

Are certain types of causes more feared than others? Exploring the role of feared causes, the feared self, and fear appeals in charitable giving.

Veronica Marinoni

A THESIS IN THE JOHN MOLSON SCHOOL OF BUSINESS MASTER OF SCIENCE  
PROGRAM

Presented in Partial Fulfillment of the Requirements for the Master of Science (Option  
Marketing) at Concordia University

Montreal, Quebec, Canada

AUGUST 2023

© Veronica Marinoni, 2023

**School of Graduate Studies**

This is to certify that the thesis prepared

By: Veronica Marinoni

Entitled: Are certain types of charitable causes more feared than others? Exploring the role of feared causes, the feared self, and fear appeals in charitable giving.

And submitted in partial fulfillment of the requirements for the degree of Master of Science (Option Marketing)

Complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

_____	Chair
Dr. Sharlene He	
_____	Examiner
Dr. Sharlene He	
_____	Thesis Supervisor
Dr. Kamila Sobol	
_____	Thesis Supervisor
Dr. Caroline Roux	

Approved by:

\_\_\_\_\_  
Dr. Darlene Walsh  
Chair of Department or Graduate Program Director

\_\_\_\_\_  
Dr. Cedric Lesage  
Associate Dean

## **Abstract**

Are certain types of causes more feared than others? Exploring the role of feared causes, the feared self, and fear appeals in charitable giving.

Veronica Marinoni

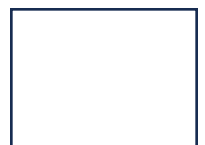
Individuals engage in charitable giving for various reasons, such as due to the personal relevance of the cause (e.g., donating to the shelter one's pet was adopted from), empathy toward the beneficiaries (e.g., victims of a natural disaster), and/or emotional (e.g., warm glow) or material (e.g., tax rebates) benefits, among many others. Although prior research has identified several determinants of charitable giving, gaps remain regarding why donors may contribute more money to certain charitable causes than others. The current research aims to address these gaps by examining the impact of fear as a determinant of charitable giving, and more specifically investigating whether 1) certain types of charitable causes are more (vs. less) feared than others due to 2) being more (vs. less) likely to evoke donors' feared self, and 3) whether a cause's inherent level of fear interacts with the use of fear (vs. neutral or hope) appeals in its marketing communications. Two pre-tests and four online experiments were conducted to test these hypotheses. The findings revealed that a more feared cause produced more favorable attitude and donation intentions compared to a less feared cause, by prompting higher levels of feared self (study 1). Further, fear (or neutral/hope) appeals did not reliably impact how donors responded to more (vs. less) feared causes (studies 2 and 3). Finally, theoretical, and managerial implications of the findings are discussed, as well as directions for future research.

## Acknowledgements

First and foremost, I would like to thank my co-supervisors Dr. Caroline Roux and Dr. Kamila Sobol, for believing in me throughout this entire journey. Having had little previous research experience, Dr. Roux and Dr. Sobol allowed me to conduct exceptional graduate-level research. They have been a constant source of knowledge, guidance, and enthusiastic encouragement, and I could not have made it this far without their continuous support. I would also like to thank my committee member Dr. Sharlene He, for her guidance and her commitment to my research.

A special mention to Sara Shafiei, Farah Armouch, and Perris Adamski, for being exceptional classmates and friends. From day one, we stuck together and helped each other out during every step of this journey. I would also like to sincerely thank my cousin Sarah Feola for being a role model and for her constant support, and my sister Sophia Marinoni for always believing in me.

Lastly, endless love and thanks to my family, who have always supported me and encouraged me every step of the way. Ultimately, I would like to dedicate this thesis to my beloved mother, who unfortunately is not here with us today, but I am sure she would be proud of my accomplishment.



## Table of Contents

<i>List of Tables</i> .....	vii
<i>List of Figures</i> .....	viii
<i>Introduction</i> .....	1
<i>Theoretical Background</i> .....	3
The Role of Fear in Charitable Giving .....	4
The Role of the Feared Self in Charitable Giving .....	5
The Role of Fear Appeals in Charitable Giving .....	6
<i>Overview of the Experiments</i> .....	9
<i>Pre-test 1</i> .....	10
Methods.....	10
Results and Discussion .....	11
<i>Study 1</i> .....	14
Methods.....	15
Results and Discussion .....	21
<i>Study 2: Conceptual Replication</i> .....	28
Methods.....	31
Results and Discussion .....	33
<i>General Discussion</i> .....	38
Limitations and Future Research .....	40
<i>References:</i> .....	44
<i>Appendix A: Pre-test Materials and Measures</i> .....	49
<i>Appendix B: Skewness and Kurtosis in Pre-Test 1</i> .....	51
<i>Appendix D: Means Without Data Exclusion- Pre-Test 1</i> .....	53
<i>Appendix E: Study 1 Material and Measures</i> .....	54
<i>Appendix F: ANOVA'S Without Data Exclusions - Study 1</i> .....	55
<i>Appendix G: Main Effects Without Data Exclusions - Study 1</i> .....	56
<i>Appendix H: Study 2 Material and Measures</i> .....	57
<i>Appendix J: Study 2: Conceptual Replication Material and Measures</i> .....	65
<i>Appendix K: Study 3 Material and Measures</i> .....	67
<i>Appendix L: Moderated mediation Output, Study 3</i> .....	69
<i>Appendix M: AsPredicted- Pre-Registration Study 1</i> .....	77

*Appendix N: AsPredicted- Pre-Registration Study 2*..... 78  
*Appendix O: AsPredicted- Pre-Registration Study 2: Conceptual Replication* ..... 79  
*Appendix P: AsPredicted- Pre-Registration Study 3* ..... 80

## List of Tables

Table 1: Ranking of the most feared charitable causes.....	13
Table 2: Means for each emotion and cause (with data exclusions) .....	14
Table 3: Mean level of fear for messaging, background image, and cause.....	22
Table 4: Two-way ANOVAs, Study 2.....	25
Table 5: Two-way ANOVAs, Study 2 Conceptual Replication.....	29
Table 6: Mediation Analyses, Study 2 Conceptual Replication .....	30
Table 7: Two-way ANOVAs, Study 3 .....	35

## List of Figures

Figure 1: Feared self mediates the effect of cause type on individuals' attitudes, Study 1.....	17
Figure 2: The feared self mediates (...) on willingness-to-donate, Study 1.....	18
Figure 3: The feared self mediates (...) on the donation amount (\$), Study 1.....	19
Figure 4: The feared self mediates (...) on attitudes Study 2.....	26
Figure 5: The feared self mediates (...) on willingness-to-donate, Study 2.....	27
Figure 6: The feared self mediates (...) on the donation amount (\$), Study 2.....	27
Figure 7. Appeals used in Study 3.....	32
Figure 8: The feared self mediates (...) on attitudes Study 3.....	36
Figure 9: The feared self mediates (...) on willingness-to-donate, Study 3.....	37
Figure 10: The feared self mediates (...) on the donation amount (\$), Study 3.....	38



## Introduction

Charitable giving has been on the rise during the COVID-19 pandemic, as donors tend to engage with charitable organizations mostly through monetary donations (Fridman et al., 2021). There however is a considerable discrepancy in how much funding different types of charities receive. Although prior research has identified several determinants of charitable giving (Chapman et al., 2020), gaps remain regarding why donors contribute more money to certain charitable causes than others (Bennett, 2003). For instance, why did U.S. donors decide to donate more to the American Cancer Society than the American Heart Association in 2022 (\$683 vs. \$578 million in private donations; Barrett, 2022)? Prior research speculated that individuals may engage in charitable giving to protect themselves against feared negative consequences (e.g., potentially needing the charity's help; O'Loughlin Banks & Raciti, 2018). An implicit assumption of this speculation is that fear could be driving (at least some) donations, but there is a lack of empirical research, to my knowledge, that explicitly explores the role of fear in charitable giving (O'Loughlin Banks & Raciti, 2018).

For instance, certain charitable causes may be inherently more feared than others because they are more likely to activate one's feared self. The feared self is a future-oriented representation of the self that is negative and that individuals want to avoid (e.g., being sick; Hoyle & Sherrill, 2006). Prior work has indicated that consumers are motivated to avoid a representation of their feared selves and tend to move away from it to ensure that these feared traits never emerge (Sobh et al., 2003).

In addition, many charities use fear appeals in their marketing communications to raise awareness and garner donations for their cause (e.g., Stunt, 2014). Fear appeals have long been used as a communications tool to increase consumers' level of fear in the hopes of decreasing

their harmful behaviours (e.g., stop smoking; Manyiwa & Brennan, 2012). Prior work on fear appeals has shown that marketers use fear-arousing communications to create an emotional imbalance that later can be eliminated by providing “salvation” to consumers (Brennan & Binney, 2008). More specifically, advertisements that invoke fear must be perceived as a genuine threat by the consumer in order to be successful.

However, to my knowledge, there is little research on whether certain charitable causes may be more feared – and thus more likely to activate donors’ feared self – than others, and the role of fear appeals in charitable giving has not been extensively investigated. Given the wide variety of charitable causes individuals can donate to, and the widespread use of fear appeals in charities’ marketing communications, better understanding the interplay between types of causes and fear appeals has important implications. Indeed, prior research has shown that, although a certain level of fear can motivate individuals to pursue positive outcomes, too little or too much fear can be counterproductive (Henthorne et al., 1993). My thesis thus aims to investigate whether certain charitable causes are more (vs. less) feared than others and, if so, whether these types of causes interact with the use of fear (vs. neutral or hope) appeals. My thesis will also investigate the role of the feared self in these effects.

In sum, my thesis’ findings revealed that some charitable causes were more feared than others by donors and were more likely to activate their feared self, which resulted in higher attitudes and donations intentions. However, fear (or neutral/hope) appeals did not reliably impact how donors responded to more (vs. less) feared causes. My thesis’ findings can help marketers develop more effective communications for charitable organizations in order to help positively impact charitable giving.

## Theoretical Background

Charitable organizations play a crucial role in enhancing individuals' rights and well-being by pursuing prosocial behaviours and generating public benefit (Wang et al., 2023). In the United States, there are approximately 1.54 million registered non-profit organizations according to the National Center for Charitable Statistics (2020). Since the COVID-19 pandemic, charitable giving has been on the rise, as prior research revealed that individuals who face a common threat frequently display greater social cohesion (Fridman et al., 2021). As suggested by the catastrophe compassion theory (Zaki, 2020), donors tend to have a higher sense of community and altruism when confronted with an uncontrollable situation (Glynn et al., 2003). According to the National Philanthropic Trust (2022), 86% of American households maintained or increased their donations to charitable organizations despite the uncertainty caused by the COVID-19 pandemic. Americans donated a total of \$484.85 billion USD to several charitable causes in 2021; a 4% increase from the donation amounts reported in 2020 (Virgilio, 2022). However, these donations are not equally distributed among charities. For instance, the charity Feeding America received a total of US \$4.06B in private donations, whereas the United States Fund of UNICEF totalled US\$531M in private donations in 2022 (Barrett, 2022).

Prior research has demonstrated that individuals donate to charitable organizations for a variety of reasons, including the personal relevance of the cause (such as supporting the animal shelter where they adopted their pet), sympathy for the recipients (such as those affected by a natural disaster), self-protection (such as supporting cancer-related causes by individual with extensive family history of cancer; O'Loughlin Banks & Raciti, 2018), and emotional (such as a warm glow) and/or material benefits (such as tax benefits; Chapman et al., 2022). However, although there have been many studies on the determinants of charitable giving (Chapman et al.,

2022), gaps remain regarding why consumers contribute more money to certain causes than others (Bennett, 2003).

### **The Role of Fear in Charitable Giving**

One important reason behind people's inclination to donate is the need to protect oneself against potential feared consequences (O'Loughlin Banks & Raciti, 2018). Specifically, O'Loughlin Banks and Raciti (2018) identified two ways in which fear can increase charitable giving: i) due to a fear of proximal consequences, when an individual feels pressured to donate to a charity because they fear criticism, punishment, or disapproval from their peers (Batson et al., 2002; Piliavin, 1990; Sargeant, 1999), and/or ii) due to a fear of distal consequences, when an individual donates to a charity by fear of being afflicted with similar problems in the future and needing help (Burnett, 1981; Guy & Patton, 1989). Prior research further revealed that a general perceived fear of future outcomes has a positive effect on how much money people tend to donate to charities, and mostly impacted small (\$1-\$50) and medium (\$51-\$100) donation amounts, but not larger (\$101+) amounts (O'Loughlin Banks & Raciti, 2018).

This thesis will further investigate how fear impacts charitable giving, by testing whether certain charitable causes are inherently more feared than others and, if so, how this impacts charitable giving. Building on O'Loughlin Banks and Raciti's (2018) findings, I predict that a more (vs. less) feared cause will positively impact attitudes toward and willingness-to-donate to a charity. Stated formally:

**H1a:** Individuals will express more positive attitudes toward a charitable cause that is more (vs. less) feared.

**H1b:** Individuals will be more willing-to-donate to a charitable cause that is more (vs. less) feared.

## **The Role of the Feared Self in Charitable Giving**

The feared self is a future-oriented representation of the self that is negative and that individuals want to avoid (e.g., being sick; Hoyle & Sherrill, 2006). The feared self has been described as an “avoidant motive” that initiates self-change to be enhanced over time with a more positive possible self, which is the conventional self an individual wants to become (Paternoster & Bushway, 2009 p. 1118). Past research has shown that individuals are motivated to avoid a representation of their feared selves and tend to move away from them to ensure that the traits their feared self embodies never emerge (Sobh et al., 2003).

Some charitable causes may thus be inherently more feared than others because they are more likely to activate one’s feared self. Envisioning one’s feared self (e.g., being sick) when being exposed to a charitable organizations’ marketing communications could encourage individuals to donate to such causes, as part of a self-protection mechanism (O’Loughlin Banks & Raciti, 2018). For instance, half of the North American population fears cancer more than any other disease, despite medical advances in cancer treatments and early diagnosis (Vrinten et al., 2015). Yet, chemotherapy, disability, and death remain strong fears that are associated with cancer (Vrinten et al., 2017). Donations to charitable organizations related to cancer may thus be boosted by the activation of potential donors’ feared self (Barrett, 2022). I thus predict that the activation of one’s feared self will mediate the effect of cause type (i.e., more vs. less feared) on attitudes toward and willingness-to-donate to a charitable cause. Stated formally:

**H2:** A charitable cause that is more (vs. less) feared will be more (less) likely to activate one’s feared self.

**H3a:** The activation of the feared self will mediate the effect of charitable cause type (i.e., more vs. less feared) on attitudes toward the charity.

**H3b:** The activation of the feared self will mediate the effect of charitable cause type (i.e., more vs. less feared) on donation intentions.

### **The Role of Fear Appeals in Charitable Giving**

Marketers are able to manipulate consumers' experienced fear through the use of fear appeals (Manyiwa & Brennan, 2012). Fear appeals can be defined as "persuasive communication attempting to arouse fear to promote precautionary motivation and self-protective action" (Ruiter, Abraham, & Kok, 2001, p. 614). For instance, fear appeals are often used in marketing communications as a tool to reduce harmful behaviour, such as smoking (Manyiwa & Brennan, 2012), or to promote preventive behaviours, such as screening for breast cancer (Jones & Owen, 2006). The rationale behind the use of fear appeals stems from the notion that arousal is required in order to motivate behavioral change (Cohen 1957) and that information presentation alone is deemed insufficient to significantly alter a consumer's behaviour (Leventhal & Niles, 1964).

Numerous theoretical models have been put forth to better understand the fear arousal process (e.g., Janis 1967; Tunner, Day, & Crask, 1989). Previous research has demonstrated that fear appeals used in advertisements can negatively arouse an individual and trigger a fear response (LaTour & Zahra, 1988). Arousal affects consumer's affective and cognitive processes, such as attitude formation and information processing (Singh & Churchill, 1987). Therefore, the intensity of the arousal activated by the fear appeal impacts how desirable an advertisement is perceived (Aaker et al., 1986). For example, Singh and Churchill (1987) presented participants with television programs that generated different levels of negative psychological arousal, and found that induced arousal increased positive attitudes and behaviours toward the televised commercial (Singh & Churchill, 1987).

Conversely, hope is a “positively-valanced emotion evoked in response to an uncertain but possible goal-congruent outcome” (MacInnis & De Mello, 2005, p. 2). In contrast to fear, positive emotions broaden the range of one’s attentional capacities and cognition and increase individuals’ sense of security and assurance throughout their interpersonal interactions (Morrison & Firmstone, 2000). Past research reported that hope appeals are more challenging to emphasize and less vivid than fear appeals (Black et al., 2021), since hope is a fictional based reality, whereas fear appeals can reference something that the consumer currently has but fears losing (e.g., health and employment; MacInnis & De Mello, 2005). For instance, hope appeals can help decrease the level of fear when an illness is present (Hillbrand & Young, 2008). The principle underpinning this outcome is based on Spears, Blankson, and Guzmán’s (2012) theory, which claims that hope can counteract the negative arousal produced by fear because it causes consumers to consider more thoughts and actions (Fredrickson 2001), while fear causes individuals to ponder fewer, and more negative judgements (Fredrickson and Levenson 1998).

Both fear (e.g., Stunt, 2014) and hope (e.g., American Cancer Society, 2015) appeals are commonly used in charitable organizations’ marketing communications, but it is unclear whether and how they may interact with the inherent fear produced by the cause itself. While a manageable level of fear can produce positive effects on charitable giving, past research suggests that too much fear may produce a backfire effect, in the form of denial or defensiveness (Henthorne et al., 1993), which might adversely impact the charitable cause. According to LaTour and Zahra’s research (1988), when individuals are exposed to an advertisement employing a fear appeal, they feel a sense of tension that initiates their energy arousal (LaTour & Zahra 1988). This tension keeps producing motivating energy toward the ad as long as it does not surpass a threshold, at which point the evoked tension becomes overwhelming and activates

negative anxiety (LaTour & Pitts, 1989). Once the intensity of the fear arousal becomes too threatening, its effect backfires, resulting in more negative responses (Henthorne et al., 1993). Accordingly, I propose that an inherently feared cause paired with a neutral or hope appeal will produce a positive effect on charitable outcomes. However, it is possible that an inherently feared cause paired with a fear appeal might evoke too much fear, crossing the threshold of fear appeal effectiveness, and instead is likely to produce more adverse effects on attitude and donation intentions toward the charity. I therefore propose the following hypotheses:

**H4a:** Individuals will express more positive attitudes toward a charitable cause that is more (vs. less) feared when using a neutral or hope appeal.

**H4b:** Individuals will express fewer positive attitudes toward a charitable cause that is more (vs. less) feared when using a fear appeal.

**H5a:** Individuals will be more willing-to-donate to a charitable cause that is more (vs. less) feared when using a neutral or hope appeal.

**H5b:** Individuals will be less willing-to-donate to a charitable cause that is more (vs. less) feared when using a fear appeal.

**H6:** A fear (vs. neutral or hopeful) appeal will be more (vs. less) likely to activate individuals' feared self.

**H7a:** The activation of the feared self will mediate the interaction between charitable cause and appeal types on attitudes toward the cause.

**H7b:** The activation of the feared self will mediate the interaction between charitable cause and appeal types on willingness-to-donate to the cause.



Overall, the main goal of my thesis is to identify the type of message appeal that will improve the effectiveness of the marketing communications for different types of causes and positively impact charitable giving.

### **Overview of the Experiments**

The hypotheses were tested using online experiments. Studies were conducted on Amazon Mechanical Turk (MTurk) and participants were recruited via CloudResearch. MTurk was used as the main platform for my data collection across all studies, as participants have been shown to produce reliable and replicable results (Goodman et al., 2013). A pre-test was first conducted to determine whether certain types of charitable causes are more (vs. less) feared than others, as it is an important assumption underlying the hypotheses. Study 1 then tested the effects of cause type (i.e., more vs. less feared) on attitudes toward and willingness-to-donate to the charitable cause (H1a/b), as well as the hypothesized mediating effect of feared self (H2 and H3a/b).

Next, another pre-test was conducted to calibrate neutral and fear appeals to be used in following experiments. Study 2 and a conceptual replication tested the interacting effects of cause type (i.e., more vs. less feared) and appeal type (i.e., neutral/hope vs. fear) on attitudes toward and willingness-to-donate to the charitable cause (H4a/b and H5a/b), as well as the hypothesized mediating effect of feared self (H6 and H7a/b). Finally, Study 3 aimed to generalize the findings by employing a different less-feared charitable cause and a heightened fear appeal to further test for a potential backfire effect of such appeals (Henthorne et al., 1993).

## Pre-test 1

The main goal of Pre-test 1 was to determine whether certain charitable causes are more (vs. less) feared by donors. Pre-test 1 also tried to better understand participants' reasoning behind why a charitable cause was more (vs. less) feared.

### Methods

Two hundred and four participants were recruited from Amazon Mechanical Turk (MTurk) through CloudResearch ( $M_{age} = 39.31$ ;  $SD = 10.65$ ; 64.2% male) and were compensated US\$1.20 for an 8-minute study. Participants first provided informed consent, answered comprehension checks (e.g., "A chicken is a type of insect" True/False), and were asked to list the charities and/or charitable causes they support (currently, in the past, or would like to if they had the resources) in order to help identify relevant causes for the Turker population. Among the participants, 57.9% reported that they donate on a regular basis, and 96.1% agreed that charity organizations perform a valuable function in society.

The pre-test questionnaire then included twelve charitable causes grouped under three separate blocks: cancer-related causes (cancer, lung cancer, skin cancer and colon cancer), other health-related causes (heart disease, diabetes, Multiple Sclerosis (MS), and COVID-19), and other health-unrelated causes (homelessness, poverty, hunger, and climate change). Although the list of charitable causes was not exhaustive, the considerable diversity between the blocks allowed us to make informative comparisons. Participants were randomly assigned to three of the twelve charitable causes – one from each block – and their order of presentation was randomized across participants. For each randomly assigned cause, participants had to indicate how thinking about the charitable cause made them feel (scale: Not at all = 1 to Extremely = 7) using the following items: afraid, angry, ashamed, distressed, guilty, happy, hopeful, inspired, sad, scared

and upset. The list of emotions was adapted from Mayer & Gaschke (1988). The emotions of interest for this pre-test were participants' responses to "afraid" and "scared." The two emotions were strongly and positively correlated ( $r = .91$ ;  $p < .001$ ), which allowed me to average them into one "fear" variable. Participants who reported feeling highly fearful of a cause (i.e., answered  $> 4$  to either the "afraid" or "scared" items) were subsequently asked to explain why they experience such feelings when thinking about that particular cause.

After evaluating each randomly assigned charitable causes, participants were asked to rank a list of nine charitable causes (i.e., cancer, heart disease, diabetes, MS, COVID-19, homelessness, poverty, hunger, climate change) from most feared (#1) to less feared (#9), and to briefly explain why they feared the cause they ranked as #1 the most. Finally, participants were presented with questions pertaining to their general attitudes and behavior regarding charitable giving, demographics, and data quality (e.g., distraction, technological issues). See Appendix A for the pre-test's materials.

## **Results and Discussion**

To test which charitable cause was most feared by participants, a ranking was performed by calculating the percentage mean of the first four ranks (i.e., 1-2-3-4) – where 1 is most feared – in order to obtain a more representative classification. Cancer was found to be the cause that participants feared the most, as 46.60% ranked cancer as most feared, 17.96% as second most feared, and 8.25% as third. Heart disease was considered the second most feared cause because, although only 9.71% of participants ranked this cause in first place, 23.79% and 16.99% ranked it as their second and third most feared cause respectively (See Table 1).

When participants were asked to elaborate on the reasoning behind their ranking, five main reasons were uncovered. Out of the 46.60% who ranked cancer as most feared, 42.20%

mentioned being scared that, in the near future, they themselves or a loved one will be affected by the disease (e.g., “I fear cancer the most because it's one of the most painful ways to die and I would never want to experience it”), which provides anecdotal support for my theorized role of the feared self. Being personally affected by the cause currently or in the past (e.g., “I (my loved ones) was (were) diagnosed with this disease) (38.40%) was another reason for ranking cancer in first place. Additionally, 37.90% fear the lack of control one has over the illness (e.g., “Cancer is terrible and can just randomly happens due to many causes even if you live an incredibly healthy lifestyle as I do”). Not having a cure also was reported as a concern (25.00%). Lastly, 6.90% of participants fear the financial burden that can be incurred due to this illness.

To confirm the validity of the ranking, Kurtosis and skewness were also calculated. The skewness of cancer was found to be  $-.34$  ( $SE = .17$ ), indicating that the distribution was left-skewed, while the Kurtosis was found to be  $-1.46$  ( $SE = .34$ ), indicating that the distribution is platykurtic (see Appendix B for analyses). In other words, cancer does not follow a normal distribution curve as most of participants ranked it in their top three (see Appendix C for analyses). These analyses helped me confirm that cancer is highly feared by participants compared to other causes such as diabetes or heart disease.

Table 1: Ranking of the most feared charitable causes.

#	Cause\Rank	1	2	3	4	5	6	7	8	9
1	Cancer	46.60%	17.96%	8.25%	6.80%	6.80%	3.40%	4.85%	2.43%	2.91%
2	Heart Disease	9.71%	23.79%	16.99%	12.65%	11.17%	11.65%	6.31%	6.31%	1.46%
3	Poverty	7.77%	10.19%	13.59%	12.62%	12.14%	15.53%	13.59%	7.28%	7.28%
4	Homelessness	6.80%	9.22%	11.18%	15.05%	16.02%	14.08%	8.74%	13.11%	5.83%
5	Climate Change	17.96%	6.80%	7.77%	8.25%	7.77%	7.77%	7.28%	13.11%	23.30%
6	Hunger	3.40%	8.74%	14.08%	13.59%	14.56%	10.68%	17.48%	10.68%	6.80%
7	Diabetes	2.43%	8.25%	10.68%	12.14%	11.17%	17.48%	18.45%	11.65%	7.77%
8	Multiple Sclerosis	2.43%	9.22%	9.22%	12.14%	11.65%	11.17%	13.59%	14.08%	16.50%
9	Covid-19	2.91%	5.83%	8.25%	6.80%	8.74%	8.25%	9.71%	21.36%	28.16%

Note. Rankings were calculated based on the mean of the first four ranks (i.e., 1-2-3-4), in order to obtain a more representative classification of feared causes.

Next, I analyzed whether there existed significant discrepancies in reported emotions (beyond fear) across the various charitable causes. Before calculating the means, the variance of each participant’s answers across the emotion-related items was computed in order to exclude answers with a variance of zero (i.e., where participants answered the same thing across all items, such as 5-5-5-etc.), as such answers indicated a lack of attention or careful responding. Cancer scored the highest on the “fear” emotion ( $M = 3.35$ ,  $SD = 1.07$ ), which is consistent with the ranking analysis (See Table 2). Note that the same analyses were run without data exclusions, and the results remained similar (see Appendix D for analyses).

Table 2: Means for each emotion and cause (with data exclusions)

<i>MEANS</i>	<i>Afraid</i>	<i>Angry</i>	<i>Ashamed</i>	<i>Distressed</i>	<i>Guilty</i>	<i>Happy</i>	<i>Hopeful</i>	<i>Inspired</i>	<i>Sad</i>	<i>Scared</i>	<i>Upset</i>	<i>Fear</i>
<i>Cancer</i>	3.44	2.87	1.36	3.18	1.54	1.62	2.72	2.36	4.03	3.26	2.98	3.35
<i>Lung Cancer</i>	3.21	2.16	1.79	2.87	1.97	1.82	2.91	2.76	3.95	2.74	2.97	2.97
<i>Skin Cancer</i>	3.17	1.71	1.60	2.83	1.74	1.80	2.72	2.31	3.26	2.54	2.23	2.85
<i>Colon Cancer</i>	3.40	1.79	1.49	2.70	1.57	1.64	2.64	2.15	3.34	2.87	2.38	3.13
<i>Poverty</i>	2.20	2.48	2.00	2.52	1.96	1.70	2.87	2.72	3.52	2.13	2.57	2.16
<i>Homelessness</i>	2.00	2.33	2.14	2.47	2.16	1.67	2.82	2.41	3.78	2.12	2.59	2.06
<i>Climate Change</i>	2.60	2.85	1.94	2.62	1.89	1.60	2.68	2.32	2.74	2.55	2.70	2.57
<i>Hunger</i>	2.11	2.24	1.96	2.91	2.16	1.64	2.27	2.00	4.13	1.89	3.07	2.01
<i>MS</i>	2.23	1.33	1.44	2.51	1.74	1.72	3.00	2.85	3.10	2.08	2.43	2.15
<i>Diabetes</i>	2.53	1.96	1.91	2.22	1.91	2.02	3.40	2.40	2.47	2.36	2.20	2.44
<i>Heart Disease</i>	2.52	1.65	1.41	2.22	1.61	1.72	2.72	2.20	2.50	2.15	1.98	2.33
<i>Covid-19</i>	2.26	2.88	1.74	2.15	1.32	1.56	2.38	1.76	2.88	2.18	2.97	2.39

Pre-test 1 confirmed that certain charitable causes are more (vs. less) feared than others, an important assumption underlying the hypotheses, and specifically identified cancer as the most feared cause by Turkers. Based on the results of Pre-test 1, cancer was used as the inherently high-fear cause for the stimuli in following experiments. Conversely, diabetes was used as the low-fear cause, because it was ranked and rated among the bottom three least feared, health-related causes by participants.

### Study 1

The goals of Study 1 were to i) test the hypothesized main effect of cause type (i.e., more vs. less feared) on attitudes and willingness-to-donate (H1a/b), and ii) test the hypothesized mediation effect of the feared self (H2 and H3a/b). Study 1’s hypotheses and analyses were pre-registered using AsPredicted (see Appendix M or [https://aspredicted.org/9DB\\_JJN](https://aspredicted.org/9DB_JJN)).

## Methods

Three-hundred and nineteen participants were recruited from MTurk through CloudResearch and were compensated US\$1.00 for a 7-minute study. Participants who self-reported poor English proficiency, wrote suspicious comments to researchers, failed the comprehension check questions, and reported encountering technical issues during the study were excluded from the analyses. These data exclusions were pre-registered and consistently applied across all studies. After exclusions, 288 participants ( $M_{age} = 40.90$ ;  $SD = 12.09$ ; 53.7% female) were included in the analyses.

Participants first provided informed consent, answered comprehension checks (e.g., “A dog is a type of plant” True/False), and were presented with a short introductory paragraph about charitable giving to provide some context. Participants were then randomly assigned to either a high-feared cause (i.e., cancer) or low-feared cause (i.e., diabetes), and presented with an ad asking for donations for the respective cause. The messaging used in the ads was relatively neutral: the image depicted an open road scenery using neutral sepia colors, and the message was informative but non-alarming. The messaging was the following: “*[Cancer/Diabetes] is complex. Our best weapon against it is research. Over the years, researchers have been trying to find ways to outsmart [cancer/diabetes]. Help fund research that continuously changing the future of [cancer/diabetes]. Donate now!*” The same appeal intended to minimize the likelihood that the ad itself would elicit any strong emotion (see Appendix E), as the current study focused exclusively on the effects of cause type.

After being exposed to the ad, participants rated their attitudes toward the cause using two items (i.e., To what extent do you care about / feel connected to [cancer/diabetes] research; scale: Not at all = 1 to Extremely = 7,  $r = .87$ ;  $p < .001$ ). Participants also indicated their

willingness-to-donate to the cause using a Likert scale item (i.e., To what extent would be willing-to-donate money to [cancer/diabetes] research; scale: Not at all = 1 to Extremely = 7) and a slider scale item (US\$ 0-10). For the slider scale item, participants were asked to imagine they were to receive a \$10 bonus at the end of the study and were presented with the opportunity to make a donation to [cancer/diabetes] research.

Next, participants completed a feared self scale adapted from Aardema and colleagues (2013). The scale was comprised of 6 items assessing participants fear of being someone affected by the cause in the future (e.g., “I am afraid of becoming affected by [cancer/diabetes]”; scale: Strongly disagree = 1 to Strongly agree = 7,  $\alpha = .89$ ). Finally, participants were presented with questions pertaining to their personal experience with the cause, charitable giving habits, demographics, and data quality. See Appendix H for the study’s materials.

## **Results and Discussion**

**Analysis of Main Dependent Variables.** One way-ANOVAs were conducted with cause type as the independent variable and attitudes toward the cause, willingness-to-donate, and donation amount as the dependent variables. Results revealed a significant effect of cause type on attitudes ( $F(1, 298) = 11.56, p < .001$ ). Specifically, as hypothesized, participants reported more positive attitudes toward the cancer cause ( $M = 4.99, SD = 1.46$ ) than diabetes ( $M = 4.37, SD = 1.70$ ). There also was a significant effect of cause type on willingness-to-donate ( $F(1, 298) = 12.37, p < .001$ ), with participants reporting a higher willingness-to-donate to the cancer cause ( $M = 5.01, SD = 1.85$ ) compared to diabetes ( $M = 4.26, SD = 1.88$ ). Further, there was a significant effect of cause type on donation amount ( $F(1, 298) = 4.52, p = .03$ ), with participants intending to donate more money to the cancer cause ( $M = \$3.78, SD = 3.38$ ) than diabetes ( $M = \$3.00, SD = 2.93$ ). Next, there was a significant effect of cause type on feared self ( $F(1, 298) =$



18.32,  $p < .001$ ), such that participants reported experiencing higher levels of feared self when exposed to the cancer cause ( $M = 5.16$ ,  $SD = 1.15$ ) compared to diabetes ( $M = 4.51$ ,  $SD = 1.47$ ). Note that these analyses were also run without data exclusions and produced similar results (see Appendix F and G). These results provide support for H1a, H1b and H2.

**Mediation effects.** To test whether the evoked levels of feared self mediated the effect of cause type on donors' attitudes, a mediation analysis using PROCESS Model 4 (5,000 bootstrapped samples; Hayes 2017) was conducted, with cause type as the independent variable (0 = less feared cause, 1 = more feared cause), attitudes as the dependent variable, and feared self as the mediator. Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.20; .63]), the mediation was significant (see Figure 1). Specifically, the results indicated that cause type had a significant positive effect on feared self ( $\beta = .65$ ;  $SE = .51$ ;  $t = 4.28$ ;  $p < 0.01$ ), and that feared self had a significant positive effect on attitudes toward the charitable cause ( $\beta = .62$ ;  $SE = .05$ ;  $t = 10.42$ ;  $p < .001$ ). Moreover, when feared self was included in the model, the direct effect of cause type on attitude was no longer significant ( $\beta = .21$ ;  $SE = .16$ ;  $t = 1.34$ ;  $p = .18$ ). These findings provide support for H3a.

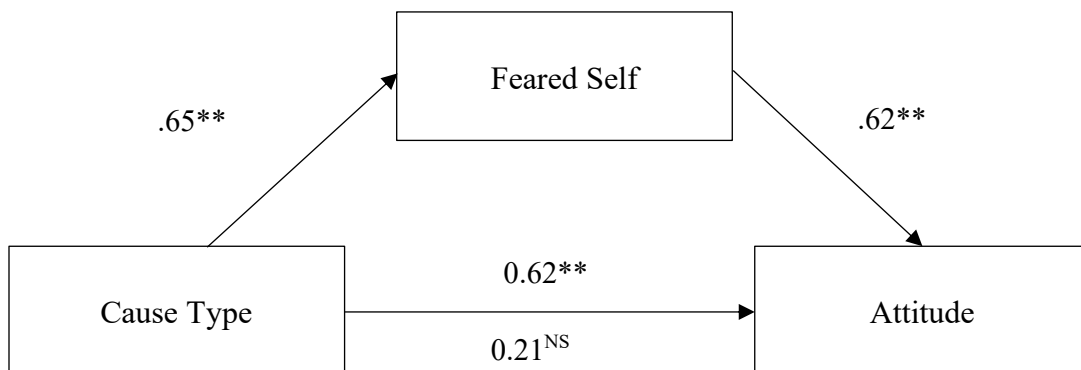


Figure 1: Feared self mediates the effect of cause type on attitudes, Study 1. Note.  $^{**}$ indicates  $p < .001$ , NS indicates non-significant.

Another mediation analysis was performed to test whether feared self mediated the effect of cause type on willingness-to-donate to the charitable cause. A mediation analysis using PROCESS Model 4 (5,000 bootstrapped samples; Hayes 2017) was conducted, with cause type as the independent variable (0 = less feared cause, 1 = more feared cause), willingness-to-donate as the dependent variable, and feared self as the mediator. Again, the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.20; .64]) suggesting that the mediation was significant (see Figure 2), thus supporting H3b. Specifically, cause type had a significant positive effect on feared self ( $\beta = .65$ ;  $SE = .15$ ;  $t = 4.28$ ;  $p < 0.01$ ), and feared self had a significant positive effect on willingness-to-donate ( $\beta = .62$ ;  $SE = .07$ ;  $t = 8.44$ ;  $p < .001$ ). Moreover, when feared self was included in the model, the direct effect of cause type on willingness-to-donate became marginally significant ( $\beta = .35$ ;  $SE = .19$ ;  $t = 1.76$ ;  $p = .07$ ).

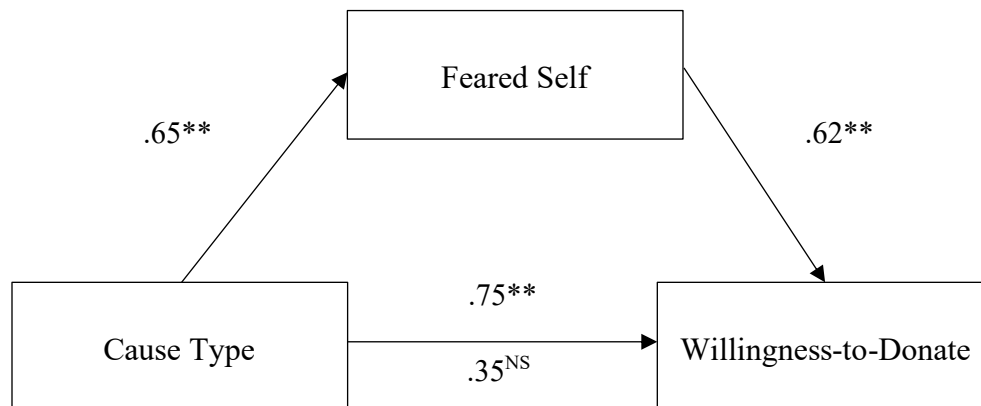


Figure 2: The feared self mediates the effect of cause type on willingness-to-donate, Study 1.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

A final mediation analysis was performed using PROCESS Model 4 (5,000 bootstrapped samples; Hayes, 2017) to determine whether feared self mediated the effect of cause type on donation amount (US\$). Cause type was included as the independent variable (0 = less feared

cause, 1 = more feared cause), donation amount as the dependent variable, and feared self as the mediator. Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.23; .82]), the mediation was significant (see Figure 3). The results indicated that cause type had a significant positive effect on feared self ( $\beta = .65$ ;  $SE = .15$ ;  $t = 4.28$ ;  $p < 0.01$ ), and that feared self had a significant positive effect on donation amount ( $\beta = .75$ ;  $SE = .13$ ;  $t = 5.73$ ;  $p < .001$ ). Further, when feared self was included in the model, the direct effect of cause type on donation amount became non-significant. These results provide further evidence in support of H3b.

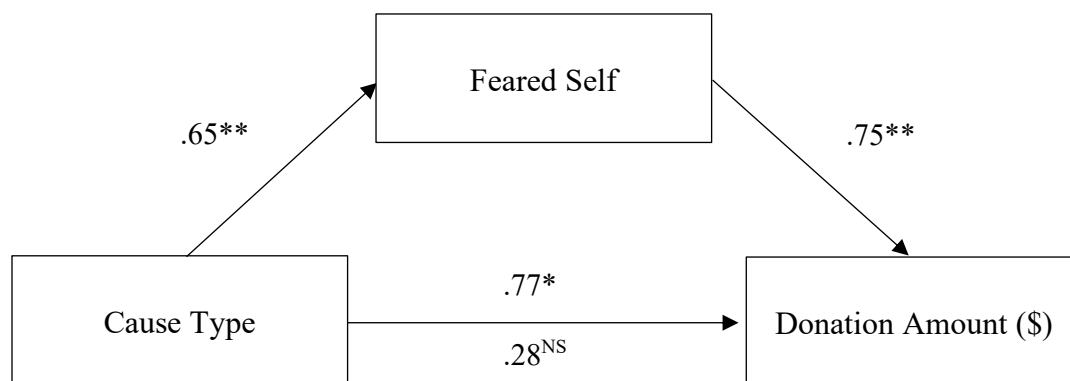


Figure 3: The feared self mediates the effect of cause type on the donation amount (\$), Study 1.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

In sum, Study 1 provided support for hypotheses H1-H3, as an inherently more (vs. less) feared cause prompted more positive attitudes, higher willingness-to-donate, and higher donation amounts to the cause. These effects were fully mediated by activating participants' feared self. Next, I will investigate the role of fear (vs. neutral or hope) appeals in these effects.

### Pre-Test 2

The main goal of Pre-test 2 was to determine the effectiveness of a charitable giving stimuli that will be used to manipulate appeal and cause types in following studies.

## Methods

Two hundred fifty participants were recruited from MTurk through CloudResearch and were compensated US\$0.75 for a 3-minute study (no demographics were collected due to a survey design error). Participants first provided informed consent to participate in the study and answered comprehension checks (e.g., “A chicken is a type of insect” True/False).

Next, participants were randomly assigned to one of four conditions in a 2 (cause type: more-feared vs. less-feared) x 2 (appeal type: fear vs. neutral) between-subject design. Cause type was manipulated using the same cancer (i.e., more-feared) and diabetes (i.e., less-feared) charitable causes as in Study 1. Appeal type was manipulated by modifying elements of the message itself as well as the ad’s background image. In the neutral [fear] condition, the message read: *“Cancer/Diabetes is complex [alarming]. In 2023, an estimated 1.5 million new cancer/diabetes cases will be diagnosed in the U.S. [and hundreds of thousands of Americans will die of cancer/diabetes]. Our best weapon against it is research. Over the years, researchers have been trying to find ways to outsmart cancer/diabetes. Help fund research that saves lives. Donate now!”* The fear appeal was made scarier than the neutral appeal by replacing “complex” by “alarming” in the first sentence and adding death-related statistics to the second sentence, as mortality salience has been shown to evoke fear (Rezapour, 2022). The background image was manipulated such that participants presented with the neutral appeal saw a person sitting on a bench (conveying a sense of calmness), whereas those presented with the fear appeal saw a patient lying in a hospital bed, as prior research has shown that people often associate hospitals with undesirable events, thus subconsciously eliciting a sense of fear (Haldar et al., 2017).

Participants were randomly assigned to one of the four ads and had to indicate, in turn, how thinking about the i) message, ii) image, and iii) the cause (in that order) in the ad made

them feel (Not at all = 1 to Extremely = 7) on the following items: afraid, angry, guilty, hopeful, sad, scared and upset (Mayer & Gaschke 1988). The main emotions of interest were “afraid” and “scared”. Participants’ scores on the afraid and scared items were combined to create a “fear” variable ( $r_{\text{Messaging}} = .86; p < .001; r_{\text{Image}} = .90; p < .001; r_{\text{Cause}} = .92; p < .001$ ). Participants were then given the option to provide additional comments (open-ended question). No additional information (e.g., demographics) was collected due to a survey design error.

## Results and Discussion

Two-way ANOVAs were conducted to determine the effectiveness of the stimuli. Overall, there were significant main and interaction effects of appeal and cause types on participants’ level of fear. First, regarding the messaging, the main effects of cause type ( $F(1, 248) = 10.52, p = .056$ ) and appeal type ( $F(1, 248) = 26.36, p = .003$ ), as well as their interaction ( $F(1, 248) = 17.55, p < .014$ ), were significant. The mean patterns suggest that although a scarier message (fear vs. neutral appeal) increases the perceived fearfulness of the less-feared cause, it was perceived as similarly scary in the more-feared cause condition.

Second, regarding the background image, the main effect of appeal type was not significant ( $F(1, 248) = 2.08, p = .065$ ), but the main effect of cause type ( $F(1, 248) = 121.53, p = .001$ ) and the interaction ( $F(1, 248) = 358.04, p < .001$ ) were significant. These findings imply that the image worked as intended, by making each type of cause more feared when paired with a scarier image.

Finally, regarding the cause, the main effect of appeal type was not significant ( $F(1, 248) = 5.57, p = .187$ ), but the main effect of cause type ( $F(1, 248) = 48.23, p < .001$ ) and the interaction ( $F(1, 248) = 340.89, p < .001$ ) were significant. This means that the fear appeal was unable to make the cause appear scarier, which may be due to the fact that cancer is already

feared on its own so it's hard to detect the added level of fear that is induced. Although these results were not entirely successful, I decided to use these stimuli in Study 2 considering that most of the features of the stimuli were effective.

Table 3: Mean level of fear for messaging, background image, and cause.

<b>Messaging</b>		
<i>Appeal</i>	<i>Less-feared cause</i>	<i>More-feared cause</i>
Neutral	1.87 (1.27) <sup>a</sup>	2.80 (1.83) <sup>b</sup>
Fear	2.92 (1.70) <sup>b</sup>	3.04 (1.94) <sup>b</sup>
<b>Image</b>		
<i>Appeal</i>	<i>Less-feared cause</i>	<i>More-feared cause</i>
Neutral	1.26 (.73) <sup>a</sup>	1.99 (1.68) <sup>b</sup>
Fear	3.05 (1.97) <sup>c</sup>	2.99 (2.11) <sup>c</sup>
<b>Cause</b>		
<i>Appeal</i>	<i>Less-feared cause</i>	<i>More-feared cause</i>
Neutral	1.86 (1.71) <sup>a</sup>	1.88 (2.09) <sup>b</sup>
Fear	2.47 (1.81) <sup>a,b</sup>	3.89 (2.06) <sup>b</sup>

Note: Means without a common subscript differ at  $p < 0.05$  significance level.

## Study 2

The goals of Study 2 were to i) test the hypothesized moderating effect of appeal type (H5a/b), and ii) further test the hypothesized mediation effect of the feared self (H6 and H7a/b). Specifically, I hypothesized that for a more (vs. less) feared cause, the addition of a fear appeal will activate participants' feared self to a level that prompts negative (vs. positive) responses, due to the combined effects of cause and appeal types.

## Methods

Four hundred and thirty participants were recruited from MTurk through CloudResearch and were compensated US\$1.00 for a 6-minute study. The same pre-registered data exclusions as in Study 1 were applied. After exclusions, 387 participants ( $M_{age} = 39.25$ ;  $SD = 11.58$ ; 57.2%

female) were included in the analyses. The hypotheses and analyses were pre-registered using AsPredicted (see Appendix N or [https://aspredicted.org/MQG\\_97R](https://aspredicted.org/MQG_97R)).

Participants first provided informed consent to participate in the study, answered comprehension checks (e.g., “A dog is a type of plant” True/False), and were presented with a short introductory paragraph about charitable giving to provide some context. Participants were then randomly assigned to one condition of a 2 (cause type: more-feared vs. less-feared) x 2 (appeal type: fear vs. neutral) between-subject design. The stimuli tested in Pre-test 2 were used as the manipulation (see Appendix H).

Next, participants rated their attitudes toward the charitable cause using two items (i.e., To what extent do you care about / feel connected to [cancer/diabetes] research) answered on 7-point scales (Not at all = 1 to Extremely = 7). Participants also indicated their willingness-to-donate to the cause using a Likert scale (i.e., To what extent would be willing to donate money to [cancer/diabetes] research: Not at all = 1 to Extremely = 7) and a slider scale (US\$0-10). For the slider scale item, participants were asked to imagine they were to receive a \$10 bonus at the end of the study, and that they were presented with the opportunity to make a donation to [cancer/diabetes] research.

Participants then completed a feared self scale adapted from Aardema and colleagues (2013). The scale was comprised of 6 items assessing participants’ fear of being someone affected by the cause in the future (e.g., “I am afraid of becoming affected by [cancer/diabetes]”: Strongly disagree = 1 to Strongly agree = 7). Finally, participants were presented with questions pertaining to their personal experience with the cause, charitable giving habits, demographics, and data quality. See Appendix H for the study’s materials.

## **Results and Discussion**

Prior to conducting the main analyses, the two attitude items were averaged into one variable ( $r = .67$ ,  $p = .001$ ). The six items related to the feared self were also averaged into one variable ( $\alpha = .89$ ) after checking the unidimensionality of the scale using a factor analysis.

**Analysis of Main Dependent Variables.** Two way-ANOVAs were conducted with cause and appeal types as the independent variables and feared self, attitudes toward the cause, willingness-to-donate to the cause, and donation amount (US\$) as the dependent variables. Overall, there were significant main effects of cause type on all dependent variables. However, no significant interaction effects with or main effects of appeal type were found.

Specifically, a two-way ANOVA was first conducted to test the effects of cause and appeal types on participants' attitudes. No significant main effect of appeal type ( $F(1, 387) = .02$ ,  $p = .96$ ) or interaction effect ( $F(1, 387) = .33$ ,  $p = .57$ ) were found, but there was a significant main effect of cause type on attitudes ( $F(1, 387) = 24.91$ ,  $p < .001$ ). Participants had a more positive attitude toward the more-feared cause ( $M_{FearAppeal} = 5.10$ ,  $SD = 1.57$ ;  $M_{NeutralAppeal} = 5.19$ ,  $SD = 1.33$ ) than to the less-feared cause ( $M_{FearAppeal} = 4.42$ ,  $SD = 1.73$ ,  $F(1, 387) = 15.77$ ,  $p < .001$ ;  $M_{NeutralAppeal} = 4.33$ ,  $SD = 1.76$ ,  $F(1, 387) = 9.59$ ,  $p = .002$ ) regardless to the appeal type employed. The same analyses were also run on feared self, willingness-to-donate, and donation amount (US\$), and the results were consistent with the findings for attitudes (see Table 4).

Consistent with the findings of Study 1, cause type (i.e., more- vs. less-feared) had a significant effect on participants' feared self, attitudes, willingness-to-donate, and donation amount, thus providing further support for H1a, H1b and H2. However, appeal type did not impact participants' feared self, attitudes, willingness-to-donate, and donation amount, such that H4 to H7 were not supported.



Table 4: Two-way ANOVAs, Study 2.

<b>Feared self</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.66	.37	Neutral	4.32 (1.50) <sup>a</sup>	5.31 (1.20) <sup>b</sup>
Appeal type	.56	.45	Fear	4.50 (1.44) <sup>a</sup>	5.33 (1.22) <sup>b</sup>
Cause type	49.30	< .001			
<b>Attitudes</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.33	.57	Neutral	4.33 (1.76) <sup>a</sup>	5.19 (1.33) <sup>b</sup>
Appeal type	.01	.99	Fear	4.42 (1.73) <sup>a</sup>	5.10 (1.57) <sup>b</sup>
Cause type	24.91	< .001			
<b>Willingness-to-donate</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.31	.58	Neutral	4.27 (1.97) <sup>a</sup>	5.06 (1.90) <sup>b</sup>
Appeal type	.002	.96	Fear	4.38 (1.88) <sup>a</sup>	5.15 (1.71) <sup>b</sup>
Cause type	18.45	< .001			
<b>Amount (\$)</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.88	.35	Neutral	3.52 (3.40) <sup>a,b</sup>	3.92 (3.11) <sup>a</sup>
Appeal type	1.32	.25	Fear	2.89 (2.76) <sup>b</sup>	3.86 (3.32) <sup>a,c</sup>
Cause type	5.03	.02			

Note: Means without a common subscript differ at  $p < 0.05$  significance level.

**Mediation effects.** Consistent with the results of the two-way ANOVAs, the moderated-mediation analyses were not significant (see Appendix I for outputs). I therefore collapsed across the appeal type conditions to run mediation analyses with cause type as the independent variable, feared self as the mediator, and attitudes, willingness-to-donate, and donation amount as separate dependent variables.

To test whether feared self mediated the effect of cause type on attitudes, a mediation analysis using PROCESS Model 4 (5,000 bootstrapped samples; Hayes 2017) was conducted, with cause type as the independent variable (0 = less-feared cause, 1 = more-feared cause), attitudes as the dependent variable, and feared self as the mediator. The results indicated that cause type had a significant positive effect on feared self ( $\beta = .44$ ;  $SE = .13$ ;  $t = 3.33$ ;  $p < .001$ ), and that feared self had a significant positive effect on attitudes toward the charitable cause ( $\beta = .51$ ;  $SE = .05$ ;  $t = 11.09$ ;  $p < .001$ ). Furthermore, when feared self was included in the model,

the direct effect of cause type on attitude remained significant ( $\beta = .39$ ;  $SE = .13$ ;  $t = 3.13$ ;  $p = .02$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.09; .38]), the mediation was significant. These findings provide further support for H1a, H2, and H3a (see Figure 4).

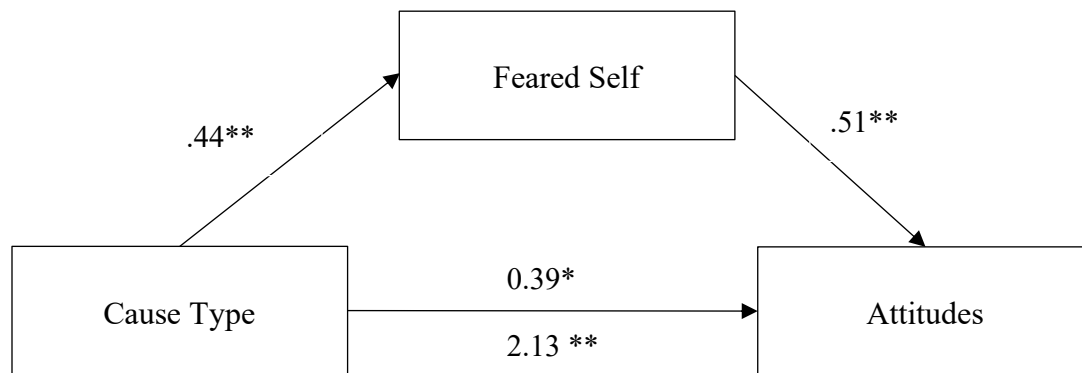


Figure 4: The feared self mediates the effect of cause type on attitudes Study 2.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

Another mediation analysis was conducted, with cause type as the independent variable (0 = less feared cause, 1 = more feared cause), willingness-to-donate as the dependent variable, and feared self as the mediator. The results revealed that cause type had a significant positive effect on feared self ( $\beta = .44$ ;  $SE = .13$ ;  $t = 3.32$ ;  $p < .001$ ), and feared self had a significant positive effect on willingness-to-donate ( $\beta = .47$ ;  $SE = .06$ ;  $t = 8.18$ ;  $p < .001$ ). Moreover, when feared self was considered in the model, the direct effect of cause type on willingness-to-donate remained significant ( $\beta = 2.14$ ;  $SE = .30$ ;  $t = 7.25$ ;  $p < .001$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.08; .36]), the mediation was significant (see Figure 5), thus further supporting H1b, H2, and H3b.

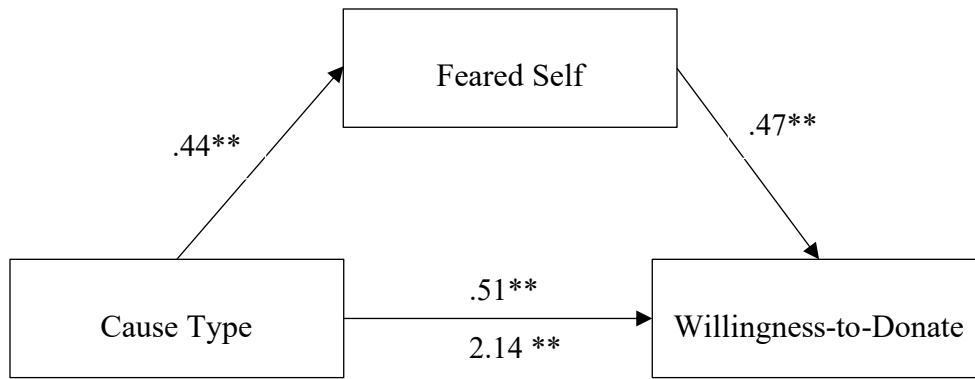


Figure 5: The feared self mediates the effect of cause type on willingness-to-donate, Study 2.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

A final mediation analysis was performed with cause type as the independent variable (0 = less feared cause, 1 = more feared cause), donation amount as the dependent variable, and feared self as the mediator. The results indicated that cause type had a significant positive effect on feared self ( $\beta = .44$ ;  $SE = .13$ ;  $t = 3.32$ ;  $p = 0.01$ ), and that feared self had a significant positive effect on donation amount ( $\beta = .54$ ;  $SE = .11$ ;  $t = 4.96$ ;  $p < .001$ ). Further, when feared self was included in the model as a mediator, the direct effect of cause type on donation amount became non-significant ( $\beta = .70$ ;  $SE = .56$ ;  $t = 1.25$ ;  $p = .21$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.09; .40]), the mediation was significant (see Figure 6). These results provide further evidence in support of H3b.

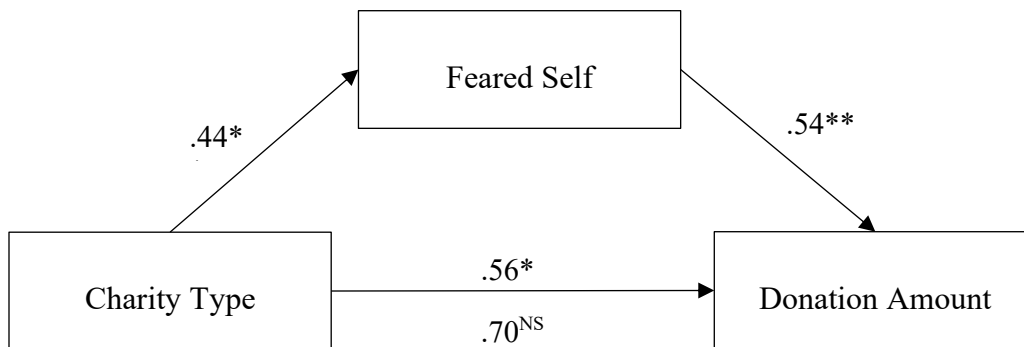


Figure 6: The feared self mediates the effect of cause type on donation amount (\$), Study 2.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

In sum, Study 2 demonstrated that a more (vs. less) feared cause increased participants' attitudes toward the charitable cause, willingness-to-donate to the cause, and the intended donation amount, and that these effects were mediated by an evoked feared self. However, Study 2 did not provide support for H5a/b, H6, and H7a/b, as no negative effect of a fear appeal, in isolation or combined with a more feared cause, was found. Next, I will present a conceptual replication of Study 2, where I re-tested the hypothesized effects of a fear appeal by replacing the neutral appeal with a more hopeful appeal, and using a different less-feared cause (i.e., heart disease).

## **Study 2: Conceptual Replication**

### **Methods**

The replication study followed the same procedure as the main study expect for two differences. First, rather than comparing the effect of a fear appeal against that of a neutral appeal, the condition of comparison was a hope appeal (see Study 3), in order to attempt to create a bigger contrast between the two appeal type conditions. Second, the less-feared cause was changed from diabetes to heart disease, in order to test whether the findings could extend to other health-related causes. According to Pre-test 1, heart disease was perceived as a scarier cause than diabetes (ranked #2 vs. #7), but it was less scary than cancer (ranked #1) based on the distribution of rankings in Table 1. See appendix H for the study's materials.

Four hundred fifty-two participants were recruited from MTurk through CloudResearch and were compensated US\$1.00 USD for a 6-minute study. After applying the same pre-registered data exclusion criteria used in previous studies, a total of 404 participants ( $M_{age} = 44.86$ ;  $SD = 13.23$ ; 50.2% female) were included in the analyses. The hypotheses and analyses were pre-registered using AsPredicted (see Appendix O or [https://aspredicted.org/568\\_6X6](https://aspredicted.org/568_6X6)).

As in the main study (Study 2), participants were randomly assigned to one condition of a 2 (cause type: more-feared vs. less-feared) x 2 (appeal type: fear vs. hope) between-subject design. Overall, the replication study produced similar results as the main study. Specifically, there were significant main effects of cause type on participants' feared self, attitudes, willingness-to-donate, and donation amount (see Table 5). However, no significant main effects of appeal type or interaction effects were found. Feared self also mediated the main effects of cause type, after collapsing across the appeal type conditions (see Table 6).

Table 5: Two-way ANOVAs, Study 2 Conceptual Replication.

<b>Feared self</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.73	.39	Hope	4.35 (3.17) <sup>a</sup>	4.57 (2.86) <sup>b</sup>
Appeal type	1.01	.16	Fear	4.15 (2.93) <sup>a</sup>	5.51 (3.18) <sup>b</sup>
Cause type	9.62	< .001			
<b>Attitudes</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	2.01	.16	Hope	4.57 (1.41) <sup>a</sup>	4.90 (1.54) <sup>b</sup>
Appeal type	.99	.32	Fear	4.61 (1.51) <sup>a</sup>	5.21 (1.41) <sup>b</sup>
Cause type	12.51	< .001			
<b>Willingness-to-donate</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	1.46	.23	Hope	4.44 (1.78) <sup>a</sup>	4.83 (1.91) <sup>b</sup>
Appeal type	.05	.82	Fear	4.30 (1.63) <sup>a</sup>	5.04 (1.77) <sup>b</sup>
Cause type	12.54	< .001			
<b>Amount (\$)</b>	<b>F</b>	<b>p</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	3.63	.06	Hope	3.35 (3.07) <sup>a,b</sup>	3.50 (2.92) <sup>a</sup>
Appeal type	6.77	.01	Fear	3.32 (3.04) <sup>b</sup>	4.23 (3.25) <sup>a,c</sup>
Cause type	1.50	.22			

Note: Means without a common subscript differ at  $p < 0.05$  significance level.

Table 6: Mediation Analyses, Study 2 Conceptual Replication.

<b>Attitudes</b> (95% CI = [-.06; .31])				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	4.72	.12	36.63	< .001
Feared self → Attitudes	2.17	.24	8.99	< .001
Cause type → Feared self (direct effect)	.52	.04	11.64	< .001
Cause type → Feared self (indirect effect)	.28	.24	1.14	.25
<b>Willingness-to-donate</b> (95% CI = [-.15; .38])				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	4.72	.12	36.63	< .001
Feared self → Attitudes	2.04	.31	6.65	< .001
Cause type → Feared self (direct effect)	.50	.06	9.01	< .001
Cause type → Feared self (indirect effect)	.29	.31	.95	.34
<b>Donation amount</b> (95% CI = [-.14; .42])				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	4.72	.12	36.63	< .001
Feared self → Attitudes	.80	.56	1.43	.01
Cause type → Feared self (direct effect)	.54	.10	5.26	< .001
Cause type → Feared self (indirect effect)	.71	.56	1.26	.21

In sum, this conceptual replication of Study 2 provided similar results as the original study, even when using a hope appeal and a different less-feared cause. Study 3 will further investigate the hypothesized effects of a fear appeal, this time by increasing the level of fear of the appeal.

### Study 3

The main goal of Study 3 was to again test the hypothesized moderating effect of appeal type using two levels of fear appeals (i.e., lower vs. higher), and contrasting them to a hope appeal. As previously discussed, numerous theoretical models have been put forth to better understand the fear arousal process (e.g., Janis 1967; Tunner, Day, & Crask, 1989). Previous research has demonstrated that fear appeals used in advertisements can strongly arouse an individual and trigger a fear response (LaTour & Zahra, 1988). Consequently, the intensity of the arousal activated by the fear appeal produces an inverted U-shape effect on consumer outcomes

(Henthorne et al., 1993). Namely, when the fear arousal is significant but not too overwhelming, it has a desirable impact on ad evaluations (Aaker et al., 1986), however, once the intensity of the fear arousal becomes too threatening, its effect backfires, resulting in more negative responses (Henthorne et al., 1993).

Although the fear (vs. neutral or hope) appeal did not exhibit the expected effect on participant responses in Study 2, in Study 3, a more extreme form of fear appeal was used in order to detect the presence of the backfire effect within the context of charitable giving. Specifically, given that cancer is inherently feared and evokes the feared self, further enhancing the experienced fear through an extreme fear appeal should backfire by crossing the threshold, thus resulting in self-defensive avoidant responses (Henthorne et al., 1993). In order to test this prediction, and help determine whether charitable organizations should be cautious with regards to the level of fear appeal they should include in their communications, two levels (i.e., low vs. high) of fear appeal were used in Study 3. See appendix K for study materials.

## **Methods**

Six-hundred and ninety-four participants were recruited from MTurk through CloudResearch and were compensated US\$1.00 for a 6-minute study. The same pre-registered data exclusions were applied as in previous studies. After exclusions, 660 participants ( $M_{age} = 43.45$ ;  $SD = 13.19$ ; 49.5% female) were included in the analyses. The hypotheses and analyses were pre-registered using AsPredicted (see Appendix P or [https://aspredicted.org/see\\_one.php](https://aspredicted.org/see_one.php)).

Participants first provided informed consent to participate in the study, answered comprehension checks (e.g., “A dog is a type of plant” True/False), and were presented with a short introductory paragraph about charitable giving to provide some context. Participants were then randomly assigned to one condition of a 2 (cause type: more-feared vs. less-feared) x 3

(appeal type: hope vs. low-fear vs. high-fear) between-subject design. Cause type was manipulated using cancer as the feared cause, and heart disease represented the less-feared cause. Appeal type was manipulated via both the messaging used in the ad and the background image. The messaging was manipulated as depicted in Figure 7.

<b>Hope appeal</b>	<b>Low-fear appeal</b>	<b>High-fear appeal</b>
<p>[Cancer/heart disease] is complex. However, survival rates have significantly risen in the U.S. and more than half of all diagnosed Americans are in complete remission.</p> <p>Our best weapon against [cancer/heart disease] is research. Over the years, researchers have been finding ways to outsmart [cancer/heart disease]. Help fund research that can save lives.</p> <p>Donate now!</p>	<p>[Cancer/heart disease] is scary. [Cancer/heart disease] is the biggest killer disease in the U.S. 1 in 2 Americans will be diagnosed with [cancer/heart disease] in their lifetime.</p> <p>Alarming, [cancer/heart disease] does not discriminate based on age. There is a drastic rise in [cancer/heart disease] cases among young people under 50. It can affect anyone.</p> <p>Help fund research that can save lives.</p> <p>Donate now!</p>	<p>[Cancer/heart disease] is scary. [Cancer/heart disease] is the biggest killer disease in the U.S. You have 1 in 2 of being diagnosed with [cancer/heart disease] in your lifetime.</p> <p>Alarming, [cancer/heart disease] does not discriminate based on age. There is a drastic rise in [cancer/heart disease] cases among young people under 50. It can affect you.</p> <p>Help fund research that can save your life.</p> <p>Donate now!</p>

Figure 7. Appeals used in Study 3.

Once again, the fear appeals were made scarier than the hope appeal by replacing the word “complex” by “scary” in the first sentence and replacing remission-related with death-related information in the remainder of the message. The high-fear appeal was further made scarier than the low-fear appeal by employing first person (e.g., “you”) rather than third person (e.g., “Americans”) language, which is consistent with past research showing that people react more intensely to threatening information when it is framed in first-person (vs. third-person) perspective (Galvan et al., 2017). The background images were manipulated such that participants presented with the hope appeal saw the silhouette of a person staring at the sky (conveying a sense of calmness), whereas those presented with either fear appeals saw a cancer-suffering child in a wheelchair in a hospital in the more-feared cause condition, and woman clutching her chest while walking outside in the less-feared cause condition.



After being exposed to the ad, participants rated their attitudes toward the cause using two items (i.e., To what extent do you care about / feel connected to [cancer/heart disease] research; scale: Not at all = 1 to Extremely = 7). Participants also indicated their willingness-to-donate to the cause using a Likert scale item (i.e., To what extent would be willing-to-donate money to [cancer/heart disease] research; scale: Not at all = 1 to Extremely = 7) and indicated the amount they were willing to donate on a slider scale (US\$0-10). For the slider scale item, participants were asked to imagine they were to receive a \$10 bonus at the end of the study, and that they were presented with the opportunity to donate to [cancer/heart disease] research.

Next, participants completed a feared self scale adapted from Aardema and colleagues (2013). The scale was comprised of 6 items assessing participants fear of being someone affected by the cause in the future (e.g., “I am afraid of becoming affected by [cancer/heart disease]”); scale: Strongly disagree = 1 to Strongly agree = 7). Finally, participants were presented with questions pertaining to their personal experience with the cause, charitable giving habits, demographics, and data quality. See Appendix J for the study’s materials.

## **Results and Discussion**

Prior to conducting the main analyses, the two attitude items were averaged into one variable ( $r = .93$ ;  $p < .001$ ). The six items related to the feared self were also averaged into one ( $\alpha = .84$ ) after checking the unidimensionality of the scale using a factor analysis.

**Analysis of Main Dependent Variables.** Two way-ANOVAs were conducted with cause and appeal types as the independent variables and feared self, attitudes toward the charitable cause, willingness-to-donate to the cause, and donation amount (US\$) as the dependent variables. Overall, there were significant main effects of cause type on participants’ feared self, attitudes, willingness-to-donate, and donation amount. However, no significant

interaction effects with appeal type were found. Note that the same analyses were run without data exclusions and the results remained similar.

Specifically, a two-way ANOVA was first conducted to test the effects of cause and appeal types on participants' attitudes. No interaction effect ( $F(1, 660) = .38, p = .69$ ) or main effect of appeal type ( $F(1, 660) = 1.77, p = .17$ ) were found, but there was a significant main effect of cause type ( $F(1, 660) = 20.66, p < .001$ ). Participants had more positive attitudes toward the more-feared cause ( $M_{LowerFear} = 5.25, SD = 1.42; M_{HigherFear} = 5.11, SD = 1.29; M_{Hope} = 4.93, SD = 1.46$ ), than the less-feared cause ( $M_{LowerFear} = 4.61, SD = 1.47, F(1, 660) = 10.95, p < .001; M_{HigherFear} = 4.69, SD = 1.39, F(1, 660) = 4.61, p = .032; M_{Hope} = 4.46, SD = 1.55, F(1, 660) = 5.83, p = .016$ ) regardless of the appeal type used. The same analyses were run with the remaining dependent variables: feared self, willingness-to-donate, and donation amount. The results were consistent with the findings for attitudes (see Table 5).

Consistent with previous findings, cause type (more-feared vs. less-feared) had a significant effect on participants' feared self, attitudes, willingness-to-donate, and donation amount, thus providing further support for H1a/b and H2. However, appeal type did not impact participants' feared self, attitudes, willingness-to-donate, and donation amount, such that H4 to H7 were not supported.

Table 7: Two-way ANOVAs, Study 3

<b>Feared self</b>	<b>F</b>	<b>P</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	0.21	.81	Hope	4.58 (1.31) <sup>a</sup>	4.89 (1.47) <sup>a,c</sup>
Appeal type	2.48	.09	Low-fear	4.78 (1.31) <sup>a</sup>	5.26 (1.31) <sup>b</sup>
Cause type	14.15	< .001	High-fear	4.71 (1.42) <sup>a</sup>	5.10 (1.24) <sup>b,c</sup>
<b>Attitudes</b>	<b>F</b>	<b>P</b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.38	.69	Hope	4.46 (1.55) <sup>a</sup>	4.92 (1.46) <sup>b</sup>
Appeal type	1.77	.17	Low-fear	4.62 (1.47) <sup>a</sup>	5.25 (1.42) <sup>b</sup>
Cause type	20.66	< .001	High-fear	4.69 (1.40) <sup>a</sup>	5.10 (1.29) <sup>b</sup>

<b>Willingness-to-donate</b>	<b><i>F</i></b>	<b><i>P</i></b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.07	.93	Hope	4.46 (1.55) <sup>a</sup>	4.93 (1.46) <sup>a,c</sup>
Appeal type	2.87	.06	Low-fear	4.61 (1.47) <sup>a</sup>	5.25 (1.42) <sup>b</sup>
Cause type	24.75	< .001	High-fear	4.69 (1.39) <sup>a</sup>	5.11 (1.12) <sup>b,c</sup>
<b>Amount (\$)</b>	<b><i>F</i></b>	<b><i>P</i></b>	<b>Appeal</b>	<b>Less-feared cause</b>	<b>More-feared cause</b>
Interaction	.09	.92	Hope	2.72 (2.85) <sup>a</sup>	3.68 (3.07) <sup>b</sup>
Appeal type	.40	.67	Low-fear	3.02 (2.74) <sup>a</sup>	3.78 (3.00) <sup>b</sup>
Cause type	15.74	< .001	High-fear	2.94 (2.89) <sup>a</sup>	3.91 (3.03) <sup>b</sup>

*Note:* Means without a common subscript differ at  $p < 0.05$  significance level.

**Mediation effects.** Consistent with the results of the two-way ANOVAs, the moderated-mediation analyses were not significant (see Appendix L for outputs). I therefore collapsed across the appeal type condition to run mediation analyses with cause type as the independent variable, as in Studies 1 and 2.

To test whether feared self mediated the effect of cause type on attitudes, I ran a mediation analysis using PROCESS Model 4 (Hayes 2017). The results, based on 5,000 bootstrapped samples, indicated that cause type had a significant positive effect on feared self ( $\beta = .38$ ;  $SE = .10$ ;  $t = 3.60$ ;  $p < .001$ ), and that feared self had a significant positive effect on attitudes ( $\beta = .51$ ;  $SE = .04$ ;  $t = 14.37$ ;  $p < .001$ ). Moreover, the direct effect of cause type on attitudes was significant ( $\beta = 2.17$ ;  $SE = .18$ ;  $t = 11.96$ ;  $p < .000$ ), as well as the indirect effect ( $\beta = .32$ ;  $SE = .10$ ;  $t = 3.25$ ;  $p = .001$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.09; .31]), the mediation was significant. These results provided further support for H1a, H2, and H3a (see Figure 7).

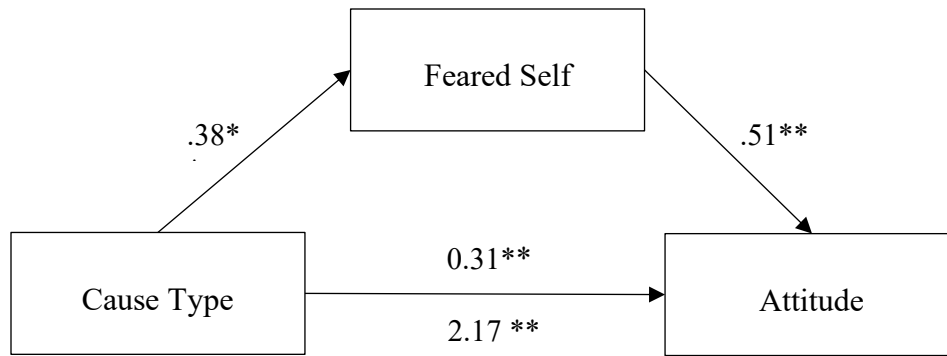


Figure 8: The feared self mediates the effect of cause type on attitudes Study 3.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

Another mediation analysis, using PROCESS Model 4 (Hayes 2017), was performed to test whether feared self mediated the effect of cause type on willingness-to-donate. The results, based on 5,000 bootstrapped samples, indicated that cause type had a significant positive effect on feared self ( $\beta = .38$ ;  $SE = .10$ ;  $t = 3.60$ ;  $p < .001$ ), and that feared self had a significant positive effect on willingness-to-donate ( $\beta = .46$ ;  $SE = .04$ ;  $t = 10.09$ ;  $p < .000$ ). Moreover, the direct effect of cause type on willingness-to-donate was significant ( $\beta = 1.97$ ;  $SE = .23$ ;  $t = 8.57$ ;  $p < .000$ ), as well as the indirect effect ( $\beta = .49$ ;  $SE = .12$ ;  $t = 3.94$ ;  $p < .001$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.08; .28]), the mediation was significant. These results provided further support for H1b, H2, and H3b (see Figure 8).

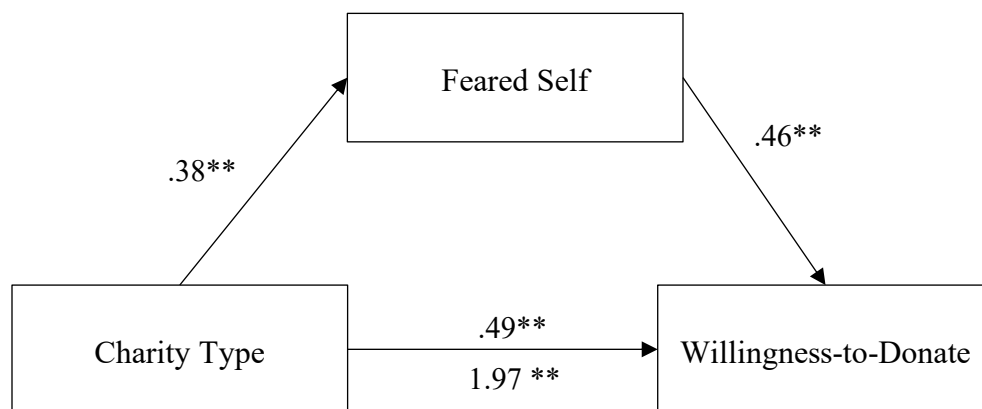


Figure 9: The feared self mediates the effect of cause type on willingness-to-donate, Study 3.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

A final mediation analysis was performed using PROCESS Model 4 (Hayes, 2017) to determine whether feared self mediated the effect of cause type on donation amount. The results, based on 5,000 bootstrapped samples, indicated that cause type had a significant positive effect on feared self ( $\beta = .38$ ;  $SE = .10$ ;  $t = 3.60$ ;  $p < .000$ ), and that feared self had a significant positive effect on donation amount ( $\beta = .53$ ;  $SE = .08$ ;  $t = 6.51$ ;  $p < .000$ ). Moreover, while the direct effect of cause type on donation amount was significant ( $\beta = .73$ ;  $SE = .22$ ;  $t = 3.29$ ;  $p = .001$ ), it became non-significant once the mediator was included in the analysis ( $\beta = .39$ ;  $SE = .41$ ;  $t = .97$ ;  $p = .34$ ). Because the 95% confidence interval for the indirect effect did not include 0 (95% CI = [.08; .35]), the mediation was significant. These results provided further support for H1b, H2, and H3b (see Figure 9).

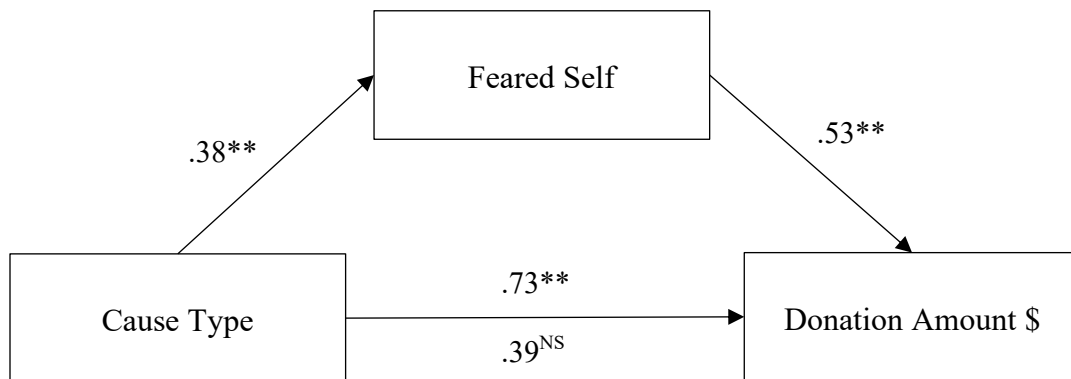


Figure 10: The feared self mediates the effect of cause type on the donation amount (\$), Study 3.  
 Note. \* Indicates  $p < .05$ , \*\* indicates  $p < .01$ , NS indicates non-significant.

In sum, Study 3 again demonstrated that a more (vs. less) feared cause increased participants' attitudes toward and willingness-to-donate to the charitable cause, as well as the amount they were willing to donate, and that their increased feared self mediated these effects. However, a higher fear appeal did not produce the anticipated backfiring effect when paired with a more-feared cause and instead still motivated positive responses. One potential reason for this

is that my fear appeals could have been ineffective because they did not manage to produce a level of fear high enough to pass individuals' threshold (Henthorne et al., 1993) or because there may be individual differences in how people respond to fear appeals.

### **General Discussion**

My thesis aimed to better understand the role of fear in charitable giving by investigating the interplay of types of charitable causes (i.e., more vs. less feared) and fear (vs. neutral or hope) appeals. A pre-test first confirmed that some charitable causes (e.g., related to cancer) are inherently more feared than others (e.g., related to diabetes or heart diseases). Study 1 then showed that participants had more positive attitudes toward (H1a) and higher willingness-to-donate to (H1b) a more (vs. less) feared cause because it was more likely to activate their feared self (H2), which mediated these effects (H3a/b).

Next, Study 2 and its conceptual replication tested whether the type of appeal (i.e., fear vs. neutral/hope) used in a charitable organization's marketing communications moderated the effects of cause type on the feared self, attitudes, and donation intentions. These studies provided additional support for H1-H3 but, contrary to my hypotheses, appeal type had little effects on attitudes (H4a/b), willingness-to-donate (H5a/b), and the feared self (H6), such that no moderated-mediation effect was found (H7a/b). Study 3 again attempted to test the moderating effect of appeal type using two levels of fear appeals (i.e., lower vs. higher), in order to verify whether a more extreme level of fear appeal would backfire when combined with a more (vs. less) feared charitable cause. The results however revealed no significant differences in donors' responses across the different levels of fear appeal. In sum, while more (vs. less) feared causes reliably produce more positive reactions toward the charitable cause, the use of a fear appeal seems to produce little (positive or negative) effect above and beyond that of cause type.

## **Theoretical Contributions and Practical Implications**

Theoretically, my thesis contributes to the research on charitable giving by demonstrating that certain charitable causes are more feared than others and can activate the feared self, which results in more positive attitudes towards, and higher willingness-to-donate to the cause. My findings extend prior research on the role of fear in charitable giving (O’Loughlin Banks & Raciti, 2018) by identifying the role of fear as a reason why individuals may donate more money to certain charitable causes than others.

My research also contributes to the literature on the feared self, as my findings suggest that the feared self is not necessarily exacerbated by being exposed to fear appeals. These findings suggest that different types of threats can activate the feared self to different degrees, and that multiple salient threats do not necessarily have an additive effect on the feared self.

Further, my research also contributes to the literature on fear appeals. While some research found evidence for the backfire effects of fear appeals (Henthorne et al., 1993; LaTour & Pitts, 1989), other research found no supporting evidence for the negative or backfiring effect of such appeals (Tannenbaum et al., 2015). It is therefore not entirely surprising that I did not find support for the backfire effect. However, this begs the question as to when such backfire effects do and do not occur – does it depend on context (e.g. smoking vs. charitable giving), type of message framing (e.g., prevention vs. promotion), participant characteristics (e.g., vulnerability to threat), etc.

In addition, my thesis’ findings offer practical implication for the design of marketing communications of charitable organizations. Marketers do not have to be overly worried about using fear appeals for promoting charitable organizations, no matter whether their cause is more or less feared, because potential donors are unlikely to be adversely affected by the inclusion of a

fear appeal. In other words, the type of cause being promoted through the marketing communication design has a bigger impact on charitable giving than the use of fear appeals. Specifically, causes that are more likely to activate the feared self seem to generate more positive responses.

### **Limitations and Future Research**

My research has several limitations that offer opportunities for future research. First, all my studies were conducted on Amazon Mechanical Turk, and such participants may not be representative of charities' potential donors. Although Turkers have been shown to be reliable participants and to provide quality data, they are demographically different from the U.S. population (Goodman & Paolacci, 2017). This raises some concerns about the generalizability of my findings, and caution must be exercised when trying to extrapolate my results to a charity's potential donors, as there may be significant variations in demographics, motivations, and behaviors that were not adequately captured in my data. Future research should extend my findings to an actual sample of prospect donors to assess their robustness.

Second, I studied a limited number of health-related charitable causes (i.e., cancer, diabetes, and heart diseases research) in my thesis, making it unclear whether my findings would extend to other causes (e.g., related to poverty or climate change). Different categories of causes may have unique characteristics and dynamics that differentially influence donation-related motivations and behaviors. For instance, although other causes may also be more (vs. less) feared (e.g., homeless shelters, natural disasters recovery), they may operate through different fear-related mechanisms than the feared self, as these causes might not be internalized to the same extent as health-related causes. Caution must thus be exercised when trying to extrapolate my results to other categories of charities, and future research should explore whether the feared



self (or other fear-related mechanisms) can also help explain why potential donors have more positive responses for certain charities over others.

Third, my thesis focused on the role of fear in charitable giving, but other negative (or positive) emotions could also play a role in potential donors' preferences for certain charities. Although fear is an impactful emotion, many others are experienced as part of individuals' emotional spectrum (Liang, et al. 2016). Other negative (e.g., guilt, shame, sadness) and positive (e.g., hope, strength) emotions have been shown to play a role in charitable giving (Liang, et al. 2016). However, to my knowledge, no prior research has investigated whether certain types of causes may be more (vs. less) likely to activate specific emotions. Future research should thus explore the role of a broader range of emotions in potential donors' preferences for certain charities, which would help deepen our understanding of the determinants of charitable giving.

Fourth, I did not find any backfiring effect of fear appeals in my studies, nor any effect of fear appeals above and beyond that of cause type. Although these findings contradict prominent theories of fear appeals, they are consistent with the empirical evidence in this stream of research (Tannenbaum et al., 2015). However, fear appeals could have been ineffective in my research because the ones I used did not manage to produce a level of fear high enough to pass the fear threshold (Henthorne et al., 1993) or because there may be individual differences in how people respond to fear appeals. For instance, certain message design elements can impact how threatening a message is perceived to be, and certain individuals are more sensitive and/or vulnerable to potential threats (Carver, 2009). Future research could thus investigate other types of fear appeals (e.g., where threat sensitivity and/or vulnerability is heightened through the messaging) and/or investigate the role of individual differences (e.g., people that have been affected by the cause vs. not) to further unpack the effectiveness of fear appeals in the context of

charitable giving. In addition, the exposure and popularity of certain causes often hinge on the resources available to promote them. Causes backed by higher marketing budgets tend to gain a significant advantage in reaching wider audiences and increasing familiarity (Lafferty, & Goldsmith, 2005). Marketing efforts utilize various channels, such as social media, advertising campaigns, and public events, to disseminate information and generate interest in the cause. As a result, these causes become more recognizable and accessible to the public, fostering a sense of connection, empathy, and familiarity (Lafferty, & Goldsmith, 2005).

Another avenue for future research is to examine the potential role of locus of control in my findings. Locus of control is related to the extent to which individuals believe they have control over events and outcomes in their lives, and that their behaviors and experiences are influenced by their perception of control. Locus of control could play a role in my findings because some causes may be seen as more (vs. less) controllable than others, which would help explain why different causes are more (vs. less) feared. For instance, prior research has demonstrated that many people feel that they can control diabetes and heart disease, because nutritional interventions and an active lifestyle are common preventive habits (Maiorino et al., 2017), which are actions that they can control. Conversely, past research revealed that many people believe that they have no control over cancer, as they believe contracting this disease is mostly a matter of “bad luck” (Anya, 2021). Future research should thus investigate whether locus of control further helps explain the role of fear in charitable giving, especially since individuals may have different means of trying to prevent the causes’ negative outcomes, as well as perceive less control over uncertain situation.

In summary, my thesis contributes to our understanding of the determinants of charitable giving (Chapman et al., 2020) by showing that certain charitable causes are more (vs. less)

inherently feared and are more (vs. less) likely to activate potential donors' feared self. Across four studies, I demonstrated that a more (vs. less) feared charitable cause generates more positive attitudes toward, and higher donation intentions to the charity. I further show that the feared self mediates this relationship, as more (vs. less) feared causes are more likely to activate the feared self, which results in more positive responses. Although additional research is necessary to fully understand the boundaries of these effects, my thesis provides an important step towards helping marketers develop more effective marketing communications for certain types of charitable causes to positively impact charitable giving.

## References:

- Aaker, D. A., Stayman, D. M., & Hagerty, M. R. (1986). Warmth in advertising: Measurement, impact, and sequence effects. *Journal of consumer research*, 12(4), 365-381.
- Aardema, F., Moulding, R., Radomsky, A. S., Doron, G., Allamby, J., & Souki, E. (2013). Fear of self and obsessionality: development and validation of the fear of self-questionnaire. *Journal of Obsessive-Compulsive and Related Disorders*, 2(3), 306–315.
- American Cancer Society. (2015). *Advantage humans: The power of humanity is our greatest weapon against cancer*. American Cancer Society MediaRoom. <https://pressroom.cancer.org/advantagehumans> back
- Anya, P. (2021). Is cancer a matter of luck?. *Biology & Philosophy*, 36(1).
- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28(12), 1656–1666.
- Barrett, W. P. (2022, December 13). America’s Top 100 Charities, *Forbes*, <https://www.forbes.com/lists/top-charities/?sh=4e0dbeb65f50>
- Bennett, R. (2003). Factors underlying the inclination to donate to particular types of charity. *International Journal of Nonprofit and Voluntary Sector Marketing*, 8(1), 12-29.
- Black, I., Baines, P., Baines, N., O’Shaughnessy, N., & Mortimore, R. (2021). The dynamic interplay of hope vs fear appeals in a referendum context. *Journal of Political Marketing*, 1-29.
- Brennan, L., & Binney, W. (2008). Concepts in conflict: Social marketing and sustainability. *Journal of Nonprofit and Public Sector Marketing*, 20(2), 261–281.
- Burnett, J. J. (1981). Psychographic and demographic characteristics of blood donors. *Journal of Consumer Research*, 8(1), 62-66.
- Carver, C. S. (2009). Threat sensitivity, incentive sensitivity, and the experience of relief. *Journal of personality*, 77(1), 125-138.
- Chapman, C. M., Masser, B. M., & Louis, W. R. (2020). Identity motives in charitable giving: Explanations for charity preferences from a global donor survey. *Psychology & Marketing*, 37(9), 1277-1291.
- Chapman, C. M., Louis, W. R., Masser, B. M., & Thomas, E. F. (2022). Charitable Triad Theory: How donors, beneficiaries, and fundraisers influence charitable giving. *Psychology & Marketing*, 39(9), 1826-1848.

- Chernev, A., Böckenholt, U., & Goodman, J. (2015). Choice overload: A conceptual review and meta-analysis. *Journal of Consumer Psychology, 25*(2), 333-358.
- Cohen, A. R. (1957). Need for cognition and order of communication as determinants of opinion change. *The order of presentation in persuasion, 79-97*.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist, 56*(3), 218.
- Fredrickson, B.L, & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition & emotion, 12*(2), 191-220.
- Fridman, A., Gershon, R., & Gneezy, A. (2021). Increased generosity under covid-19 threat.
- Glynn, S. A., Busch, M. P., Schreiber, G. B., Murphy, E. L., Wright, D. J., Tu, Y., ... & NHLBI REDS Study Group. (2003). Effect of a national disaster on blood supply and safety: the September 11 experience. *Jama, 289*(17), 2246-2253.
- Goodman, J. K., Cryder, C. E., & Cheema, A. (2013), "Data Collection in a Flat World: The Strengths and Weaknesses of Mechanical Turk Samples," *Journal of Behavioral Decision Making, 26*(3), 213-24
- Goodman, J. K., & Paolacci, G. (2017). Crowdsourcing consumer research. *Journal of Consumer Research, 44*(1), 196-210.
- Grau, S. L., & Folse, J. A. G. (2007). Cause-related marketing (CRM): The influence of donation proximity and message-framing cues on the less-involved consumer. *Journal of advertising, 36*(4), 19-33.
- Guy, B. S., & Patton, W. E. (1989). The marketing of altruistic causes: understanding why people help. *Journal of Consumer Marketing, 6*(1).
- Haldar, S., Filipkowski, A., Mishra, S. R., Brown, C. S., Elera, R. G., Pollack, A. H., & Pratt, W. (2017). "Scared to go to the Hospital": Inpatient Experiences with Undesirable Events. *AMIA ... Annual Symposium proceedings. AMIA Symposium, 2016, 609-617*.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- Henthorne, T., Latour, M.S., & Natarajan, R. (1993). Fear appeals in print advertising: An analysis of arousal and ad response. *Journal of Advertising, 22*(2), 59-69.
- Hillbrand, M., & Young, J. L. (2008). Instilling hope into forensic treatment: The antidote to despair and desperation. *Journal of the American Academy of Psychiatry and the Law Online, 36*(1), 90-94.

- Hoyle, R. H., & Sherrill, M. R. (2006). Future Orientation in the Self-System: Possible Selves, Self-Regulation, and Behavior. *Journal of Personality*, 74(6), 1673–1696.
- Janis, I. L. (1967). Effects of fear arousal on attitude change: Recent developments in theory and experimental research. *Advances in experimental social psychology*, 3, 166-224.
- Jones, S. C., & Owen, N. (2006). Using fear appeals to promote cancer screening—are we scaring the wrong people?. *International Journal of Nonprofit and Voluntary Sector Marketing*, 11(2), 93-103.
- LaTour, M. S., & Pitts, R. E. (1989). Using fear appeals in advertising for AIDS prevention in the college-age population. *Journal of health care marketing*, 9(3).
- LaTour, M. S., & Zahra, S. A. (1988). Fear appeals as advertising strategy: Should they be used? *Journal of Services Marketing*, 2(4), 5-14.
- Leventhal, H., & Niles, P. (1964). A field experiment on fear arousal with data on the validity of questionnaire measures 1. *Journal of Personality*, 32(3), 459-479.
- Liang, J., Chen, Z., & Lei, J. (2016). Inspire me to donate: The use of strength emotion in donation appeals. *Journal of Consumer Psychology*, 26(2), 283-288.
- MacInnis, D. J., & De Mello, G. E. (2005). The concept of hope and its relevance to product evaluation and choice. *Journal of Marketing*, 69(1), 1-14.
- Maiorino, M. I., Bellastella, G., Giugliano, D., & Esposito, K. (2017). Can diet prevent diabetes?. *Journal of Diabetes and its Complications*, 31(1), 288-290.
- Manyiwa, S., & Brennan, R. (2012). Fear appeals in anti-smoking advertising: How important is self-efficacy?. *Journal of Marketing Management*, 28(11-12), 1419-1437.
- Mayer, J. D., & Gaschke, Y. N. (1988). Brief mood introspection scale. *PsycTESTS Dataset*.
- Morrison, D. E., & Firmstone, J. (2000). The social function of trust and implications for e-commerce. *International Journal of Advertising*, 19(5), 599-623.
- National Center for Charitable Statistics (2020), “The Nonprofit Sector in Brief,” (accessed March 24), <https://nccs.urban.org/project/nonprofit-sector-brief>
- National Philanthropic Trust . (2022, December 22). *The 2022 DAF report*. NPTrust. <https://www.nptrust.org/reports/daf-report/>
- O’Loughlin Banks, J., & Raciti, M. M. (2018). Perceived fear, empathy and financial donations to charitable services. *The Service Industries Journal*, 38(5-6), 343-359.
- Paternoster, R., & Bushway, S. (2009). Desistance and the "feared self": Toward an identity theory of criminal desistance. *The journal of criminal law and criminology*, 1103-1156.

- Piliavin, J. A., & Charng, H.-w. (1990). Altruism: A review of recent theory and research. *Annual Review of Sociology*, *16*, 27–65.
- Rezapour, M. (2022). The interactive factors contributing to fear of death. *Frontiers in Psychology*, *13*.
- Ruiter, R. A., Abraham, C., & Kok, G. (2001). Scary warnings and rational precautions: A review of the psychology of fear appeals. *Psychology and health*, *16*(6), 613-630.
- Sargeant, A. (1999). Charitable giving: Towards a model of donor behaviour. *Journal of Marketing Management*, *15*(4), 215–238.
- Singh, S. N., & Churchill Jr, G. A. (1987). Arousal and advertising effectiveness. *Journal of Advertising*, *16*(1), 4-40.
- Smith, J. R., & McSweeney, A. (2007). Charitable giving: The effectiveness of a revised theory of planned behaviour model in predicting donating intentions and behaviour. *Journal of Community & Applied Social Psychology*, *17*(5), 363–386.
- Sobh, R., Juric, B., & Lee, C. (2003, December). Self-regulation and consumer goal-directed behavior: The role of the feared self in motivating behavior and moderating persuasion. In *ANZMAC 2013 conference proceedings Adelaide* (pp. 1-3).
- Spears, N. E., Blankson, C., & Guzmán, F. (2012). Hope and fear in an advertisement context: Understanding how hope undoes fear. *Journal of Current Issues & Research in Advertising*, *33*(1), 79-93.
- Stunt, A., (2014). Pancreatic cancer action: Why we ran a controversial ad campaign. Retrieved from <https://www.theguardian.com/voluntary-sector-network/2014/feb/12/pancreatic-cancer-action-controversial-advert>
- Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracín, D. (2015). Appealing to fear: A meta-analysis of fear appeal effectiveness and theories. *Psychological bulletin*, *141*(6), 1178.
- Tunmer Jr, J. F., Day, E., & Crask, M. R. (1989). Protection motivation theory: An extension of fear appeals theory in communication. *Journal of Business Research*, *19*(4), 267-276.
- Virgilio, R. (2022, July 7). *Charitable giving statistics*. NPTrust. Retrieved February 6, 2023, from <https://www.nptrust.org/philanthropic-resources/charitable-giving-statistics/>
- Vrinten, C., McGregor, L. M., Heinrich, M., von Wagner, C., Waller, J., Wardle, J., & Black, G. B. (2017). What do people fear about cancer? A systematic review and meta-synthesis of cancer fears in the general population. *Psycho-oncology*, *26*(8), 1070-1079.

- Vrinten, C., Waller, J., Von Wagner, C., & Wardle, J. (2015). Cancer Fear: Facilitator and Deterrent to Participation in Colorectal Cancer Screening. *Cancer Epidemiology, Biomarkers & Prevention*, 24(2), 400-405.
- Wang, P. X., Wang, Y., & Jiang, Y. (2023). Gift or donation? Increase the effectiveness of charitable solicitation through framing charitable giving as a gift. *Journal of Marketing*, 87(1), 133-147.
- Webb, D. J., Green, C. L., & Brashear, T. G. (2000). Development and validation of scales to measure attitudes influencing monetary donations to charitable organizations. *Journal of the Academy of Marketing Science*, 28(2), 299–309.
- Zaki, J. (2020). Catastrophe compassion: Understanding and extending prosociality under crisis. *Trends in cognitive sciences*, 24(8), 587-589.



## Appendix A: Pre-test 1 Materials and Measures

---

*Note.* We conducted a pre-test to determine whether certain charitable causes are more feared than others. The results of the pre-test helped us identify more (vs. less) feared causes to be used in the experiments.

You will be presented with a series of charitable causes and asked to evaluate your emotional responses to each of them. There are no right or wrong answers.

How does thinking about [insert cause] makes you feel?

- Afraid
- Angry
- Ashamed
- Distressed
- Guilty
- Happy
- Hopeful
- Inspired
- Sad
- Scared
- Upset

*1 = Not at all to 7 = Extremely*

For causes that score  $\geq 5$  on afraid and/or scared, the following question may be presented.

- Why do you experience fear when thinking about [insert organization/cause]?
- [Open ended answer]

Examples of organizations and causes tested

- |                  |  |
|------------------|--|
| - Cancer         | - Hunger   |
| - Climate change | - Poverty  |
| - COVID-19       | - Multiple Sclerosis (MS)                            |
| - Diabetes       | - Homelessness                                       |
| - Heart problems | - Specific types of cancer (e.g., skin, lung, colon) |

Please rank the following charitable causes by re-arranging them from “less feared” to “most feared” (9 less feared, 1 most feared\*).

By “feared,” we mean that you feel a psychological discomfort when thinking about the cause because you fear that it might affect (or has affected) you or someone you care about.

Cancer	1
Climate change	2
Homelessness	3
Hunger	4
Poverty	5
Multiple Sclerosis (MS)	6
Heart disease	7
Diabetes	8
COVID-19	9

### Please briefly explain why you “fear” the cause you ranked as #1 the most?

Please indicate the extent to which you (dis)agree with the following statements:

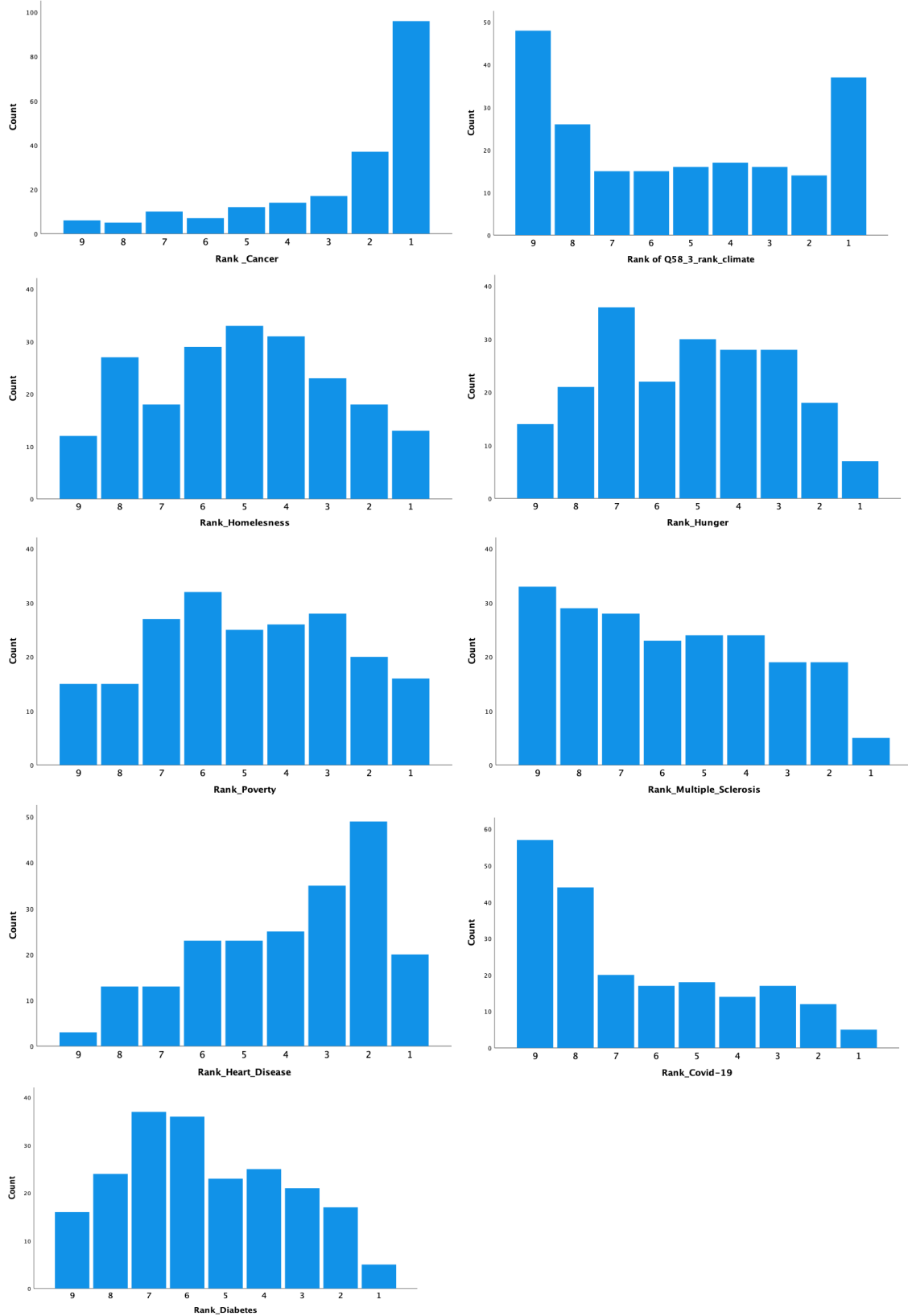
	Strongly disagree							Strongly agree
I am the kind of person who donates to charities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not donating to charities goes against my principles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I regularly donate to charities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is unusual for me to donate to charities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Charity organizations perform a useful function for society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly disagree							Strongly agree

## Appendix B: Skewness and Kurtosis in Pre-Test 1

---

<i>Cause</i>	<i>Kurtosis</i>	<i>Std. Error of Kurtosis</i>	<i>Skewness</i>	<i>Std. Errors of Skewness</i>
<i>Cancer</i>	-1.457	0.339	-0.336	0.170
<i>Climate Change</i>	-1.347	0.339	0.029	0.170
<i>Homelessness</i>	-1.205	0.339	0.002	0.170
<i>Hunger</i>	-1.213	0.339	0.004	0.170
<i>Poverty</i>	-1.209	0.339	0.001	0.170
<i>Multiple Sclerosis</i>	-1.242	0.339	0.018	0.170
<i>Heart Disease</i>	-1.230	0.339	-0.040	0.170
<i>Diabeties</i>	-1.203	0.339	0.011	0.170
<i>Covid-19</i>	-1.318	0.339	0.092	0.170

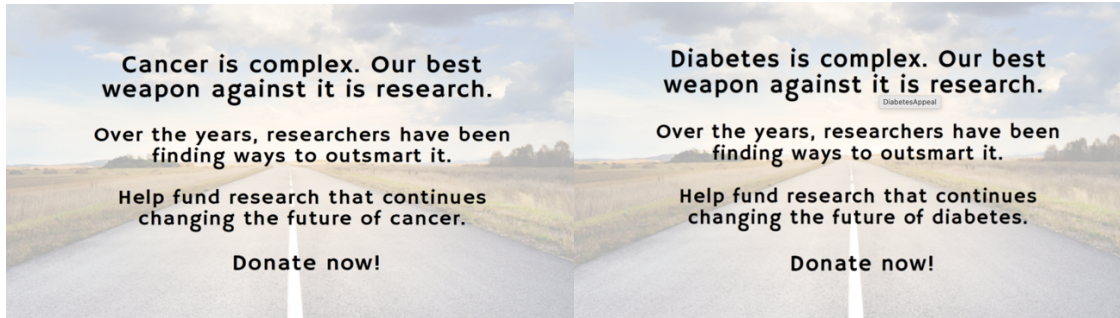
## Appendix C: Graphs of the Ranked Charitable Cause – Pre-test 1



**Appendix D: Means Without Data Exclusion - Pre-Test 1**

<i>MEANS</i>	<i>Afraid</i>	<i>Angry</i>	<i>Ashamed</i>	<i>Distressed</i>	<i>Guilty</i>	<i>Happy</i>	<i>Hopeful</i>	<i>Inspired</i>	<i>Sad</i>	<i>Scared</i>	<i>Upset</i>
<i>Cancer</i>	2.80	2.43	1.27	2.82	1.22	1.42	2.27	2.35	3.33	2.73	2.75
<i>Lung Cancer</i>	2.68	1.88	1.60	2.44	1.62	1.60	2.80	2.19	3.23	2.34	2.42
<i>Skin Cancer</i>	2.47	1.50	1.42	2.36	1.52	1.70	2.58	2.52	2.62	2.02	1.86
<i>Colon Cancer</i>	3.17	1.71	1.44	2.54	1.52	1.58	2.67	2.06	3.15	2.69	2.27
<i>Poverty</i>	2.12	2.39	1.94	2.43	1.90	1.65	2.76	2.61	3.37	2.06	2.47
<i>Homelessness</i>	1.96	2.27	2.10	2.41	2.12	1.65	2.75	2.07	3.67	2.08	2.53
<i>Climate Change</i>	2.44	2.67	1.85	2.46	1.81	1.54	2.52	2.34	2.58	2.40	2.54
<i>Hunger</i>	1.96	2.10	1.84	2.69	2.02	1.57	2.12	1.88	3.76	1.78	2.82
<i>Multiple Sclerosis</i>	1.96	1.26	1.34	2.18	1.58	1.56	2.08	2.44	2.64	1.84	2.14
<i>Diabetes</i>	2.33	1.83	1.79	2.06	1.79	1.88	3.10	2.10	2.29	2.17	2.04
<i>Heart Disease</i>	2.40	1.60	1.38	2.12	1.56	1.66	2.60	2.21	2.38	2.06	1.90
<i>Covid-19</i>	1.84	2.29	1.49	1.76	1.22	1.37	2.10	1.61	2.27	1.80	2.31

## Appendix E: Study 1 Material and Measures



To what extent...

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Extremely (7)
Do you care about CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel connected to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would you be willing-to-donate money to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Willingness to donate | WTDCancer



Imagine that you were to receive a **\$10 bonus** at the end of this study, and that you were presented with the opportunity to **make a donation to CANCER RESEARCH**.

How much of your bonus would you donate to CANCER RESEARCH?



Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am afraid of becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to avoid becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often worry about becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily imagine myself as being affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about being affected by CANCER worries me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
People are in control of whether they get affected by CANCER or not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If people take the right actions, they can prevent being affect by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being affected by CANCER is mostly a matter of bad luck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*The same set of questions were used for the Diabetes Cause.

## Appendix F: ANOVA'S Without Data Exclusions - Study 1

### Tests of Between-Subjects Effects

Dependent Variable: Att\_AVG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	29.221 <sup>a</sup>	1	29.221	11.559	.001	.037
Intercept	6583.311	1	6583.311	2604.222	.000	.897
COND	29.221	1	29.221	11.559	.001	.037
Error	753.326	298	2.528			
Total	7372.000	300				
Corrected Total	782.547	299				

a. R Squared = .037 (Adjusted R Squared = .034)

### Tests of Between-Subjects Effects

Dependent Variable: wtd\_scl

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	43.114 <sup>a</sup>	1	43.114	12.374	.001	.040
Intercept	6442.288	1	6442.288	1849.017	.000	.861
COND	43.114	1	43.114	12.374	.001	.040
Error	1038.282	298	3.484			
Total	7531.000	300				
Corrected Total	1081.397	299				

a. R Squared = .040 (Adjusted R Squared = .037)

### Tests of Between-Subjects Effects

Dependent Variable: wtd\_am

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	45.463 <sup>a</sup>	1	45.463	4.516	.034	.015
Intercept	3459.157	1	3459.157	343.611	.000	.536
COND	45.463	1	45.463	4.516	.034	.015
Error	2999.986	298	10.067			
Total	6510.050	300				
Corrected Total	3045.449	299				

a. R Squared = .015 (Adjusted R Squared = .012)

**Appendix G: Main Effects Without Data Exclusions - Study 1**

<b>Attitudes (95% CI = [-.20; .63])</b>				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	0.76	.26	3.51	< .001
Feared self → Attitudes	0.62	.24	10.42	< .001
Cause type → Feared self (direct effect)	.52	.04	11.64	< .001
Cause type → Feared self (indirect effect)	0.21	.24	1.34	0.181
<b>Willingness-to-donate (95% CI = [-.20; .65])</b>				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	0.75	.12	3.51	< .001
Feared self → Attitudes	2.04	0.07	8.44	< .001
Cause type → Feared self (direct effect)	.50	.06	9.01	< .001
Cause type → Feared self (indirect effect)	0.35	.30	1.76	0.078
<b>Donation amount (95% CI = [-.20; .82])</b>				
<i>Path</i>	$\beta$	<i>SE</i>	<i>t</i>	<i>p</i>
Cause type → Feared self	0.77	.12	2.12	< .001
Feared self → Attitudes	0.75	.56	0.13	.01
Cause type → Feared self (direct effect)	.54	.12	5.26	< .001
Cause type → Feared self (indirect effect)	0.28	.29	0.77	0.43



## Appendix H: Study 2 Material and Measures



### Cancer is complex

Approximately 1.5 million new cancer cases are diagnosed in the U.S. yearly.

Our best weapon against it is research. Over the years, researchers have been finding ways to outsmart cancer.

Help fund research that saves lives. Donate now!



### Cancer is alarming

Approximately 1.5 million new cancer cases are diagnosed in the U.S. and **hundreds of thousands of Americans die of cancer** yearly.

Our best weapon against it is research. Over the years, researchers have been looking for ways to outsmart cancer.

Help fund research that can save lives. Donate now!



### Diabetes is complex

Approximately 1.5 million new diabetes cases are diagnosed in the U.S. yearly.

Our best weapon against it is research. Over the years, researchers have been finding ways to outsmart diabetes.

Help fund research that saves lives. Donate now!



### Diabetes is alarming

Approximately 1.5 million new diabetes cases are diagnosed in the U.S. and **hundreds of thousands of Americans die due to diabetes** yearly.

Our best weapon against it is research. Over the years, researchers have been looking for ways to outsmart diabetes.

Help fund research that can save lives. Donate now!

### To what extent...

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Extremely (7)
Do you care about CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel connected to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would you be willing-to-donate money to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Willingness to donate | WTDCancer



Imagine that you were to receive a **\$10 bonus** at the end of this study, and that you were presented with the opportunity to **make a donation to CANCER RESEARCH**.

### How much of your bonus would you donate to CANCER RESEARCH?



### Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am afraid of becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to avoid becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often worry about becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily imagine myself as being affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about being affected by CANCER worries me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
People are in control of whether they get affected by CANCER or not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If people take the right actions, they can prevent being affect by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being affected by CANCER is mostly a matter of bad luck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*The same set of questions were used for the Diabetes Cause.

## Appendix I: Moderated-mediation Output, Study 2

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.      www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 8  
**Y : ATT\_AVG**  
 X : cond\_cau  
 M : FS\_AVG  
 W : cond\_ap

Sample  
 Size: 409

\*\*\*\*\*

OUTCOME VARIABLE:  
 FS\_AVG

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1785	.0319	1.8168	4.4422	3.0000	405.0000	.0044

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.7427	.1328	35.7099	.0000	4.4816	5.0038
cond_cau	.2893	.1874	1.5442	.1233	-.0790	.6577
cond_ap	-.0324	.1878	-.1723	.8633	-.4016	.3369
Int_1	.3151	.2666	1.1818	.2380	-.2091	.8393

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0033	1.3967	1.0000	405.0000	.2380

\*\*\*\*\*

OUTCOME VARIABLE:  
 ATT\_AVG

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.5192	.2696	1.5702	37.2805	4.0000	404.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.1890	.2515	8.7043	.0000	1.6946	2.6833
cond_cau	.2660	.1747	1.5224	.1287	-.0775	.6094
FS_AVG	.5067	.0462	10.9696	.0000	.4159	.5975
cond_ap	-.0710	.1746	-.4065	.6846	-.4142	.2723
Int_1	.2613	.2483	1.0522	.2933	-.2269	.7494

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0020	1.1071	1.0000	404.0000	.2933

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_ap	Effect	se	t	p	LLCI	ULCI
.0000	.2660	.1747	1.5224	.1287	-.0775	.6094
1.0000	.5272	.1786	2.9527	.0033	.1762	.8783

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond\_cau -> FS\_AVG -> ATT\_AVG

cond_ap	Effect	BootSE	BootLLCI	BootULCI
.0000	.1466	.0971	-.0390	.3479
1.0000	.3063	.1068	.1119	.5301

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
cond_ap	.1597	.1402	<b>-.1109</b>	<b>.4429</b>

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

----- END MATRIX -----

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 8  
Y : **WTD**  
X : cond\_cau  
M : FS\_AVG  
W : cond\_ap

Sample  
Size: 409

\*\*\*\*\*

OUTCOME VARIABLE:  
FS\_AVG

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1785	.0319	1.8168	4.4422	3.0000	405.0000	.0044

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.7427	.1328	35.7099	.0000	4.4816	5.0038
cond_cau	.2893	.1874	1.5442	.1233	-.0790	.6577
cond_ap	-.0324	.1878	-.1723	.8633	-.4016	.3369
Int_1	.3151	.2666	1.1818	.2380	-.2091	.8393

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0033	1.3967	1.0000	405.0000	.2380

\*\*\*\*\*

OUTCOME VARIABLE:  
WTD

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4280	.1831	2.4932	22.6447	4.0000	404.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.2895	.3169	7.2249	.0000	1.6665	2.9124
cond_cau	.3009	.2201	1.3670	.1724	-.1318	.7337
FS_AVG	.4712	.0582	8.0950	.0000	.3568	.5856
cond_ap	-.2566	.2200	-1.1662	.2442	-.6891	.1760
Int_1	.4345	.3129	1.3888	.1657	-.1806	1.0497

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0039	1.9287	1.0000	404.0000	.1657

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_ap	Effect	se	t	p	LLCI	ULCI
.0000	.3009	.2201	1.3670	.1724	-.1318	.7337
1.0000	.7355	.2250	3.2687	.0012	.2932	1.1778

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond\_cau -> FS\_AVG -> WTD

cond_ap	Effect	BootSE	BootLLCI	BootULCI
.0000	.1363	.0891	-.0339	.3181
1.0000	.2848	.1019	.1026	.5003

Index of moderated mediation (difference between conditional indirect effects):

cond_ap	Index	BootSE	BootLLCI	BootULCI
.0000	.1485	.1286	<b>-.0895</b>	<b>.4088</b>

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

----- END MATRIX -----

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 8  
Y : WTD\$  
X : cond\_cau  
M : FS\_AVG  
W : cond\_ap

Sample  
Size: 409

\*\*\*\*\*

OUTCOME VARIABLE:  
FS\_AVG

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1785	.0319	1.8168	4.4422	3.0000	405.0000	.0044

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.7427	.1328	35.7099	.0000	4.4816	5.0038
cond_cau	.2893	.1874	1.5442	.1233	-.0790	.6577
cond_ap	-.0324	.1878	-.1723	.8633	-.4016	.3369
Int_1	.3151	.2666	1.1818	.2380	-.2091	.8393

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0033	1.3967	1.0000	405.0000	.2380

\*\*\*\*\*

OUTCOME VARIABLE:  
WTD\$

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2838	.0805	8.8054	8.8468	4.0000	404.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.8432	.5955	1.4159	.1576	-.3275	2.0140
cond_cau	.1331	.4137	.3217	.7479	-.6802	.9464
FS_AVG	.5273	.1094	4.8199	.0000	.3122	.7423
cond_ap	-.1516	.4135	-.3666	.7141	-.9645	.6613
Int_1	.8884	.5880	1.5108	.1316	-.2676	2.0444

Product terms key:

Int\_1 : cond\_cau x cond\_ap

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0052	2.2827	1.0000	404.0000	.1316

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_ap	Effect	se	t	p	LLCI	ULCI
.0000	.1331	.4137	.3217	.7479	-.6802	.9464
1.0000	1.0215	.4229	2.4157	.0161	.1902	1.8528

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond\_cau -> FS\_AVG -> WTD\$

cond_ap	Effect	BootSE	BootLLCI	BootULCI
.0000	.1526	.1048	-.0423	.3723
1.0000	.3187	.1321	.0981	.6156

Index of moderated mediation (difference between conditional indirect effects):

cond_ap	Index	BootSE	BootLLCI	BootULCI
	.1662	.1518	<b>-.1083</b>	<b>.4985</b>

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000



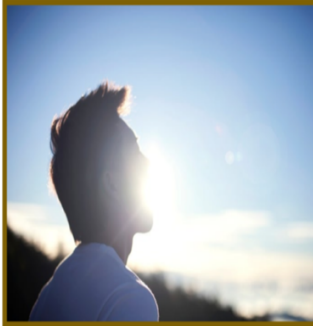

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----



## Appendix J: Study 2: Conceptual Replication Material and Measures

	<p style="text-align: center;"><b>Cancer is complex</b></p> <p>However, <b>survival rates have significantly risen</b> in the U.S. and <b>millions of affected Americans</b> are in <b>complete remission</b>.</p> <p>Our best weapon against cancer is research. Over the years, researchers have been finding ways to outsmart cancer.</p> <p style="text-align: center;">Help fund research that saves lives. Donate now!</p>		<p style="text-align: center;"><b>Cancer is alarming</b></p> <p>Approximately <b>1.5 million new cancer cases</b> are diagnosed in the U.S. and <b>hundreds of thousands of Americans die of cancer</b> yearly.</p> <p>Our best weapon against it is research. Over the years, researchers have been looking for ways to outsmart cancer.</p> <p style="text-align: center;">Help fund research that can save lives. Donate now!</p>
	<p style="text-align: center;"><b>Heart diseases are complex</b></p> <p>However, <b>survival rates have significantly risen</b> in the U.S. and <b>millions of affected Americans</b> have a <b>good quality of life</b>.</p> <p>Our best weapon against heart diseases is research. Over the years, researchers have been finding ways to outsmart heart diseases.</p> <p style="text-align: center;">Help fund research that saves lives. Donate now!</p>		<p style="text-align: center;"><b>Heart diseases are alarming</b></p> <p>Approximately <b>1.5 million new cases</b> are diagnosed in the U.S. and <b>more than 500,000 Americans die of heart diseases</b> yearly.</p> <p>Our best weapon against heart diseases is research. Over the years, researchers have been looking for ways to outsmart heart diseases.</p> <p style="text-align: center;">Help fund research that can save lives. Donate now!</p>

To what extent...

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Extremely (7)
Do you care about CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel connected to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would you be willing-to-donate money to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Willingness to donate | WTDCancer



Imagine that you were to receive a **\$10 bonus** at the end of this study, and that you were presented with the opportunity to **make a donation to CANCER RESEARCH**.

**How much of your bonus would you donate to CANCER RESEARCH?**



Please indicate the extent to which you (dis)agree with the following statements:



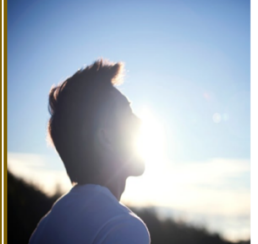
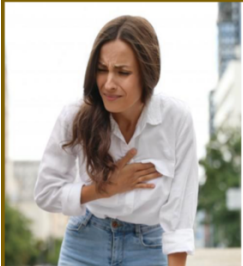
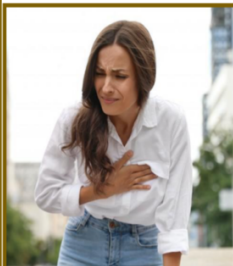
	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am afraid of becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to avoid becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often worry about becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily imagine myself as being affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about being affected by CANCER worries me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
People are in control of whether they get affected by CANCER or not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If people take the right actions, they can prevent being affect by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being affected by CANCER is mostly a matter of bad luck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*The same set of questions were used for heart disease.

## Appendix K: Study 3 Material and Measures

 <p style="text-align: center; font-size: small;">LowFearCancer</p>	<p style="text-align: center;"><b>Cancer is complex</b></p> <p>However, <b>survival rates have significantly risen</b> in the U.S. and <b>more than half of all diagnosed Americans are in complete remission.</b></p> <p>Our best weapon against cancer is research. Over the years, researchers have been finding ways to outsmart cancer.</p> <p>Help fund research that can save lives.</p> <p style="text-align: center;">Donate now!</p>	 <p style="text-align: center; font-size: small;">HighFearCancer</p>	<p style="text-align: center;"><b>Cancer is scary</b></p> <p>Cancer is the biggest killer disease in the US. <b>1 in 2 Americans will be diagnosed with cancer in their lifetime.</b></p> <p>Alarmingly, <b>cancer does not discriminate based on age.</b> There is a drastic rise in cancer cases among young people under 50. <b>It can affect anyone.</b></p> <p>Help fund research that can save lives.</p> <p style="text-align: center;">Donate now!</p>
	<p style="text-align: center;"><b>Cancer is scary</b></p> <p>Cancer is the biggest killer disease in the US. <b>You have 1 in 2 chances of being diagnosed with cancer in your lifetime.</b></p> <p>Alarmingly, <b>cancer does not discriminate based on age.</b> There is a drastic rise in cancer cases among young people under 50. <b>It can affect you.</b></p> <p>Help fund research that can save your life.</p> <p style="text-align: center;">Donate now!</p>		<p style="text-align: center;"><b>Heart Diseases are complex</b></p> <p>However, <b>survival rates have significantly risen</b> in the U.S. and <b>more than half of all diagnosed Americans are in complete remission.</b></p> <p>Our best weapon against heart diseases is research. Over the years, researchers have been finding ways to outsmart heart diseases.</p> <p>Help fund research that can save lives.</p> <p style="text-align: center;">Donate now!</p>
	<p style="text-align: center;"><b>Heart Disease is scary</b></p> <p>Heart disease is the biggest killer disease in the US. <b>1 in 2 Americans will be diagnosed with a heart disease in their lifetime.</b></p> <p>Alarmingly, <b>heart diseases does not discriminate based on age.</b> There is a drastic rise in heart disease cases among young people under 50. <b>It can affect anyone.</b></p> <p>Help fund research that can save lives.</p> <p style="text-align: center;">Donate now!</p>		<p style="text-align: center;"><b>Heart disease is scary</b></p> <p>Heart disease is the biggest killer disease in the US. <b>You have 1 in 2 chances of being diagnosed with a heart disease in your lifetime.</b></p> <p>Alarmingly, <b>heart disease does not discriminate based on age.</b> There is a drastic rise in heart disease cases among young people under 50. <b>It can affect you.</b></p> <p>Help fund research that can save your life.</p> <p style="text-align: center;">Donate now!</p>

**To what extent...**

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Extremely (7)
Do you care about CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you feel connected to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Would you be willing-to-donate money to CANCER RESEARCH	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Willingness to donat | WTDCancer



Imagine that you were to receive a **\$10 bonus** at the end of this study, and that you were presented with the opportunity to **make a donation to CANCER RESEARCH.**

**How much of your bonus would you donate to CANCER RESEARCH?**



Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am afraid of becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to avoid becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often worry about becoming affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily imagine myself as being affected by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking about being affected by CANCER worries me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the extent to which you (dis)agree with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
People are in control of whether they get affected by CANCER or not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If people take the right actions, they can prevent being affect by CANCER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being affected by CANCER is mostly a matter of bad luck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*The same set of questions were used for heart disease.

## Appendix L: Moderated-mediation Output, Study 3

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 8  
Y : ATT\_AVG  
X : cond\_c  
M : FS\_AVG  
W : cond\_a

Sample  
Size: 660

Coding of categorical W variable for analysis:

cond_a	W1	W2
.000	.000	.000
1.000	1.000	.000
2.000	.000	1.000

\*\*\*\*\*

OUTCOME VARIABLE:

FS\_AVG

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1648	.0272	1.8322	3.6529	5.0000	654.0000	.0029

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.5991	.1315	34.9816	.0000	4.3409	4.8572
cond_c	.2903	.1830	1.5862	.1132	-.0691	.6497
W1	.1867	.1834	1.0176	.3092	-.1735	.5468
W2	.1148	.1830	.6273	.5307	-.2446	.4742
Int_1	.1848	.2585	.7148	.4750	-.3228	.6924
Int_2	.0992	.2582	.3842	.7010	-.4078	.6062

Product terms key:

Int_1	:	cond_c	x	W1
Int_2	:	cond_c	x	W2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0008	.2559	2.0000	654.0000	.7743

\*\*\*\*\*

OUTCOME VARIABLE:

ATT\_AVG

Model Summary

	R	R-sq	MSE	F	df1	df2	p
--	---	------	-----	---	-----	-----	---

.5151 .2654 1.5567 39.3141 6.0000 653.0000 .0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.0952	.2053	10.2034	.0000	1.6920	2.4984
cond_c	.3326	.1690	1.9674	.0496	.0006	.6645
FS_AVG	.5116	.0360	14.1941	.0000	.4408	.5824
W1	.1037	.1692	.6129	.5401	-.2285	.4360
W2	.1790	.1688	1.0606	.2892	-.1524	.5104
Int_1	.0409	.2384	.1718	.8637	-.4271	.5090
Int_2	-.0695	.2380	-.2921	.7703	-.5370	.3979

Product terms key:

Int\_1 : cond\_c x W1  
 Int\_2 : cond\_c x W2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0002	.1105	2.0000	653.0000	.8954

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_a	Effect	se	t	p	LLCI	ULCI
.0000	.3326	.1690	1.9674	.0496	.0006	.6645
1.0000	.3735	.1691	2.2083	.0276	.0414	.7056
2.0000	.2630	.1685	1.5611	.1190	-.0678	.5939

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond_c	->	FS_AVG	->	ATT_AVG
cond_a	Effect	BootSE	BootLLCI	BootULCI
.0000	.1485	.0997	-.0359	.3479
1.0000	.2431	.0960	.0634	.4401
2.0000	.1993	.0967	.0204	.3932

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
W1	.0945	.1328	-.1624	.3587
W2	.0508	.1354	-.2179	.3101

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 8  
Y : WTD\$  
X : cond\_c  
M : FS\_AVG  
W : cond\_a

Sample  
Size: 660

Coding of categorical W variable for analysis:

cond\_a W1 W2  
.000 .000 .000  
1.000 1.000 .000  
2.000 .000 1.000

\*\*\*\*\*

OUTCOME VARIABLE:

FS\_AVG

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1648	.0272	1.8322	3.6529	5.0000	654.0000	.0029

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.5991	.1315	34.9816	.0000	4.3409	4.8572
cond_c	.2903	.1830	1.5862	.1132	-.0691	.6497
W1	.1867	.1834	1.0176	.3092	-.1735	.5468
W2	.1148	.1830	.6273	.5307	-.2446	.4742
Int_1	.1848	.2585	.7148	.4750	-.3228	.6924
Int_2	.0992	.2582	.3842	.7010	-.4078	.6062

Product terms key:

Int\_1 : cond\_c x W1  
Int\_2 : cond\_c x W2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0008	.2559	2.0000	654.0000	.7743

\*\*\*\*\*

OUTCOME VARIABLE:

WTD\$

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2919	.0852	8.0408	10.1394	6.0000	653.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.3046	.4667	.6526	.5142	-.6118	1.2209
cond_c	.7875	.3842	2.0499	.0408	.0331	1.5418
FS_AVG	.5291	.0819	6.4592	.0000	.3683	.6900
W1	.2068	.3846	.5377	.5909	-.5483	.9619
W2	.0769	.3835	.2005	.8412	-.6762	.8300
Int_1	-.2647	.5417	-.4887	.6252	-1.3285	.7990
Int_2	.1059	.5410	.1958	.8448	-.9564	1.1683

Product terms key:

```
Int_1   :      cond_c   x      W1
Int_2   :      cond_c   x      W2
```

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0007	.2495	2.0000	653.0000	.7793

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_a	Effect	se	t	p	LLCI	ULCI
.0000	.7875	.3842	2.0499	.0408	.0331	1.5418
1.0000	.5227	.3844	1.3599	.1743	-.2321	1.2775
2.0000	.8934	.3829	2.3332	.0199	.1415	1.6453

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

```
cond_c   ->   FS_AVG   ->   WTD$
```

cond_a	Effect	BootSE	BootLLCI	BootULCI
.0000	.1536	.1053	-.0400	.3776
1.0000	.2514	.1059	.0641	.4840
2.0000	.2061	.1002	.0165	.4110

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
W1	.0978	.1409	-.1699	.3882
W2	.0525	.1385	-.2274	.3240

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----



Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 8  
Y : WTD  
X : cond\_c  
M : FS\_AVG  
W : cond\_a

Sample  
Size: 660

Coding of categorical W variable for analysis:

cond_a	W1	W2
.000	.000	.000
1.000	1.000	.000
2.000	.000	1.000

\*\*\*\*\*

OUTCOME VARIABLE:

FS\_AVG

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1648	.0272	1.8322	3.6529	5.0000	654.0000	.0029

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.5991	.1315	34.9816	.0000	4.3409	4.8572
cond_c	.2903	.1830	1.5862	.1132	-.0691	.6497
W1	.1867	.1834	1.0176	.3092	-.1735	.5468
W2	.1148	.1830	.6273	.5307	-.2446	.4742
Int_1	.1848	.2585	.7148	.4750	-.3228	.6924
Int_2	.0992	.2582	.3842	.7010	-.4078	.6062

Product terms key:

Int_1	:	cond_c	x	W1
Int_2	:	cond_c	x	W2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0008	.2559	2.0000	654.0000	.7743

\*\*\*\*\*

OUTCOME VARIABLE:

WTD

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4133	.1708	2.4940	22.4220	6.0000	653.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.8394	.2599	7.0770	.0000	1.3290	2.3497
cond_c	.5114	.2140	2.3902	.0171	.0913	.9315
FS_AVG	.4513	.0456	9.8928	.0000	.3618	.5409
W1	.2864	.2142	1.3371	.1816	-.1342	.7069
W2	.2189	.2136	1.0249	.3058	-.2005	.6384
Int_1	-.0208	.3017	-.0689	.9451	-.6132	.5717
Int_2	-.0212	.3013	-.0703	.9439	-.6128	.5704

Product terms key:

Int\_1 : cond\_c x W1  
Int\_2 : cond\_c x W2

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0000	.0032	2.0000	653.0000	.9968

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_a	Effect	se	t	p	LLCI	ULCI
.0000	.5114	.2140	2.3902	.0171	.0913	.9315
1.0000	.4906	.2141	2.2917	.0222	.0702	.9110
2.0000	.4902	.2133	2.2986	.0218	.0714	.9090

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond_c	->	FS_AVG	->	WTD
cond_a	Effect	BootSE	BootLLCI	BootULCI
.0000	.1310	.0891	-.0351	.3179
1.0000	.2144	.0850	.0571	.3898
2.0000	.1758	.0830	.0185	.3443

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
W1	.0834	.1176	-.1403	.3269
W2	.0448	.1191	-.1940	.2789

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 8  
Y : FS\_AVG  
X : cond\_c  
M : FS  
W : cond\_a

Sample  
Size: 660

\*\*\*\*\*

OUTCOME VARIABLE:  
FS

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0708	.0050	2.7816	1.1030	3.0000	656.0000	.3472

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.6119	.1459	31.6063	.0000	4.3254	4.8984
cond_c	.0217	.2075	.1048	.9166	-.3857	.4292
cond_a	-.0205	.1120	-.1830	.8549	-.2403	.1994
Int_1	.1544	.1594	.9686	.3331	-.1586	.4675

Product terms key:

Int\_1 : cond\_c x cond\_a

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0014	.9382	1.0000	656.0000	.3331

\*\*\*\*\*

OUTCOME VARIABLE:  
FS\_AVG

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7419	.5504	.8369	200.4888	4.0000	655.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.8861	.1271	14.8359	.0000	1.6365	2.1357
cond_c	.2568	.1138	2.2566	.0244	.0333	.4803
FS	.5939	.0214	27.7293	.0000	.5518	.6359
cond_a	.0776	.0614	1.2634	.2069	-.0430	.1982
Int_1	-.0014	.0875	-.0163	.9870	-.1733	.1704

Product terms key:

Int\_1 : cond\_c x cond\_a

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0000	.0003	1.0000	655.0000	.9870

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effect(s) of X on Y:

cond_a	Effect	se	t	p	LLCI	ULCI
.0000	.2568	.1138	2.2566	.0244	.0333	.4803
1.0000	.2554	.0713	3.5800	.0004	.1153	.3955
2.0000	.2540	.1120	2.2677	.0237	.0341	.4739

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

cond_c	->	FS	->	FS_AVG
cond_a	Effect	BootSE	BootLLCI	BootULCI
.0000	.0129	.1234	-.2258	.2533
1.0000	.1046	.0775	-.0492	.2563
2.0000	.1963	.1223	-.0354	.4366

Index of moderated mediation:

cond_a	Index	BootSE	BootLLCI	BootULCI
.0000	.0917	.0953	-.1007	.2794

---

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

# Appendix M: AsPredicted- Pre-Registration Study 1



## Effects of charity type and feared self on individuals' willingness-to-donate. (#)

Created: 12/02/2022 02:45 PM (PT)

Public: MM/DD/YYYY HH:MM (PT)

### Author(s)

Veronica Marinoni (Concordia University) - Veronica.marinoni@concordia.ca

Caroline Roux (Concordia University) - caroline.roux@concordia.ca

Kamila Sobol (Concordia University) - kamila.sobol@concordia.ca

### 1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

### 2) What's the main question being asked or hypothesis being tested in this study?

H1a. Consumers will express lower attitudes toward a charitable cause that is more (vs. less) feared.

H1b. Consumers will be less willing-to-donate to a charitable cause that is more (vs. less) feared.

H2. A charitable cause that is more (vs. less) feared will activate a consumer's feared self.

H3a. The activation of a feared self will mediate the effect of charitable cause type on attitudes toward the charity.

H3b. The activation of a feared self will mediate the effect of charitable cause type on willingness-to-donate to the charity.

### 3) Describe the key dependent variable(s) specifying how they will be measured.

1. Attitudes toward charitable cause: measured using 2 items on a 7-point scale.

2. Willingness-to-donate to charitable cause: a) measured using 1 item on a 7-point scale, and b) measured by asking for the dollar amount on a \$0-\$10 sliding scale.

### 4) How many and which conditions will participants be assigned to?

We will have 2 conditions (more vs. less feared charitable cause) randomly allocated between-subject.

Condition 1: participants will be presented with a cancer donation appeal, which represents the "feared" charitable cause (based on a pretest).

Condition 2: participants will be presented with a diabetes donation appeal, which represents the "non-feared" charitable cause (based on a pretest).

### 5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will run one-way ANOVAs on the main DVs (i.e., charitable cause type on attitudes and willingness-to-donate). We will also conduct mediation analyses using PROCESS Model 4 to test for the mediation effect of feared self (i.e., with charitable cause type as IV; feared self as mediator; attitudes/willingness-to-donate as DV).

### 6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will exclude participants who: 1) self-report poor English proficiency, 2) wrote suspicious comments to researchers, 3) failed the attention check questions, and 4) reported encountering technical issues during the study.

### 7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data from 300 participants from Amazon Mechanical Turk through CloudResearch. After removing participants who do not meet the exclusion criteria stated above from the analyses, if we do not reach a minimum of 100 participants per condition (i.e., 200 in total after exclusions), we will post batches of 25 more participants until we reach a minimum of 100 participants per condition after exclusions.

### 8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will explore potential order effects of the mediating and dependent variables. Feared self and attitudes toward/willingness-to-donate to the charitable cause will be presented in a randomized order to determine whether it impacts the hypothesized effects.

We will control for participants' level of familiarity with the charitable cause and donation habits.

We will explore whether completing the study on a smartphone adversely impacted data quality. If so, we will remove these participants from the analyses.

## Appendix N: AsPredicted- Pre-Registration Study 2



### CONFIDENTIAL - FOR PEER-REVIEW ONLY

#### Effects of charity and appeal types on feared self and charitable giving (#120859)

Created: 02/03/2023 10:41 AM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

#### 1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

#### 2) What's the main question being asked or hypothesis being tested in this study?

- H1a. Consumers will express higher attitudes toward a charitable cause that is more (vs. less) feared when using a neutral appeal.
- H1b. Consumers will express lower attitudes toward a charitable cause that is more (vs. less) feared when using a fear appeal.
- H1c. Consumers will be more willing-to-donate to a charitable cause that is more (vs. less) feared when using a neutral appeal.
- H1d. Consumers will be less willing-to-donate to a charitable cause that is more (vs. less) feared when using a fear appeal.
- H2a. A charitable cause that is more (vs. less) feared will activate a consumers' feared self.
- H2b. A fear (vs. neutral) appeal will activate a consumers' feared self.
- H3a. The activation of a feared self will mediate the relationship between charitable cause and appeal types on attitudes toward the cause.
- H3b. The activation of a feared self will mediate the relationship between charitable cause and appeal types on willingness-to-donate to the cause.

#### 3) Describe the key dependent variable(s) specifying how they will be measured.

1. Attitudes toward charitable cause: measured using 2 items on a 7-point scale.
2. Willingness-to-donate to charitable cause: a) measured using 1 item on a 7-point scale, and b) measured by asking for the dollar amount on a \$0-\$10 sliding scale.

#### 4) How many and which conditions will participants be assigned to?

We will employ a 2 (more vs. less feared cause) x 2 (neutral vs. fear appeal) between-subject design, where participants will be randomly allocated to one of the following conditions:

- Condition 1: participants will be presented with a diabetes (i.e., non-feared cause) donation ad using a neutral appeal.
- Condition 2: participants will be presented with a diabetes (i.e., non-feared cause) donation ad using a fear appeal.
- Condition 3: participants will be presented with a cancer (i.e., feared cause) donation ad using a neutral appeal.
- Condition 4: participants will be presented with a cancer (i.e., feared cause) donation ad using a fear appeal.

#### 5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will run two-way ANOVAs on the main DVs (i.e., attitudes and willingness-to-donate). We will also run two-way ANOVAs on the process measure (i.e., feared self).

We will conduct moderated-mediation analyses using PROCESS Model 8 to test for the moderated-mediation effect of feared self (i.e., with charitable cause and appeal types as IVs; feared self as mediator; attitudes/willingness-to-donate as DV).

#### 6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will exclude participants who: 1) self-report poor English proficiency, 2) wrote suspicious comments to researchers, 3) failed the attention check questions, and 4) reported encountering technical issues during the study.

#### 7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data from 450 participants from Amazon Mechanical Turk through CloudResearch. After removing participants who do not meet the exclusion criteria stated above from the analyses, if we do not reach a minimum of 100 participants per condition (i.e., 400 in total after exclusions), we will post batches of 25 more participants until we reach a minimum of 100 participants per condition after exclusions.

#### 8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will control for participants' level of familiarity with the charitable cause and donation habits. We will continue to explore the role of locus of control in relation to charitable causes and individuals' willingness to donate. Lastly, we will investigate whether completing the study on a smartphone adversely impacted data quality. If so, we will remove these participants from the analyses.

# Appendix O: AsPredicted- Pre-Registration Study 2: Conceptual Replication



## CONFIDENTIAL - FOR PEER-REVIEW ONLY

### Effects of charity and appeal types on feared self and charitable giving (V2) (#123725)

Created: 03/01/2023 05:12 PM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

#### 1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

#### 2) What's the main question being asked or hypothesis being tested in this study?

- H1a. Consumers will express higher attitudes toward a charitable cause that is more (vs. less) feared when using a hopeful appeal.
- H1b. Consumers will express lower attitudes toward a charitable cause that is more (vs. less) feared when using a fear appeal.
- H1c. Consumers will be more willing-to-donate to a charitable cause that is more (vs. less) feared when using a hopeful appeal.
- H1d. Consumers will be less willing-to-donate to a charitable cause that is more (vs. less) feared when using a fear appeal.
- H2a. Consumers will score higher (vs. lower) on the feared self scale when exposed to a feared charitable cause using a feared (vs. hopeful) appeal.
- H2b. Consumers will score higher (vs. lower) on the feared self scale when exposed to a non-feared charitable cause using a feared (vs. hopeful) appeal.
- H3a. The activation of a feared self will mediate the relationship between charitable cause and appeal types on attitudes toward the cause.
- H3b. The activation of a feared self will mediate the relationship between charitable cause and appeal types on willingness-to-donate to the cause.

#### 3) Describe the key dependent variable(s) specifying how they will be measured.

1. Attitudes toward charitable cause: measured using 2 items on a 7-point scale.
2. Willingness-to-donate to charitable cause: a) measured using 1 item on a 7-point scale, and b) measured by asking for the dollar amount on a \$0-\$10 sliding scale.

#### 4) How many and which conditions will participants be assigned to?

We will employ a 2 (more vs. less feared cause) x 2 (hopeful vs. fear appeal) between-subject design, where participants will be randomly allocated to one of the following conditions:

- Condition 1: participants will be presented with heart diseases (i.e., non-feared cause) donation ad using a hopeful appeal.
- Condition 2: participants will be presented with a heart diseases (i.e., non-feared cause) donation ad using a fear appeal.
- Condition 3: participants will be presented with a cancer (i.e., feared cause) donation ad using a hopeful appeal.
- Condition 4: participants will be presented with a cancer (i.e., feared cause) donation ad using a fear appeal.

#### 5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will run two-way ANOVAs on the main DVs (i.e., attitudes and willingness-to-donate). We will also run two-way ANOVAs on the process measure (i.e., feared self). We will conduct moderated-mediation analyses using PROCESS Model 8 to test for the moderated-mediation effect of feared self (i.e., with charitable cause and appeal types as IVs; feared self as mediator; attitudes/willingness-to-donate as DV).

#### 6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will exclude participants who: 1) self-report poor English proficiency, 2) wrote suspicious comments to researchers, 3) failed the attention check questions, and 4) reported encountering technical issues during the study.

#### 7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data from 450 participants from Amazon Mechanical Turk through CloudResearch. After removing participants who do not meet the exclusion criteria stated above from the analyses, if we do not reach a minimum of 100 participants per condition (i.e., 400 in total after exclusions), we will post batches of 25 more participants until we reach a minimum of 100 participants per condition after exclusions.

#### 8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will control for participants' level of familiarity with the charitable cause and donation habits. We will continue to explore the role of locus of control in relation to charitable causes and individuals' willingness to donate. Lastly, we will investigate whether completing the study on a smartphone adversely impacted data quality. If so, we will remove these participants from the analyses.

## Appendix P: AsPredicted- Pre-Registration Study 3

### 'Effects of charity and appeal types on feared self and charitable giving (V3)' (AsPredicted #126435)

Created: 03/24/2023 10:05 AM (PT)

#### Author(s)

Veronica Marinoni (Concordia University) - veronica.marinoni@concordia.ca  
Caroline Roux (Concordia University) - caroline.roux@concordia.ca  
Kamila Sobol (Concordia University) - kamila.sobol@concordia.ca

#### 1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

#### 2) What's the main question being asked or hypothesis being tested in this study?

Main effects of Cause on consumer outcomes:

H1a: Consumers will express higher attitudes toward a charitable cause that is more (vs. less) feared.

H1b: Consumers will be willing to donate more money toward a charitable cause that is more (vs. less) feared.

Moderation effects of message appeal

H2a: Consumers will express higher attitudes toward a charitable cause when a moderate fear (vs. hopeful) appeal is used for both more- and less-feared charitable causes. However, for a more (vs less) feared charitable cause, a backfire effect will be observed when using an extreme fear appeal.

H2b: Consumers will be willing to donate more money toward a charitable cause when a moderate fear (vs. hopeful) appeal is used for both more- and less-feared charitable causes. However, for a more (vs less) feared charitable cause, a backfire effect will be observed when using an extreme fear appeal.

Mediation by feared self

H3a. A charitable cause that is more (vs. less) feared will activate a consumers' feared self.

H2b. Fear (vs. hopeful) appeals amplify the sense of feared self.

H3a. The activation of a feared self will mediate the relationship between charitable cause and appeal types on attitudes toward the cause.

H3b. The activation of a feared self will mediate the relationship between charitable cause and appeal types on willingness-to-donate to the cause.

#### 3) Describe the key dependent variable(s) specifying how they will be measured.

1. Attitudes toward charitable cause: measured using 2 items on a 7-point scale.

2. Willingness-to-donate to charitable cause: a) measured using 1 item on a 7-point scale, and b) measured by asking for the dollar amount on a \$0-\$10 sliding scale.

#### 4) How many and which conditions will participants be assigned to?

We will employ a 2 (charity type: more-feared (cancer) vs. less-feared (heart disease)) x 3 (message appeal: hopeful vs. moderate fear vs. extreme fear) between-subject design, where participants will be randomly allocated to one of the following conditions:

Condition 1: participants will be presented with heart diseases (i.e., less-feared cause) donation ad using a hopeful appeal.

Condition 2: participants will be presented with a heart diseases (i.e., less-feared cause) donation ad using a moderate fear appeal (framed from a third-person perspective).

Condition 3: participants will be presented with a heart disease (i.e., less-feared cause) donation ad using an extreme fear appeal (framed from a first-person perspective).

Condition 4: participants will be presented with a cancer (i.e., more-feared cause) donation ad using a hopeful appeal.

Condition 5: participants will be presented with a cancer (i.e., more-feared cause) donation ad using a moderate fear appeal (framed from a third-person perspective).

Condition 6: participants will be presented with a cancer (i.e., more-feared cause) donation ad using an extreme fear appeal (framed from a first-person perspective).

#### 5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will run two-way ANOVAs on the main DVs (i.e., attitudes and willingness-to-donate). We will also run two-way ANOVAs on the process measure (i.e., feared self).

We will conduct moderated-mediation analyses using PROCESS Model 8 to test for the moderated-mediation effect of feared self (i.e., with charitable cause and appeal types as IVs; feared self as mediator; attitudes/willingness-to-donate as DV).

#### 6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will exclude participants who: 1) self-report poor English proficiency, 2) wrote suspicious comments to researchers, 3) failed the attention check questions, and 4) reported encountering technical issues during the study.

#### 7) How many observations will be collected or what will determine sample size?

No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data from 675 participants from Amazon Mechanical Turk through CloudResearch. After removing participants who do not meet the exclusion criteria stated above from the analyses, if we do not reach a minimum of 100 participants per condition (i.e., 600 in total after exclusions), we will post batches of 25 more participants until we reach a minimum of 100 participants per condition after exclusions.

#### 8) Anything else you would like to pre-register?

(e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will control for participants' level of familiarity with the charitable cause and donation habits. We will explore the role of locus of control in relation to charitable causes and individuals' attitudes and willingness to donate.

Lastly, even though we hypothesized an inverted U-shape effect of message appeal, it is also possible that a more linear effect occurs across the three message appeal conditions, based on the results of our prior studies.