ソシオネットワーク戦略ディスカッションペーパーシリーズ ISSN 2434-9445
第 110 号　2024 年 2 月
RISS Discussion Paper Series
No.110　February, 2024

Effects of detailed information and emotional appeals of videos on donor behavior

Shigeharu Okajima, Tsuyoshi Nihonsugi
Yukihiko Funaki, Hiroko Okajima

文部科学大臣認定　共同利用・共同研究拠点
関西大学ソシオネットワーク戦略研究機構

Research Institute for Socionetwork Strategies,
Kansai University
Joint Usage / Research Center, MEXT, Japan
Suita, Osaka, 564-8680, Japan
URL: https://www.kansai-u.ac.jp/riss/index.html
e-mail: riss@ml.kandai.jp
tel. 06-6368-1228
fax. 06-6330-3304

Effects of detailed information and emotional appeals of videos on donor behavior

Shigeharu Okajima[a*] Tsuyoshi Nihonsugi[b] Yukihiko Funaki[c] Hiroko Okajima[d]

a Department of Economics, Osaka University of Economics. 2-2-8, Osumi, Higashiyodogawa-ku, Osaka, 533-8533, Japan. shigeharu.okajima@gmail.com
b Department of Economics, Osaka University of Economics. 2-2-8, Osumi, Higashiyodogawa-ku, Osaka, 533-8533, Japan. t.nihonsugi@gmail.com
c School of Political Science and Economics, Waseda University. 1-6-1 Nishiwaseda Shinjuku-ku, Tokyo 169-8050, Japan. funaki@waseda.jp
d School of Economics, Nagoya University. Furo-cho, Chikusa-ku, Nagoya, 464-8601, Japan. okajima@soec.nagoya-u.ac.jp

Highlights

- Moving viewers' emotions is not sufficient to stimulate donations
- Providing detailed information about the recipient organization is essential
- A cold list responds to videos that evoke positive emotions, leading to donations
- Conscientiousness is a key personality trait related to donations

Abstract

This study investigates how the appeal and content of videos influence donor behavior by exploring two main aspects: (1) the types of videos that lead to more donations, and (2) the traits of individuals who are more inclined to donate after watching videos. A laboratory experiment involving 308 undergraduate students was conducted to examine these aspects from four perspectives: information, emotions, past donation experiences, and cognitive abilities. With regard to (1), the results suggest that effective videos should provide detailed information about the recipient organization, in addition to evoking viewers' emotions. Regarding (2), the results show that people who have never donated before and those with strong conscientious traits are more likely to donate after watching a video. This study underscores the importance of tailoring the appeal and content of videos for potential donors to enhance fundraising outcomes.

Keywords: Donation; Videos; Emotions; A cold list; Cognitive ability; Personality trait

* Corresponding author: Shigeharu Okajima, shigeharu.okajima@gmail.com

Laboratory experiment

Classification codes: L310, H410, M370

Declarations of interest: none

1. Introduction

Videos are a highly effective marketing tool[1], and charitable organizations have started using them for fundraising, although their impact on donor behavior remains unclear. Extensive research has explored the factors influencing charitable giving in general (for a comprehensive review, refer to Bekkers and Wiepking, 2011). However, few studies have specifically examined the effectiveness of fundraising videos.

The objective of this study is to expand on previous research by finding empirical evidence of how the appeal and content of videos influence donor behavior. Specifically, we investigate the question from two main aspects in a laboratory experiment: (1) the types of videos that lead to more donations and (2) the traits of individuals who are more inclined to donate after watching a video. Regarding the first question, we found that videos should provide more than just emotional appeal to encourage donations to a charity. Detailed information about the recipient organization is crucial for this process. Regarding the second question, we found that those who have never donated in the past and those with strong conscientious (rule-based decision-making) traits are more likely to donate after watching a video.

We analyze the first question from two perspectives: information and emotions. The second question is analyzed from two perspectives: warm and cold lists, and cognitive abilities. Next, we explain these perspectives.

Information. To investigate our first question from an information perspective, we distinguish between videos that provide "direct information" and those that provide "indirect information." We define direct information as the information that pertains to the recipient organization. A publicity video of a charity is considered as direct information for the charity. On the other hand, we define indirect information as the information about charitable activities by other organizations that are similar to the activities by the recipient organization. For example, a video showing general animal welfare activities is considered as providing indirect information on animal welfare charity.

We hypothesize that showing direct information in a video is crucial for soliciting contributions. Previous studies have shown that the provision of concrete information affects donation. This information ranges from the size of a charity (Borgloh et al., 2013) to its authority or financial credibility (Kitching, 2009; Goering et al., 2011). It also

[1] According to the Video Marketing Statistics 2023 report by Wyzowl, 91% of businesses use video as a marketing tool. Additionally, 89% of the respondents in the survey mentioned that watching a video has convinced them to purchase a product or service (source: https://www.wyzowl.com/video-marketing-statistics/. Last accessed on December 25, 2023).

includes information about the charity's interventions (Rick and Loewenstein, 2008; Cryder et al., 2013) and recipients, such as identifiable beneficiaries (Schelling, 1968; Bohnet and Frey, 1999; Small and Loewenstein, 2003; Kogut and Ritov, 2005a, 2005b; Small et al., 2007; Charness and Gneezy, 2008). Specifically, sharing what a charity does and how it helps its beneficiaries in a story format helps the charity differentiate itself from others in the minds of existing potential donors (Mitchell and Clark, 2021). Although these studies are not specific to videos, we expect that a publicity video that directly informs viewers about the recipient organization can help increase donations to the organization.

Although presenting indirect information through a video may not be as impressive as presenting direct information, we expect that it still has the potential to inspire individuals to donate. Evidence suggests that videos demonstrating tangible impacts of activities by organizations other than the recipient organization (i.e., indirect information) can boost donations. Kandaurova and Lee (2019) showed that individuals who viewed content related to general environmental problems through Virtual Reality were more likely to express an intention to donate money (although this was hypothetical and not actual donations). This suggests that videos that address social issues, such as public service advertising videos, may also have the potential to boost donations to relevant charities. This would benefit charities with limited resources, given the costs of producing publicity videos on their own.

Emotions. To enhance our understanding of the effects of videos on donor behavior, we examine the emotional reactions of individuals who decide to donate after watching videos. Studies have demonstrated that emotional reactions play an important role in influencing donation decisions. For example, Small et al. (2007) found that stimulating analytical rather than emotional thinking before making donations, for instance, by having participants solve math problems, reduces generosity.

We specifically examine whether videos that elicit feelings of happiness can encourage individuals to make donations. Studies have shown that, in general, negative emotions, such as distress, sadness, and anger, motivate people to donate more (e.g., Kogut and Ritov, 2005a; Kandrack and Lundberg, 2014). We focus on happiness, among other emotions, because it is easily distinguishable from negative feelings. In addition, there is evidence that happiness increases people's generosity (O'Malley and Andrews,1983). If individuals are more inclined to donate when watching a video that makes them feel happy, charitable organizations could consider broadcasting their fundraising videos after entertaining TV and social media programs to optimize their fundraising efforts.

Warm and cold lists. To investigate the second question, we compare donor behavior between warm and cold lists. A warm list includes individuals who have donated at least once in the past, whereas a cold list includes individuals who have never donated before. As noted by Landry et al. (2010) and List et al. (2021), there are significant behavioral differences between warm and cold lists. They pointed out that a warm-list individual has a large warm glow or distaste for not giving. Therefore, it is reasonable to assume that showing a charity's publicity video is effective in eliciting donations from a warm list.

However, it is unclear how a cold list responds to videos. Previous studies have shown that offering monetary incentives is an effective way to motivate a cold list to donate. However, these studies did not consider whether providing moral incentives, such as information, could also motivate a cold list to donate. If moral incentives are proven to be effective, charitable organizations may prefer them over monetary incentives because they do not incur additional costs. To increase the total amount of donations in society, it is essential for a cold list to start donating. Therefore, we explore whether showing a video can encourage a cold list to start donating.

Cognitive abilities. Charitable giving reflects various cognitive abilities employed by donors. Although it is still largely undetermined which cognitive abilities are key in driving charitable giving, previous studies have provided us with some hints. First, giving requires the ability to assess the socioeconomic status and mental state of others; in other words, the ability to feel empathy (Hoffman, 1982). Second, giving is guided by norms and rules and influenced by past experiences (Haidt, 2003). Therefore, we expect that empathetic consideration and rule-based (social norm-based) decision-making are important cognitive abilities for charitable giving.

Note that among the Big Five personality traits (Costa and McCrae, 1992), empathetic consideration can be considered agreeableness, while rule-based decision-making can be considered conscientiousness. The Big Five personality traits, widely recognized as measures of an individual's personality, consist of five dimensions: neuroticism, extraversion, openness, agreeableness, and conscientiousness. Agreeableness is characterized by an understanding of others' emotions, intentions, and mental states, while conscientiousness is characterized by rule-based self-regulation, social norms, and self-discipline (DeYoung et al., 2010; Nihonsugi et al., 2021).

However, little research has been conducted on personality traits that are most predictive of donor behavior. Moreover, this research has yielded inconclusive results. Bekkers (2006) and Hirsh et al. (2009) pointed to agreeableness or empathic concerns as traits with a positive effect on donations, while Brown and Taylor (2015) reported openness to experience as another trait. Oda et al. (2014) showed that conscientiousness,

agreeableness, openness, and extraversion contribute to altruism, depending on the recipient. Therefore, we collect the Big Five personality traits of the participants to investigate the cognitive underpinnings of donation decisions elicited by videos. Uncovering such effects has significant practical implications for charitable organizations, given marketing firms' ability to identify and target individuals based on their personality traits (Sandy et al., 2013).

This study contributes to several streams of literature and extends previous work in this field. First, our research shares similarities with research exploring the impact of information on donor behavior. Our analysis helps understand the impact of information in charities' publicity videos and provides valuable insights for designing donation programs. Second, our study contributes to the understanding of the underlying cognitive abilities of donor behavior. Previous studies have identified critical factors in predicting charitable giving behavior, such as demographic variables (e.g., Lee and Chang, 2007; Rajan et al., 2009). However, it is not well understood which personality traits are most predictive of donor behavior, which this study is looking to investigate.

2. Materials and Methods

We conducted a behavioral experiment in the laboratory. To investigate which types of videos are more likely to encourage donations, we used four treatments with different types of videos, focusing on information and emotions. Additionally, we administered pre- and post-experiment questionnaires to study the traits of individuals who are more likely to donate after watching a video. We analyzed the experimental results using Tobit and probit regressions.

2.1. Participants

We conducted a laboratory-based behavioral experiment at Kansai University, Japan, in November 2021, January 2022, and November 2022. The participants were 308 undergraduate students (155 females) from various disciplines. All participants were recruited from Kansai University via the Online Recruitment System for Experimental Economics (ORSEE; Greiner, 2015). All experimental procedures were approved by the ethics committee of Osaka University of Economics, Japan. Informed consent was obtained from all the participants.

2.2. Experimental treatment and videos

We conducted five treatments, one control group and four intervention groups, to test

different video conditions. In each treatment, the participants watched a video and then decided to give to Japanese Red Cross Society. Each video was approximately five minutes long. We used z-Tree (Fischbacher, 2007) to conduct the experiment.

The control group watched a video of waves crashing on a beach in Hawaii (referred to as the *Control* group). The video is not generally associated with Red Cross Society or humanitarian aid. Moreover, the video has little effect on the participants' physiological indicators, such as heart rate and blood pressure (see Honda et al., 2002), indicating that it is a suitably neutral "placebo" video.

We included four intervention groups. The first intervention group watched a publicity video of Japanese Red Cross Society (referred to as the *RedCross* group). The video shows a wide range of the organization's activities focusing on disaster-relief and humanitarian aid. This video allows us to analyze the impact of receiving direct information about a charity on viewers' decisions to donate to it. The second intervention group watched a video showing disaster-relief and humanitarian aid (referred to as the *DisasterRelief* group). The activities depicted in this video are similar to those shown in the Red Cross video, but not associated with Red Cross Society itself. This treatment allows us to investigate the effectiveness of providing indirect information about a charity in motivating viewers to donate to it. For the other two intervention groups, we used videos that elicit feelings of happiness but are unrelated to either Red Cross Society or disaster-relief and humanitarian aid. One group watched a video featuring two comedians telling jokes (referred to as the *Comedy* group)[2]. Because there was a concern about varying tastes in the comedians among the participants, we showed the other group a peaceful funny home video featuring children (referred to as the *HomeVideo* group). We considered that the home video would be effective in universally making people laugh. These two videos allow us to examine whether videos that make viewers feel happy can encourage them to donate. The sources of the videos are provided in **Table A1** in the Appendix.

2.3. Tasks and procedure

We conducted 24 sessions with 5-18 participants each: five *Control* sessions; five *RedCross* sessions, five *DisasterRelief* sessions, four *Comedy* sessions, and five *HomeVideo* sessions. In all sessions, the participants were randomly assigned to their booths in the laboratory at the beginning of the experiment. The booths separated them visually and allowed them to make decisions anonymously and independently. This helps

[2] The two comedians won a prestigious comedy competition in Japan, called "M1 Grand Prix," in 2019.

to reduce unmeasurable effects, such as social pressure and acceptance.

We gave each participant written instructions that explained the rules and procedures of the task. In particular, we informed participants that they would "earn" 2,000 Japanese yen (JPY), from which the amount they chose would be subtracted and donated to Red Cross Society in their names. That is, the endowment was 2,000 JPY per participant, which was equivalent to approximately 17 US dollars at the time of the experiment, and the participants used the endowment to make actual donations. The participants were allowed to ask questions after reading the instructions, and we continued to answer them until there were no more questions. This ensured that all participants understood the tasks clearly.

After receiving the instructions, the participants completed a pre-experiment questionnaire regarding their current feelings. In one question, the participants were asked to indicate their levels of happiness on a 1-7 scale, where 1 represented unhappy and 7 represented happy. In another question, the participants were asked about their feelings of pleasure on a 1-7 scale. 7 represents the feeling of pleasure, and 1 represents the feeling of unpleasure.

Next, the participants watched one of the five videos together on a large screen. Afterward, each participant decided how much to donate to Red Cross Society out of 2,000 JPY and then entered their decisions on the computer screens. All participants made their decisions simultaneously.

All participants completed a post-experiment questionnaire, including emotional reactions, the personality trait test, and personal characteristics. The questionnaire started with the same questions as the pre-experiment questionnaire, inquiring about the participants' current emotions. This allowed us to identify any changes in their emotions after watching the video. For the personality trait test, the participants completed the Big Five Inventory-10 (Oshio et al., 2012). The Big Five Inventory-10 is a shorter version of the Big Five Inventory-44 (John and Srivastava, 1999), consisting of 10 items. It is designed to quickly measure the Big Five personality traits when participants have limited time. Each category of the Big Five is scored on a scale of 2-14. For personal characteristics, we collected data on the gender and age of the participants, as well as whether they had any prior experience with making donations. Moreover, the participants rated their favorability towards the activities of Red Cross Society from 1 to 7, with 7 representing the highest level of favorability. Later in the analysis, we converted the rating into a dummy variable taking a value of one if the rating was greater than or equal to 5, and zero otherwise.

Finally, the participants received payments. The mean payment per participant was

1,632 JPY (approximately 14 US dollars at the time of the experiment). Each session averaged at approximately 1.25 hours to complete. All donations specified by the participants were sent to Japanese Red Cross Society by their names.

2.4. Statistical analysis

In many fund-raising campaigns, charities place importance on both aggregate contribution amount and donation rate. Therefore, we aim to quantitatively analyze the impact of different videos on these two factors: donation size (donation amount per participant) and donation rate (the percentage of the participants who make donations).

We employ Tobit regression to analyze the effect of the video in each intervention group on donation size, compared to the control group. Because each participant decides how much to donate, out of their endowment of 2,000 JPY, the donation size per participant is bounded between 0 and 2,000 JPY. Therefore, we use Tobit regression to account for the censoring of the truncated donation size. The model is expressed as follows:

$$DonationSize_i^* = \beta_0 + \beta_1 RedCross_i + \beta_2 DisasterRelief_i + \beta_3 Comedy_i + \beta_4 HomeVideo_i + \beta_5 Favorability_i + \beta_6 Male_i + \beta_7 Age_i + u_i \quad (1)$$

and

$$DonationSize_i = \begin{cases} 0 & \text{if} \quad DonationSize_i^* \leq 0, \\ DonationSize_i^* & \text{if} \quad 0 < DonationSize_i^* < 2000, \\ 2000 & \text{if} \quad DonationSize_i^* \geq 2000, \end{cases}$$

where subscript *i* denotes the participant. The dependent variable, *DonationSize*, represents the amount of money donated by the participant. The independent variables include the intervention group dummies and participant characteristic variables: *RedCross*, *DisasterRelief*, *Comedy*, and *HomeVideo* are dummy variables for the four intervention groups, with *Control* as the reference category; *Favorability* is a dummy variable taking a value of one if the participant has a preference for the activities of Japanese Red Cross Society (see **Section 2.3** for more details on how we calculated the dummy); *Male* is a gender dummy; and *Age* is the participant's age. u_i is the idiosyncratic error term.

Next, we analyze the effect of the video in each intervention group on donation rate, compared to the control group. We use probit regression for this analysis because the dependent variable, *DonationRate*, is a dummy variable that takes the value of one if the participant donates, and zero otherwise. Our model can be expressed as follows:

$$DonatonRate_i = \beta_0 + \beta_1 RedCross_i + \beta_2 DisasterRelief_i + \beta_3 Comedy_i + \beta_4 HomeVideo_i + \beta_5 Favorability_i + \beta_6 Male_i + +\beta_7 Age_i + u_i. \quad (2)$$

The independent variables remain the same as in Equation (1).

3. Results

We investigated our question – how the appeal and content of videos influence donor behavior. By analyzing the types of videos from information and emotion perspectives, we found that providing information about the recipient organization itself is crucial for encouraging donations and that emotional changes are necessary but not sufficient for this purpose. By analyzing individuals' traits from the perspectives of warm and cold lists and cognitive abilities, we found that a cold list and those with a high level of conscientiousness are more likely to donate when watching a video.

3.1. Descriptive statistics

Table 1 presents the descriptive statistics of the participants, and **Figure 1** illustrates the distributions of *DonationSize* categorized by treatment in **Figure 1(a)** and further subdivided by treatment and warm and cold lists in **Figure 1(b)**. When considering all participants (**Table 1** and **Figure 1(a)**), *DonationSize* and *DonationRate* are both larger in all intervention groups than in the control group. Notably, the participants in the *RedCross* group donated the most. However, *DonationSize* demonstrates a different distribution for the cold-list participants as shown in **Figure 1(b).** *DonationSize* seems larger in the *HomeVideo* group than in the *RedCross* group. We will discuss more details on the characteristics of the cold-list participants in **Section 3.3.1.**

In terms of emotional changes, the participants in the *Control* group experienced only minor emotional changes, unlike those in the intervention groups (**Table 1**). This aligns with previous studies that have suggested that people who watch similar videos of waves typically do not experience emotional changes. Another point to note is that the participants in the *RedCross* and *DisasterRelief* groups showed a shift in emotions which is opposite to the shift in the *Comedy* and *HomeVideo* groups. After watching the videos, the participants in the *RedCross* and *DisasterRelief* groups became less happy and experienced less pleasure, whereas those in the *Comedy* and *HomeVideo* groups became happier and experienced pleasure.

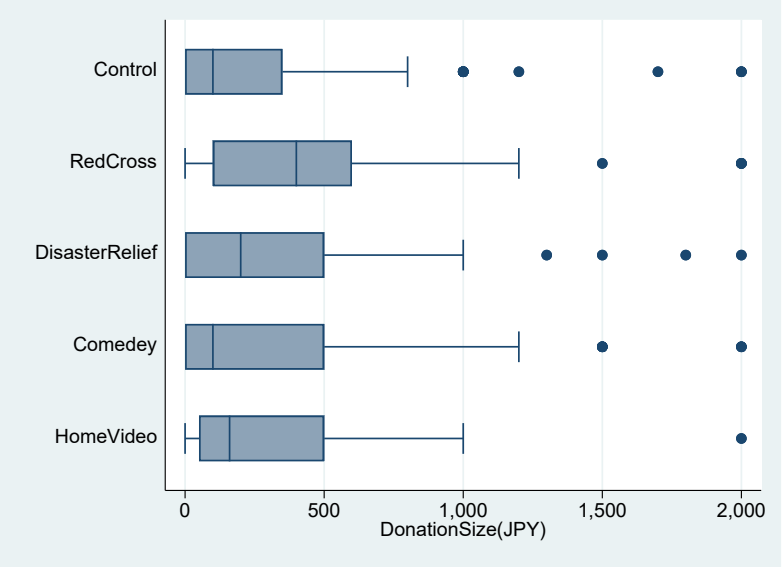
Other factors, such as *Favorability*, *Male*, *Age*, and the Big Five personality traits, appear to be uniformly distributed across groups. This uniformity indicates that the participants were assigned randomly.

Table 1: Descriptive statistics of the participants

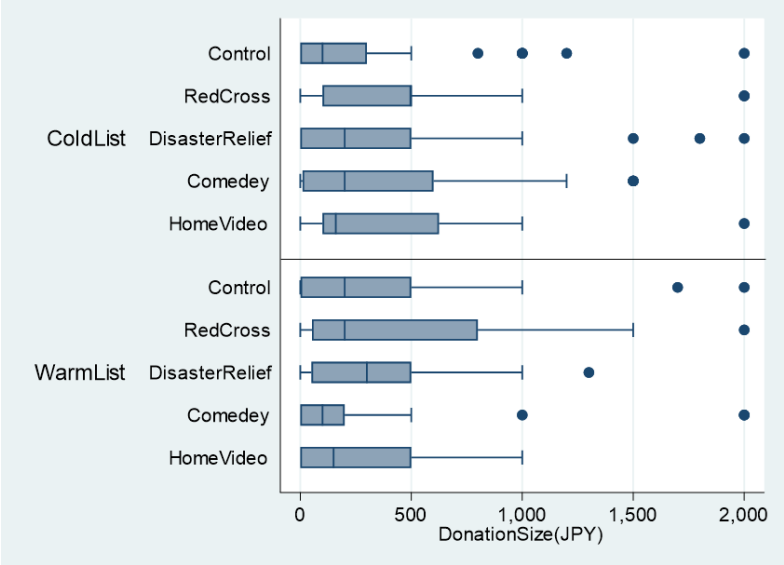
			Interventions			
Variables	All	*Control*	*RedCross*	*DisasterRelief*	*Comedy*	*HomeVideo*
Number of participants	309	70	72	49	72	46
DonationSize (JPY)	368.14	301.75	464.37	392.85	335.76	342.93
	(468.85)	(466.03)	(478.35)	(479.69)	(477.23)	(425.50)
DonationRate	0.77	0.72	0.84	0.73	0.73	0.80
	(0.42)	(0.44)	(0.36)	(0.44)	(0.44)	(0.40)
Favorability [1)]	0.88	0.81	0.95	0.91	0.87	0.86
	(0.31)	(0.39)	(0.20)	(0.27)	(0.33)	(0.34)
Male (male = 1)	0.50	0.46	0.47	0.61	0.52	0.41
	(0.5)	(0.50)	(0.50)	(0.49)	(0.50)	(0.49)
Age	20.64	20.87	20.83	19.85	20.88	20.43
	(1.73)	(1.21)	(2.71)	(1.30)	(1.22)	(1.22)
Past donation experience (yes = 1)	0.44	0.47	0.44	0.38	0.44	0.47
	(0.49)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)
Emotional change [2)]						
Happy	0.02	-0.01	-0.51	-0.89	0.65	0.91
	(1.21)	(0.77)	(1.10)	(1.31)	(0.93)	(1.13)
Pleasure	0.11	-0.05	-0.15	-0.61	0.68	0.71
	(1.17)	(0.96)	(1.04)	(1.07)	(1.09)	(1.25)
Personality traits [3)]						
Neuroticism	7.62	7.65	7.34	7.57	7.73	7.89
	(1.81)	(1.76)	(1.70)	(1.59)	(2.06)	(1.87)
Extraversion	6.41	6.47	6.37	6.61	6.31	6.31
	(2.02)	(2.05)	(1.84)	(2.16)	(2.08)	(2.08)
Openness	7.31	7.48	7.04	7.02	7.41	7.63
	(1.97)	(1.84)	(2.00)	(2.06)	(1.99)	(1.97)
Agreeableness	7.23	7.17	7.12	7.00	7.62	7.17
	(1.40)	(1.31)	(1.58)	(1.38)	(1.30)	(1.32)
Conscientiousness	6.24	6.37	6.36	5.98	6.01	6.54
	(2.02)	(1.75)	(1.90)	(2.14)	(2.17)	(2.21)

Note: All scores are mean scores except for the number of participants. Standard deviations are in parentheses.

1) A participant's favorability towards Red Cross Society is rated on a scale from 1 to 7, with 7 representing the highest level of favorability. Then, the rating is converted into a dummy variable, taking a value of one if the rating is greater than or equal to 5, and zero otherwise.
2) The score differences before and after watching a video are reported. *Happy* is rated on a scale from 1 to 7, with 1 representing unhappiness and 7 representing happiness. *Pleasure* is rated on a scale from 1 to 7, with 1 representing unpleasure and 7 representing pleasure.
3) The Big Five Inventory is scored on a scale from 2 to 14, with 14 representing the highest score.



(a) Categorized by treatment



(b) Categorized by treatment and cold and warm list

Figure 1: Box plots of *DonationSize* (donation amount per participant in JYP)

3.2. Types of videos

In this section, we investigate our question from the first aspect – the types of videos that lead to more donations – from information and emotion perspectives. The results show that if videos do not change viewers' emotions, they are unlikely to encourage donations and that videos must also convey information about the recipient organization itself to prompt donations for it.

3.2.1. Information

To study how direct and indirect information presented in videos affects donor behavior, we focus on analyzing the effects of the Red Cross and disaster-relief videos on donation size and rate in this section.

Table 2 displays the treatment effects on donor behavior (see also **Figure 1(a)**). In general, people's gender, age, and level of favorability towards a recipient organization (*Male*, *Age*, and *Favorability* in our model) are believed to influence their decision to donate to the organization. We believe that these variables have a minimal impact on the estimated values in our analysis because we conducted a randomized experiment. However, to ensure accuracy, we controlled for the possible effects of these variables and presented the results in Columns (2) and (4).

The treatment effects on donation size are shown in Columns (1) and (2) of **Table 2**. The coefficients of *RedCross* are positive and significant, while the coefficients of *DisasterRelief* do not show statistical significance. Therefore, showing the Red Cross video may increase the donation amount per participant to Red Cross Society compared to the *Control* video, while the disaster-relief video, not specifically related to Red Cross Society, may not yield the same effect. This result indicates that providing indirect information about a charity may not be sufficient to motivate people to donate to the charity: providing direct information seems to be essential in the process.

The treatment effects on donation rate are shown in Columns (3) and (4) of **Table 2**. The coefficient of *RedCross* is marginally significant in Column (3). However, the result is not strong because the coefficient of *RedCross* is not statistically significant when we control for the variables in Column (4). The coefficients of *DisasterRelief* in Columns (3) and (4) are not statistically significant. These results suggest that showing the Red Cross or disaster-relief video is unlikely to increase donation rate to Red Cross Societ

y, compared to the *Control* video. That is, providing direct or indirect information about a charity in a video may not affect the proportion of viewers who donate to the charity.

The results in this section suggest that while showing a video that directly informs viewers about the recipient organization may increase the average donation amount per person, it might not significantly affect the overall donation rate. In contrast, as explained later in **Section 3.2.2**, the Red Cross video seems to positively influence the donation rate among viewers who emotionally resonate with its content. Additionally, as we will explore in **Section 3.3.1**, the Red Cross video seems to increase the donation rate for a cold list. Therefore, although the overarching impact of the Red Cross video on donation rate may be limited, it has a notable effect on certain segments of viewers.

Table 2: Regressions on donor behavior by treatment effect

	Dependent Variable			
	DonationSize		*DonationRate*	
Independent Variables:	(1)	(2)	(3)	(4)
RedCross	222.4**	185.9**	0.416*	0.306
	(95.67)	(82.19)	(0.245)	(0.247)
DisasterRelief	95.28	94.60	0.0186	0.0471
	(139.7)	(129.6)	(0.243)	(0.247)
Comedy	40.08	35.39	0.0229	-0.0189
	(78.17)	(75.98)	(0.226)	(0.229)
HomeVideo	75.00	51.70	0.249	0.167
	(142.5)	(130.4)	(0.262)	(0.267)
Favorability		285.2***		0.403
		(53.71)		(0.272)
Male		-195.0**		-0.530***
		(83.39)		(0.163)
Age		3.162		0.0295
		(20.27)		(0.0428)
Constant	196.7**	-12.12	0.608***	-0.0172
	(67.37)	(454.0)	(0.161)	(0.940)
Number of observations	308	307	309	308

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

3.2.2. Emotion

To examine the effects of emotions on donor behavior, we first analyzed how the emotional changes caused by videos might influence donor behavior. Next, we examined whether simply making people happy by showing videos can encourage them to donate.

As discussed in **Section 3.2.1**, donation size increased in the *RedCross* group but not in the *DisasterRelief* group, suggesting that providing direct information may play an important role in encouraging donations. However, it is also possible that emotional changes evoked by the videos affected the results. If the Red Cross and disaster-relief videos elicit the same emotional changes, then the larger donation size in *RedCross* is likely due to the direct information provided in the Red Cross video. However, if these videos result in different emotional responses, this suggests that direct information may not be the sole reason for the increase in donation size in the *RedCross* group.

We conducted a two-step analysis to examine whether the participants in the *RedCross* group were ultimately motivated to donate by direct information. First, we ascertained the direction of the emotional changes experienced by the participants in the *RedCross* and *DisasterRelief* groups after watching the videos. Next, we investigated

whether the participants who experienced this emotional change in these groups went on to make donations.

In the first step, we used ordinary least squares regression to analyze the treatment effects on emotional changes. The results are presented in **Table 3**. The coefficient of *RedCross* is negative and significant in Column (1), but not in Column (2), while the coefficients of *DisasterRelief* are negative and significant in Columns (1) and (2). The results indicate that the Red Cross video may make viewers feel less happy, while the disaster-relief video may make viewers feel less happy and pleasure. The key finding is that both videos tend to elicit negative emotional responses in the viewers.

Table 3: Regressions on emotional changes by treatment effect

	Dependent Variable	
	Happy	*Pleasure*
Independent Variables:	(1)	(2)
RedCross	-0.486***	-0.115
	(0.129)	(0.130)
DisasterRelief	-0.878***	-0.573**
	(0.143)	(0.227)
Comedy	0.671***	0.738***
	(0.109)	(0.183)
HomeVideo	0.932***	0.760***
	(0.139)	(0.206)
Favorability	-0.101	0.156
	(0.194)	(0.181)
Male	0.0236	-0.107
	(0.126)	(0.134)
Age	-0.00224	-0.00618
	(0.0238)	(0.0445)
Constant	0.105	-0.00827
	(0.558)	(0.982)
Number of observations	308	307
R-squared	0.278	0.176

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

One potential issue with the experimental setup is the uncertainty about whether the emotional changes observed were solely caused by the videos, or if the act of donating also had an impact (e.g., warm glow). To investigate this issue, we added *DonationSize* to the independent variables and ran the regression again. The results are provided in **Table A2** in the Appendix. The coefficients of *DonationSize* are not statistically

significant, and the results in **Table 3** remain unchanged. Therefore, we can conclude that the emotional changes shown by the participants in **Table 3** are likely caused by the videos and not by the act of donating.

In the second step, we initially divided the participants in the *RedCross* and *DisasterRelief* groups into two subgroups, based on their emotional responses to the videos: those who exhibited emotional changes and those who did not. We then analyzed the treatment effects on donation size using the Tobit regression model in Equation (1) and on donation rate using the probit regression model in Equation (2) within these subgroups. The results are presented in **Table 4**.

The coefficients of *RedCross* in Columns (1) to (3) of **Table 4** are positive and significant, while the coefficients of *DisasterRelief* in these columns are not statistically significant. This shows that both donation size and rate may increase if viewers experience emotional changes, especially in happiness, when watching the Red Cross video, but may not increase when watching the disaster-relief video. In contrast, the coefficients of all the intervention variables in Columns (5) to (8) of **Table 4** are not statistically significant, indicating that if viewers do not feel any emotional changes when watching videos, they may not be motivated to donate more or may not be more motivated to donate.

The results from the first and second steps together suggest that not only evoking emotional changes in the viewers but also providing them with information about the recipient organization is essential to increase donations to the organization.

Table 4: Regressions on donor behavior by treatment effect within subgroups based on emotional changes

	Subgroups:							
	Emotion Changed				Emotion Not Changed			
	Happy		*Pleasure*		*Happy*		*Pleasure*	
	Dependent Variable:							
Independent Variables:	*Donation Size* (1)	*Donation Rate* (2)	*Donation Size* (3)	*Donation Rate* (4)	*Donation Size* (5)	*Donation Rate* (6)	*Donation Size* (7)	*Donation Rate* (8)
RedCross	304.7***	0.826**	266.9**	0.470	53.42	-0.238	47.37	0.00189
	(108.7)	(0.400)	(129.7)	(0.377)	(136.0)	(0.318)	(121.1)	(0.328)
DisasterRelief	95.04	-0.0647	140.9	-0.191	218.5	0.382	28.81	0.236
	(186.2)	(0.361)	(207.1)	(0.544)	(138.5)	(0.336)	(116.2)	(0.405)
Comedy	64.02	-0.130	27.27	-0.220	47.83	0.190	36.99	0.259
	(98.05)	(0.244)	(113.5)	(0.221)	(102.2)	(0.262)	(115.4)	(0.303)
HomeVideo	124.7	0.278	159.7	0.454	-51.70	-0.155	-205.4	-0.450
	(168.0)	(0.439)	(119.4)	(0.391)	(110.9)	(0.442)	(180.2)	(0.506)
Favorability	198.5*	0.0851	227.8***	0.167	440.0***	0.843***	457.7***	0.823***
	(118.4)	(0.245)	(80.45)	(0.219)	(81.41)	(0.326)	(100.9)	(0.303)
Male	-190.8**	-0.447*	-282.6**	-0.598*	-215.3	-0.687***	-53.99	-0.433
	(76.89)	(0.256)	(109.9)	(0.309)	(196.7)	(0.225)	(109.6)	(0.289)
Age	-5.894	0.0214	5.073	0.0908	15.97	0.0600	-8.864	-0.122
	(24.66)	(0.0504)	(16.93)	(0.0855)	(26.58)	(0.0609)	(55.49)	(0.111)
Constant	196.0	0.357	46.29	-0.915	-384.4	-0.916	21.38	2.643
	(569.9)	(1.087)	(353.7)	(1.806)	(542.6)	(1.251)	(1.244)	(2.563)
Number of Observations	177	177	173	173	130	130	134	134

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

To further study the effects of emotions on donor behavior, we investigated whether simply eliciting feelings of happiness by showing videos can motivate individuals to donate. To achieve this, we analyzed the treatment effects of *Comedy* and *HomeVideo* on donor behavior.

We first confirmed that the participants in the *Comedy* and *HomeVideo* groups experienced positive emotional changes when watching the videos. In **Table 3**, the coefficients of *Comedy* and *HomeVideo* are positive and significant in both columns, indicating that the participants in these groups indeed felt happier and experienced more pleasure when watching these videos. Next, we examined the treatment effects of *Comedy* and *HomeVideo* on donor behavior. In **Table 2**, the coefficients of *Comedy* and *HomeVideo* are not statistically significant in all columns, suggesting that showing videos that bring positive feelings of happiness and pleasure may not increase donation size or rate.

Although previous research has shown that feelings of happiness increase people's willingness to donate blood (O'Malley and Andrews,1983), we did not find a similar effect on charitable donations when analyzing all participants. However, our next analysis

in **Section 3.3.1** shows that positive emotions do have the potential to encourage donations from a specific group of people.

3.3. Traits of participants

We investigated our question from the second aspect – the traits of individuals who are more inclined to donate after watching videos. First, we analyzed this aspect from the perspective of viewers' past donation experience and found that videos could motivate a cold list to start donating. Second, we analyzed this aspect from the perspective of the Big Five personality traits and found that conscientiousness may be the key factors driving viewers' donation decisions.

3.3.1. Warm and cold lists

To study how participants' past donation experiences may affect their donation decisions, we divided the participants into warm and cold lists and examined the treatment effects on donor behavior within each subgroup. The results are presented in **Table 5** (see also **Figure 1(b)**). Columns (1) and (2) show the treatment effects on donation size, using the Tobit regression model in Equation (1), and on donation rate, using the probit regression model in Equation (2), respectively, for the cold-list participants. Similarly, Columns (3) and (4) display the results for the warm-list participants.

Regarding the cold-list participants, the coefficients of *RedCross* in Columns (1) and (2) of **Table 5** are positive and marginally significant. The results indicate that showing the Red Cross video to a cold list might increase both donation size and rate, compared to the *Control* video. In related literature, there has been little investigation into non-monetary incentives to motivate a cold list to donate. Our results indicate that directly informing a cold list about the recipient organization in a video format could be one of those incentives.

Another interesting finding about the cold-list participants is that the coefficient of *HomeVideo* in Column (2) is also positive and significant. This indicates that more cold-list individuals may decide to donate when watching the home video. As shown in **Table 3**, the home video makes viewers feel happier and experience more pleasure. Given that the home video is irrelevant to Red Cross Society, it is suggested that making a cold list feel happier alone could motivate them to donate. We did not observe similar effects when analyzing all participants and other subgroups, as shown in **Tables 2** and **4**. Therefore, this could be a unique donor behavior of a cold list. Note that although the *HomeVideo* and the *Comedy* video elicited similar emotional changes in participants, the *Comedy* video did not increase their donation rate. It is speculated that this was due to individual

differences in preferences, with the comedy video being less universally appealing compared to the home video.

Regarding the warm-list participants, the coefficients of all the interventions in Columns (3) and (4) of **Table 5** are not statistically significant. This indicates that showing the Red Cross video or any other video to a warm list may not increase donation size or rate, compared to the *Control* video. Because a warm list has a distaste for not giving (Landry et al., 2010), they may donate regardless of the types of videos they watch. Therefore, there may be no significant differences in donation size or rate between the intervention and control groups.

Table 5: Regressions on donor behavior by treatment effect within warm- and cold-list subgroups

	Subgroups			
	Cold list		Warm list	
	Dependent Variable			
	DonationSize	*DonationRate*	*DonationSize*	*DonationRate*
Independent Variables:	(1)	(2)	(3)	(4)
RedCross	256.7*	0.628*	107.8	-0.0516
	(154.1)	(0.346)	(200.1)	(0.251)
DisasterRelief	182.6	0.168	-14.61	-0.0662
	(237.1)	(0.336)	(121.8)	(0.477)
Comedy	140.8	0.282	-89.63	-0.380
	(119.5)	(0.284)	(141.6)	(0.304)
HomeVideo	221.0	1.240***	-144.0	-0.589
	(150.4)	(0.378)	(139.4)	(0.497)
Male	-204.0**	-0.613***	-199.9**	-0.489***
	(93.09)	(0.210)	(92.28)	(0.177)
Age	6.453	0.0526	0.240	0.0109
	(20.64)	(0.0598)	(33.13)	(0.0777)
Favor	305.7***	0.456**	257.1	0.224
	(57.94)	(0.186)	(178.4)	(0.367)
Constant	-134.6	-0.666	116.4	0.710
	(529.6)	(1.342)	(657.1)	(1.517)
No. observations	170	170	137	137

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

3.3.2. Cognitive abilities

To study cognitive abilities driving donation decisions of video viewers, we examined how the Big Five personality traits affect donor behavior. We added dummy variables for the five personality traits (*Extraversion*, *Agreeableness*, *Conscientiousness*,

Neuroticism, and *Openness*) and their interaction terms with the intervention dummies to the independent variables in our original models in Equations (1) and (2). **Table 6** only shows the coefficients of the interaction terms. The full regression results are provided in **Table A3** in the Appendix.

The results indicate that conscientiousness may be a key personality trait that affects donations when watching videos of charitable activities. In Columns (2) and (4) of **Table 6**, the coefficients of the interaction terms between *Conscientiousness* and *RedCross* and between *Conscientiousness* and *DisasterRelief*, respectively, are positive and significant. However, in Column (6), the interaction term between *Conscientiousness* and *Comedy* is not significant, and in Column (8), the interaction term between *Conscientiousness* and *HomeVideo* is negative and significant. The results suggest that individuals with high conscientiousness are more likely to donate when watching the Red Cross and disaster-relief videos, but not the comedy or home videos. That is, people with strong conscientious traits may be more inclined to donate while watching videos, regardless of the type of information provided, as long as the videos are related to charitable activities. These findings suggest that the Red Cross video used in our experiment may operate more so under a rule-based (social norm-based) strategy than under an empathic strategy to increase donations.

Other findings include that *Extraversion* may lead to increased donations among viewers of the disaster-relief video and that *Agreeableness* may result in increased donations among viewers of the home video.

Table 6: Regressions on donation by treatment effect and the Big Five personality trait

	Intervention:							
	RedCross		*DisasterRelief*		*Comedy*		*HomeVideo*	
	Dependent Variable:							
Independent Variables:	*Donation Size* (1)	*Donation Rate* (2)	*Donation Size* (3)	*Donation Rate* (4)	*Donation Size* (5)	*Donation Rate* (6)	*Donation Size* (7)	*Donation Rate* (8)
(Intervention)	-48.56	-0.0345	3.482	0.450***	-68.79	-0.155	-58.71	-0.212
**Extraversion*	(52.79)	(0.100)	(63.93)	(0.150)	(79.25)	(0.181)	(52.61)	(0.161)
(Intervention)	-18.43	-0.195	66.75	-0.157	59.98	0.0541	131.9**	0.385*
**Agreeableness*	(84.82)	(0.175)	(42.83)	(0.237)	(88.37)	(0.155)	(64.34)	(0.219)
(Intervention)	60.16	0.307**	67.15	0.317**	-20.56	0.134	-57.99	-0.564***
**Conscientiousness*	(47.06)	(0.121)	(47.66)	(0.153)	(56.99)	(0.146)	(52.64)	(0.144)
(Intervention)	-63.30	0.101	-80.86	0.228	-42.69	0.0708	-92.46	0.295*
**Neuroticism*	(61.90)	(0.146)	(69.78)	(0.143)	(92.16)	(0.112)	(60.62)	(0.168)
(Intervention)	-45.97	-0.0720	-29.30	-0.163	24.42	0.0395	24.62	0.0373
**Openness*	(34.76)	(0.0745)	(86.24)	(0.150)	(65.82)	(0.119)	(43.69)	(0.115)
Constant	-702.4	0.695	-624.4	1.610	-606.3	1.175	-671.6	-1.366
	(490.6)	(1.265)	(776.2)	(2.097)	(771.6)	(1.433)	(694.4)	(2.219)
Number of Observations	140	140	116	116	140	140	113	113

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

4. Discussions and conclusions

In this study, we conducted a behavioral experiment in a laboratory to examine our question about how the appeal and content of videos influence donor behavior from four perspectives: information, emotions, warm and cold lists, and cognitive abilities. Our results fill a gap in the literature on the connection between donor behavior and personality traits and provide insight into the diversity of prosocial human behavior. The findings are summarized as follows:

1) *Information*. Conveying information about a recipient organization itself may be crucial in motivating viewers to donate, which, to our knowledge, has never been shown in previous studies on information and charitable giving.
2) *Emotions*. Moving viewers' emotions negatively may be necessary to spark their interest in making donations, although this may not be sufficient to get them to donate. Providing information about a recipient organization itself is critical.
3) *Warm and cold lists*. A cold list is more responsive to video stimulation than a warm list. A cold list responds to both negative and positive emotional stimuli.
4) *Cognitive abilities*. Conscientiousness (rule-based decision-making) may be a key personality trait that motivates donations of viewers of charity videos.

Based on our experimental results, we speculate that the Red Cross video may have encouraged donations because the viewers saw the video as effectively showing the self-benefits (warm glow) that they would receive by donating to Red Cross Society. Previous research has shown that providing detailed information can effectively illustrate the benefits of donating, such as the output produced by the recipient organization and self-benefits (Rick and Loewenstein, 2008; Cryder et al., 2013). The same principle may apply to the Red Cross video and any other publicity videos of recipient organizations. Specifically, the Red Cross video may have emphasized the self-benefits of donating to Red Cross Society successfully because it effectively motivated a cold list, who has been shown to respond better to messages about self-benefits than other benefits, such as altruism (List et al., 2021).

The key personality trait that led to donations in the *RedCross* group was conscientiousness (rule-based decision-making). This may also be explained by self-benefits. Previous research has shown that individuals with high conscientiousness are careful planners and rational decision-makers (Pacini and Epstein, 1999; Roberts et al., 2005; Witteman et al., 2009). Therefore, the participants with high conscientiousness may have responded to the self-benefits portrayed in the video and donated. Moreover, conscientiousness has important implications for long-term relationships between charities and donors. A donation motivated by conscientiousness could lead to more future donations from the same donor than donations driven by short-lived feelings of empathy.

Broadly, our findings contribute to the literature on social norms and the use of normative appeal to encourage behavioral change (e.g., tax compliance and reducing energy use in residential households). By considering our study as an intervention experiment, similar to the Nudge study (Thaler and Sunstein, 2008), we can see that our study demonstrates a way to boost donations through an intervention stimulus. In this sense, our results show that conscientiousness is causally involved in implementing donation decisions.

Our experimental results have some limitations that warrant further investigation. First, we cannot rule out the possibility that donations solicited for causes other than disaster-relief and humanitarian aid activities or for Red Cross Society would yield different results. Second, although the participants donated actual money to the charitable organization, our results were derived from a laboratory experiment, which introduces an artificial element to the results. Although Benz and Meier (2008) showed that overall, prosocial behavior in experiments is correlated with behavior in the real world, we should conduct a natural field experiment to confirm the applicability of our findings. This is

worthy of future research.

Despite these limitations, the results of our study highlight the significance of providing viewers, particularly cold-list donors, with information about recipient organizations. Our study also sheds light on the cognitive basis of donation using a rule-based (social norm-based) strategy, offering valuable insights for charities when designing donor communication programs.

Funding: This work was supported by the Joint Usage and Research Center, Research Institute for Socionetwork Strategies, Kansai University; Osaka University of Economics; and JST, CREST, Japan [grant number JPMJCR22P4].

Declaration of generative AI and AI-assisted technologies in the writing process: During the preparation of this work the authors used ChatGPT to improve readability and language. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

References

1. Bekkers, R., Wiepking, P., 2011. A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. Nonprofit and Voluntary Sector Quarterly 40(5), 924-973. https://doi.org/10.1177/0899764010380927
2. Bekkers, R., 2006. Traditional and health-related philanthropy: The role of resources and personality. Social Psychology Quarterly 69(4), 349-366. https://doi.org/10.1177/019027250606900404
3. Benz, M., Meier, S., 2008. Do people behave in experiments as in the field? — evidence from donations. Experimental Economics 11, 268-281. https://doi.org/10.1007/s10683-007-9192-y
4. Bohnet, I., Frey, B. S., 1999. The sound of silence in prisoner's dilemma and dictator games. Journal of Economic Behavior & Organization 38(1), 43-57. https://doi.org/10.1016/S0167-2681(98)00121-8
5. Borgloh, S., Dannenberg, A., Aretz, B., 2013. Small is beautiful—Experimental evidence of donors' preferences for charities. Economics Letters 120(2), 242-244. https://doi.org/10.1016/j.econlet.2013.04.011

6. Brown, S., Taylor, K., 2015. Charitable behaviour and the big five personality traits: Evidence from UK panel data. IZA Discussion Paper No. 9318. http://hdl.handle.net/10419/120960
7. Charness, G., Gneezy, U., 2008. What's in a name? Anonymity and social distance in dictator and ultimatum games. Journal of Economic Behavior & Organization 68(1), 29-35. https://doi.org/10.1016/j.jebo.2008.03.001
8. Costa, P.T., McCrae, R. R., 1992. Revised NEO personality inventory (NEO-PI-R) and NEO five-factor inventory (NEO-FFI): professional manual. Odessa: Psychological Assessment Resources.
9. Cryder, C. E., Loewenstein, G., Scheines, R., 2013. The donor is in the details. Organizational Behavior and Human Decision Processes 120(1), 15-23. https://doi.org/10.1016/j.obhdp.2012.08.002
10. DeYoung, C. G., Hirsh, J. B., Shane, M. S., Papademetris, X., Rajeevan, N., Gray, J. R., 2010. Testing predictions from personality neuroscience: Brain structure and the big five. Psychological Science 21(6), 820-828. https://doi.org/10.1177/0956797610370159
11. Fischbacher, U., 2007. z-Tree: Zurich toolbox for ready-made economic experiments. Experimental Economics 10, 171-178. https://doi.org/10.1007/s10683-006-9159-4
12. Goering, E., Connor, U. M., Nagelhout, E., Steinberg, R., 2011. Persuasion in fundraising letters: An interdisciplinary study. Nonprofit and Voluntary Sector Quarterly 40(2), 228-246. https://doi.org/10.1177/0899764009339216
13. Greiner, B., 2015. Subject pool recruitment procedures: organizing experiments with ORSEE. Journal of the Economic Science Association 1(1), 114-125. https://doi.org/10.1007/s40881-015-0004-4
14. Haidt, J., 2003. The moral emotions. In: Davidson, R. J., Scherer, K. R., Goldsmith, H. H. (Eds.). Handbook of affective sciences. Oxford: Oxford University Press, 852–870.
15. Hirsh, J. B., DeYoung, C. G., Peterson, J. B., 2009. Metatraits of the Big Five differentially predict engagement and restraint of behavior. Journal of Personality 77(4), 1085-1102. https://doi.org/10.1111/j.1467-6494.2009.00575.x
16. Hoffman, M., 1982. Development of prosocial motivation: empathy and guilt. In: Eisenberg, N. (Ed.). The development of prosocial behavior. New York: Academic Press, 281-313.
17. Honda, A., Masaki H., Yamazaki, K., 2002. Influence of emotion-inducing film stimuli on hemispheric asymmetry and cardiovascular responses. Waseda Journal of

Human Sciences 15(1), 39-45.
18. John, O. P., Srivastava, S., 1999. The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In: Pervin, L. A., John, O. P. (Eds.). Handbook of personality: Theory and research. New York: Guilford Press, 102-138.
19. Kandaurova, M., Lee, S. H. M., 2019. The effects of Virtual Reality (VR) on charitable giving: The role of empathy, guilt, responsibility, and social exclusion. Journal of Business Research 100, 571-580. https://doi.org/10.1016/j.jbusres.2018.10.027
20. Kandrack, R., Lundberg, G., 2014. On the influence of emotion on decision making: The case of charitable giving. In: Guo, P., Pedrycz, W. (Eds). Human-centric decision-making models for social sciences. Studies in computational intelligence, Vol. 502. Heidelberg: Springer Berlin, 57–73. https://doi.org/10.1007/978-3-642-39307-5
21. Kitching, K., 2009. Audit value and charitable organizations. Journal of Accounting and Public Policy 28(6), 510-524. https://doi.org/10.1016/j.jaccpubpol.2009.08.00
22. Kogut, T., Ritov, I., 2005a. The "identified victim" effect: An identified group, or just a single individual? Journal of Behavioral Decision Making 18(3), 157-167. https://doi.org/10.1002/bdm.492
23. Kogut, T., Ritov, I., 2005b. The singularity effect of identified victims in separate and joint evaluations. Organizational behavior and human decision processes 97(2), 106-116. https://doi.org/10.1016/j.obhdp.2005.02.003
24. Landry, C. E., Lange, A., List, J. A., Price, M. K., Rupp, N. G., 2010. Is a donor in hand better than two in the bush? Evidence from a natural field experiment. American Economic Review 100(3), 958-983. https://doi.org/10.1257/aer.100.3.958
25. Lee, Y. K., Chang, C. T., 2007. Who gives to charity? Characteristics affecting donation behavior. Social Behavior and Personality 35(9), 1173–1180. https://doi.org/10.2224/sbp.2007.35.9.1173
26. List, J. A., Murphy, J. J., Price, M. K., James, A. G., 2021. An experimental test of fundraising appeals targeting donor and recipient benefits. Nature Human Behaviour 5(10), 1339-1348. https://doi.org/10.1038/s41562-021-01095-8
27. Mitchell, S. L., Clark, M., 2021. Telling a different story: How nonprofit organizations reveal strategic purpose through storytelling. Psychology & Marketing 38(1), 142-158. https://doi.org/10.1002/mar.21429
28. Nihonsugi, T., Numano, S., Haruno, M., 2021. Functional connectivity basis and underlying cognitive mechanisms for gender differences in guilt aversion. eNeuro

8(6). https://doi.org/10.1523/ENEURO.0226-21.2021
29. Oda, R., Machii, W., Takagi, S., Kato, Y., Takeda, M., Kiyonari, T., Fukukawa, Y., Hiraishi, K., 2014. Personality and altruism in daily life. Personality and Individual Differences 56, 206-209. https://doi.org/10.1016/j.paid.2013.09.017
30. O'Malley, M.N., Andrews, L., 1983. The effect of mood and incentives on helping: Are there some things money can't buy? Motivation and Emotion 7, 179-189. https://doi.org/10.1007/BF00992901
31. Oshio, A., Shingo, A. B. E., Cutrone, P., 2012. Development, reliability, and validity of the Japanese version of Ten Item Personality Inventory (TIPI-J). Japanese Journal of Personality 21(1), 40-52. https://doi.org/10.2132/personality.21.40
32. Pacini, R., Epstein, S., 1999. The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. Journal of Personality and Social Psychology, 76(6), 972–987. https://doi.org/10.1037/0022-3514.76.6.972
33. Rajan, S. S., Pink, G. H., Dow, W. H., 2009. Sociodemographic and personality characteristics of Canadian donors contributing to international charity. Nonprofit and Voluntary Sector Quarterly 38(3), 413–440. https://doi.org/10.1177/0899764008316056
34. Rick, S., Loewenstein, G., 2008. Intangibility in intertemporal choice. Philosophical transactions of the royal Society B: Biological Sciences 363(1511), 3813-3824. https://doi.org/10.1098/rstb.2008.0150
35. Roberts, B. W., Chernyshenko, O. S., Stark, S., Goldberg, L. R., 2005. The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. Personnel psychology 58(1), 103-139. https://doi.org/10.1111/j.1744-6570.2005.00301.x
36. Sandy, C. J., Gosling, S. D., Durant, J., 2013. Predicting consumer behavior and media preferences: The comparative validity of personality traits and demographic variables. Psychology & Marketing 30(11), 937-949. https://doi.org/10.1002/mar.20657
37. Schelling, T. C., 1968. The life you save may be your own. In: Chase, S. B. (Ed.). Problems in public expenditure analysis. Washington DC: The Brookings Institute, 127–176.
38. Small, D. A., Loewenstein, G., 2003. Helping a victim or helping the victim: Altruism and identifiability. Journal of Risk and Uncertainty 26(1), 5-16. https://doi.org/10.1023/A:1022299422219
39. Small, D. A., Loewenstein, G., Slovic, P., 2007. Sympathy and callousness: The

impact of deliberative thought on donations to identifiable and statistical victims. Organizational Behavior and Human Decision Processes 102(2), 143–153. https://doi.org/10.1016/j.obhdp.2006.01.005

40. Thaler, R. H., & Sunstein, C. R., 2008. Nudge: Improving decisions about health, wealth, and happiness. New Haven: Yale University Press.
41. Witteman, C., Van den Bercken, J., Claes, L., Godoy, A., 2009. Assessing rational and intuitive thinking styles. European Journal of Psychological Assessment 25(1), 39-47. https://doi.org/10.1027/1015-5759.25.1.39

Appendix

Table A1: Video sources

Treatment	Medium	Video Source	Note
Control	DVD	Watanabe, Yuki, 1997. virtual trip THE BEACH HAWAII OAHU, Pony Canyon	We used a 5-minute segment featuring calm waves.
RedCross	Web video	Japanese Red Cross Society, Response to Heavy Rain Disaster in July 2018. https://www.youtube.com/watch?v=LcvKOdvXh_s&t=2s Last accessed on December 25, 2023.	We used the first 5 minutes of the video.
DisasterRelief	Web video	Japan Self-Defense Forces, Dispatch for the September 2015 Kanto-Tohoku Heavy Rainfall Disaster. https://youtu.be/Uiz22Trw8UA Last accessed on December 25, 2023.	We used a 5-minute segment starting from 1 minute and 35 seconds into the video.
Comedy	DVD	Mirukuboi, 2020. M1 Grand Prix 2019, Yoshimoto Music	We used the first 5 minutes of the scene featuring two comedians who won the competition.
HomeVideo	Web Video	Funny kids fails, https://www.youtube.com/watch?v=pQSpVY3ZZdg Last accessed on December 25, 2023.	We used the first 5 minutes of the video.

Table A2: Regressions on emotional changes by treatment effect (*DonationSize* is added to the independent variables)

	Dependent Variable	
	Happy	*Pleasure*
Independent Variables:	(1)	(2)
RedCross	-0.500***	-0.144
	(0.122)	(0.131)
DisasterRelief	-0.887***	-0.591**
	(0.139)	(0.224)
Comedy	0.667***	0.731***
	(0.105)	(0.176)
HomeVideo	0.929***	0.755***
	(0.136)	(0.198)
Favorability	-0.122	0.112
	(0.172)	(0.169)
Male	0.036	-0.080
	(0.117)	(0.140)
Age	-0.00224	-0.00656
	(0.0229)	(0.0438)
DonationSize	0.0001	0.0002
	(0.0001)	(0.0001)
Constant	0.087	-0.044
	(0.554)	(0.964)
Number of observations	308	307
R-squared	0.279	0.183

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.

Table A3: Regressions on donation by treatment effects and the Big Five personality traits (Full results of Table 6)

	Intervention							
	RedCross		*DisasterRelief*		*Comedy*		*HomeVideo*	
	Dependent Variable:							
Independent Variables:	*Donation Size*	*Donation Rate*	*Donation Size*	*Donation Rate*	*Donation Size*	*Donation Rate*	*Donation Size*	*Donation Rate*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RedCross	1,071*	-0.227	–	–	–	–	–	–
	(582.6)	-1.443						
DisasterRelief	–	–	47.35	-4.027**	–	–	–	–
			(507.2)	(1.697)				
Comedy	–	–	–	–	282.3	-1.140	–	–
					(661.1)	(1.790)		
HomeVideo	–	–	–	–	–	–	360.1	0.329
							(626.4)	(2.831)
Favorability	290.3***	0.421	279.6***	0.455	209.7**	0.151	326.0***	0.740*
	(97.88)	(0.331)	(105.3)	(0.407)	(81.09)	(0.265)	(118.5)	(0.413)
Male	-198.2*	-0.698**	-354.7***	-1.286***	-236.1**	-0.803***	-375.6***	-1.065***
	(109.4)	(0.280)	(100.2)	(0.365)	(118.3)	(0.200)	(110.8)	(0.266)
Age	6.834	0.0157	0.334	-0.0206	4.236	0.00398	1.180	0.116
	(20.87)	(0.0487)	(39.00)	(0.0808)	(47.24)	(0.0687)	(35.15)	(0.101)
Extraversion	12.94	-0.0989	16.48	-0.0913	12.78	-0.0996	18.75	-0.0885
	(45.50)	(0.0863)	(48.40)	(0.101)	(47.66)	(0.0924)	(45.06)	(0.0844)
Agreeableness	-23.47	0.120	-20.41	0.128	-21.47	0.123	-22.07	0.124
	(62.91)	(0.124)	(61.06)	(0.128)	(62.36)	(0.123)	(55.77)	(0.128)
Conscientiousness	-30.50	-0.0993	-24.01	-0.0822	-31.41	-0.104	-19.19	-0.101
	(43.81)	(0.109)	(39.59)	(0.117)	(45.40)	(0.112)	(46.38)	(0.124)
Neuroticism	78.41	-0.0495	85.46	-0.0495	81.41	-0.0401	85.29	-0.0576
	(53.90)	(0.0856)	(56.12)	(0.0849)	(54.92)	(0.0821)	(57.34)	(0.0879)
Openness	38.97	0.0633	37.61	0.0574	39.98	0.0620	35.09	0.0500
	(38.90)	(0.0733)	(32.81)	(0.0504)	(36.45)	(0.0656)	(32.39)	(0.0665)
(Intervention)	-48.56	-0.0345	3.482	0.450***	-68.79	-0.155	-58.71	-0.212
**Extraversion*	(52.79)	(0.100)	(63.93)	(0.150)	(79.25)	(0.181)	(52.61)	(0.161)
(Intervention)	-18.43	-0.195	66.75	-0.157	59.98	0.0541	131.9**	0.385*
**Agreeableness*	(84.82)	(0.175)	(42.83)	(0.237)	(88.37)	(0.155)	(64.34)	(0.219)
(Intervention)	60.16	0.307**	67.15	0.317**	-20.56	0.134	-57.99	-0.564***
**Conscientiousness*	(47.06)	(0.121)	(47.66)	(0.153)	(56.99)	(0.146)	(52.64)	(0.144)
(Intervention)	-63.30	0.101	-80.86	0.228	-42.69	0.0708	-92.46	0.295*
**Neuroticism*	(61.90)	(0.146)	(69.78)	(0.143)	(92.16)	(0.112)	(60.62)	(0.168)
(Intervention)	-45.97	-0.0720	-29.30	-0.163	24.42	0.0395	24.62	0.0373
**Openness*	(34.76)	(0.0745)	(86.24)	(0.150)	(65.82)	(0.119)	(43.69)	(0.115)
Constant	-702.4	0.695	-624.4	1.610	-606.3	1.175	-671.6	-1.366
	(490.6)	(1.265)	(776.2)	(2.097)	(771.6)	(1.433)	(694.4)	(2.219)
Number of Observations	140	140	116	116	140	140	113	113

Note: Robust standard errors are in parentheses. *** indicates the 1% significance level, ** indicates the 5% significance level, and * indicates the 10% significance level.