044	0.035

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. "All" includes all respondents passing understanding checks. "Dropped" also drops respondents contributing more than \$100.

Table A8. Effect of Treatment on Giving Patterns, All

	Sequential		Simultaneous		T-Test	
	Mean	SD	Mean	SD	Diff	T-stat
Alex's Lemonade Stand Foundation	2.24	6.56	1.19	3.15	1.05*	2.15*
American Cancer Society	3.20	7.51	2.55	6.35	0.65	0.99
American Heart Association	2.36	6.98	1.27	2.97	1.09*	2.14*
American Kidney Fund	2.54	7.99	1.45	3.59	1.09	1.85
Boys & Girls Clubs of America	2.23	6.74	1.48	6.12	0.75	1.24
Feeding America	4.70	8.49	4.17	7.61	0.53	0.70
Wounded Warrior Project	2.63	6.98	1.40	3.64	1.23*	2.33*
KaBOOM	2.12	6.59	1.06	3.44	1.06*	2.13*
Make-A-Wish Foundation of America	2.87	7.18	2.21	4.39	0.65	1.16
Rape, Abuse, & Incest National Network	3.08	7.11	3.36	7.53	-0.27	-0.40
St. Jude Children's Research Hospital	5.40	10.73	4.07	6.61	1.33	1.58
Toys for Tots Foundation	2.48	6.40	2.06	3.92	0.42	0.84
Observations	231		221		452	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. All respondents passing understanding checks included.

Table A9. Effect of Treatment on Giving Patterns, All < 100

	Sequential		Simultaneous		T-Test	
	Mean	SD	Mean	SD	Diff	T-stat
Alex's Lemonade Stand Foundation	1.55	3.44	1.15	3.11	0.41	1.30
American Cancer Society	2.29	4.06	2.07	5.00	0.22	0.52
American Heart Association	1.46	3.27	1.18	2.78	0.28	0.98
American Kidney Fund	1.53	2.86	1.36	3.45	0.17	0.56
Boys & Girls Clubs of America	1.37	2.87	1.39	6.07	-0.02	-0.04
Feeding America	3.77	5.67	3.95	7.44	-0.18	-0.29
Wounded Warrior Project	1.79	3.39	1.26	3.28	0.52	1.64
KaBOOM	1.40	3.20	0.85	2.68	0.55	1.95
Make-A-Wish Foundation of America	1.95	3.48	2.05	4.13	-0.10	-0.28
Rape, Abuse, & Incest National Network	2.35	4.17	3.23	7.46	-0.87	-1.52
St. Jude Children's Research Hospital	4.02	6.05	3.80	6.28	0.22	0.38
Toys for Tots Foundation	1.80	3.09	2.01	3.87	-0.21	-0.63
Observations	222		217		439	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Respondents giving over \$100 excluded (in addition to those not passing understanding checks).

Table A10. Effect of Treatment on Reported Comparisons Between Organizations and Similarity of Choices

	OLS, All donors			OLS, All multi-org donors		
	(1) I compared	(2) Orgs similar	(3) Avoid same	(4) I compared	(5) Orgs similar	(6) Avoid same
Simultaneous	1.262*** (0.192)	0.0106 (0.184)	0.295 (0.194)	1.340*** (0.205)	0.0177 (0.192)	0.208 (0.201)
Constant	3.831*** (0.134)	3.428*** (0.125)	2.364*** (0.121)	3.740*** (0.141)	3.453*** (0.127)	2.289*** (0.124)
Observations	327	328	326	287	288	286
Adjusted R^2	0.115	-0.003	0.004	0.127	-0.003	0.000

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. All respondents passing understanding checks included. The first set of models includes only donors. The second set of models includes only donors to more than more organization. “I compared” refers to a Likert scale indicating agreement with the statement “I compared the organizations to each other when making my donation decision.” “Orgs similar” refers to a Likert scale indicating agreement with the statement “The organizations I chose to give to had a lot in common with each other.” “Avoid same” refers to a Likert scale indicating agreement with the statement “I avoided giving to multiple organizations with similar missions.”

Table A11. Effect of Treatment on Diversification (HHI)

	All Donors		Multi-org Donors	
	(1)	(2)	(3)	(4)
Simultaneous	0.0994*** (0.0276)	0.0230 (0.0201)	0.0785*** (0.0209)	0.0308* (0.0156)
Total number of donations		-0.0476*** (0.00258)		-0.0311*** (0.00202)
Constant	0.438*** (0.0171)	0.731*** (0.0237)	0.378*** (0.0106)	0.586*** (0.0178)
Observations	329	329	289	289
Adjusted R^2	0.036	0.502	0.045	0.418

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. Dependent variable is the HHI, a concentration index computed by summing the squared share of giving to each of the four mission areas. A higher HHI is interpreted as more concentration of giving. All donors includes those giving to one or more organizations, while multi-org donors include those giving to two or more organizations. Individuals who did not pass understanding checks are excluded as well.

B Online Appendix (Survey Instrument)