

Emotive Appeals in Charitable Advertisements:  
Investigating Donors' Behavior and Visual Attention

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## **ABSTRACT**

### Emotive Appeals in Charitable Advertisements: Investigating Donors' Behavior and Visual Attention

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Previous studies measuring participants' visual attention to charitable adverts have shown that negatively valenced images and faces captured more attention. As adverts became more positively valenced, participants also attended to charitable logos more. Only well-known charities have been tested thus far. By using fictional charities, this thesis aimed to test whether the same attentional bias to the negatively valenced faces would persist. No studies have measured visual attention, and donor intentions in response to emotive appeals in adverts from unknown charities. This thesis measured donor intentions, eye movements, and galvanic skin response of participants viewing adverts featuring children with sad, neutral, or happy facial expressions from three fictional child welfare charities. We expected the logo associated with the sad faces to elicit more visual attention, donor intentions, and donation amounts than logos associated with neutral, or happy faces. Results confirmed these hypotheses. Logos associated with the sad faces were fixated at faster, more frequently, and for a longer duration than logos associated with neutral or happy faces. Logos associated with sad faces also elicited higher donor intentions, and donation amounts. These results suggest that unknown charities should create associations with negative valence, as these types of adverts have shown to capture more attention, and elicit more donations.

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## Introduction

As with corporate advertising, charities must design attention-grabbing adverts to survive. Unlike corporate advertising, however, nonprofit advertising raises skepticism because many deem it an unnecessary overhead cost (Gneezy, Keenan, & Gneezy, 2014). Consequently, nonprofits experience the following paradox. With or without advertising, nonprofits struggle to solicit donations. One way to reduce donor skepticism is to advertise strategically. Given that donors are persuaded by effective adverts and not just frequent ones, nonprofits must learn how to motivate potential donors (Xie & Bagozzi, 2014). The dual-process theory of moral judgements (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001) offers one such framework. Research based on this theory shows that emotive appeals strongly influence moral judgements (e.g., Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008; Valdesolo & DeSteno, 2006). As such, one could assume that decisions to donate could be influenced by emotive appeals in charitable adverts.

Studies measuring donor intentions (Burt & Strongman, 2005; Small & Verrochi, 2009), eye movements (Sciulli, Bhagat, & Bebko, 2012), and brain activity (Dos Santos et al., 2017) of participants viewing emotive charitable adverts have shown that negatively valanced images receive more attention, and induce willingness to donate. Nonetheless, these types of behavioral and neurocognitive studies have significant limitations. Both behavioral (Burt & Strongman, 2005; Small & Verrochi, 2009), and neurocognitive (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012) studies have involved a tradeoff between internal validity and ecological validity. Behavioral studies have high experimental control (i.e., consistent design features in advert elements), but the stimuli are unlike real nonprofit adverts (i.e., lack of brand logo). On the other hand, the neurocognitive studies mentioned have used real nonprofit adverts, but these stimuli

were inconsistent (i.e., presence of text, various types of subjects, and objects appearing in the background). Moreover, the charities used in these neurocognitive studies have all been well-known by participants (Dos Santo et al., 2017; Sciulli, Bhagat, & Bebko, 2012). To our knowledge, no studies have measured both behavioral (i.e., donor intentions) and neurocognitive responses (i.e., eye-tracking and galvanic skin response) to unknown fictional nonprofit adverts. By doing so, this thesis hopes to expand on Dos Santos and colleagues' pilot study (2017). This thesis will show whether similar results emerge when fictional adverts are used. Dos Santos and colleagues (2017) found that negatively valenced images in an advert from a known charity captured more attention (as measured by FD and FC) than positively valenced adverts. Moreover, increased attention to the sad image was associated with decreased attention to the known charitable logo.

Managerially, decreased attention to the charity logo is less detrimental when a charity is already well-known because participants require less time to recognize it (Pieters, Warlop & Wedel, 2002). However, if a charity is unknown, decreased attention to the logo may render viewers incapable of recognizing the charity later. Given that donations are rarely made right after an initial exposure to a charitable advert, recognition of the charity becomes pivotal. Unknown charities should therefore aim to increase viewers' attention to the charitable logo.

As such, this thesis aims to expand on the Dos Santos and colleagues' (2017) study by using fictional charities. To our knowledge, no studies have measured visual attention, and donor intentions in response to emotive appeals in adverts from unknown charities. This thesis aims to study this by measuring the donor intentions, eye movements, and galvanic skin response of participants viewing adverts featuring children with sad, neutral, or happy facial expressions from three fictional child welfare charities. There are important conceptual and theoretical contributions for this research.

Conceptually, this thesis will show whether the attentional bias to negatively valanced images and faces, as found by Dos Santos and colleagues (2017) and Sciulli, Bhagat and Bebko (2012) respectively, is limited to known charities. In fact, results from this thesis showed no evidence for the attentional bias to sad images found by Dos Santos and colleagues (2017). Therefore, the effect may indeed be limited to known charities. Specifically, this thesis showed that participants did not attend to the sad faces more than the happy, or neutral faces. Instead, participants attended more to the logo associated with the sad face compared to the happy, or neutral face.

By measuring responses to fictional charitable adverts, this thesis revealed that viewers' attentional bias to the negatively valenced images and faces (as found by Dos Santos et al., 2017; Sciulli, Bhagat and Bebko, 2012 respectively) shifts to the logo associated with the negatively valenced face. As such, this research offers important managerial contributions. Brand managers of unknown charities should aim to increase attention to their logo by using negatively valenced faces because this leads to greater donations.

### **Conceptual Development**

Charitable advertisements want to attract attention to their cause. Vivid images of victims are shown to elicit emotional responses from viewers. Crucially, viewers' emotional responses vary with the nature of the image. Certain image attributes, for example, may elicit more attention, and subsequently, more sympathy than others. One such attribute is emotional facial expressions. Studies have shown that the face is not only the primary nonverbal mode of emotional communication (Ekman, Friesen, & Ellsworth 1972; Keltner et al., 2003), but expressions on the face also elicit vicarious emotions in observers via a phenomenon called "emotional contagion" (Hatfield, Cacioppo, & Rapson, 1992, 1994; Neumann & Strack, 2000). Facial expressions are

used as the only valence manipulation because it is the most direct, and unambiguous option. This thesis will focus on the impact of various facial expression (i.e., sad, neutral, and happy) on donor behavior, visual attention, and arousal. These concepts are discussed in the next section.

## **Donor behavior**

### **Summary of four principal theories.**

Researchers studying donor intentions in response to emotive appeals typically rely on four theories (Dos Santos et al., 2017). First, the theory of warm-glow giving (Andreoni, 1990) argues that donors engage in “impure altruism” (Andreoni, 1989; Andreoni, 1990) when donating because they receive utility from the very act of giving. Warm-glow givers are not selflessly generous because they receive the satisfaction of feeling good about themselves in exchange for their donations. Second, the theory of altruism argues that charitable donations are simple acts of giving because donors are primarily motivated by recipients’ welfare (Teah et al., 2014). Third, the theory of mind emphasizes guilt as an antecedent of intentions (Wagner, N’Diaye, Ethofer, & Vuilleumier, 2011). Studies have shown that empathy (e.g., Basil, Ridway, & Baasil, 2006; Verhaert & Van den Poel, 2011), a key contributor to altruistic behavior, is initially triggered by feelings of sadness and guilt (Barraza & Zak, 2009; Ein-Gar & Levontin, 2013). Perceived guilt has been shown to lead to effective increases in charitable donations (e.g., Burt & Strongman, 2005; Small & Verrochi, 2009). Lastly, the theory of planned behavior assumes that donors’ past behavior, moral norms, and perceived behavioral control influence donor intentions (Knowles, Hyde, & White, 2012). Research has shown that past donating behavior, moral norms, and perceived behavioral control account for a significant proportion of variation in donor intentions (Conner & Armitage, 1998; Smith & McSweeney, 2007). As such, the theory of planned behavior

treats donors as rational agents who base their actions on how they have acted in the past, and how society expects them to act now.

### **Predictions based on each theory.**

Two of these theories predict the same behavioral outcome, albeit, through different mechanisms. According to the theory of altruism, negatively valenced images should be more persuasive because they emphasize victims' helplessness. As such, negatively valanced charitable adverts should capture more attention, lead to greater willingness to donate, and elicit larger donations than positively valenced, or neutral adverts. Similarly, the theory of mind suggests that negatively valenced stimuli should be more persuasive, but this time, because donors are motivated by guilt. Once again, according to this theory, negatively valenced charitable adverts should capture more attention, lead to greater willingness to donate, and elicit larger donations than positively valenced, or neutral adverts.

In contrast, two theories predict that donors should be indifferent to the types of emotive appeals. According to the theory of warm-glow giving, donors should be indifferent to emotive appeals because they are primarily motivated by the act of giving, which offers utility irrespective of valence. Therefore, donors who prioritize feeling good about themselves should not care about which emotions appear in charitable adverts. As such, there should be no difference in visual attention, willingness to donate, or donation amounts between the negatively valenced, positively valenced, or neutral adverts. Comparably to warm-glow giving, donors should be indifferent to the types of emotive appeals according to the theory of planned behavior. In this theory, decision-making should be informed by deliberative thought, which has been found to interfere with emotional processing (Wilson, Lindsey, & Schooler, 2000). Participants should adopt a rational decision-making approach according to this theory. Once again, there should be no difference in

visual attention, willingness to donate, or donation amounts between the negatively valenced, positively valenced, or neutral adverts.

Several psychological studies (e.g., Basil, Ridway, & Baasil, 2006; Verhaert & Van den Poel, 2011) have shown that empathy is a key factor in altruistic behavior, and that it is initially triggered by feelings of sadness and guilt (Barraza & Zak, 2009; Ein-Gar & Levontin, 2013). Given that perceived guilt increases charitable donations (e.g., Burt & Strongman, 2005; Small & Verrochi, 2009), it may explain why viewers typically attend more to sad images, and faces (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012), and why they donate more to charities using negatively valenced adverts. Such a consistent attentional bias to sad faces, and images found in the past literature conforms most closely to the predictions of the theory of mind.

This thesis based its hypotheses on the theory of mind in the context of charitable adverts featuring images of children with a sad (negative valence), happy (positive valence) or neutral (control) expression. As such, negatively valenced adverts were expected to be the most effective. That is, negatively valenced adverts were expected to elicit greater donations, and donor intentions, while capturing more visual attention than positively valenced, or neutral adverts. Before outlining the detailed hypotheses (see Table 2), it would be useful to discuss the use of eye-tracking in marketing research in general, and non-profit advertising specifically.

### **Visual attention**

Researchers broadly accept that attention plays a central executive function in information processing (Wedel & Pieters, 2008). Despite countless visual objects in our lives, we only actively process a few of them. Attention is the psychological mechanism behind this; it is the process that

Table 1

*Summary of behavioral theories and emotional drivers*

Theory	Motivation of Donors	Emotional Drivers
Theory of altruism	Welfare of victims	Negative
Theory of mind	Perceived guilt	Negative
Theory of warm-glow giving	Act of giving	Indifferent
Theory of planned behavior	Personal history and norms	Indifferent

guides one to orient towards some objects at the exclusion of others. As such, attention plays a “gate-keeper” function in cognition, which will largely determine the effectiveness of an advert (Wedel & Pieters, 2008).

Importantly, self-report has been found to be an unreliable measure of attention because it may operate outside consumers’ conscious awareness (King & Burner, 2000). Eye movements offer an objective account of how long, and often participants gaze at specific areas within an advert. Eye movements represent visual attention (Wedel & Pieters, 2008; Janiszewski, 1998) because they reveal both attention selection (i.e., what respondents are attending to), and attention engagement (i.e., what holds respondents attention; Pieters, Wedel, & Zhang, 2007), as measured by fixation count and fixation duration respectively whereby a fixation is a visual gaze sustained at a single location. It may be useful to contextualize eye-tracking research in charitable advertising by first reviewing relevant findings in traditional print advertising.

Eye-tracking research has shown that viewers can obtain the gist of adverts very quickly. Viewers can identify the advertised products after exposures as brief as 100 milliseconds (Pieters & Wedel, 2012). Basic stimulus-driven factors like the size, color, or location have all been found to affect visual attention to print adverts. Viewers are more likely to look at larger adverts than smaller ones (Pieters et al., 2007). However, small adverts have been found to receive more

fixations per unit than larger ones (Peschel & Orquin, 2013). Colorful adverts are looked at sooner and for longer durations than black and white adverts (Higgins, Leinenger, & Rayner, 2014). Location plays a critical role because adverts placed near the end of a page were often skipped. Moreover, selected products received considerably more visual attention than those that were not selected (Higgins, Leinenger, & Rayner, 2014).

Concerning brand logos, research shows that each fixation on the text, or image within the logo predicted greater performance on a subsequent recall test (Wedel & Pieters, 2000). Opposing the theory that salient brand logos will reduce attention to the overall advert (Pieters and Wedel, 2004). Recent studies have shown that increasing the brand element did not reduce overall viewing times on the advert (Higgins, Leinenger, & Rayner, 2014). Eye-tracking research has also been useful in understanding visual competition. Janiszewski (1998) found that items subject to greater visual competition by surrounding objects were viewed for shorter durations, and they were also remembered less well than items with less competition. Visual competition can even occur within the elements of a single advert (i.e., visual clutter). Pieters et al. (2007) developed a model to minimize visual competition (based on the Attention Engagement Theory; Duncan & Humphreys, 1989, 1992). Adverts optimized by this model were more likely to be fixated on for a longer duration.

Simola and colleagues (2013) examined the association between semantic and spatial relationships amongst adverts. They showed that when the semantic content (i.e., advertised message, or product) was congruent with the adjacent text (e.g., beer advert next to an article discussing beer), the adverts were better remembered than incongruent adverts. Social cues also play an important role. Hutton and Nolte (2011) showed that viewers looked at a product longer when the model in the advert was looking at it.

Another stream of eye-tracking research has focused on ad originality. Radach and colleagues (2003) compared viewing times, behavioral responses, and memory for “implicit” and “explicit” adverts. In explicit adverts, the text and images are related to one another, and the advertised product is clearly discernable. In contrast, the relationship between the text, image, and product are far less discreet in creatively designed implicit adverts. Findings show that implicit adverts received longer, and more frequent fixations than explicit adverts. Participants also preferred implicit adverts over explicit adverts. Lastly, memory for these types of adverts was similar, but another detailed analysis revealed that implicit adverts had a slight advantage in some conditions as they were better recalled (Pieters et al., 1999b). Pieters and colleagues (2002) pointed to a risk with implicit adverts. Viewers may end up spending more time on the creative component of the advert at the expense of the advertised product.

Controlled laboratory studies have also investigated visual attention in response to repeated ad exposures. Pieters et al. (1996) studied participants who were exposed to an advert three times over a course of an experimental session. Results showed that viewing times decreased with additional exposures (Pieters et al., 1999a). More elements of the adverts were skipped during the third viewing than the first. However, probabilities of moving from one element to another (e.g., headline, to image, to logo) did not change over repeated exposures. Crucially, it is questionable whether viewers would respond similar in more naturalistic setting, where exposures are more dispersed. Eye movements in response to adverts from familiar versus unfamiliar brands have also been studied. Pieters and colleagues (2002) showed that adverts rated as more familiar were fixated on less frequently than less familiar adverts. This effect was mainly driven by shorter fixations on the text of familiar adverts. However, originality, or creativity attenuated this effect. That is, participants would attend to the text in a familiar advert more when the advert was creative.

Beside these stimulus-based factors, top-down factors related to viewers' goals also affect visual attention. Traditionally, researchers have manipulated viewers' goals by creating two types of experimental conditions. The first is a "high motivation" condition, whereby participants are instructed to view the adverts carefully so that can select one of the advertised products at the end. The second is a "low motivation" condition, whereby participants are told to evaluate "draft versions" of an advert (Pieters et al., 1996; Pieters et al. 1999a). Unsurprisingly, participants in the high motivation group tend to view the adverts for longer, but this difference disappears by the third exposure. With respect to the ad elements, studies suggest that deeper engagement with the advert may bias participants towards the text, whereas more casual viewing may bias participants towards the image.

Although researchers have investigated consumers' visual attention to traditional print adverts (Berger, Wagner, & Schwand, 2012), little research exists on consumers' attention to emotive appeals in charitable adverts. In one preliminary study, Sciulli, Bhagat, and Bebko (2012) suggested that attention selection and engagement may be future indicators of donor tendencies. Sciulli, Bhagat, and Bebko (2012) showed that both positive and negative images captured attention faster, as supported by quicker and shorter first fixations. In a separate preliminary study, Dos Santos and colleagues (2017) showed that negatively valenced images in charitable adverts caught more attention (higher FC and FD) than positive ones. Nevertheless, the increased attention to negative images did not explain donor intentions (Dos Santos et al., 2017).

### **Arousal**

Galvanic skin response (GSR) is the change in the electrical properties of the skin in response to changes in the autonomic nervous system (ANS). The sympathetic nervous system (SNS), a part of ANS, triggers the flight and fight response (Das, Khasnobish, & Tibarewala,

2016). Increased sympathetic activity leads to increased sweat gland activity, which decreases skin resistance (Das, Khasnobish, & Tibarewala, 2016; Ranta-Aho, et al., 2006). As such, GSR is the manifestation of sympathetic activity, or emotional arousal.

Emotion is multidimensional, and it varies across two dimensions: valence and arousal. Valence depicts the positivity, or negativity of an emotion, and arousal depicts the intensity of an emotion (Holzapfel, Hartwig & Fuegen, 2002). This thesis focuses on image valence.

GSR was included as an additional measure. No previous studies have measured GSR activity in response to emotive appeals in charitable giving. Thus, we took the opportunity to measure GSR and eye-tracking simultaneously with two goals. First, we wanted to explore whether charitable adverts featuring happy, and sad children would elicit more GSR activity than the neutral adverts. Second, we wanted to explore whether there would be any correlations between GSR activity, and visual attention or donor behavior. The following section outlines the specific hypotheses.

### Hypotheses

Given the theory of mind, charities associated with sad faces (i.e., negatively valenced emotive appeal) were expected to draw more attention than happy (i.e., positively valenced emotive appeal) or neutral (i.e., control) adverts. The opposite was expected for adverts featuring happy or neutral children, as these charity logos were expected to receive fewer, and shorter fixations. Participants were also expected to be more willing to donate to the charity associated with the sad face than the charity associated with the happy or neutral face. The charity associated with the sad face was also expected to receive greater donation amounts than the charities associated with the happy, or neutral face. With respect to GSR, we expected adverts associated

with the sad, or happy faces to elicit greater GSR peaks than neutral adverts (see Table 2 for a summary of hypotheses).

## Method

### Stimuli

Most stimuli in previous studies on the effects of emotive appeals in charitable adverts have inadequate experimental control. For example, Burt and Strongman (2004) studied charitable giving in response to positively, and negatively valenced images of children. Problematically, the images were inexplicably varied. Some featured animals, guns, pregnant women, among adverts depicting any number of children. Thus, the valence in response to the child may have been confounded by the valence of auxiliary objects, or individuals in the background. Moreover, research has shown that respondents are more empathetic to one identifiable victim than several unidentified ones (Small & Loewenstein, 2003). This was unaccounted for by Burt and Strongman (2004). In another study, the children appeared to be healthy untroubled North American children (Small & Verochi, 2009), which is unrepresentative of actual nonprofit adverts. Even more problematically, some of the adverts in experiments did not control for text. That is, some of the adverts featured text, while others did not (Sciulli, Bhagat & Bebko, 2012). As such, attentional differences to the faces may have varied systematically with the presence and/or length of the adjoining text. In this thesis, the selected stimuli attempted to balance experimental control with ecological validity. giving in response to positively, and negatively valenced images of children. Problematically, the images were inexplicably varied. Some featured animals, guns, pregnant women, among adverts depicting any number of children. Thus, the valence in response to the

Table 2

*Hypotheses for attention and donor behavior*

Measures		Logo		
		Negative Valence	Neutral Valence	Positive Valence
<b>Attention</b>				
H <sub>1</sub>	Time Until First Fixations	Faster fixations	Slowest fixations	Slower fixations
H <sub>2</sub>	Fixation Duration	Longest fixations	Shortest fixations	Shorter fixations
H <sub>3</sub>	Fixation Count	Greater fixations	Fewest fixations	Fewer fixations
H <sub>4</sub>	Revisit Count	Greater revisits	Fewest revisits	Fewer revisits
<b>GSR</b>				
H <sub>5</sub>	GSR Peak Count	Greater peaks	Fewer peaks	Greater peaks
<b>Donation Behavior</b>				
H <sub>6</sub>	Donor Intention	Highest	Lowest	Lower
H <sub>7</sub>	Amount Donated	Most	Least	Lesser

child may have been confounded by the valence of auxiliary objects, or individuals in the background. Moreover, research has shown that respondents are more empathetic to one identifiable victim than several unidentified ones (Small & Loewenstein, 2003). This was unaccounted for by Burt and Strongman (2004). In another study, the children appeared to be healthy untroubled North American children (Small & Verochi, 2009), which is unrepresentative of actual nonprofit adverts. Even more problematically, some of the adverts in experiments did not control for text. That is, some of the adverts featured text, while others did not (Sciulli, Bhagat & Bebko, 2012). As such, attentional differences to the faces may have varied systematically with the presence and/or length of the adjoining text. In this thesis, the selected stimuli attempted to balance experimental control with ecological validity.

All three charities in this thesis were fictional (i.e., Bennet & Lee Foundation for Children, Cooper-Clarke Children's Foundation, and Harison-Smith's Children's Foundation), and they focused on the cause of child welfare. Adverts had two areas of interest: a charity logo, and a portrait of a child with either a sad, neutral, or happy facial expression. With this, the identifiable victim effect (Small & Loewenstein, 2003; Small, Loewenstein & Slovic, 2007) was preserved. In addition, the children were ethnically diverse, and no distracting objects appeared in the background. To focally evaluate the effect of emotive appeals on donor intentions, no text or statistic was included in the advert for two reasons. Firstly, several nonprofit adverts (e.g., World Vision) often use the tactic of omitting text. We hoped to emulate these marketing materials to increase external generalizability. Secondly, text has been found to induce deliberative thinking, which interferes with emotional processing (Wilson, Lindsey & Schooler, 2000). In this vein, no abstract death statistic was used to induce empathy because this sort of pallid information is typically less persuasive than otherwise vivid information (e.g., emotionally charged images) (Nisbett & Ross, 1980; Slovic, 2007). The logos were designed in Photoshop (see Appendix F), and they shared similar aesthetic features including the color (i.e., red), font (i.e., sans fonts), size, and pictorial marks. This prevented attentional biases to the logos caused by bottom-up factors like visual salience.

### Pretest

A convenience sample of ninety-two undergraduate business students rated how sad, neutral, or happy the faces appeared to be on 9-point Likert scale in an online survey. Ten respondents were excluded for incomplete answers. A final sample of 41 males ( $M_{age} = 20.78$ ,  $SD = 1.82$ ) and 41 females ( $M_{age} = 20.25$ ,  $SD = 1.40$ ) were included. The majority were Caucasian (57.32%), some were Asian (20.73%), only few were Hispanic (3.67%), and the remaining

(18.28%) were of another ethnic background. Results showed that sad images were perceived as significantly more sad than happy images,  $t(11) = 6.295, p < .001, g = 3.75$ , or neutral images,  $t(11) = 7.281, p < .001, g = 1.84$ . Neutral images were perceived as significantly more neutral than happy images,  $t(14) = 9.865, p < .001, g = 1.16$ , but not sad images,  $t(14) = 0.632, p = 0.537, g = 1.16$ . Happy images were perceived as significantly more happy than neutral images,  $t(14) = 10.082, p < .001, g = 2.76$ , or sad images  $t(14) = 8.4788, p < .001, g = 4.82$ . See Table 11 in Appendix A for means and standard deviations.

### Procedure

Participants registered for the study via the JMSB Participant Pool website at Concordia University. Before starting the hour-long session, participants were told that the study aimed to gauge their reactions to nonprofits adverts. After signing the informed consent form, participants were ensured confidentiality, and the right to withdraw at any time without penalty. Participants were seated behind a computer and fitted with the GSR electrodes. Eye tracking equipment was also fitted and calibrated. The calibration was accepted if the average error was equal or less than  $.5^\circ$ , and that the maximum error was less than  $1^\circ$ .

After calibration of the eye-tracker was performed, participants viewed thirty neutral landscapes (selected from the IAPS database) for five seconds each. The aim was to normalize arousal levels so that a baseline could be established. Next, participants were exposed to a series of randomized nonprofit adverts (i.e., 6 happy faces, 6 sad faces, 6 neutral faces). They were asked to view the nonprofit adverts as they normally would at home. Each advert appeared after a five second fixation cross, which served to prevent any anticipatory saccades. All the adverts were randomized and appeared in no particular order. Participants pressed spacebar to end the stimulus

exposure and begin the donor intention questions. During the donor intention questions, only the charity logos, but not the valenced stimuli, appeared as a cue.

## **Measures**

### **Attention.**

In order to measure attention, eye movements were recorded using a Gaze Point eye-tracker recording binocular eye movements at 60Hz with an accuracy between  $.5^\circ$  and  $1^\circ$  of angle. Participants were first calibrated by looking at a series of 9 dots across the screen, to calibrate the eye tracker about their individual eye movements. A validation test confirmed the accuracy of the eye tracker, with participants needing an accuracy of  $<.5^\circ$  on average, and no point exceeding  $1^\circ$ . If this accuracy was not met, a second calibration was attempted.

### **Donor intentions.**

After viewing each advert, participants responded to a modified donor intention scale (Merchant, Ford, & Rose, 2012). Participants rated, “How willing are you to donate to this nonprofit?” on a 7-point Likert scale ranging from 1 “Not all likely” to 7 “Extremely likely.” Next, participants were asked to enter a dollar amount as a response to, “How much money would you donate to this nonprofit?”

### **Demographic questionnaire.**

A slightly modified version of a questionnaire by Payne, Scharf, and Smith (2012) was administered. Participants answered questions about demographics, donation history, and motivation. Next, questions about religiosity, employment, area of study, and family were asked. Lastly, the questionnaire evaluated perceived guilt, reciprocity, and anonymity to rule out the theories of mind, reciprocity, planned behavior, and warm-glow giving respectively. Confound checks asked participants whether they cared about child welfare as a charitable cause, and whether

the adverts seemed realistic. Another measure asked whether the sad adverts made participants feel guilty, given that guilt is the proposed mechanism behind donor behavior.

## Results

### **Participants**

Forty-five participants (22 male; 23 female) were included in the final sample ( $M_{age} = 21.51$ ,  $SD = 2.17$ ). Two participants were excluded because the amounts they were willing to donate fell more than three standard deviations above the mean. The majority were born in Canada (68.88%) and were of Caucasian extraction (75.55%). Most were either working part-time (53.33%), or unemployed (35.55%).

Table 3

*Demographic characteristics of final sample*

Ethnicity (%)	Chinese	Middle Eastern	Hispanic	South Asian	Caucasian
	4.44	8.88	6.66	4.44	75.55
Employment (%)	Full-time	Part-time	Unemployed		
	11.11	53.33	35.55		
Relationship status (%)	Single	Married or living with a partner			
	91.11	8.89			
Frequency of attending religious events					
	Never	Rarely	Infrequent	Specially	Regularly
	24.44	11.11	4.44	35.56	11.11
Donated in the last two years					
	Yes	No	Not sure		
	62.22	26.66	11.11		

Table 4

*Means and standard deviations of all experimental conditions*

		Negative Valence		Neutral Valence		Positive Valence	
		Face	Logo	Face	Logo	Face	Logo
Visual Attention	TTFF (ms)	1424.73 (1333.99)	5663.57 (2262)	1410.09 (1450.54)	7333.74 (2397.24)	1359.60 (1347.37)	6247.20 (2246.26)
	FD (ms)	1441.27 (739.34)	310.43 (244.99)	1468.31 (747.38)	145.46 (153.20)	1427.75 (740.25)	238.00 (202.232)
	NOF	8.94 (4.00)	1.96 (1.48)	9.09 (4.13)	0.93 (0.95)	8.97 (4.19)	1.56 (1.31)
Arousal	NOR	6.95 (2.76)	1.17 (1.03)	7.00 (2.79)	0.56 (0.65)	7.05 (2.79)	1.04 (1.08)
	GSR Peak Count	0.37 (0.52)		0.39 (0.54)		0.35 (0.47)	
	Willingness to Donate	4.96 (1.45)		4.48 (1.14)		4.58 (1.19)	
Donor Behavior	Amount Donated (\$)	65.36 (97.46)		41.77 (47.24)		39.79 (40.71)	

*Note.* TTFF = Time Until First Fixation, FD = Fixation Duration, NOF = Number of Fixations,

NOR = Number of Revists

**Time until first fixation.**

It was predicted that participants would fixate faster on the logo associated with the sad faces than the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity was not violated,  $\chi^2(2) = .922$ ,  $p = .175$ . The repeated measures ANOVA yielded a statistically significant effect,  $F(2,43) = 18.284$ ,  $p < .0001$ ,  $\eta^2 = .460$  (see Table 5). As expected, post-hoc pairwise comparisons showed

that participants fixated faster on the logo associated with the sad face than the logo associated with the neutral face,  $t(44) = -6.078, p < .001, g = 0.72$ , or the happy face,  $t(44) = -2.392, p = .021, g = 0.26$  (see Figure 1). Participants took longer to fixate on the logo associated with the neutral face than the logo associated with the happy face,  $t(44) = 3.493, p < .001, g = 0.47$ .

### **Fixation duration.**

It was predicted that participants would fixate longer on the logo associated with the sad faces than the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity was not violated,  $\chi^2(2) = .989, p = .783$ . A repeated measures ANOVA yielded a statistically significant effect,  $F(2,43) = 19.365, p < .0001, \eta p^2 = .474$  (see Table 5). As expected, post-hoc pairwise comparisons showed that participants fixated longer on the logo associated with the sad face than the logo associated with the neutral face,  $t(44) = 6.294, p < .001, g = 0.81$ , or the happy face,  $t(44) = -3.3246, p < .01, g = 0.32$  (see Figure 1). Moreover, the logo associated with the happy face received more fixations than the logo associated with the neutral face,  $t(44) = 3.3246, p = .002, g = 0.52$ .

### **Fixation count.**

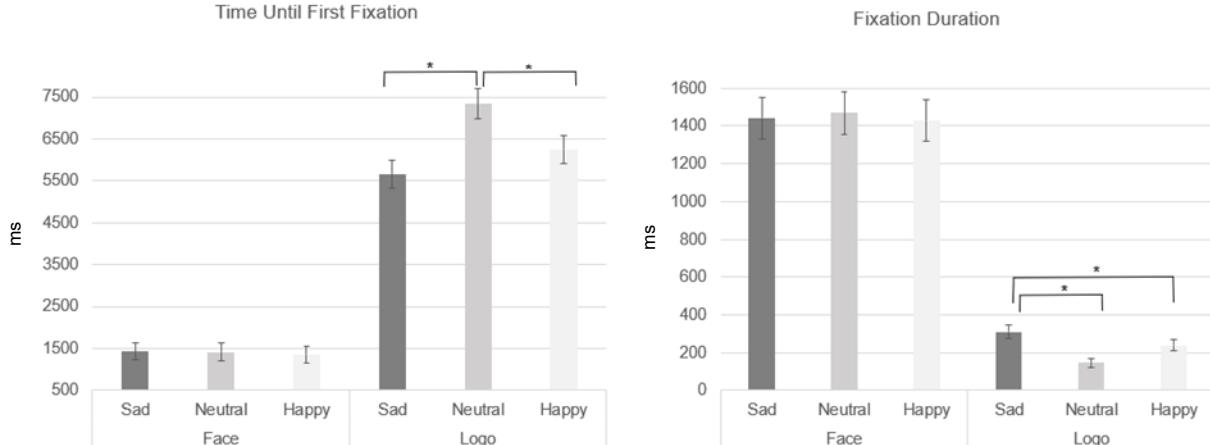
It was predicted that participants would fixate more often on the logo associated with the sad faces than the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity was not violated,  $\chi^2(2) = .962, p = .434$ . The repeated measures ANOVA yielded a statistically significant effect,  $F(2,43) = 19.531, p < .0001, \eta p^2 = .476$  (see Table 6). As expected, post-hoc pairwise comparisons showed that participants fixated more frequently on logo associated with the sad face than the logo associated with the neutral face,  $t(44) = 6.316, p < .001, g = 0.83$  or the happy face,  $t(44) = 3.320,$

$p < .01$ ,  $g = 0.29$  (see Figure 2). The logo associated with the happy face also received more fixations than logo associated with the neutral face,  $t(44) = -3.320$ ,  $p = .002$ ,  $g = 0.55$ .

Table 5

*Repeated measures ANOVA on Time Until First Fixation and Fixation Duration*

	<i>t</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	$\eta p^2$
<i>Time Until First Fixation</i>						
Face				2,43	.090	.915
Logo				2,43	18.284	.001*
Logo associated with						
Sad Appeal < Neutral	-6.078	.001*	44			
Sad Appeal < Happy Appeal	-2.392	.021*	44			
Happy Appeal < Neutral	3.493	.001*	44			
<i>Fixation Duration</i>						
Face				2,43	.234	.793
Logo				2,43	19.365	.0001*
Logo associated with						
Sad Appeal > Neutral	6.294	.001*	44			
Sad Appeal > Happy Appeal	-3.325	.01*	44			
Happy Appeal > Neutral	3.325	.002*	44			



*Figure 1.* On the left, the bar graph shows time until first fixation (in ms, y-axis) across the areas of interest in each charity condition (x-axis). On the right, the bar graph shows fixation duration (in ms, y-axis) across the areas of interest in each charity condition (x-axis). Note. Statistically significant differences (greater than  $p < .05$ ) are noted with an asterisk (\*).

### **Revisit count.**

It was predicted that participants would revisit the logo associated with the sad faces more often than the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity had not been violated,  $\chi^2(2) = .900, p = .105$ . The repeated measures ANOVA yielded a statistically significant effect,  $F(2,43) = 13.674, p < .0001, \eta p^2 = .389$  (see Table 6). As expected, post-hoc pairwise comparisons showed that participants revisited the logo associated with the sad faces more often than the logo associated with the neutral faces,  $t(44) = 5.288, p < .001, g = 0.72$  (see Figure 2). Additionally, the logo associated with the happy faces received more revisits than logo associated with the neutral face,  $t(44) = -3.320, p = .002, g = 0.54$ . However, there was no statistically significant difference between revisits on the logos associated with happy and sad faces,  $t(44) = 1.096, p = .279, g = 0.13$ .

### **Donor Behavior**

#### **Willingness to donate.**

It was predicted that participants would be more willing to donate to the charity associated with the sad faces than the charity associated with the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity had not been violated  $\chi^2(2) = .928, p = .202$ . Contrary to expectations, the repeated

measures ANOVA did not yield a statistically significant effect,  $F(2,43) = 2.100$ ,  $p = .134$ ,  $\eta p^2 = .089$  (see Table ). Nevertheless, a post-hoc pairwise comparison showed that participants were

Table 6

*Repeated measures ANOVA on Fixation Count and Revisit Count*

	<i>t</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	$\eta p^2$
<i>Fixation Count</i>						
Face			2,43	.119	.888	.006
Logo			2,43	19.531	.0001*	.467
Sad Appeal > Neutral	6.316	.001*	44			
Sad Appeal > Happy Appeal	-3.320	.01*	44			
Happy Appeal > Neutral	-3.320	.002*	44			
<i>Revisit Count</i>						
Face			2,43	.105	.901	.005
Logo			2,43	13.674	.0001*	.389
Sad Appeal > Neutral	5.288	.001*	44			
Sad Appeal > Happy Appeal	1.096	.279	44			
Happy Appeal > Neutral	-3.320	.002*	44			

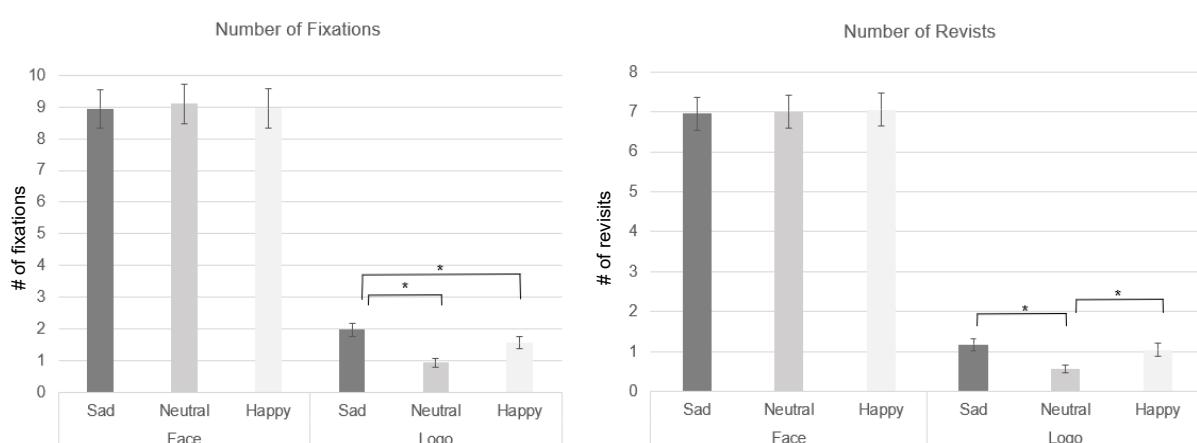


Figure 2. On the left, the bar graph shows fixation count (y-axis) across the areas of interest in each charity condition (x-axis). On the right, the bar graph shows revisit count (y-axis) across the

areas of interest in each charity condition (x-axis). Note. Statistically significant differences (greater than  $p < .05$ ) are noted with an asterisk (\*).

more willing to donate to the charity associated with the sad faces than the charity associated with the neutral faces,  $t(44) = 2.064, p < .05, g = 0.36$  (see Figure 3).

#### **Donation amount.**

It was predicted that participants would donate more money to the charity associated with the sad faces than the charity associated with the happy, or neutral faces. To test this, a one-way repeated measures ANOVA was performed. Mauchly's test indicated that the assumption of sphericity had been violated,  $\chi^2(2) = .323 p < .001$ . Therefore, the degrees of freedom were corrected using the Greenhouse-Geisser estimates of sphericity ( $\epsilon = 0.596$ ). The correction yielded a statistically significant effect,  $F(1.192, 51.277) = 4.165, p = .04, \eta^2 = .088$  (see Table 7). As expected, post-hoc pairwise comparisons showed that participants were willing to donate more money to the charity associated with the sad faces than the charity associated with the neutral faces,  $t(43) = 2.106, p < .05, g = 0.30$ , or the happy faces,  $t(43) = 2.102, p < .05, g = 0.18$  (see Figure 3). There was no statistically significant difference between donations to the neutral, and happy charities,  $t(43) = .464, p = .645, g = 0.16$ .

#### **Arousal**

##### **GSR peak.**

It was predicted that participants would have heightened arousal when viewing the advertisements featuring sad, and happy faces compared to the advertisements featuring neutral faces. To test this, a one-way repeated measures ANOVA was performed on GSR peak count. Surprisingly, there was no difference in GSR peak count across sad, neutral, and happy charities,

$F(2,43) = .560, p = .575, \eta p^2 = .025$  (see Table 8, Figure 4). The likelihood of a GSR peak was calculated by coding the binary variable of GSR peak (1 = Peak, 0 = No Peak). Despite the lack of Table 7

*Repeated measures ANOVA on Willingness to Donate and Donation Amount*

	<i>t</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	$\eta p^2$
<i>Willingness to Donate</i>						
Sad, Neutral, Happy			2,43	2.100	.134	.089
Charity associated with						
Sad Appeal > Neutral	2.064	<.05*		44		
Sad Appeal > Happy Appeal						
Happy Appeal > Neutral						
<i>Donation Amount</i>						
Sad, Neutral, Happy			1.19,51.28	4.165	.04*	.088
Charity associated with						
Sad Appeal > Neutral	2.106	<.05*		43		
Sad Appeal > Happy Appeal	2.102	<.05*		43		
Happy Appeal > Neutral	.464	.645		43		

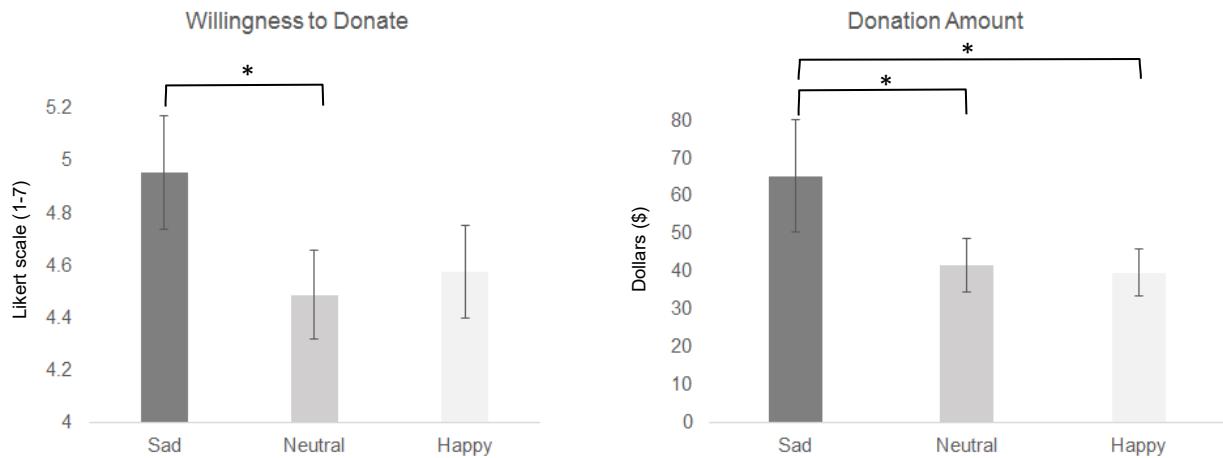


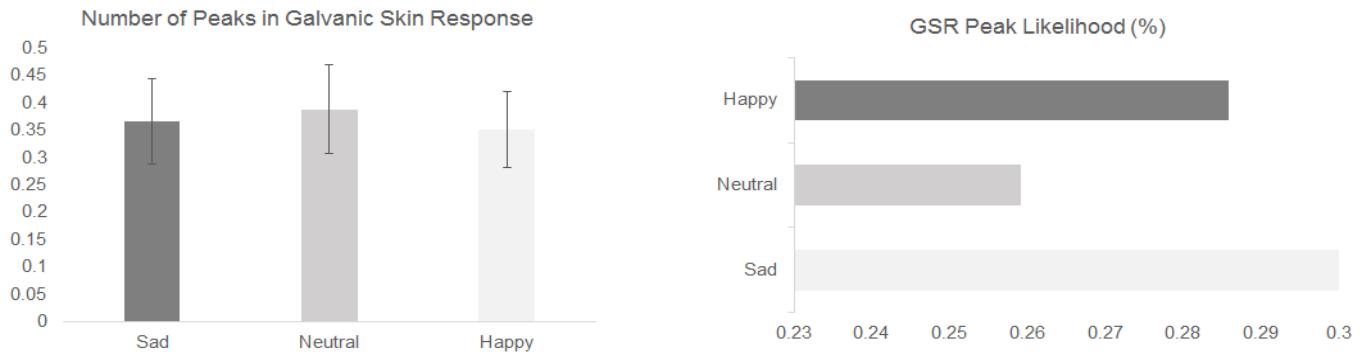
Figure 3. On the left, the bar graph shows willingness to donate (Likert scale scores between 1-7, y-axis) across charities (x-axis). On the right, the bar graph shows total amount willing to donate (in dollars, y-axis) across charities (x-axis). Note. Statistically significant differences (greater than  $p < .05$ ) are noted with an asterisk (\*).

statistical significance, GSR peak likelihood was highest for adverts featuring sad, and happy faces (30.36% and 28.60% respectively) compared to the adverts featuring neutral faces (25.93%).

Table 8

*Repeated measures ANOVA on GSR Peak Count*

	%	df	F	p	$\eta p^2$
<b>GSR Peak Count</b>					
Sad, Neutral, Happy		2,43	.560	.575	.025
<b>Peak Likelihood</b>					
Charity associated with					
Sad Appeal	30.36				
Neutral Appeal	25.93				
Happy Appeal	28.60				



*Figure 4* On the left, the bar graph shows number of GSR peaks (y-axis) across charities (x-axis). On the right, the bar graph shows the likelihood of a GSR peak (x-axis) across charities (y-axis)

Table 9

*Additional measures and confound checks*

		%	M	SE
Additional measures				
What type of advert made you feel most guilty				
	Sad	7.77		
	Neutral	6.66		
	Happy	8.88		
	None	6.66		
How guilty did you feel viewing the ads (between 1-5)			2.77	.023
Confound checks				
How important is child welfare to you (between 1-4)			3.09	.020
How realistic were the ads in the experiment (between 1-4)			2.82	.018

**Discussion****Summary of findings**

The aim of this thesis was to determine whether emotive appeals in charitable adverts would command more attention and elicit greater donations. Charity logos associated with sad faces were expected to capture more attention than logos associated with happy, or neutral faces. Charitable adverts with sad children were also expected to elicit more donations than adverts featuring children with happy, or neutral faces. Results confirmed these hypotheses.

As would be predicted by the theory of mind (Wagner, N'Diaye, Ethofer, & Vuilleumier, 2011), charitable adverts featuring sad children were the most effective in capturing visual attention and eliciting donations. The attentional bias to the logo associated with the sad faces, and the increased donations to the charity associated with the sad faces counter the propositions by the

Table 10

*Supported and unsupported hypotheses*

Measures		Hypotheses	Result
Attention			
H <sub>1</sub>	Time Until First Fixation	Participants will fixate faster on the logo associated with the sad faces than the logo associated with the neutral, or happy faces	Supported
H <sub>2</sub>	Fixation Duration	Participants will fixate longer on the logo associated with the sad faces than the logo associated with the neutral, or the happy faces	Supported
H <sub>3</sub>	Fixation Count	Participants will fixate more often on the logo associated with the sad faces than the logo associated with the neutral, or happy faces	Supported
H <sub>4</sub>	Revisit Count	Participants will revisit the logo associated with the sad faces more often than the logo associated with the neutral or happy faces	Supported
GSR		Participants will have higher GSR peaks for adverts featuring sad, and happy faces than the adverts featuring neutral faces	Not supported
Donation Behavior			
H <sub>6</sub>	Donor Intention	Participants will have higher donor intentions for the charity associated with the sad faces	Not supported

than the charity associated with the neutral, or  
happy faces

H <sub>7</sub>	Amount Donated	Participants will donate more money to the charity associated with the sad faces than the charity associated with the neutral or happy faces	Supported
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theory of warm-glow giving, and the theory of planned behavior (i.e., participants should be indifferent to the emotive appeals).

Participants were asked whether they have agreed to make their donations public in the past. This question was meant to delineate “warm-glow” givers from altruistic donors. Sub-analysis was conducted by creating a new binary variable (i.e., Warm\_Glow\_Giver), which was used in a repeated measure ANOVA as a covariate. Results were not statistically significant ( $p = .141$ ,  $\eta^2 = .05$ ). Overall, the theory of warm-glow giving seemed unlikely because participants who agreed to make public donations did not behave any differently. Comparably to other participants, “warm-glow givers” donated more to the charity associated with the sad faces compared to the charity associated with the neutral, or happy faces. Unlike the propositions offered by the theory of warm-glow giving, participants were not indifferent to the negative valence in the charitable adverts.

Participants were also asked whether they had donated last year after having researched a charity. This question was meant to test the theory of planned behavior, which assumes that donors behave according to their past behavior, beliefs and norms. As such, donations that were made last year were used as a proxy. A new binary variable was created (i.e., Donated\_Last\_Year), which was tested in a repeated measure ANOVA as a covariate. Results were not statistically significant ( $p = .808$ ,  $\eta^2 = .019$ ). The theory of planned behavior seemed unlikely because participants who

made donations last year did not behave any more “rationally”. In fact, these otherwise “rational” givers also donated more to the charity associated with the sad faces than the charity associated with the neutral, or happy faces. Overall, sad appeals in the charitable adverts not only elicited more donations, but they also captured more visual attention. The next section discusses the significance of this finding.

Visibility and noticeability is the first challenge for nonprofits. Whether online or in print, nonprofit adverts must ensure that viewers notice them. Noticeability of an advert, or an area within it, can be studied through time until first fixation (Bojko, 2012; Schullström, 2013). Typically, the earlier donors look at an area within an advert, the more attracted they are to it. Results showed that participants attended to sad, neutral, and happy faces equally quickly. That is, no facial expression was more attention-grabbing than another. Concerning the charitable logos, results showed that participants were slowest to fixate at the neutral charity logo. That is, participants fixated at logos associated with the sad, and happy faces faster than the logos associated with the neutral faces. However, there was no difference in how long it took participants to fixate at the sad, and happy charity logos. This implies that participants made an association between the emotive facial expressions, and the corresponding charity logo. That is, logos that were associated with emotions (sad and happy faces displayed in the ad) were more attention-grabbing than the logo associated with neutral expressions.

Once an advert is noticed, the next goal of a nonprofit is to arouse, and maintain donors' interest. Level of interest in an advert can measured by two metrics: fixation duration, and fixation count. These metrics show whether donors actually look at the advert, or if they just notice them and move on (Bojko, 2012; Schullström, 2013). Results for fixation duration showed that participants fixated equally as long on the sad, neutral, and happy faces. Nevertheless, participants

fixated longer on the charity logo associated with the sad faces than the logos associated with the neutral, or happy faces. Despite showing similar levels of interest in the various facial expressions, participants were somehow more interested in the charity logo associated with the sad faces. The same pattern reoccurred with fixation count. Participants fixated equally as often on the sad, neutral, and happy faces, but once again, they fixated more frequently on the charity logo associated with the sad faces than the logo associated with the neutral, or happy faces.

The final eye-tracking metric was the number of revisits. This metric shows how many times participants return to an area after having fixated on it initially. While time until first fixation shows which area attracts immediate attention, number of revisits shows which areas recaptures attention. Importantly, eye-tracking data cannot tell us why participants are looking at an area again, or what they feel while doing so. There may be several reasons why participants look at an area again: they could be curious, distracted, or even frustrated by something.

Results showed that no facial expression recaptured attention more often than another. Interestingly, revisit count on the charity logos showed that both sad, and happy logos were revisited more often than neutral logos. This pattern reflects the results for time until first fixation. Specifically, participants seem to be making an association between emotion, and the corresponding charity logo. Logos associated with emotions not only capture attention faster (i.e., shorter time until first fixation), but they also recapture attention more frequently (greater number of revisits). These results show that the sad, and happy logos were equally salient. That is, the charity logo associated with the sad faces did not pop-out more than the happy logo. This means that the design of the logos was comparable, and well-controlled because they shared similar features (i.e., color, font, pictorial marks, name). As such, the main finding showing increased FD

and FC on the charity logo associated with the sad faces cannot be attributed to an alternative explanation (i.e., salience).

Next, the donation behavior results were also as predicted. As expected, participants donated more money to the charity associated with the sad faces than the charity associated with the neutral, or happy faces. Concerning donor intentions, participants were more willing to donate to the charity associated with the sad faces than the charity associated with the neutral faces. However, there was no difference in participants' willingness to donate to the charity associated with the sad faces, and the charity associated with the happy faces. These results imply that consciously participants may not want to favor charities with sad advertisements over happy advertisements. However, when the question is framed differently (i.e., "How much would you donate to this charity?") charities associated with the sad faces are favored. Increased visual attention to the charity logo associated with the sad faces shows this bias may be rooted at the subconscious level. Overall, the donor behavior results show that sad, and happy charitable adverts may elicit similar willingness to donate, but when it comes to actually giving, donors will contribute more money to the charity associated with the sad faces than the charity associated with the neutral, or happy faces.

## Contributions

Results concerning participants' visual attention (i.e., FC, FD) to the faces and charity logos differ from past literature. Previously, two pilot studies found that the faces in negatively valenced images caught more attention (higher FC and FD) compared to positively valenced ones (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012). Several methodological reasons could explain why participants in this thesis attended equally to all the faces (i.e., same FD, FC, and

TTFF). Specifically, the stimuli were highly controlled (consistent design of each ad element), a within group design was employed, and the stimuli were all randomized.

Firstly, the stimuli used by Sciulli, Bhagat, and Bebko (2012) lacked experimental control. There were only four adverts: child labour, domestic abuse, wildlife conversation, and PETA adverts respectively. The adverts featured various animals, children, and adults. Despite the various stimuli and charitable causes, the “Face AOI” was averaged across all conditions. In contrast, this thesis focused on the emotions expressed by children used in child welfare adverts. As such, children in this thesis appeared in similar poses, the facial expressions were unambiguous and self-evident, and there were no distracting features. Therefore, it may be that the negative valence condition in the pilot studies was stronger (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012) by virtue of other extraneous variables. This would explain why their negatively valenced adverts captured more attention. For instance, there were only two adverts in the Dos Santos and colleagues (2017) study: positively and negatively valenced versions of an advert by the popular Chilean nonprofit, Teletón. The negatively valenced version featured a little girl looking soberly at the ground while sitting in a wheelchair in front of a bright red background. Dos Santos and colleagues (2017) treated the entire image (not just the face) as one large area of interest. Thus, the increased attention to that “Negative Image AOI” could have been the result of a host of factors unrelated to the child’s facial expression such as the wheelchair, the adjacent text (“Make your contribution”), or the bright red background. It is important to acknowledge that Dos Santos and colleagues (2017) intended to manipulate the valence of the entire advert, and not the expression of the child’s face. However, this thesis aimed to minimize potential extraneous variables including stimulus-driven (i.e., visual saliency) and goal-directed (i.e., brand familiarity) factors.

Second, in both pilot studies (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012), each participant viewed just one type of advert (e.g., either negatively, or positively valenced). However, participants in this thesis viewed charitable adverts from all three conditions (sad, neutral, or happy charitable adverts). It is possible that the effect of increased attention to the sad face was weakened by exposure to each type of facial expression. In addition, without extraneous sources of valence, participants may have paid equal attention to all the faces because they were comparably arousing. This could have occurred because the final stimuli were selected only if they fell within two standard deviations from the mean. As such, the sad, neutral, and happy stimuli had short ranges (maximum deviance of 1.62 on a 9-point Likert scale; see Appendix A). Thus, the increased attention to the sad faces in the two previous studies could have been the result of not just stronger valence but also heightened arousal (Dos Santos et al., 2017; Sciulli, Bhagat, & Bebko, 2012). This is a plausible explanation because arousal — as measured by GSR peaks — did not differ across the charity conditions. The maximum change in the likelihood of a GSR Peak was only about 4.43 percent. Two reasons could explain this null result. First, the adverts featuring sad, neutral, and happy faces may have been equally arousing. Second, the randomized order, and the short exposure, and interval duration (i.e., ten and five seconds respectively) may have been too restrictive. Exposure times in GSR studies commonly exceed 30 seconds, and when exposure times are shorter (i.e., ten seconds), the intervals are generally longer (i.e., 30 seconds; Luborky, Blinder & Mackworth, 1963). Therefore, the experimental design in this thesis may not have been conducive to GSR measurements.

Results concerning attention to charitable logos also differ from Sciulli, Bhagat and Bebko (2012), who found that as adverts became more positively valenced, attention to the face decreased, while attention to the logo increased (i.e., longer FD, greater FC). This thesis showed

the opposite effect. Equal attention was paid to the faces irrespective of valence, but the logos associated with negatively valenced faces received more attention. Moreover, Sciulli, Bhagat & Bebko (2012) found that increased attention to the logo led to lower recommendations to donate. Once again, the opposite was found in this thesis. The logo associated with the sad faces received the most attention, elicited the greatest willingness to donate, as well as the most donations. Two possibilities may explain this incongruence. Firstly, the charities in this thesis were all fictional, whereas the charities in the previous two studies were well-known by participants. Given that familiar adverts receive less visual attention (i.e., shorter FD and fewer FC) than unfamiliar ones (Pieters, Warlop & Wedel, 2002), participants in this thesis may have paid comparably more attention to the various facial expressions. Second, the adverts in this thesis were “implicit” rather than “explicit” because there was no call-to-action, text, or conspicuous brand element. Researchers have shown that implicit adverts received longer, and more frequent fixations than the explicit adverts (Radach et al., 2003). For this reason, participants may have been less skeptical about the intentions of the charitable organizations. They may have felt less obliged by the nonprofit. These tacit conditions may have encouraged participants to be more generous to the charity associated with the sad faces because it may have felt more voluntary.

Overall, increased attention to charity logos may be beneficial for unknown charities but detrimental for known charities. Increased attention to familiar charity logos might divert attention away from the core message of the advert. On the other hand, increased attention to unknown charity logos may favor brand recognition, and brand attitude. As such, stimuli-driven manipulations like emotive appeals may be most effective for unknown charities that have not yet cemented strong brand associations.

### **Managerial implications**

Managerially speaking, unknown charities could benefit from their novelty by encouraging associations with negatively valenced stimuli. Managers of unknown charities should aim to design simple, but attention-grabbing logos because increased attention to the logo may lead to higher donations. Generally, this thesis shows that eye-tracking can offer immediate insights into the level of donor engagement. Specifically, when the charities are unknown, and adverts have a simple, but attention-grabbing design, viewers seem to favor adverts featuring sad emotive appeals. Despite paying equal attention to various facial expressions, viewers seem to make associations between the child's face and the charity's logo. That is, when the logos were presented later without the corresponding sources of valence (i.e., child's face), viewers were willing to donate higher amounts to the logo originally associated with the sad faces. This result is especially relevant given that the logos shared similar design features (i.e., color, font, names, pictorial marks).

### **Limitations and future research**

Despite the scientific rigor in this thesis, there were some important limitations. Firstly, the stimuli, the charitable cause, and the nonprofits were highly controlled. That is, this thesis only focused on charitable adverts concerning child welfare. The same effect may not hold for other types of charities (e.g., animal conservation, disaster relief, peace and human rights, arts and culture). Moreover, it is possible that we did not find an attentional bias to negatively valenced faces because the stimuli were not arousing enough. This alternative explanation could be ruled out by replicating this thesis with more arousing stimuli. If participants still have an attentional bias to the charity logo associated with the sad faces, and not the sad faces themselves, then we will know with more certainty that Dos Santos and colleagues' (2017) findings (i.e., attentional bias to sad face and less attention to the logo associated with the sad faces) is limited to known, or

familiar charities. Secondly, the randomization of adverts, and the short exposure and interval durations may have led to the null results for GSR peak count. Follow up studies should opt for a block design, whereby sad, neutral, and happy adverts appear consecutively in respective clusters. Of course, the adverts within the sad, neutral, or happy blocks could be randomized. Longer exposure and interval times are also recommended (e.g., 45 and 30 seconds respectively). Lastly, budgetary constraints meant that real money could not be used. Ideally, participants could be paid for their attendance, and they could then choose to donate a portion of their earnings. Previous neurobiological (Feldman-Hall et al., 2012) and behavioral (Feldman-Hall et al., 2012) studies have shown that hypothetical scenarios involve different neural mechanisms, and they may not accurately reflect real moral decisions made in everyday life. If this thesis were to be replicated with real money, it is possible that participants would feel more skeptical about the unknown charities. This may potentially reduce the attentional bias to the charity logo associated with the sad faces. Only future research with the use of real money could clarify these possibilities.

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## Appendix A

Table 11

*Descriptive statistics of valence ratings for the selected experimental stimuli*

Stimuli	Valence Ratings		
	Sad	Neutral	Happy
<i>Happy Images</i>			
Child (3)	1.671 (1.925)	3.695 (2.381)	6.598 (1.742)
Child (4)	1.634 (2.052)	2.207 (2.153)	7.378 (1.512)
Child (6)	1.000 (1.556)	1.829 (2.345)	8.024 (1.515)
Child (8)	1.341 (1.758)	2.268 (2.097)	7.07 (1.222)
Child (10)	2.646 (2.565)	3.280 (2.520)	6.427 (1.671)
Child (14)	2.805 (2.020)	3.659 (2.588)	6.402 (1.885)

*Note.* Mean ratings of the final stimuli and standard deviations in parentheses,  $n = 82$ .

## Appendix A (continued)

Table 12

*Descriptive statistics of valence ratings for the selected experimental stimuli*

	Valence Ratings		
	Sad	Neutral	Happy
<i>Sad Images</i>			
Child (1)	8.317 (1.256)	1.463 (1.983)	0.329 (0.930)
Child (2)	8.402 (1.017)	1.610 (1.929)	0.354 (0.921)
Child (5)	8.232 (1.125)	1.817 (2.050)	0.622 (1.224)
Child (6)	7.390 (1.562)	2.707 (2.365)	0.524 (0.972)
Child (8)	8.073 (1.377)	2.024 (2.131)	0.524 (1.057)
Child (10)	8.378 (1.358)	1.585 (1.975)	0.451 (1.156)

*Note.* Mean ratings of the final stimuli and standard deviations in parentheses,  $n = 82$ .

## Appendix A (continued)

Table 13

*Descriptive statistics of valence ratings for the selected experimental stimuli*

	Valence Ratings		
	Sad	Neutral	Happy
<i>Neutral Images</i>			
Child (3)	5.207 (2.402)	5.159 (2.746)	1.646 (1.710)
Child (5)	3.683 (2.499)	6.195 (2.442)	2.439 (2.103)
Child (7)	4.171 (2.684)	5.951 (2.726)	1.988 (1.928)
Child (8)	4.866 (2.453)	5.659 (2.451)	1.671 (1.729)
Child (12)	4.378 (2.483)	5.756 (2.683)	1.902 (2.022)
Child (15)	4.549 (2.368)	5.451 (2.525)	2.732 (2.172)

*Note.* Mean ratings of the final stimuli and standard deviations in parentheses,  $n = 82$ .

## Appendix B

## Consent Script

Please read and sign the informed consent form if you agree to participate. Once you have signed the consent form, please fill out the questionnaire. Note that no identifying information will be attached to it. We ask you to answer as honestly as possible.

We are interested in how people respond to a variety of charitable adverts. You will look at different images on the screen in front of you, and some follow-up questions will be asked. There are no right or wrong answers.

Allow me to explain your involvement in more detail. You will look at the screen. In the middle, a fixation cross will appear. Look at it closely, and press spacebar when you are ready to view the charitable advert. Then, look at this charitable advert as you normally would at home, online, or on the television. After viewing it, press spacebar whenever you are ready to answer the two following questions.

First, you will indicate your intentions to donate to the charity in question. You will do so by rating three items on a 9-point Likert scale. Selections closer to 9 signify higher intentions to donate, whereas selections closer to 0 indicate lower intentions to donate. Second, you will indicate how much money you would hypothetically donate to that charity. You will show this by simply entering a dollar amount when prompted. To move on to the next image, press spacebar again.

Note that your rating on the intention scale may not correspond with your dollar amount in the next question. There are no right or wrong combinations of responses. Please rate each question as you actually felt when initially viewing it. We are interested in your own personal ratings of the images. As such, we ask you not make any comments or vocal reactions to the

images. This will prevent you from potentially influencing others. You can understand how this might bias our results.

It is important that we have your responses for all of these images. Remember your answers are anonymous so answer truthfully. We want to thank you very much for your participation. It is important that you do not discuss the experiment with other students because this may affect our results.

## Appendix C

### Debriefing Script

Thank you for your participation in our research study. I would like explain exactly what we were trying to study. However, before I tell you about the goals of our study, I want to explain why it is necessary in some studies to not tell participants about the purpose before they begin. As you may know, scientific methods often require participants who are unaware of the research design.

Now that it is completed, we will tell you the purpose of the study. We did not want to disclose everything at the beginning so that your responses could be unbiased. If we told people what the purpose of the study was and how we predicted they would react, their responses would no longer be representative.

The purpose of our study was to learn how different emotional appeals in charitable adverts affect participants' generosity. Simply put, we wanted to learn what emotions make charitable adverts more effective. Note that we ask you not to share this information.

Now that the study has been explained, do you agree to allow the investigator to use the data that we collected from your participation in this study? I hope you enjoyed your experience. If you have any questions later please feel free to contact me.

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Do you have any other questions or comments about anything you did today or anything we talked about?

Thank you again for your participation.

## Appendix D

## Questionnaire (Adapted from Payne, Scharf, and Smith, 2012)

1. What is your gender?

Male

Female

Other: \_\_\_\_\_

2. What is your year of birth? \_\_\_\_\_

3. Were you born in Canada?

Yes

No

4. Was at least one of your parents born in Canada?

Yes

No

5. What ethnic groups do you identify with?

White

Chinese

Indian

Middle Eastern

Black

South American

Other: \_\_\_\_\_

6. What is your current marital status?

Single

Married or living with a partner

Divorced

Widowed

7. How do you and your spouse/partner make charitable decisions?

I make the decisions

My spouse makes the decisions

We make decisions together

We make decisions separately

8. Do you have any children?

Yes

No

9. How many children do you have?

1

2

3 or 4

5 or more

10. How old are your children? \_\_\_\_\_

11. What best describes your area of study?

Social Sciences

Science

Arts

Engineering

Business

Law

Other: \_\_\_\_\_

12. What is your employment status?

Full-time

Part-time

Student and not working

Unemployed

13. What kind of organization do you work for?

Private

Nonprofit

Government subsidized institution/organization

Local government

Armed forces

14. How often do you attend religious services?

Regularly

Infrequently

On special occasions

Rarely

Never

15. Did you give to any charity in 2017 or 2018?

Yes

No

Not sure

16. What was the total donation amount you made in 2018? \_\_\_\_\_

17. Which of the following have you used to research charities?

Online platforms

News articles

Asked a friend

Do not research charities

Other: \_\_\_\_\_

18. What best describes how often you think about charitable giving?

Rarely

Several times a year

Once a month

Several times a month

Every few days

Everyday

19. Have you benefited from the following charity-provided goods in the last five years?

Visited museums

Used conservation lands

Attended artistic performances

Community or recreation activities

Received education

Received job training

Received basic living assistance

20. Do you ever feel guilty for not donating to charitable causes?

Almost always

Often

Sometimes

Seldom

Never

21. Did the adverts in this experiment make you feel guilty?

A great deal

Very much so

Somewhat

Little

Not at all

22. What types of adverts made you feel the most guilty?

Ones with sad children

Ones with happy children

Ones with neutral children

None of the above

23. How important are causes related to the welfare of children?

Very important

Important

Fairly important

Slightly important

Not important

24. Did you know any of the charities that were advertised in the experiment?

Yes, if so which one(s): \_\_\_\_\_

No

25. How realistic were the adverts in the experiment?

Very realistic

Realistic

Somewhat realistic

Not quite realistic

Very unrealistic

26. Have you allowed your name to appear on any fundraising pages to which you donated?

Yes

No

Never donated to a fundraising page

27. Why did you choose to donate anonymously?

Did not want recognition

Did not want to reveal financial information

Did not want others to know the amount given

Did not want others to know I gave more

Did not want other to know I gave less

28. How important is anonymity when you donate?

Very important

Somewhat important

Not very important

Not at all important

29. How important is the following when deciding to donate to a charity? (I want to reduce the amount of tax that I pay)

Very important

Somewhat important

Not very important

Not important at all

30. Besides money, what other ways have you given back in the past five years?

Gave goods to charity

Volunteered for a charity

Gave money or things to the needy

Financially supported family members

Worked for a charity

Worked for a religious organization

Other: \_\_\_\_\_

31. How many hours do you volunteer a month?

None

Less than 1

1-2

2-5

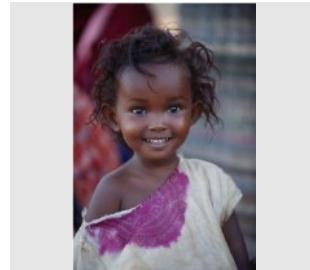
5-10

10-20

20 or more

## Appendix E

(Experimental Stimuli: Sad, Neutral &amp; Happy Emotive Appeals)



Appendix F

(Logos of Fictional Charities)

