



BIROn - Birkbeck Institutional Research Online

Slattery, P. and Vidgen, Richard and Finnegan, P. (2021) Winning heads and hearts? How websites encourage prosocial behaviour. *Behaviour & Information Technology* 40 (9), pp. 933-961. ISSN 0144-929X.

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/31057/>

Usage Guidelines:

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html>
contact lib-eprints@bbk.ac.uk.

or alternatively

WINNING HEADS AND HEARTS? HOW PERCEPTIONS OF WEBSITES ENCOURAGE PROSOCIAL BEHAVIOUR

Abstract

Little is known about whether appeals to the 'head' (i.e., argument) and the 'heart' (i.e., emotion) are effective on websites encouraging prosocial behaviour. We find that appeals to both the head and the heart motivate online prosocial behaviour. Our findings suggest that i) appeals to the heart are more effective than appeals to the head, ii) positive and negative appeals to the heart have similar effectiveness, and iii) that mixed appeals to the heart are ineffective.

Keywords: prosocial behaviour; behaviour change; philanthropy; volunteering; affect; persuasion

1 Introduction

Prosocial behaviour is behaviour “defined by some significant segment of society and/or one’s social group as generally beneficial to other people” (Penner, Dovidio, Piliavin, & Schroeder, 2005, p. 366). Behaviours such as volunteering, philanthropy, and activism are therefore commonly regarded as being prosocial in nature. Prosocial behaviour is widely regarded as socially important (e.g., Bendapudi, Singh, & Bendapudi, 1996; Hastings, Rubin, & DeRose, 2005; Knafo & Plomin, 2006) because it plays a vital role in resolving social issues, such as disease prevention, disaster relief and poverty reduction (e.g., Chowdhry & Beeman, 2001; Hodgson, 2004; Scaife, 2008; Zagefka & James, 2015). It is therefore promoted by a wide range of organisations including think tanks (Taylor, 2007), governments (Dolan, Hallsworth, Halpern, King, & Vlaev, 2010; Sunstein, 2013) and social movements (see MacAskill, 2015; Singer, 2015).

Given the growth of Information and Communications Technology (ICT), organisations have become ever more dependent on using websites to promote prosocial behaviour (Earl, Kimport, Prieto, Rush, & Reynoso, 2010). Website design has, therefore, become critical for capturing and leveraging online audiences (Bennett, 2009; Faseur & Geuens, 2010; Shier & Handy, 2012). However, organisations often miss out on resource acquisition (e.g., donations and volunteer time) by failing to use online appeals effectively (Horvath, 2011; Young-Powell, 2013). Many prosocial websites are out-dated in appearance or difficult to use (Estes & Nielsen, 2011). Some do not attempt to persuade (Horvath, 2011), and those which do can be overly reliant on using data (Gertler, 2015) or emotional appeals (Hudson, 2013).

One reason why prosocial organisations are failing to use their online presence effectively is a lack of guidance. Existing guidelines tend to be based on small-scale data or personal experience (Bosrédon, 2012; Horvath, 2011).

Compounding the lack of practical guidance is a lack of relevant research into the factors that drive online prosocial behaviour (Lapidot-Lefler & Barak, 2015). Little research explores the impacts of online contexts on prosocial behaviour (Bennett, 2009; Fatkin & Lansdown, 2015). Fields that examine online domains, such as Information Systems (IS), rarely examine charitable and volunteering organisations (Gutierrez & Zhang, 2007; Kwampaiboon, Jevtic, & Pyshtnyak, 2014; McMahon, Seaman, & Lemley, 2015; W. Zhang, Gutierrez, & Mathieson, 2010). Fields that seek to understand how to drive behaviour tend to focus on understanding how to drive commercial behaviour (Bendapudi et al., 1996). Fields that examine volunteering and philanthropy tend to examine traditional channels for outreach and overlook online channels (Gertler, 2015). As a result, there have been calls for greater research into i) digitally driven prosocial behaviour (Wilson, 2012) and ii) the design of prosocial websites (see Bosrédon, 2012; National Volunteering Strategy Consultation, 2011).

The guidance needed is insight into the types of website appeals that best promote prosocial behaviour. Though these insights can emerge from research in similar contexts, for example in research to encourage behaviour online, or in research to encourage prosocial behaviour using different channels, all candidate appeals must be tested in the relevant context (i.e., website based communication to encourage prosocial behaviour) before they are conclusively accepted. This is because changes in context significantly influence the persuasiveness of appeals; approaches that are persuasive for one type of behaviour, or mode of communication, are not always persuasive for others (Cooney, 2011; Fielding & Knowles, 2015; Gass & Seiter, 2011). Accordingly, we should not assume that an approach that increases donations on the street will increase inbound conversions on a charity website. Nor should we expect that the best way to “sell” a socially beneficial behaviour like volunteering will also be the best way to “sell” a self-

beneficial behaviour such as taking a vacation. Instead, we should test the effectiveness of techniques to determine the extent to which their effects are transferable or context specific.

To provide guidance for prosocial organisations encouraging behaviour through websites, the objective of this study is to examine whether such websites can draw on appeals to the head (argument strength) and the heart (affect) to encourage prosocial behaviour. This tests the common claim that requests for prosocial behaviour should involve appealing to the 'head', through argument, and to the 'heart', through creating positive and/or negative affect (Darwin & Kagan, 2012; Hudson, 2013; Sanders & Tamma, 2015). In addition to providing insight into the effectiveness of website based appeals to the head and the heart, the study also aims to give insight into related questions such as whether it is best to have an appeal that targets either positive or negative emotion, or one that targets both in combination.

We assess the influence of website appeals by assessing how users' perceptions while using a prosocial website influence their post-usage behaviour. We focus on perceptions as i) individuals' perceptions of websites are associated with post-use behaviour (e.g., Barnes & Vidgen, 2002; Chiou, Lin, & Perng, 2010; C. Y. Li & Ku, 2011; Recker, Rosemann, Green, & Indulska, 2011), and ii) individuals' perceptions can predict their participation in prosocial behaviour (Neumann, Boyle, & Chan, 2013; Weiner, Osborne, & Rudolph, 2011).

The study proceeds as follows. First, a review of literature is conducted to provide a theoretical basis for encouraging prosocial behaviour. We build on this foundation to develop a research model. We test this model by examining the extent to which it predicts individuals' prosocial behaviour after their use of a website promoting prosocial behaviour. We present results for our model for two websites (each of which prioritises a different affective user experience) and

conduct an analysis to compare results across both sets of viewers. The study concludes by discussing findings, contributions to IS research and practice, research limitations and possibilities for future research.

2 Theoretical Background

Our theoretical background starts by discussing what is known about how to use websites to encourage prosocial behaviour. As there is limited literature, we draw insights from two similar contexts, by exploring: i) what persuades people to engage in prosocial behaviour, in general, and ii) how websites persuade people to engage in general behaviour. Finally, we explore how differences in context may mediate the transferability of research insights from our two similar contexts of interest into the context of using websites to promote prosocial behaviour.

2.1 *How do websites persuade people to engage in prosocial behaviour?*

Very little research explores how non-commercial websites and organisations can be more effective (Gutierrez & Zhang, 2007; W. Zhang et al., 2010). Demonstrating this, Gertler (2015) mentions that the study of online fundraising seems “particularly un- or underdeveloped in the literature thus far” (p. 64), noting that this “[appears] especially strange considering the recent rise of nonprofits [...] which depend largely on social media and online fundraising campaigns” (p. 64).

The lack of general research into how non-commercial websites and organisations can be more effective is compounded by a lack of research that specifically examines how websites persuade people to engage in prosocial behaviour (Bennett, 2009; Fatkin & Lansdown, 2015). Bennett (2009) examined a variety of donors to charity websites to understand why they made impulsive donations. While mostly interested in donor characteristics, his findings suggested that donors were influenced by emotive and informative aspects of website design. Shier and Handy (2012) also examined a variety of donors to charity websites to

understand donation behaviour. They found that positive perceptions of the website's characteristics, accessibility and ability to create trust in the organisation, did not influence donation on the platform they examined. Grimm and Needham (2012) researched how promotional material on websites affected volunteer decisions, finding that the website's structure and appearance, information, visuals, and use of exciting language all affected volunteer decisions. (Removed for review) provide the most conclusive evidence examining how websites encourage prosocial behaviour. They interviewed 40 participants, each of whom had visited and compared six volunteering websites, to determine the factors that made these participants desire to engage in prosocial behaviour. Their results suggested that ten types of website feature (interaction, factual, anecdotal, external recognition, organisational expression, value suggestion, explanatory content, visual media, written media and, website design), and seven perceptions (ease of use, aesthetics, information quality, trust, negative affect, positive affect, and argument strength) were linked to behavioural intention to engage in prosocial behaviour.

2.2 *What persuades people to engage in prosocial behaviour?*

Considerable research, nearly all in offline contexts, has examined what causes people to engage in prosocial behaviour (Penner et al., 2005). Much of this research has examined the cognitive and psychological processes that influence decision-making in prosocial contexts (e.g., Cialdini, Baumann, & Kenrick, 1981; Cialdini, Darby, & Vincent, 1973; Marsh, Kozak, & Ambady, 2007; J. A. Piliavin, 1981), how social and environmental factors influence decision-making processes (e.g., Bar-Tal, 1982; Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991; I. M. Piliavin, Rodin, & Piliavin, 1969), and the motivations that underpin prosocial behaviours (e.g., Batson, 2011; Cialdini et al., 1987).

Relatively little research has examined which appeals are most persuasive for

encouraging prosocial behaviour. The relevant research can be broadly classified as relating to two types of appeals, appeals to the head (though argument) and to the heart (through affect) (Sullivan, 2013). Appeals to the heart can be further divided based on whether they focus on creating i) positive, ii) negative or iii) mixed (both positive and negative) affective responses.

There is considerable debate about where and when each type of appeal works best (Gleasure & Feller, 2016a; Hudson, 2013). Practitioner-focused literature generally argues that appeals to the heart are better than appeals to the head (Andresen, 2007; Stannard-Stockton, 2009). However, there is less agreement whether appeals to the heart should target positive or negative affect. Though some practitioners argue that it is best to create negative affective responses (Brooks, 2009) others encourage positive appeals (Hesz & Neophytou, 2010; Neilson, Shapiro, Mittelman, & Neilson, 2011; Ross & Segal, 2013). Little, if any, practical literature discusses the value of combining both positive and negative emotional appeals.

Academic literature also fails to provide a clear consensus. The research generally suggests that appeals to the heart are better than appeals to the head (Farley & Stasson, 2003; Marchand & Filiatrault, 2002; Slovic, Finucane, Peters, & MacGregor, 2007), but some researchers have also found evidence to the contrary (Karlán & Wood, 2016). Research also suggests that it is more effective to target negative affect than positive affect (Choi, Rangan, & Singh, 2016; Clark, Garces-Ozanne, & Knowles, 2017; Small & Verrochi, 2009), but these findings are also inconsistent (Graton, Ric, & Gonzalez, 2016; Verrochi Coleman & Williams, 2013). A small amount of literature shows that it may be effective to combine both positive and negative emotional appeals (Bennett, 2015; Liang, Chen, & Lei, 2014).

2.3 *How do websites persuade people to engage in behaviour?*

IS research has widely examined how website factors influence behaviour (e.g.,

Geiger, Rosemann, & Fieft, 2011; Kane, Alavi, Labianca, & Borgatti, 2014; Moore & Benbasat, 1991). Several papers have examined the role of website features in promoting behaviour (e.g., Abdallah & Jaleel, 2014; Bai, Hu, & Jang, 2007; Blake, Neuendorf, & Valdiserri, 2005; Yoon & Occeña, 2015). However, perhaps due to the breadth of differences across websites' designs and aims, there is no broadly applicable framework that explains how website features drive behaviour.

Considerable research, through mostly in commercial contexts (cf. W. Zhang et al., 2010), has examined how the perceptions a website creates in visitors influence its ability to change their behaviour. Perhaps the largest body of IS research on this topic argues that, regardless of a website's aim, the website's "quality" will influence its ability to encourage behaviour (Lowry, Posey, Bennett, & Roberts, 2015; Murray & Häubl, 2011; Setia, Venkatesh, & Joglekar, 2013; Tuch, Bargas-Avila, & Opwis, 2010).

2.4 Assessing the influence of changes in context

We should not assume that what persuades people to engage in prosocial behaviour offline, will persuade them equally well online. Nor should we assume that website quality is of equal important for promoting prosocial and proself behaviour. Persuasion is highly contextual: approaches which change behaviour in one context should not be assumed to perform well in other contexts *prima facie*; they may be ineffective or even counterproductive (e.g., Choi et al., 2016; Shier & Handy, 2012; W. Zhang et al., 2010). Indeed the recognition of the importance of context within persuasion has necessitated the development of a wide range of approaches for deconstructing persuasion attempts into contextual factors (e.g., Eagly, 1987; Kruglanski & Thompson, 1999; Lasswell, 1948; Stiff & Mongeau, 2003).

Considerable research provides examples of where persuasion that is effective in face to face, or other offline contexts is less effective in online contexts (Guadagno

& Cialdini, 2005). Receiving a request for prosocial behaviour through a website is very different to receiving that request offline (Sproull, 2005). For instance, many people find it easier to engage with information that is communicated face to face (Helms, 2014) and the ease with which people can process information affects its persuasiveness (Wang & Teo, 2013). People are often persuaded by the persuasion source's characteristics, and the social implications of their action (Guadagno & Cialdini, 2005) and websites provide inferior source and social information than face to face exchanges (Grieve, Padgett, & Moffitt, 2016; Sproull, 2005).

Further, the potential for inducing positive experience and mood, both of which are linked to prosocial behaviour (Cooney, 2011), may be reduced on websites as they cannot create rewarding interpersonal interactions. People give most to identifiable victims (Erlandsson, Västfjäll, Sundfelt, & Slovic, 2016). However, on websites, the beneficiary and their suffering are often intangible. Additionally, where the beneficiary and their suffering are tangible they are still considerably less tangible than if they were encountered in a face to face context. As these differences reduce the experience of important precursors for prosocial behaviour, such as empathy (Nicovich, Boller, & Cornwell, 2005) and negative emotional experience (Cialdini & Kenrick, 1976; Shin, Lee, & Kim, 2015), they may mean that appeals to the heart are less impactful.

Similarly, what is effective for promoting commercial behaviour is often less effective, or even ineffective, for promoting prosocial behaviour (e.g., Bendapudi et al., 1996; Rothschild, 1979, 1999). As Rothschild (1979) famously opined, you often cannot "sell brotherhood like soap" (p. 11). This is also true online: a commercial and a prosocial website will likely achieve their goals through using different content to create different user experiences.

Usually, a commercial website can easily communicate how their target behaviour

provides a personal benefit. In contrast, a website promoting prosocial behaviour is often promoting behaviour that many visitors will intuit no benefit from. Indeed, in many cases, visitors will consider the promoted prosocial behaviour to be counter to their self-interest (Rothschild, 1979). As a result, such websites may need to invest in orchestrating benefits from performing the prosocial behaviour. For example, this may involve i) making participation in the behaviour boost social image (Ariely, Bracha, & Meier, 2009), or ii) to reduce (recently induced) negative affect (Cialdini et al., 1973).

Visitors may expect less of a prosocial website than of a commercial counterpart. Having a better website is generally considered to be an advantage in commercial contexts (Wells, Valacich, & Hess, 2011). However, prosocial organisations are often expected to be cash-strapped and maximise the funding they deliver to their cause area rather than fund organisational improvements, such as website improvement (Caviola, Faulmüller, Everett, Savulescu, & Kahane, 2014; MacAskill, 2015). As a result, some individuals may see a basic prosocial website as more desirable than a more advanced alternative because it signals an organisation with a greater need for funding and lower overhead.

Conversely, visitors may also evaluate prosocial websites more intensely than commercial alternatives. Online purchase is often a familiar, low risk and low involvement behaviour where the fulfilment process is relatively standardised, transparent, and well understood. In contrast, websites that promote prosocial behaviour are promoting something that is higher risk and higher involvement as it is generally less common, transparent, and standardised. Potential benefactors are often unclear how exactly an organisation will use their volunteered time or money (Caviola et al., 2014). They must be convinced that their safety, health, and wellbeing will be maintained and that their financial contributions will be used honestly and effectively.

3 Research model development

Our research model captures how behavioural outcomes are influenced by perceptions on the website, which in turn are influenced by the characteristics of the website involved.

3.1 Prosocial behaviour

There are three broad categories of prosocial behaviours: *Activism*: groups or individuals acting to address a social problem (Martin, Hanson, & Fontaine, 2007), *Philanthropy*: giving money, or other forms of capital, to a prosocial cause (Schuyt, Bekkers, & Smit, 2010) and; *Volunteering*: giving time to a cause (e.g. James, 2006). We examine volunteering and philanthropy because they are the target of many prosocial websites. Each behaviour involves a different decision-making process: Volunteering is more emotion-driven and philanthropy is more information-driven (Michel & Rieunier, 2012). We next discuss how behavioural intention is an intermediate step toward prosocial behaviour.

3.2 Behavioural intention

Generally individuals intend to engage in a behaviour before they perform this behaviour (Fishbein & Ajzen, 1975). Accordingly, behavioural intention, “a measure of the likelihood that a person will engage in a given behaviour” (Ajzen & Fishbein, 1980, p. 42), is widely used to understand how intentions influence behaviour (Bhattacharjee & Sanford, 2006; Davis, Bagozzi, & Warshaw, 1989; Venkatesh, Morris, Davis, & Davis, 2003), including prosocial behaviour (Griskevicius, Tybur, & Van den Bergh, 2010). Accordingly, we hypothesise:

H1: Behavioural intention is positively associated with volunteering behaviour.

H2: Behavioural intention is positively associated with philanthropic behaviour.

Having argued that individuals' engagement in prosocial behaviour is an outcome of their behavioural intention, we next propose that behavioural intention will be influenced by website perceptions.

3.3 Perceptions

Perception is widely recognised as influencing intention and behaviour (Wee et al., 2014; Yeung & Morris, 2001). Perceptual measures are therefore widely used to assess if and how website factors influence behavioural intention (e.g., Gable, Sedera, & Chan, 2008). To identify perceptions that might encourage prosocial behaviour we draw on (removed for review), who found seven perceptions that were linked to behavioural intention to engage in prosocial behaviour (see Table 1). We now explain why each of these perceptions is likely to influence behavioural intention, starting with argument strength.

Table 1. Website perceptions driving prosocial behaviour (removed for review)	
Construct	Definition
Argument strength	The extent that the arguments made are convincing or valid (Cacioppo, Petty, & Morris, 1983).
Negative affect	The extent that the website created unpleasurable emotional engagement, such as sadness and guilt (Watson, Clark, & Tellegen, 1988).
Positive affect	The extent that the website created pleasurable emotional engagement, such as excitement and happiness (Watson et al., 1988).
Website quality	
Ease of use	The extent that the process of using the website was perceived as effortful (Venkatesh, 2000).
Trust	The extent that the website created trust beliefs, such as integrity, benevolence, ability, and predictability, toward the entity or entities that it is associated with (Gefen, Karahanna, & Straub, 2003).
Aesthetics	The extent that the website is aesthetically pleasing to the eye (van der Heijden, 2003)
Information quality	The extent that the website conveyed timely, accurate, reliable, relevant, and complete information (Byrd, Thrasher, Lang, & Davidson, 2006).

Argument strength is defined as the extent that arguments made are convincing or valid (Cacioppo et al., 1983). An argument is “a reason or set of reasons given

in support of an idea, action or theory” (Oxford Dictionary, 2015). There is evidence that perceptions of strong arguments encourage behavioural intentions (Johnson, Maio, & Smith-McLallen, 2005). Research shows that stronger arguments are associated with increased levels of change in behaviour (e.g., Zhao, Strasser, Cappella, Lerman, & Fishbein, 2011), both in online domains generally (K. Z. K. Zhang, Zhao, Cheung, & Lee, 2014) and in prosocial contexts specifically (Bekkers & Wiepking, 2011; Khaled, Barr, Noble, & Biddle, 2006). Given this literature, we use argument strength to assess the perceived effectiveness of a website’s appeals to the “head” of the visitor and hypothesise:

H3: Argument strength is positively associated with behavioural intention.

Affect refers to mood, emotion and feeling (Hwang & Kim, 2007). We define negative affect as the extent that the website creates unpleasurable emotional engagement such as sadness and guilt, and positive affect as the extent that the website creates pleasurable emotional engagement such as excitement and happiness (Watson et al., 1988).

In addition to (removed for review), considerable research suggests that experiences of affect - both positive and negative - will increase behavioural intention to engage in prosocial behaviour (Farley & Stasson, 2003; Marchand & Filiatrault, 2002; Slovic et al., 2007). Negative affect has been shown to encourage individuals to engage in prosocial behaviour in order for them to feel better (see Cialdini et al., 1981). In contrast, Positive affect has been shown to create a more positive mood and greater willingness to help others (Guéguen & De Gail, 2003; Prade & Saroglou, 2016). Based on this evidence, we use measures of positive and negative affect to assess the perceived effectiveness of a website’s appeals to the heart and hypothesise:

H4: Negative affect is positively associated with behavioural intention.

H5: Positive affect is positively associated with behavioural intention.

We define mixed affect as the extent to which the website creates both pleasurable and unpleasurable emotional engagement (Bloom & Capatides, 1987). Research suggests that people can simultaneously experience both positive and negative affect (Andrade & Cohen, 2007; Cohen, Pham, & Andrade; Larsen, McGraw, & Cacioppo, 2001; Norris, Gollan, Berntson, & Cacioppo, 2010) However, through it appears that both positive and negative affect may increase intention to (Bennett, 2015; Liang et al., 2014), little research has assessed how mixed affect influences prosocial behaviour. Given this gap in the literature, we also measure how experiences of mixed affect influence a website's appeals to the heart. As both positive and negative affect are predicted to increase intention to engage in prosocial behaviour, we hypothesise:

H6: Mixed affect is positively associated with behavioural intention.

Website quality is defined as website's performance at delivering information and services (Huang & Benyoucef, 2013). In agreement with (removed for review), we conceptualise website quality as including ease of use, trust, aesthetics, and information quality. Ease of use is defined as the extent that the process of using the website was perceived as effortful (Venkatesh, 2000). Trust is defined as the extent to which the website created trust beliefs (such as integrity, benevolence, ability, and predictability) toward the entity or entities that it is associated with (Gefen et al., 2003). Aesthetics is defined as the extent that the website is aesthetically pleasing to the eye (van der Heijden, 2003). Information quality is defined as the extent that the website conveyed timely, accurate, reliable, relevant, and complete information (Byrd et al., 2006). Based on the evidence we use these four first-order constructs to assess the perceived effectiveness of a website's and hypothesise that:

H7: Website quality is positively associated with behavioural intention.

3.4 Website content

Website content can selectively mediate which perceptions a website visitor will experience. A website visitor's perceptions emerge from their interaction with website content. Some perceptions, such as website quality, are universal as they emerge across all websites regardless of content. In contrast, perceptions of affect may only emerge on websites with content that creates affect. For example, a visitor to a website that encourages prosocial behaviour by using positive content (e.g., happy, positive imagery) is unlikely to perceive that they felt negative, or mixed, affect. Thus, not all websites allow for the measurement of how perceptions of affect influence prosocial behaviour. We discuss later how this has implications for our research setting and measurement model.

3.5 Summary

In summary, H1 and H2 examine the impact of behavioural intention on two prosocial behaviours: volunteering and philanthropy. H3 to H7 examine how perceptions create behavioural intention to engage in prosocial behaviour. Based on prior research suggesting correlation (Penner et al., 2005), we controlled for age, gender, income and education. Our research model is shown in Figure 1 with hypotheses outlined from right to left. We next discuss the research method used to assess our model.

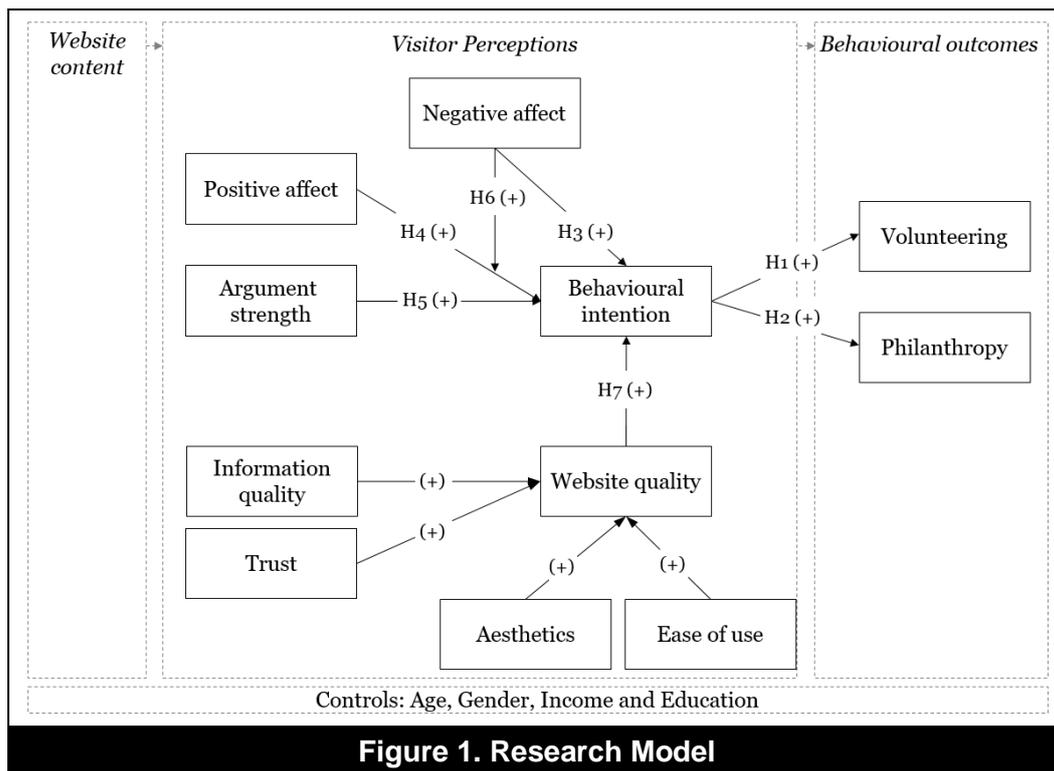


Figure 1. Research Model

4 Research method

The objective of this study is to examine whether websites can draw on appeals to the head (argument strength) and the heart (affect) to encourage prosocial behaviour. To achieve the research objective, our theoretical model was tested using a survey. A survey was appropriate as it could give insight into the studied perceptions' aggregate effect on prosocial behaviour. The survey was administered to participants who had just viewed a website promoting volunteering and philanthropy.

To identify suitable websites, we searched for active websites that were i) promoting volunteering and philanthropy, ii) mentioned by independent media, and iii) indexed by reputable organisations (e.g., Alexa; a service that categorises Web sites by type; Perez, 2013). We noted that suitable websites generally focused on targeting either positive or negative affect. This was a potential issue as accurately testing our model required that our participants would be exposed to similar quantities of positive and negative content. Accordingly, rather than using a single website, we randomly assigned participants to one of two websites (each focusing

on positive and negative affect to differing extents). After evaluating options during our pilot testing, we selected "Amnesty International" (AI) and "Casa Guatemala" (CG).

4.1 Instrument design

4.1.1 Questionnaire development

Questionnaire development involved one round of pretesting and three pilot tests. First, we pretested the initial questionnaire for content validity. This involved conducting hour-long cognitive interviews (see Collins, 2003; Nanda, Gupta, Kharub, & Singh, 2013) with five participants while they answered the questionnaire. During these interviews, we asked the participants to explain their interpretation of questions, and whether they found any aspects of the questionnaire confusing. Several questions were reworded based on feedback.

Next, we conducted a pilot test to assess i) the convergent and discriminant validity of the questionnaire, and ii) whether the websites we used were creating experiences of both positive and negative affect. This involved 40 participants completing the questionnaire under observation and giving feedback after completion. The results suggested the questionnaire had convergent and discriminant validity. Additionally, some changes were made. The questionnaire was shortened as some participants commented that it was too long. Several questions were reworded as they were found to be confusing. Because our results suggested that participants were predominately experiencing positive affect, we selected a new pair of websites for the next pilot test.

We conducted our second pilot test using 40 participants recruited from Mechanical Turk (MT). Our aim was to test our data collection process on MT and improve the questionnaire's design. The results suggested that MT was a suitable source for collecting data. Based on feedback the questionnaire was restructured into a single survey rather than two surveys (one prior to viewing the website and

one after viewing the website). As our results suggested that participants were not experiencing much negative affect on either website, we selected a new pair of websites for another pilot test.

To improve the questionnaire and test the new websites we conducted a third pilot test using 40 participants recruited from MT. The results revealed that the questionnaire did not require further changes. Additionally, the results showed that the websites used were creating a mix of both positive and negative affective experiences. At this point, we finalised the questionnaire and websites and began data collection.

4.1.2 Measurement of constructs

We used newly developed scales to measure volunteering and philanthropy. Replicating Gardiner and Iarocci (2014), we measured volunteering by recording whether participants submitted their email to a mailing list to explore volunteering opportunities in their area. We measured philanthropy by recording whether participants offered to donate a percentage of their payment for participation (\$1.50) to the organisation whose website they had viewed.

We measured negative affect, positive affect, argument strength, and behavioural intention using pre-validated scales. Argument strength was measured using five items adapted from Zhang (1996). Negative affect and positive affect were measured using five items adapted from versions of the well-established positive and negative affect schedule (PANAS) (Watson et al., 1988). Both affect scales used four items from Price, Arnould, and Tierney (1995) and one item from Karim, Weisz, and Rehman (2011). Behavioural intention was measured using a three-item scale adapted from Bhattacharjee (2001). The study operationalised website quality as a second-order superordinate construct reflected by four first-order formative constructs: ease of use, trust, information quality and aesthetics. Ease of use was measured with four items adapted from Venkatesh (2000). Information

quality was measured using three items adapted from Wells et al. (2011). Organisation trustworthiness was measured using three items adapted from Gefen (2000). Finally, aesthetics was measured using four items adapted from van der Heijden (2003).

The study used different types of scales to limit scale-related biases such as common-method bias and acquiescence bias (Chin, Johnson, & Schwarz, 2008). Two constructs (argument strength and aesthetics) were measured using fast-form scales (see Chin et al., 2008), while all other constructs were measured using Likert scales. Appendix 1 lists the items used to operationalise each construct and their sources.

4.1.3 Quality control processes

We used quality control processes to maximise the quality and validity of our data. First, we used attention traps. These involve asking survey participants to give a certain response to an item to assess whether they are paying attention (see Guin, Baker, Mechling, & Ruyle, 2012; Miller & Baker-Prewitt, 2009; Smith, 2013). We removed questionnaire responses that failed one or more of our three attention traps (see Appendix 1 for details and locations). Second, we removed responses from participants who had i) previously completed a questionnaire for a pilot test, ii) completed the questionnaire in less than five minutes, or iii) failed to describe the website and content that they had viewed.

4.2 Research setting

The two websites used, "Amnesty International" (AI) and "Casa Guatemala" (CG), differed in several ways. AI predominately used negative content. Their website was professional, interactive, and aesthetically polished with dark colours and a sombre theme. It presented many high-level appeals to address a range of social issues involving abstract groups and situations, for instance, improving refugee rights. These appeals generally provided a lot of information about specific

problems. CG predominately used positive content. Their website was simple, relatively static, had many bright and cheerful images and used a colourful positive theme. CG tended to focus on conveying a singular and simple message accompanied by imagery of specific individuals (smiling children). Compared to AI their pages used less text and provided less information. Although both websites appeared to target philanthropy more than volunteering, CG made volunteering calls to action more prominent. Appendix 2 provides a link to each website, and a screenshot of their homepage at the time the research was conducted.

4.3 Participant sample

We recruited our final participant sample from Mechanical Turk (MT), an online crowdsourcing market, which is widely used to source participants for questionnaires (Chen, Natala, & Bradley, 2011; Mason & Suri, 2012; Mason & Watts, 2009; Steelman, Hammer, & Limayem, 2014; Turner, Kirchhoff, & Capurro, 2012). We used MT for recruitment so that we could test the model across a larger and more diverse audience than a local population. Participants completed 334 questionnaires, of which 98 were removed for failing a quality control test. Our final sample, therefore, consisted of 236 responses; 101 for AI and 135 for CG. Appendix 3 outlines the demographics of the final sample.

4.4 Data collection

We collected data by posting a task on MT. On opening the questionnaire, each participant was given instructions and informed that "prosocial behaviour refers to volunteering, donating money, or supporting a prosocial cause by other means". They were asked about their demographics and past volunteering and philanthropy. The participant was then prompted to open one of two websites (Amnesty International or Casa Guatemala) in a new tab on their browser and asked to investigate an opportunity for prosocial behaviour that interested them. They were informed that they would later be asked questions about the prosocial

opportunity and about the website and that they should review the website for at least two minutes to prepare. To encourage this, we programmed the “next page button” on the questionnaire to remain hidden for 120 seconds. After viewing the website, the participant was asked, "What opportunity for prosocial behaviour did you examine on the website?" and requested to write at least two sentences in response. After doing this, participants answered the rest of the questionnaire.

5 Analysis and findings

SmartPLS 3.0 (Ringle, Wende, & Becker, 2014) was used to assess the model by performing a confirmatory factor analysis (CFA), path analysis, and group analysis. We chose to use partial least squares (PLS) rather than a covariance-based approach because PLS is more likely to run complex models with small sample sizes. All constructs, with the exception of website quality, were modelled as reflective because they used interchangeable items (cf. (Petter, Straub, & Rai, 2007) and had been modelled as reflective in prior research. Website quality was modelled as a second-order formative construct formed by four first order reflective constructs. We did this using the repeated indicator approach (e.g., Chin, Marcolin, & Newsted, 2003) where the indicators for each first order construct (e.g., ease of use) are reused as indicators for the second-order construct (i.e., website quality).

The study used a four-stage analysis process. First, we assessed data quality by testing for non-response bias and common-method bias. Second, we evaluated the measurement model by examining how items loaded on constructs. Third, after validating the measurement model and removing problematic items, we evaluated hypotheses for both websites by examining the paths between constructs and their R^2 scores. Fourth, we used a multi-group analysis to assess how the model varied across the participant groups who viewed each website.

5.1.1 Data quality

We tested the data for non-response bias by comparing the first and last quartiles

of questionnaire respondents (Armstrong & Overton, 1977). This indicated that non-response bias was not a concern for this study: late and early respondents did not differ significantly with respect to age, gender, level of education, or income. We also tested for common-method bias using Harman's single factor test (Malhotra, Kim, & Patil, 2006). This revealed no issues with common-method bias: no single factor explained more than 50% of the variance.

5.1.2 Scale validation

Mirroring similar research designs (e.g., Cyr, Head, Larios, & Pan, 2009) we combined our data for scale validation, before splitting it for model analysis on each website. We tested our scales' convergent and discriminant validity using the criteria suggested by Hair, Hult, Ringle, and Sarstedt (2014). On this basis, convergent validity is demonstrated when a scale's items load at 0.708 or higher on their intended latent construct. As shown in Table 2, all but four items met this criterion. As per Hair et al. (2014), these four items were removed from the analysis.

Table 2. Factor loadings and descriptive statistics						
Scale	Item	Loading	Highest cross-loading	Mean	Standard Deviation	Standard Error
Argument strength	AS1	0.89	0.65	5.98	1.02	0.07
	AS2*	0.19	0.14	3.87	1.87	0.12
	AS3	0.89	0.55	5.91	1.04	0.07
	AS4	0.92	0.63	5.67	1.23	0.08
	AS5*	0.68	0.32	5.26	1.63	0.11
Negative affect	NA1*	0.66	0.10	2.88	1.91	0.12
	NA2	0.93	0.14	3.50	2.05	0.13
	NA3	0.89	0.11	3.32	2.07	0.13
	NA4	0.80	0.12	2.58	1.81	0.12
	NA5*	0.52	0.04	2.37	1.86	0.12
Positive affect	PA1	0.87	0.48	4.75	1.87	0.12
	PA2	0.83	0.35	3.52	2.00	0.13
	PA3	0.80	0.40	2.94	1.87	0.12
	PA4	0.87	0.42	3.83	2.07	0.13
	PA5	0.82	0.45	4.63	1.93	0.13
Ease of use	EU1	0.93	0.52	6.00	0.91	0.06

	EU2	0.95	0.49	5.97	0.99	0.06
	EU3	0.92	0.56	5.91	1.00	0.06
	EU4*	0.65	0.37	5.68	1.37	0.09
Trust	TR1	0.95	0.64	5.64	1.13	0.07
	TR2	0.96	0.64	5.65	1.11	0.07
	TR3	0.96	0.65	5.62	1.13	0.07
Information quality	IQ1	0.93	0.50	5.72	1.05	0.07
	IQ2	0.91	0.53	5.72	1.04	0.07
	IQ3	0.93	0.57	5.73	1.04	0.07
Aesthetics	AT1	0.92	0.56	5.03	1.55	0.09
	AT2	0.94	0.57	5.39	1.43	0.10
	AT3	0.91	0.57	5.47	1.46	0.09
	AT4	0.94	0.59	5.03	1.55	0.10
Behavioural intention	BI1	0.93	0.48	4.95	1.47	0.09
	BI2	0.91	0.52	4.84	1.44	0.09
	BI3	0.93	0.49	4.90	1.44	0.09
Legend; * indicates that item was removed. IQ = Information quality, AS= Argument strength, AT = Aesthetics, EU = Ease of use, NA = Negative Affect, PA = Positive affect, BI = Behavioural intention, TR = Trust.						

We then examined whether constructs had Cronbach's Alpha (CA) and Composite Reliability (CR) scores above 0.7 and an Average Variance Extracted (AVE) above 0.5. As Table 3 shows, our scales clearly exceeded these thresholds, with minimum scores of 0.85, 0.91, and 0.70, for CA, CR, and AVE, respectively. We therefore determined that the data met the criteria for convergent validity suggested by Hair et al. (2014).

Table 3. Scale properties and relationships											
	CA	CR	AVE	IQ	AS	ATT	EU	NA	PA	BI	TR
IQ	0.91	0.95	0.85	0.92							
AS	0.89	0.93	0.81	0.52	0.90						
AT	0.94	0.96	0.86	0.43	0.60	0.93					
EU	0.92	0.95	0.86	0.56	0.46	0.43	0.93				
NA	0.85	0.91	0.77	0.02	0.07	0.03	-0.05	0.88			
PA	0.89	0.92	0.70	0.32	0.34	0.48	0.27	-0.28	0.84		
BI	0.96	0.97	0.93	0.42	0.51	0.50	0.23	0.12	0.47	0.96	
OT	0.96	0.97	0.92	0.41	0.67	0.58	0.49	0.06	0.33	0.58	0.96
The square root of AVE is shown on diagonal and bolded. Legend: CA = Cronbach's alpha. CR = Composite reliability, AVE = Average variance squared, IQ = Information quality, AS= Argument strength, AT = Aesthetics, EU = Ease of use, NA = Negative Affect, PA = Positive affect, BI = Behavioural intention, TR = Trust.											

We tested for discriminant validity using two steps as suggested by Hair et al. (2014). First, we assessed the Fornell-Lacker criterion (Fornell & Larcker, 1981).

This dictates that the square root of the AVE for every construct should be greater than that construct's correlation with any other construct. As shown in Table 3, the data comfortably satisfies the Fornell-Lacker criterion as the square root of the AVE for every construct is smaller than that construct's correlation with any other construct. Appendix 4 shows the covariance matrix.

Second, we assessed item cross-loadings. Discriminant validity is supported if items load i) highly on their intended construct, and ii) more highly on their intended construct than on any other construct (Gefen & Straub, 2005; Wixom & Watson, 2001). As Table 2 shows, we had no issue with cross-loadings. All final items loaded i) highly on their constructs (above .80), and ii) more highly (by at least .2) on their intended construct than on any other construct. We therefore determined that the data met the conditions for discriminant validity suggested by Hair et al. (2014).

Having examined all first-order constructs, we assessed website quality as a second-order formative construct. Based on the guidelines of Lowry and Gaskin (2014), we examined the collinearity statistics for the first order constructs (e.g., ease of use) by examining their Variance Inflation Value (VIF). The results showed that all constructs had VIF values lower than 2 – which fell well within the threshold of 10 suggested by Petter et al. (2007).

5.2 Hypotheses testing

We used the SmartPLS3.0 bootstrapping procedure to evaluate hypotheses H1 through to H7 for the data pertaining to each website. We used 5000 resamples as recommended by Wetzels, Odekerken-Schroder, and Van Oppen (2009).

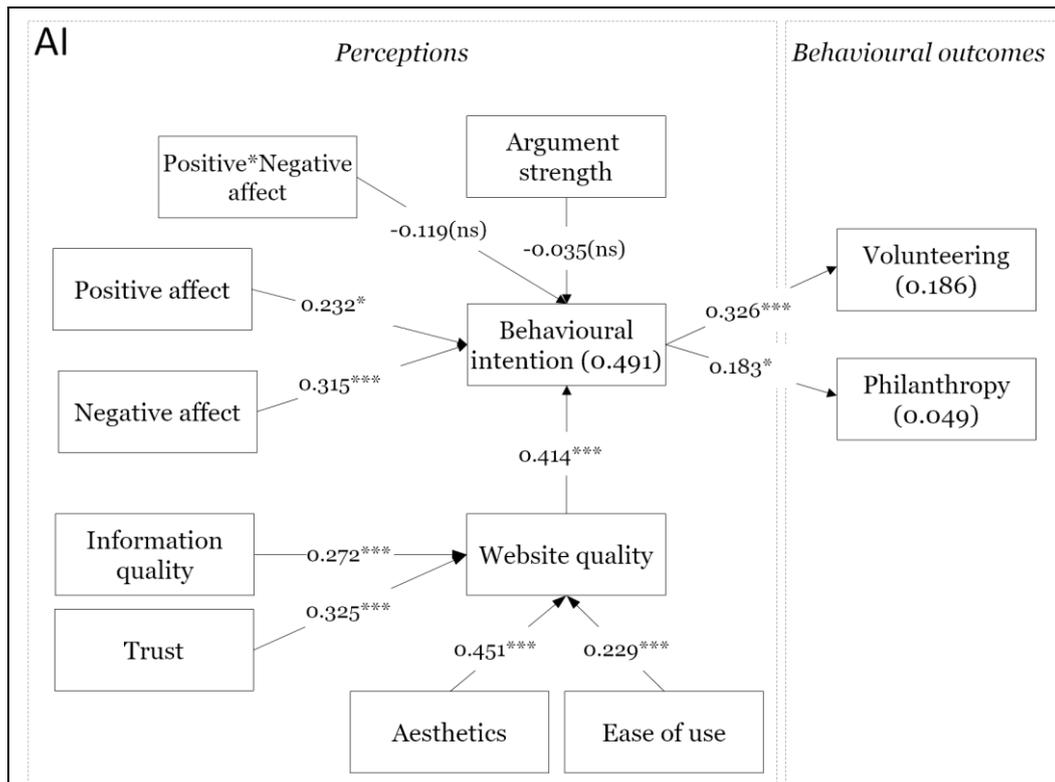
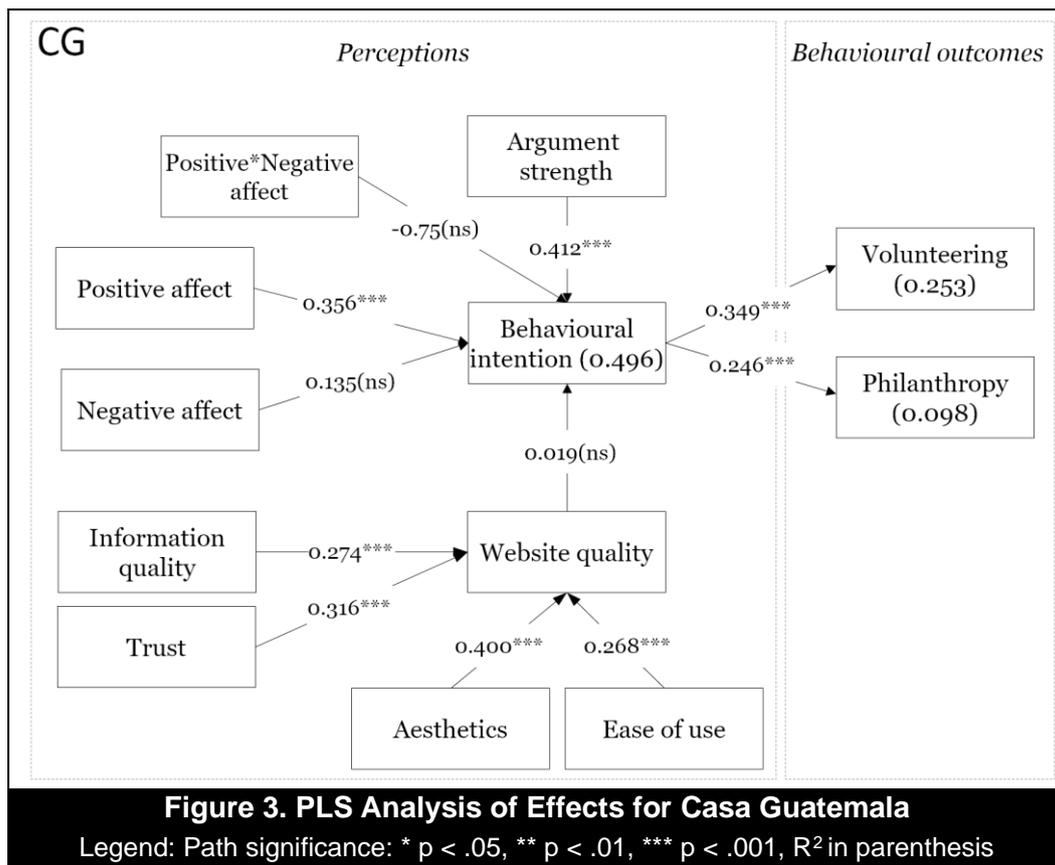


Figure 2. PLS Analysis of Effects for Amnesty International

Legend: Path significance: * $p < .05$, ** $p < .01$, *** $p < .001$, R^2 in parenthesis

As Figure 2 shows, five hypotheses were supported for the participants who viewed AI. H1 and H2 were supported: *behavioural intention* had a significant effect on both *volunteering* ($\beta=0.326$, $p < 0.001$) and *philanthropy* ($\beta=0.183$, $p < 0.05$). Our model explained 4.9% of *philanthropic* behaviour and 18.6% of *volunteering* behaviour. H3 was not supported: *argument strength* ($\beta=-0.035$, $p = 0.788$) had no significant impact on *behavioural intention*. H4 and H5 were supported because *negative affect* ($\beta=0.315$, $p < 0.001$) and *positive affect* ($\beta=0.232$, $p < 0.05$) had a significant impact on *behavioural intention*. H6 was not supported: *mixed affect* had no significant impact on *behavioural intention* ($\beta=-0.119$, $p = 0.74$). H7 was supported since *website quality* had a significant impact on *behavioural intention* ($\beta= 0.414$, $p < 0.001$). Overall, our model explained 49.1% of *behavioural intention*.



As Figure 3 shows, four of seven hypotheses were supported in the group of participants who viewed Casa Guatemala. H1 and H2 were supported since *behavioural intention* had a significant effect on both *volunteering* ($\beta=$, $p < 0.001$) and *philanthropy* ($\beta=0.246$, $p < 0.001$). Our model explained 9.8% of *philanthropic* behaviour and 25.3% of *volunteering* behaviour. H3 and H5 were supported: *argument strength* ($\beta=0.412$, $p < 0.001$) and *positive affect* ($\beta=0.356$, $p < 0.001$) had a significant impact on *behavioural intention*. H4, H6 and H7 were not supported. *Mixed affect* ($\beta= -0.67$, $p=229$), *negative affect* ($\beta=0.135$, $p=0.199$) and *website quality* ($\beta= -0.019$, $p=0.862$) had no significant impact on *behavioural intention*. Overall, our model explained 49.6% of *behavioural intention*.

Three of our control variables had significant impacts on our endogenous constructs. For CG, *education* influenced *volunteering* ($\beta= 0.235$, $p < 0.001$), and *income* influenced *behavioural intention* ($\beta= -0.144$, $p < 0.05$). For AI, *education* ($\beta= 0.181$, $p < 0.05$) and *age* influenced *volunteering* ($\beta= -0.183$, $p < 0.05$).

5.3 Analysis of effects on the model across website viewer groups

SmartPLS 3.0 was used to perform a parametric multi-group analysis (see Bernhaupt, Isbister, & De Freitas, 2015). This was used to evaluate how the path strengths (β) and significance levels (p) for the structural model varied when data from each website viewer group (referred to as AI and CG viewers) was analysed. Table 4 shows the result of this analysis. The first column shows the path strengths (i.e., regression weights) and significance when we used the data for CG. The second column shows the path strengths (i.e., regression weights) and significance when we used the data for AI. The third column shows the difference between these results and whether it is significant.

Table 4. Comparison of website viewer groups			
Path	CG viewers	AI viewers	Difference
B. Intention -> Volunteering	0.349***	0.326***	0.023
B. Intention -> Philanthropy	0.246***	0.183*	0.063
Argument strength -> B. intention	0.412***	-0.035	0.447**
Negative affect -> B. intention	0.135	0.315*	-0.18
Positive affect -> B. intention	0.356***	0.232*	0.124
Mixed affect -> B. intention	-0.075	-0.119	0.044
Website quality -> B. intention	-0.019	0.414***	-0.433**
Legend: AI= Amnesty International, CG = Casa Guatemala, Significance: * $p < .05$, ** $p < .01$, *** $p < .001$.			

Behavioural intention had a significant influence on behaviour on both websites. Argument strength significantly influenced intention for CG but not AI. Negative affect significantly influenced intention for AI but not CG. Positive affect significantly influenced intention in both data groups. Mixed affect significantly influenced intention for AI but not CG. Website quality significantly influenced intention for AI but not CG.

Two differences in path strengths were significant: i) CG viewers had a significantly stronger relationship between *argument strength* and *behavioural intention*, and ii) AI viewers had a significantly stronger relationship between *website quality* and *behavioural intention*.

We further investigated the differences between AI and CG viewers by comparing

items' means using a Welch's unequal variances t-test - an equality of means test that is robust against unequal sample sizes and variance (Field, 2005). This t-test identified twenty-four significant differences. Appendix 5 shows the full results of this analysis: the mean scores for each item (for both AI and CG viewers), the differences across these groups, and the significance of these differences. As Appendix 5 shows, CG viewers gave significantly higher ratings for all items measuring positive affect, and significantly lower ratings for all items measuring negative affect. There were no significant differences between AI and CG in the amounts of prosocial behaviour produced in viewers (i.e., their commitments to philanthropy or requests to be sent volunteering opportunities) suggesting that neither was significantly more effective at soliciting prosocial behaviour. There were no significant differences in the influences of control variables across groups.

6 Discussion

We tested our model using participants who had visited a website encouraging prosocial behaviour (either Casa Guatemala (CG) or Amnesty International (AI)). Three hypotheses (H1, H2 & H5) were supported by both participant groups and six (H1, H2, H3, H4, H5 & H7) by at least one participant group. These findings provide initial, but equivocal, evidence that argument strength, positive affect, negative affect and website quality may influence prosocial behaviour (i.e., philanthropy and volunteering) through creating behavioural intention. One hypothesis (H6) was unsupported for both groups, suggesting that mixed appeals to positive and negative affect do not increase behavioural intention to engage in prosocial behaviour.

Why were there different findings across website viewer groups? The differences in affect scores were expected – our research design required websites that would create different proportions of affective responses. The differences in the influence of argument strength may be due to the websites using arguments that differed in

complexity and scope. CG used short simple arguments for helping clearly identifiable victims with clearly understandable issues (being orphaned or abused). In contrast, AI used text-heavy, complicated arguments for addressing relatively abstract issues affecting broad groups (e.g., refugee policy). Given that people tend to find it easier to identify with single victims (Erlandsson et al., 2016), it is possible that users found that CG's arguments were easier to grasp and more influential.

Similarly, the differences in the influence of website quality might also be due to website design factors. As stated earlier, AI relied on providing detailed factual arguments to encourage action. Because arguments are underpinned by credibility assessments, AI's focus may have made website quality, particularly trust and information quality, more important in influencing their visitors' intentions. In contrast, CG was a simple and relatively static website that appealed to emotion. Visitors may therefore have been more likely to be influenced by affective reactions than the quality of the website.

Our findings have many implications for existing literature. Research has previously suggested that websites promoting prosocial behaviour should aim to appeal to the 'head', through argument, and to the 'heart', through creating positive and/or negative affect (Darwin & Kagan, 2012; Hudson, 2013; Sanders & Tamma, 2015). However, previous research had not established whether appeals to the head and the heart would be effective on websites promoting prosocial behaviour. Our findings suggest that appeals to the head and the heart do play a role in influencing online benefactors. Accordingly, they reinforce claims that using such appeals is important for converting users into donors (Bennett, 2009).

Existing literature has not established the relative impacts of appeals to the head and the heart on websites promoting prosocial behaviour. We found that appeals to the heart were more effective. This generally supports the practical and

academic literature (Andresen, 2007; Farley & Stasson, 2003; Marchand & Filiatrault, 2002; Slovic et al., 2007; Stannard-Stockton, 2009). Some literature has suggested that negative affect appeals are generally more influential in promoting prosocial behaviour (Choi et al., 2016). In contrast, we found that creating experiences of i) positive and ii) negative led to roughly equivalent behavioural intention to engage in prosocial behaviour. Previous research has also suggested that combining negative affect and positive affect might be persuasive in promoting prosocial behaviour (Bennett, 2015; Liang et al., 2014). We found that mixed affect failed to significantly increase intention to engage in prosocial behaviour. Thus, rather than being additive in their influence on intention, mixed experiences of affect may instead induce ambivalence and cognitive dissonance, as has been found in commercial contexts (Penz & Hogg, 2011). Research has provided contradictory evidence as to whether appeals to the heart should target positive or negative emotion.

Our findings have several implications for IS research on perceptions. Our discovery that argument strength can have a positive influence on behavioural intention extends the small body of IS research that has examined this concept (e.g., W. Li, Gao, & Ke, 2014; Luo, Li, Fu, Zeng, & Lan, 2014). The fact that website quality did not have a significant effect on behavioural intention (on the CG website) is unusual given that IS studies generally link website quality to behavioural intention (Lowry et al., 2015; Murray & Häubl, 2011; Setia et al., 2013; Tuch et al., 2010). We also found that perceptions of negative affect increased behavioural intention when most IS research finds the opposite (e.g., Hong, Hess, & Hardin, 2013). We suspect that these latter two differences may be due to differences in the decision-making process across prosocial and commercial contexts (e.g., Rothschild, 1979).

From a methodological perspective, our use of behavioural measures responds to

calls for social science researchers to measure behaviour rather than just attitude or intention (e.g., Eccles et al., 2006). Because they measure behaviour, the R^2 scores we report are more precise than those that might be inferred from solely measuring behavioural intention (see Danner, Aarts, & De Vries, 2008; Limayem, Hirt, & Cheung, 2007; Newberry, Klemz, & Boshoff, 2003). Across AI and CG, our model explained 5%/10% philanthropic behaviour and 19%/25% of volunteering behaviour, respectively. It is possible that the differences in R^2 scores between volunteering and philanthropy are due to the different decision-making processes that underlie each behaviour (Michel & Rieunier, 2012). These R^2 scores are typical of research examining actual behaviour (see Kohl, Crutzen, & de Vries, 2013; Rooke, Thorsteinsson, Karpin, Copeland, & Allsop, 2010; Webb, Joseph, Yardley, & Michie, 2010). For example, when reviewing 85 studies examining internet-mediated behavioural interventions, Webb et al. (2010) reported an average effect size of 0.16 and noted that “on average, interventions had a statistically small but significant effect” (p. 1). It should also be noted that research into prosocial behaviour tends to find lower correlations between intention and behaviour than other research contexts (Anker, Feeley, & Kim, 2010).

7 Theoretical and practical contributions

The objective of this study was to examine whether websites can draw on appeals to the head (argument strength) and the heart (affect) to encourage prosocial behaviour. Additionally, we aimed to provide insight into questions such as whether it is best to have an appeal that targets either positive or negative emotion, or one that targets both in combination. Through achieving this objective, our study provides several theoretical and practical implications, and several avenues for future research.

7.1 Theoretical implications

Our study responded to calls to explore how to use websites to encourage

prosocial behaviour (e.g., Bennett, 2009; Gertler, 2015; Wilson, 2012; W. Zhang et al., 2010). The findings give researchers novel insight into the value, and relative importance, of appeals to “head factors” such as argument strength, and “heart factors” such as negative and positive affect in the context of using websites to encourage prosocial behaviour. The model provides the first quantitative evidence for the role of perceptions of websites in encouraging prosocial behaviour. Some of these findings are novel and contrary to past research, for instance, that experiencing negative affect can lead to an intention to engage in a desired behaviour and that website quality may not always be a significant factor in prosocial contexts.

Outside of IS, our research contributes to several broader discussions around the type of appeals that are best to use for encouraging prosocial behaviour. We add to the literature (e.g., Andresen, 2007; Gleasure & Feller, 2016a; Hudson, 2013; Stannard-Stockton, 2009; Sullivan, 2013) examining the impact of appeals to the head and the heart for promoting prosocial behaviour. We add to the debate that explores whether appeals to the heart should aim to create positive, negative or mixed affect (e.g., Choi et al., 2016; Clark et al., 2017; Small & Verrochi, 2009). We also contribute to examination of how changes in context influence the effectiveness of attempts at persuasion, both in terms of the outcome targeted, and the channel used (e.g., Guadagno & Cialdini, 2005; Rothschild, 1979; Sproull, 2005).

7.2 *Practical implications*

Our study makes several valuable contributions to practice. First, by identifying seven website perceptions that create behavioural intention, the theoretical model aids practitioners’ who desire to improve the efficiency of websites that encourage prosocial behaviours (see Bosrédon, 2012; Estes & Nielsen, 2011; National Volunteering Strategy Consultation, 2011). Second, our findings provide tentative

suggestions for prosocial website designers. Overall, they suggest that websites that encourage prosocial behaviour should try to i) appeal to both the head and the heart, ii) target either positive affect or negative affect and iii) avoid investing time into creating mixed experiences of positive and negative affect. The administrators of prosocial websites can use the scale in Appendix 1 to assess the perceptions that their website produces and identify potential improvements.

7.3 Limitations and future research

Many factors play a role in prosocial behaviour (Penner et al., 2005), therefore we encourage future research to also examine the role of additional individual and environmental factors. Our data could have been more externally valid if gathered from actual website users. Because our participants knew that they were doing a survey, they may not have behaved entirely naturally. Additionally, our participants may have reacted differently to the websites' content than normal website users would. Gathering data from actual website users would also allow for better operationalisations of prosocial behaviour, for example, by recording donations or volunteer pledges made on the website. Future researchers should consider these approaches where possible.

We have highlighted how context can bound the usefulness of approaches for encouraging behaviour. We would encourage future research to further explore how best to align approaches for encouraging prosocial behaviour with the specific domain they occur with. Exploring how contextual differences influence the performance of websites encouraging prosocial behaviour should be a major area of interest for future research. Websites are accessed by individuals from many different cultures. IS research has found cultural differences in preferences for website design (Cyr et al., 2009). Similarly, persuasion research has found cultural differences in the effectiveness of persuasion techniques (e.g., Khaled, Barr, Biddle, Fischer, & Noble, 2009). Further, there are different types of prosocial

behaviour. Each of these involves a different system of incentives and barriers which may influence what will work for behaviour change within that context. For instance, these include, online volunteering to and contribute to software and wikis (Baytiyeh & Pfaffman, 2010; Xu, Jones, & Shao, 2009; Xu & Li, 2015) and donations to support the creation of hardware and software (Gleasure & Feller, 2016b; Wan, Lu, Wang, & Zhao, 2017; Warren et al., 2017). Finally, future research should also explore how levels of involvement influence behaviour in prosocial online contexts (Cyr, Head, Lim, & Stibe, 2018) as this is likely to interact with the types of appeals that are most effective.

References

- Abdallah, S., & Jaleel, B. (2014). Online shopping in the United Arab Emirates: User web experience. *International Journal of Web Portals*, 6(1), 1-20. doi:10.4018/ijwp.2014010101
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, N.J.: Prentice-Hall.
- Andrade, E. B., & Cohen, J. B. (2007). On the consumption of negative feelings. *Journal of Consumer Research*, 34(3), 283-300.
- Andresen, K. (2007). To Increase Charitable Donations, Appeal to the Heart—Not the Head(16/04/17). Retrieved from http://www.nonprofitmarketingblog.com/site/to_increase_charitable_donations_appeal_to_the_heart_not_the_head/
- Anker, A. E., Feeley, T. H., & Kim, H. (2010). Examining the attitude–behavior relationship in prosocial donation domains. *Journal of Applied Social Psychology*, 40(6), 1293-1324.
- Ariely, D., Bracha, A., & Meier, S. (2009). Doing good or doing well? Image motivation and monetary incentives in behaving prosocially. *American Economic Review*, 99(1), 544-555.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Bai, B., Hu, C., & Jang, S. C. (2007). Examining E-relationship marketing features on hotel websites. *Journal of Travel and Tourism Marketing*, 21(2-3), 33-48. doi:10.1300/J073v21n02_03
- Bar-Tal, D. (1982). Sequential development of helping behavior: A cognitive-learning approach. *Developmental Review*, 2(2), 101-124.
- Barnes, S. J., & Vidgen, R. (2002). An evaluation of cyber-bookshops: The WebQual method. *International Journal of Electronic Commerce*, 6(1), 11-30.
- Batson, C. (2011). *Altruism in humans*. Oxford, United Kingdom: Oxford University Press.
- Baytiyeh, H., & Pfaffman, J. (2010). Open source software: A community of altruists. *Computers in Human Behavior*, 26(6), 1345-1354. doi:<https://doi.org/10.1016/j.chb.2010.04.008>
- Bekkers, R., & Wiepking, P. (2011). A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly*, 40(5), 924-973.
- Bendapudi, N., Singh, S. N., & Bendapudi, V. (1996). Enhancing helping behavior: An integrative framework for promotion planning. *Journal of Marketing*, 60(3), 33-49.
- Bennett, R. (2009). Impulsive donation decisions during online browsing of charity websites. *Journal of Consumer Behaviour*, 8(2-3), 116-134. doi:10.1002/cb.277
- Bennett, R. (2015). Individual characteristics and the arousal of mixed emotions: consequences for the effectiveness of charity fundraising advertisements. *International Journal of Nonprofit and Voluntary Sector Marketing*, 20(2), 188-209.
- Bernhaupt, R., Isbister, K., & De Freitas, S. (2015). Introduction to this special issue on HCI and games. *Human-Computer Interaction*, 30(3-4), 195-201.

doi:10.1080/07370024.2015.1016573

- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351-370.
- Bhattacharjee, A., & Sanford, C. (2006). Influence processes for information technology acceptance: An elaboration likelihood model. *MIS Quarterly*, 30(4), 805-825.
- Blake, B. F., Neuendorf, K. A., & Valdiserri, C. M. (2005). Tailoring new websites to appeal to those most likely to shop online. *Technovation*, 25(10), 1205-1214. doi:10.1016/j.technovation.2004.03.009
- Bloom, L., & Capatides, J. B. (1987). Expression of affect and the emergence of language. *Child Development*, 1513-1522.
- Bosrédon, B. (2012). *Creating the Perfect Donation Experience*. Retrieved from www.nomensa.com: <http://www.nomensa.com/insights/creating-perfect-donation-experience>
- Brooks, J. (2009). Do sad faces make donors give more? Retrieved from http://www.donorpowerblog.com/donor_power_blog/2009/07/do-sad-faces-make-donors-give-more.html
- Byrd, T. A., Thrasher, E. H., Lang, T., & Davidson, N. W. (2006). A process-oriented perspective of IS success: Examining the impact of IS on operational cost. *Omega*, 34(5), 448-460.
- Cacioppo, J. T., Petty, R. E., & Morris, K. J. (1983). Effects of need for cognition on message evaluation, recall, and persuasion. *Journal of Personality and Social Psychology*, 45(4), 805.
- Caviola, L., Faulmüller, N., Everett, J. A., Savulescu, J., & Kahane, G. (2014). The evaluability bias in charitable giving: Saving administration costs or saving lives? *Judgment and decision making*, 9(4), 303.
- Chen, J., J., Natala, J., M., & Bradley, A., D. . (2011). Opportunities for Crowdsourcing Research on Amazon Mechanical Turk. *Interfaces*, 5(3).
- Chin, W. W., Johnson, N., & Schwarz, A. (2008). A fast form approach to measuring technology acceptance and other constructs. *MIS Quarterly*, 32(4), 687-703.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Chiou, W.-C., Lin, C.-C., & Perng, C. (2010). A strategic framework for website evaluation based on a review of the literature from 1995–2006. *Information & Management*, 47(5), 282-290.
- Choi, J. D., Rangan, P., & Singh, S. N. (2016). Do Cold Images Cause Cold-Heartedness? The Impact of Visual Stimuli on the Effectiveness of Negative Emotional Charity Appeals. *Journal of Advertising*, 45(4), 417-426. doi:10.1080/00913367.2016.1185982
- Chowdhry, G., & Beeman, M. (2001). Challenging child labor: Transnational activism and India's carpet industry. *Annals of the American Academy of Political and Social Science*, 575, 158-175.
- Cialdini, R., Baumann, D. J., & Kenrick, D. T. (1981). Insights from sadness: A three-step model of the development of altruism as hedonism. *Developmental Review*, 1(3), 207-223.
- Cialdini, R., Darby, B. L., & Vincent, J. E. (1973). Transgression and altruism: a case for

- hedonism. *Journal of Experimental Social Psychology*, 9(6), 502-516.
- Cialdini, R., & Kenrick, D. (1976). Altruism As Hedonism: Social-development Perspective on Relationship of Negative Mood State and Helping. *Journal of Personality and Social Psychology*, 34(5), 907-914. doi:10.1037//0022-3514.34.5.907
- Cialdini, R., Schaller, M., Houlihan, D., Arps, K., Fultz, J., & Beaman, A. L. (1987). Empathy-based helping - is it selflessly or selfishly motivated. *Journal of Personality and Social Psychology*, 52(4), 749-758. doi:10.1037//0022-3514.52.4.749
- Clark, J., Garces-Ozanne, A., & Knowles, S. (2017). Emphasising the Problem or the Solution in Charitable Fundraising for International Development. *The Journal of Development Studies*, 1-13. doi:10.1080/00220388.2017.1308490
- Cohen, J. B., Pham, M. T., & Andrade, E. B. (2008). The nature and role of affect in consumer behavior.
- Collins, D. (2003). Pretesting survey instruments: an overview of cognitive methods. *Quality of Life Research*, 12(3), 229-238.
- Cooney, N. (2011). *Change of heart : what psychology can teach us about spreading social change*. New York: Lantern Books.
- Cyr, D., Head, M., Larios, H., & Pan, B. (2009). Exploring human images in website design: A multi-method approach. *MIS Quarterly*, 33(3), 539-566.
- Cyr, D., Head, M., Lim, E., & Stibe, A. (2018). Using the elaboration likelihood model to examine online persuasion through website design. *Information & Management*. doi:<https://doi.org/10.1016/j.im.2018.03.009>
- Danner, U. N., Aarts, H., & De Vries, N. K. (2008). Habit vs. intention in the prediction of future behaviour: The role of frequency, context stability and mental accessibility of past behaviour. *British Journal of Social Psychology*, 47(2), 245-265.
- Darwin, C., & Kagan, J. (2012). The Nature of Morality. *From Pleasure Machines to Moral Communities: An Evolutionary Economics Without Homo Economicus*, 75.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, 35(8), 982-1003. doi:10.1287/mnsc.35.8.982
- Dolan, P., Hallsworth, M., Halpern, D., King, D., & Vlaev, I. (2010). *MindSpace: influencing behaviour through public policy*. Retrieved from United Kingdom:
- Dovidio, J. F., Piliavin, J. A., Gaertner, S. L., Schroeder, D. A., & Clark, R. D., III (1991). The arousal:cost-reward model and the process of intervention: A review of the evidence. In M. S. Clark (Ed.), *Prosocial behavior* (pp. 86-118). Newbury Park, CA: Sage.
- Eagly, A. H. (1987). Social Influence Research: New Approaches to Enduring problems. In M. P. Zanna, J. M. Olson, & C. Herman (Eds.), *Social Influence: The Ontario Symposium* (Vol. 5, pp. 271). Hillsdale: Erlbaum.
- Earl, J., Kimport, K., Prieto, G., Rush, C., & Reynoso, K. (2010). Changing the world one webpage at a time: Conceptualizing and explaining Internet activism. *Mobilization*, 15(4), 425-446.
- Eccles, M. P., Hrisos, S., Francis, J., Kaner, E. F., Dickinson, H. O., Beyer, F., & Johnston, M. (2006). Do self-reported intentions predict clinicians' behaviour: a systematic review. *Implementation Science*, 1(1), 28.

- Erlandsson, A., Västfjäll, D., Sundfelt, O., & Slovic, P. (2016). Argument-inconsistency in charity appeals: Statistical information about the scope of the problem decrease helping toward a single identified victim but not helping toward many non-identified victims in a refugee crisis context. *Journal of Economic Psychology*. doi:<http://dx.doi.org/10.1016/j.joep.2016.06.007>
- Estes, J., & Nielsen, J. (2011). *Attracting donors and volunteers on nonprofit and charity websites*. Retrieved from <http://www.nngroup.com/reports/attracting-donors-and-volunteers-non-profit/>
- Farley, S. D., & Stasson, M. F. (2003). Relative influences of affect and cognition on behavior: Are feelings more related to blood donation intentions? *Experimental Psychology*, 50(1), 55.
- Faseur, T., & Geuens, M. (2010). Communicating the right emotion to generate help for connected versus unconnected others. *Communication Research*, 37(4), 498-521.
- Fatkin, J.-M., & Lansdown, T. C. (2015). Prosocial media in action. *Computers in Human Behavior*, 48, 581-586.
- Field, A. P. (2005). *Discovering statistics using SPSS* (2 ed.). Los Angeles: SAGE Publications.
- Fielding, D., & Knowles, S. (2015). Can you spare some change for charity? Experimental evidence on verbal cues and loose change effects in a Dictator Game. *Experimental Economics*, 18(4), 718-730.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 39-50.
- Gable, G. G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information system success: The IS-impact measurement model. *Journal of the Association of Information Systems*, 9(7), 377-408.
- Gardiner, E., & Iarocci, G. (2014). Students with autism spectrum disorder in the university context: Peer acceptance predicts intention to volunteer. *Journal of autism and developmental disorders*, 44(5), 1008-1017.
- Gass, R. H., & Seiter, J. S. (2011). *Persuasion, social influence, and compliance gaining* (4 ed.). Boston: Allyn & Bacon.
- Gefen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, 28(6), 725-737.
- Gefen, D., Karahanna, E., & Straub, D. (2003). Trust and tam in online shopping: AN integrated model. *MIS Quarterly*, 27, 51-90.
- Gefen, D., & Straub, D. (2005). A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example. *Communications of the Association for Information Systems*, 16(1), 5.
- Geiger, D., Rosemann, M., & Fielt, E. (2011). *Crowdsourcing information systems : a systems theory perspective*. Paper presented at the Australasian Conference on Information Systems, Sydney, Australia.
- Gertler, A. (2015). *Charitable Fundraising and Smart Giving: How can charities use behavioral science to drive donations?* (Dissertation), Yale University. <http://aarongertler.net/wp-content/uploads/2015/06/Aaron-Gertler-Senior-Thesis-full-bibliography.pdf> database.
- Gleasure, R., & Feller, J. (2016a). Does Heart or Head Rule Donor Behaviors in Charitable

- Crowdfunding Markets? *International Journal of Electronic Commerce*, 20(4), 499-524. doi:10.1080/10864415.2016.1171975
- Gleasure, R., & Feller, J. (2016b). Emerging technologies and the democratisation of financial services: A metatriangulation of crowdfunding research. *Information and Organization*, 26(4), 101-115. doi:<http://dx.doi.org/10.1016/j.infoandorg.2016.09.001>
- Graton, A., Ric, F., & Gonzalez, E. (2016). Reparation or reactance? The influence of guilt on reaction to persuasive communication. *Journal of Experimental Social Psychology*, 62, 40-49.
- Grieve, R., Padgett, C. R., & Moffitt, R. L. (2016). Assignments 2.0: The role of social presence and computer attitudes in student preferences for online versus offline marking. *The Internet and Higher Education*, 28, 8-16.
- Grimm, K. E., & Needham, M. D. (2012). Internet promotional material and conservation volunteer tourist motivations: A case study of selecting organizations and projects. *Tourism Management Perspectives*, 1(1), 17-27.
- Griskevicius, V., Tybur, J. M., & Van den Bergh, B. (2010). Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation. *Journal of Personality and Social Psychology*, 98(3), 392-404.
- Guadagno, R., & Cialdini, R. (2005). Online persuasion and compliance: Social influence on the Internet and beyond. In Y. Amichai-Hamburger (Ed.), *The social net: Understanding human behavior in cyberspace* (pp. 91-113): Oxford University Press.
- Guéguen, N., & De Gail, M. A. (2003). The effect of smiling on helping behavior: Smiling and good Samaritan behavior. *Communication Reports*, 16(2), 133-140.
- Guin, T. D. L., Baker, R., Mechling, J., & Ruyle, E. (2012). Myths and realities of respondent engagement in online surveys. *International Journal of Market Research*, 54(5).
- Gutierrez, O., & Zhang, W. (2007). *Information systems research in the nonprofit context: A new frontier*. Paper presented at the AMCIS 2007 Proceedings.
- Hair, J. F., Hult, T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equations modeling (PLS-SEM)*. Los Angeles: SAGE.
- Hastings, P. D., Rubin, K. H., & DeRose, L. (2005). Links among gender, inhibition, and parental socialization in the development of prosocial behavior. *Merrill-Palmer Quarterly*, 51(4), 467-493.
- Helms, J. L. (2014). Comparing Student Performance in Online and Face-to-Face Delivery Modalities. *Journal of asynchronous learning networks*, 18(1), n1.
- Hesz, A., & Neophytou, B. (2010). *Guilt trip: from fear to guilt on the green bandwagon*. Chichester: Wiley.
- Hodgson, R. (2004). Rebuilding communities: The role of volunteers after disasters. *Proceedings of the Institution of Civil Engineers: Civil Engineering*, 157(2), 16-26.
- Hong, W., Hess, T. J., & Hardin, A. (2013). When filling the wait makes it feel longer: A paradigm shift perspective for managing online delay. *MIS Quarterly*, 37(2), 383-406.
- Horvath, J. (2011). Persuasive Design: It's Not Just about Selling Stuff. In A. Marcus (Ed.), *Design, User Experience, and Usability. Theory, Methods, Tools and Practice* (Vol. 6770, pp. 567-574): Springer Berlin / Heidelberg.

- Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications*, 12(4), 246-259.
- Hudson, S. (2013). Are emotive appeals effective in persuading people to give to charity? *The Guardian*. Retrieved from theguardian.com/voluntary-sector-network/2013/sep/02/effective-emotive-appeal
- Hwang, Y., & Kim, D. J. (2007). Customer self-service systems: The effects of perceived Web quality with service contents on enjoyment, anxiety, and e-trust. *Decision Support Systems*, 43(3), 746-760. doi:<http://dx.doi.org/10.1016/j.dss.2006.12.008>
- James, A. (2006). Philanthropy. In K. Serge-Christophe & Y. Jean Mercier (Eds.), *Handbook on the Economics of Giving, Reciprocity and Altruism* (Vol. 2, pp. 1201-1269). Amsterdam: Elsevier.
- Johnson, B. T., Maio, G. R., & Smith-McLallen, A. (2005). Communication and attitude change: Causes, processes, and effects. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *Handbook of attitudes*. New Jersey: Erlbaum.
- Kane, G. C., Alavi, M., Labianca, G., & Borgatti, S. P. (2014). What's different about social media networks? A framework and research agenda. *MIS Quarterly: Management Information Systems*, 38(1), 275-304.
- Karim, J., Weisz, R., & Rehman, S. U. (2011). International positive and negative affect schedule short-form (I-PANAS-SF): Testing for factorial invariance across cultures. *Procedia Social and Behavioral Sciences*, 15(0), 2016-2022. doi:<http://dx.doi.org/10.1016/j.sbspro.2011.04.046>
- Karlan, D., & Wood, D. H. (2016). The effect of effectiveness: Donor response to aid effectiveness in a direct mail fundraising experiment. *Journal of Behavioral and Experimental Economics*.
- Khaled, R., Barr, P., Biddle, R., Fischer, R., & Noble, J. (2009). *Game design strategies for collectivist persuasion*. Paper presented at the Proceedings of the 2009 ACM SIGGRAPH Symposium on Video Games, New Orleans, Louisiana.
- Khaled, R., Barr, P., Noble, J., & Biddle, R. (2006). Investigating Social Software as Persuasive Technology. In W. Ijsselstein, Y. de Kort, C. Midden, B. Eggen, & E. van den Hoven (Eds.), *Persuasive Technology* (Vol. 3962, pp. 104-107): Springer Berlin / Heidelberg.
- Knafo, A., & Plomin, R. (2006). Prosocial behavior from early to middle childhood: genetic and environmental influences on stability and change. *Developmental psychology*, 42(5), 771.
- Kohl, L. F., Crutzen, R., & de Vries, N. K. (2013). Online prevention aimed at lifestyle behaviors: a systematic review of reviews. *Journal of Medical Internet Research*, 15(7).
- Kruglanski, A. W., & Thompson, E. P. (1999). Persuasion by a single route: A view from the unimodel. *Psychological Inquiry*, 10(2), 83-109.
- Kwampaiboon, T., Jevtic, S., & Pyshnyak, M. (2014). IS effectiveness in Small Nonprofit Organizations.
- Lapidot-Lefler, N., & Barak, A. (2015). The benign online disinhibition effect: Could situational factors induce self-disclosure and prosocial behaviors? *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 9(2).
- Larsen, J. T., McGraw, A. P., & Cacioppo, J. T. (2001). Can people feel happy and sad at the same time? *Journal of Personality and Social Psychology*, 81(4), 684.

- Lasswell, H. D. (1948). The structure and function of communication in society. In L. Bryson (Ed.), *The communication of ideas: Religion and civilization series* (pp. 37-51). New York: Harper & Row.
- Li, C. Y., & Ku, Y. C. (2011). *The effects of persuasive messages on system acceptance*. Paper presented at the 15th Pacific Asia Conference on Information Systems: Quality Research in Pacific, PACIS 2011, Brisbane, QLD. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84862917823&partnerID=40&md5=6cb8084ce620d86fc182bc6f98aafddb>
- Li, W., Gao, L., & Ke, Y. (2014). *Social commerce: The critical role of argument strength and source dynamism of ewom*. Paper presented at the Proceedings - Pacific Asia Conference on Information Systems, PACIS 2014.
- Liang, J., Chen, Z., & Lei, J. (2014). Inspire Me to Donate: the Use of Mixed Emotions in Public Service Announcements. *NA-Advances in Consumer Research Volume 42*.
- Limayem, M., Hirt, S. G., & Cheung, C. M. K. (2007). How habit limits the predictive power of intention: The case of information systems continuance. *MIS Quarterly*, 31(4), 705-737.
- Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, 57(2), 123-146.
- Lowry, P. B., Posey, C., Bennett, R. J., & Roberts, T. L. (2015). Leveraging fairness and reactance theories to deter reactive computer abuse following enhanced organisational information security policies: An empirical study of the influence of counterfactual reasoning and organisational trust. *Information Systems Journal*, 25(3), 193-230.
- Luo, C., Li, W., Fu, X., Zeng, T., & Lan, Y. (2014). *Managing uncertainty on eWOM: A comparison study between commercial and third party websites*. Paper presented at the Proceedings - Pacific Asia Conference on Information Systems, PACIS 2014.
- MacAskill, W. (2015). *Doing good better: effective altruism and how you can make a difference*. London: Penguin.
- Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science*, 52(12), 1865-1883.
- Marchand, J., & Filiatrault, P. (2002). AIDS prevention advertising: Different message strategies for different communication objectives. *International Journal of Nonprofit and Voluntary Sector Marketing*, 7(3).
- Marsh, A. A., Kozak, M. N., & Ambady, N. (2007). Accurate identification of fear facial expressions predicts prosocial behavior. *Emotion*, 7(2), 239-251.
- Martin, D. G., Hanson, S., & Fontaine, D. (2007). What Counts as Activism?: The Role of Individuals in Creating Change. *Women's Studies Quarterly*, 35(3-4), 78-94.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, 44(1), 1-23.
- Mason, W., & Watts, D. J. (2009). Financial incentives and the "performance of crowds". *ACM SigKDD Explorations Newsletter*, 11(2), 77-85.
- McMahon, D., Seaman, S., & Lemley, D. A. (2015). The adoption of websites by nonprofits and the impact on society. *Technology in Society*, 42, 1-8.

- Michel, G., & Rieunier, S. (2012). Nonprofit brand image and typicality influences on charitable giving. *Journal of Business Research*, 65(5), 701-707.
- Miller, J., & Baker-Prewitt, J. (2009). *Beyond 'Trapping' the Undesirable Panelist: The Use of Red Herrings to Reduce Satisficing*. Paper presented at the CASRO Panel Quality Conference.
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192-222.
- Murray, K. B., & Häubl, G. (2011). Freedom of choice, ease of use, and the formation of interface preferences. *MIS Quarterly*, 35(4), 955-976.
- Nanda, T., Gupta, H., Kharub, M., & Singh, N. (2013). Diagnostics for pretesting questionnaires: A comparative analysis. *International Journal of Technology, Policy and Management*, 13(1), 67-79.
- National Volunteering Strategy Consultation. (2011). *National Volunteering Strategy Consultation Report*. Retrieved from Australia: http://libros.metabiblioteca.org/bitstream/001/496/1/National_Volunteering_Strategy.pdf
- Neilson, L., Shapiro, S., Mittelman, R., & Neilson, L. C. (2011). Development porn? Child sponsorship advertisements in the 1970s. *Journal of Historical Research in Marketing*, 3(3), 370-401.
- Neumann, D. L., Boyle, G. J., & Chan, R. C. K. (2013). Empathy towards individuals of the same and different ethnicity when depicted in negative and positive contexts. *Personality and Individual Differences*, 55(1), 8-13. doi:<http://dx.doi.org/10.1016/j.paid.2013.01.022>
- Newberry, C. R., Klemz, B. R., & Boshoff, C. (2003). Managerial implications of predicting purchase behavior from purchase intentions: a retail patronage case study. *Journal of Services Marketing*, 17(6), 609-620.
- Nicovich, S. G., Boller, G. W., & Cornwell, T. B. (2005). Experienced presence within computer-mediated communications: Initial explorations on the effects of gender with respect to empathy and immersion. *Journal of Computer-Mediated Communication*, 10(2).
- Norris, C. J., Gollan, J., Berntson, G. G., & Cacioppo, J. T. (2010). The current status of research on the structure of evaluative space. *Biological psychology*, 84(3), 422-436.
- Oxford Dictionary. (2015). Retrieved from <http://www.oxforddictionaries.com/>
- Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: Multilevel perspectives. *Annual Review of Psychology*, 56, 365-392.
- Penz, E., & Hogg, M. K. (2011). The role of mixed emotions in consumer behaviour: Investigating ambivalence in consumers' experiences of approach-avoidance conflicts in online and offline settings. *European Journal of Marketing*, 45(1/2), 104-132. doi:doi:10.1108/03090561111095612
- Perez, S. (2013). Would-Be Alexa Killer SimilarWeb Raises An Additional \$3.5 Million. Retrieved from Techcrunch website: <http://techcrunch.com/2013/09/24/would-be-alex-a-killer-similarweb-raises-an-additional-3-5-million/>
- Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *MIS Quarterly*, 31(4), 623-656.
- Piliavin, I. M., Rodin, J., & Piliavin, J. A. (1969). Good Samaritanism: An underground

- phenomenon? *Journal of Personality and Social Psychology*, 13(4), 289-299.
- Piliavin, J. A. (1981). *Emergency intervention*. New York: Academic Press.
- Prade, C., & Saroglou, V. (2016). Awe's effects on generosity and helping. *The Journal of Positive Psychology*, 11(5), 522-530.
- Price, L. L., Arnould, E. J., & Tierney, P. (1995). Going to extremes: managing service encounters and assessing provider performance. *The Journal of marketing*, 59, 83-97.
- Recker, J., Rosemann, M., Green, P., & Indulska, M. (2011). Do ontological deficiencies in modeling grammars matter? *MIS Quarterly*, 35(1), 57-79.
- Ringle, C. M., Wende, S., & Becker, J.-M. (2014). SmartPLS 3. Hamburg: SmartPLS. Retrieved from <http://www.smartpls.com>
- Rooke, S., Thorsteinsson, E., Karpin, A., Copeland, J., & Allsop, D. (2010). Computer-delivered interventions for alcohol and tobacco use: a meta-analysis. *Addiction*, 105(8), 1381-1390. doi:10.1111/j.1360-0443.2010.02975.x
- Ross, B., & Segal, C. (2013). The influential fundraiser: using the psychology of persuasion to achieve outstanding results.
- Rothschild, M. L. (1979). Marketing communications in nonbusiness situations or why it's so hard to sell brotherhood like soap. *Journal of Marketing*, 43, 11-20.
- Rothschild, M. L. (1999). Carrots, sticks, and promises: A conceptual framework for the management of public health and social issue behaviors. *Journal of Marketing*, 63(4), 24-37.
- Sanders, M., & Tamma, F. (2015). The science behind why people give money to charity.
- Scaife, W. (2008). Venturing into venture philanthropy: Is more sustainable health and medical research funding possible through venture philanthropy and social entrepreneurship? *Journal of Nonprofit and Public Sector Marketing*, 20(2), 245-260.
- Schuylt, T., Bekkers, R., & Smit, J. (2010). The Philanthropy Scale: A sociological perspective in measuring new forms of pro social behaviour. *Social Work & Society*, 8(1), 121-135.
- Setia, P., Venkatesh, V., & Joglekar, S. (2013). Leveraging digital technologies: How information quality leads to localized capabilities and customer service performance. *MIS Quarterly*, 37(2), 565-590.
- Shier, M. L., & Handy, F. (2012). Understanding online donor behavior: the role of donor characteristics, perceptions of the internet, website and program, and influence from social networks. *International Journal of Nonprofit and Voluntary Sector Marketing*, 17(3), 219-230. doi:10.1002/nvsm.1425
- Shin, Y., Lee, B., & Kim, J. (2015). Prosocial Activists in SNS: The Impact of Isomorphism and Social Presence on Prosocial Behaviors. *International Journal of Human-Computer Interaction*, 31(12), 939-958.
- Singer, P. (2015). *The most good you can do: how effective altruism is changing ideas about living ethically*. Yale: Yale University Press.
- Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2007). The affect heuristic. *European Journal of Operational Research*, 177(3), 1333-1352.
- Small, D. A., & Verrochi, N. M. (2009). The face of need: Facial emotion expression on charity advertisements. *Journal of Marketing Research*, 46(6), 777-787.
- Smith, S. (2013, 22/4/2013). 4 Ways to Ensure Valid Responses for your Online Survey

Retrieved from <https://www.qualtrics.com/blog/online-survey-valid-responses/>

- Sproull, L. (2005). Prosocial behavior on the net. In Y. Amichai-Hamburger (Ed.), *The social net: understanding human behavior in cyberspace* (Vol. 140, pp. 91 - 114). Oxford: Oxford University Press. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-80053222792&partnerID=40&md5=23b3e8cb565a0fbf2a631a300e9e89a9>.
- Stannard-Stockton, S. (2009). Making Charitable Appeals to Donors' Hearts and Heads. 10/12/2009. Retrieved from philanthropy.com/article/Appealing-to-Donors-Hearts/173425
- Steelman, Z. R., Hammer, B. I., & Limayem, M. (2014). Data collection in the digital age: innovative alternatives to student samples. *MIS Quarterly*, 38(2), 355-378.
- Stiff, J. B., & Mongeau, P. A. (2003). *Persuasive communication*. New York: Guilford press.
- Sullivan, P. (2013). Two Paths for Charitable Giving: From the Head or From the Heart. *Ney York Times*. Retrieved from nytimes.com/2013/06/29/your-money/charitable-giving-from-head-or-heart.html
- Sunstein, C. R. (2013). Nudges.gov: Behavioral Economics and Regulation. In L. Reisch & J. Thøgersen (Eds.), *Oxford Handbook of Behavioral Economics and the Law*. Oxford: Oxford.
- Taylor, M. (2007). *Pro-Social Behaviour: the Future—It's up to us*. Retrieved from United Kingdom: https://www.thersa.org/globalassets/pdfs/blogs/pro-social-behaviour-pro-social_behaviour.pdf
- Tuch, A. N., Bargas-Avila, J. A., & Opwis, K. (2010). Symmetry and aesthetics in website design: It's a man's business. *Computers in Human Behavior*, 26(6), 1831-1837.
- Turner, M. A., Kirchhoff, K., & Capurro, D. (2012). Using Crowdsourcing Technology for Testing Multilingual Public Health Promotion Materials. *Journal of Medical Internet Research*, 14(3), e79.
- van der Heijden, H. (2003). Factors influencing the usage of websites: the case of a generic portal in The Netherlands. *Information & Management*, 40(6), 541-549. doi:[http://dx.doi.org/10.1016/S0378-7206\(02\)00079-4](http://dx.doi.org/10.1016/S0378-7206(02)00079-4)
- Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research*, 11(4), 342-365.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, 27(3), 425-478.
- Verrochi Coleman, N., & Williams, P. (2013). Hardening My Heart: Persuasion Knowledge and Emotion Regulation. *NA-Advances in Consumer Research Volume 41*.
- Wan, J., Lu, Y., Wang, B., & Zhao, L. (2017). How attachment influences users' willingness to donate to content creators in social media: A socio-technical systems perspective. *Information and Management*, 54(7), 837-850. doi:10.1016/j.im.2016.12.007
- Wang, X., & Teo, H. H. (2013). *Defining boundaries of web ads' perceptual fluency effect: Cognitive resources and presentation formats*. Paper presented at the International Conference on Information Systems, ICIS 2013, Milan.
- Warren, S., Gleasure, R., O'Reilly, P., Cristoforo, J., Feller, J., & Li, S. (2017). *When to*

use Rewards in Charitable Crowdfunding. Paper presented at the Proceedings of the 13th International Symposium on Open Collaboration, Galway, Ireland.

- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.
- Webb, T. L., Joseph, J., Yardley, L., & Michie, S. (2010). Using the internet to promote health behavior change: a systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. *Journal of Medical Internet Research*, 12(1), e4. doi:10.2196/jmir.1376
- Wee, C. S., Ariff, M. S. B. M., Zakuan, N., Tajudin, M. N. M., Ismail, K., & Ishak, N. (2014). Consumers perception, purchase intention and actual purchase behavior of organic food products. *Review of Integrative Business and Economics Research*, 3(2), 378.
- Weiner, B., Osborne, D., & Rudolph, U. (2011). An attributional analysis of reactions to poverty: The political ideology of the giver and the perceived morality of the receiver. *Personality and Social Psychology Review*, 15(2), 199-213.
- Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS Quarterly*, 35(2), 373-396.
- Wetzels, M., Odekerken-Schroder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly*, 33(1), 11.
- Wilson, J. (2012). Volunteerism Research: A Review Essay. *Nonprofit and Voluntary Sector Quarterly*, 41(2), 176-212.
- Wixom, B. H., & Watson, H. J. (2001). An empirical investigation of the factors affecting data warehousing success. *MIS Quarterly*, 17-41.
- Xu, B., Jones, D. R., & Shao, B. (2009). Volunteers' involvement in online community based software development. *Information and Management*, 46(3), 151-158. doi:10.1016/j.im.2008.12.005
- Xu, B., & Li, D. (2015). An empirical study of the motivations for content contribution and community participation in Wikipedia. *Information and Management*, 52(3), 275-286. doi:10.1016/j.im.2014.12.003
- Yeung, R. M., & Morris, J. (2001). Food safety risk: Consumer perception and purchase behaviour. *British Food Journal*, 103(3), 170-187.
- Yoon, H. S., & Oceaña, L. G. (2015). Influencing factors of trust in consumer-to-consumer electronic commerce with gender and age. *International Journal of Information Management*, 35(3), 352-363. doi:10.1016/j.ijinfomgt.2015.02.003
- Young-Powell, A. (2013, 14 March). UK charities are missing out on £665m in donations every year. *The Guardian*.
- Zagefka, H., & James, T. (2015). The Psychology of Charitable Donations to Disaster Victims and Beyond. *Social Issues and Policy Review*, 9(1), 155-192.
- Zhang, K. Z. K., Zhao, S. J., Cheung, C. M. K., & Lee, M. K. O. (2014). Examining the influence of online reviews on consumers' decision-making: A heuristic-systematic model. *Decision Support Systems*, 67, 78-89.
- Zhang, W., Gutierrez, O., & Mathieson, K. (2010). Information systems research in the nonprofit context: Challenges and opportunities. *Communications of the Association for Information Systems*, 27(1), 1-12.

- Zhang, Y. (1996). Responses to Humorous Advertising: The Moderating Effect of Need for Cognition. *Journal of Advertising*, 25(1), 15-32. doi:10.2307/4188995
- Zhao, X., Strasser, A., Cappella, J. N., Lerman, C., & Fishbein, M. (2011). A measure of perceived argument strength: Reliability and validity. *Communication Methods and Measures*, 5(1), 48-75.

Appendix 1. Items used to operationalise constructs

Table 5. Items and descriptive statistics			
Construct	Item	Wording	Adapted from
		<i>In the past, approximately how many times have you:</i>	
Philanthropy		donated money to support a prosocial cause?	
Volunteering		volunteered time to support a prosocial cause?	
<i>Attention Trap 1</i>		helped others? To show you are paying attention, please answer this question as never	
Positive affect		<i>To what extent did you feel any of the following emotions while using the website:</i>	
	PA1	Inspired	(Karim et al., 2011)
	PA2	Happy	(Price et al., 1995)
	PA3	Elated	(Price et al., 1995)
	PA4	Pleased	(Price et al., 1995)
Negative affect	PA5	Warm-hearted	(Price et al., 1995)
	NA1	Upset	(Karim et al., 2011)
	NA2	Sad	(Price et al., 1995)
	NA3	Sorry	(Price et al., 1995)
	NA4	Regretful	(Price et al., 1995)
Aesthetics	NA5	Angry	(Price et al., 1995)
		<i>Overall, I would evaluate the websites level of attractiveness (i.e., whether it is aesthetically pleasing to the eye) as:</i>	(van der Heijden, 2003)
	AT1	Low - High	
	AT2	Bad - Good	
	AT3	Negative - Positive	
	AT4	Unpleasant - Pleasant	
Information quality		<i>Please indicate the extent to which you agree or disagree with the following statements:</i>	(Wells et al., 2011)
	IQ1	I have sufficient information about the opportunities for prosocial behaviour available on this website	
	IQ2	I have adequate information about the opportunities for prosocial behaviour available on this website	
	IQ3	I have an acceptable level of	

		information about the opportunities for prosocial behaviour available on this website	
Trust		<i>Based on your experiences on the website, please indicate the extent to which you agree or disagree with the following statements:</i>	(Gefen, 2000)
	TR1	The organisation's website creates the impression that they can be trusted	
	TR2	Based on their website, I believe this organisation is trustworthy	
	TR3	The website makes me believe that I can trust the organisation it represents	
Attention Trap 2		The website can be trusted. If you are paying attention please answer "strongly disagree"	
Argument strength		<i>Overall, I would evaluate the websites arguments for engaging in prosocial behaviour as:</i>	(Y. Zhang, 1996)
	AS1	Unbelievable - Believable	
	AS2	Not forceful - Forceful	
	AS3	Irrelevant - relevant	
	AS4	Ineffective - effective	
	AS5	Not compelling - compelling	
Behavioural Intention		<i>Please indicate the extent to which you agree or disagree with the following statements:</i>	(Bhattacharjee, 2001)
	BI1	My intention is to engage in more prosocial behaviour	
	BI2	I will engage in more prosocial behaviour from now on	
	BI3	I plan to engage in more prosocial behaviour	
Attention Trap 3		The website was persuasive. If you are paying attention please answer strongly disagree.	
Ease of use		<i>Based on your experiences on the website, please indicate the extent to which you agree or disagree with the following statements:</i>	(Venkatesh, 2000)
	EU1	My interaction with the website was clear and understandable.	
	EU2	Interacting with the website did not require a lot of my mental effort	
	EU3	I found the website to be easy to use	
	EU4	I found it easy to get the website to do what I wanted it to do	
Philanthropy		If you wish, you can donate a portion of your earnings for this task to the organisation whose page you reviewed. Please indicate the percentage of your earnings which you are willing to donate. If you do not wish	

		to donate, please move the slide to select 0.	
Volunteering		To what extent would you interested in being added to mailing list for opportunities to support prosocial causes in your area? if 5-7 selected on 7-point scale; then:) Please enter your email address here it will be added to a mailing list for opportunities to support prosocial causes in your area):	

Appendix 2. Screen shots of websites

Screenshot of Amnesty International

The screenshot shows the Amnesty International website homepage. At the top, there is a yellow header with the Amnesty International logo and the text "AMNESTY INTERNATIONAL". To the right of the logo is a navigation menu with links for "MEDIA CENTRE", "LIBRARY", and "CAMPAIGNS". Below this, there are language options: "العربية", "Français", and "Español". A search bar is present with the text "In your country: Select country" and a "GO" button. There are also links for "Register" and "Login".

The main content area is divided into several sections:

- HOME**: A large banner titled "STRUGGLING TO SURVIVE" with the subtitle "The plight of refugees from Syria in Turkey". The banner features a photograph of a woman in a green patterned dress and a child in a refugee camp.
- News**: A list of news articles, including "Philippines: Five years on, justice for Maguindanao massacre can't wait", "UN vote boosts support for a global moratorium on the death penalty", "Gambia: 'Aggravated Homosexuality' Offence Carries Life Sentence", "Livewire - Amnesty International's blog", "Open letter to Putin - 148 NGOs slam 'foreign agents' law", "Racism, segregation, and rejection", and "Myanmar: the human rights story behind the spin".
- In focus**: Two video thumbnails. The first is titled "Shell's false claims on Nigeria oil spills" and shows a video player with a play button. The second is titled "A Prayer for Rain" and shows a video player with a play button.
- HOW YOU CAN HELP**: A sidebar with buttons for "Donate", "Join", and "Take Action".
- HUMAN RIGHTS INFORMATION**: A sidebar with dropdown menus for "By country" and "By topic", each with a "GO" button.
- CAMPAIGNS**: A sidebar with several campaign cards, including "Stop Torture", "My body my rights", "Speak Out Russia", "End Enforced disappearances in Syria", "Iraq in Crisis", and "Individuals at Risk".
- WIRE**: A large graphic for "OUR GLOBAL CAMPAIGNING MAGAZINE" with the text "READ THE CURRENT ISSUE" and a double arrow icon.
- SIGN UP FOR OUR NEWSLETTERS**: A sidebar with the text "Get the latest news, appeals and campaign updates." and a "Sign up" button.

At the bottom of the page, there is a footer with copyright information: "© 2014 Amnesty International" and links for "Jobs", "Online shop", "Privacy Policy", "Cookies", "Accessibility", "Contact us", "Worldwide sites", and "Site map".

Link: <http://www.amnesty.org.au/>

Screen shot of Casa Guatemala

Casa Guatemala
Esta es tu casa

Overview Casa Guatemala News Help Out! Other info Donate Documents Contact

CASA GUATEMALA

WELCOME TO CASA GUATEMALA!

We are a home and school for orphaned, abandoned, or abused children, located in the jungle on the banks of the Rio Dulce in beautiful Guatemala, Central America.

If you are looking for a good cause, one worthy and in need of your support, look no further... for it has just found you.

We need volunteers to help teach and look after the children. We are funded only by our own projects, volunteers & donations from people around the world. We receive no money from the government.

Please Don't Delay & Help Us Today! Make a donation or even come and live in the jungle and work with us!

If you are backpacking through Guatemala come and stay with us in [Hotel Backpackers](#).

Take a few minutes to explore our website and discover what the lives of the children, the workers and the volunteers are like here at Casa Guatemala.

VOLUNTEER VACATIONS!!!

Find us on Facebook

Casa Guatemala
Like 4,479

Casa Guatemala
Yesterday at 1:54am

Coming to Casa Guatemala? Why not start your own fundraising campaign like Mags!?
<https://www.crowdrise.com/magsandtheorphans>

English Español Français

Follow @casaguatemala

CASA GUATEMALA VIDEOS

CASA GUATEMALA | DONATE & PAYMENT | CONTACT | TOP OF PAGE

Link: <http://www.casa-guatemala.org/index.php>

Appendix 3. Summary of final sample

Table 6. Sample and group demographics				
		All	Website	
			AI	CG
Number		236	101	135
Average Age		37	37	37
Gender	Male	117	49	68
	Female	118	51	67
	Other	1	1	0
Education level	No schooling completed	0	0	0
	Nursery school to 8th grade	0	0	0
	Some high school, no diploma	1	0	1
	High school graduate, diploma or equivalent	18	7	11
	Some college completed, no degree	33	9	24
	Trade/technical/vocational training	12	6	6
	Associate degree	23	11	12
	Bachelor's degree	112	49	63
	Master's degree	32	17	15
	Professional degree	4	1	3
	Doctorate degree	1	1	0
Income	0-29,999	123	54	69
	30,000- 49, 999	62	22	40
	50,000- 69, 999	35	16	19
	70,000- 89, 999	11	6	5
	90,000- 109,999	5	3	2
	110,000- 129,999	0	0	0
	130,000 or more	0	0	0
Nationality	American	159	70	89
	Indian	68	29	39
	Other	9	2	7
Ethnicity	White	137	59	78
	Hispanic or Latino	7	3	4
	Black or African American	15	7	8
	Native American or American	4	2	2
	Indian	71	29	42
	Asian / Pacific Islander	1	1	0
	Other	0	0	0
Marital status	Single, never married	95	38	57
	Married or domestic partnership	117	52	65
	Widowed	4	2	2
	Divorced	19	9	10
	Separated	1	0	1

Appendix 4. Covariance model

Table 7. Covariance model										
	AS	NA	PA	EU	OT	IQ	AT	BI	Phil.	Vol.
AS1	0.87	0.07	0.28	0.40	0.65	0.45	0.55	0.50	0.08	0.16
AS2*	0.19	0.13	-0.13	-0.06	-0.02	0.04	0.02	0.14	-0.01	0.09
AS3	0.86	0.09	0.25	0.43	0.55	0.46	0.45	0.50	0.00	0.16
AS4	0.92	0.09	0.36	0.40	0.61	0.50	0.61	0.63	0.08	0.22
AS5*	0.67*	-0.05	0.14	0.19	0.31	0.27	0.30	0.32	-0.02	-0.03
NA1*	0.01	0.66	-0.38	-0.08	0.01	-0.05	-0.05	-0.01	-0.01	0.10
NA2	0.07	0.89	-0.30	-0.04	0.09	0.01	0.02	0.12	-0.02	0.14
NA3	0.10	0.87	-0.25	-0.07	0.08	0.02	0.03	0.08	-0.04	0.11
NA4	0.01	0.80	-0.16	-0.05	-0.02	0.02	0.03	0.09	-0.05	0.12
NA5*	0.00	0.52	-0.45	-0.16	-0.01	-0.10	-0.12	-0.06	-0.07	0.04
PA1	0.34	-0.10	0.87	0.29	0.30	0.33	0.44	0.48	0.20	0.23
PA2	0.20	-0.38	0.83	0.19	0.22	0.23	0.35	0.33	0.12	0.08
PA3	0.20	-0.14	0.80	0.11	0.22	0.21	0.34	0.40	0.19	0.13
PA4	0.24	-0.22	0.87	0.24	0.30	0.27	0.42	0.41	0.14	0.16
PA5	0.29	0.00	0.82	0.31	0.30	0.31	0.44	0.45	0.13	0.19
EU1	0.44	0.00	0.27	0.91	0.48	0.52	0.42	0.35	-0.06	0.05
EU2	0.39	0.01	0.27	0.93	0.45	0.49	0.42	0.34	-0.04	0.04
EU3	0.38	-0.05	0.22	0.91	0.44	0.56	0.35	0.29	0.02	0.05
EU4*	0.20	-0.05	0.19	0.66	0.21	0.37	0.16	0.18	0.04	-0.06
TR1	0.61	0.07	0.28	0.47	0.95	0.38	0.57	0.54	0.09	0.15
TR2	0.61	0.06	0.31	0.45	0.96	0.38	0.53	0.57	0.09	0.16
TR3	0.61	0.08	0.35	0.46	0.96	0.42	0.56	0.58	0.07	0.18
IQ1	0.45	0.07	0.30	0.51	0.34	0.92	0.41	0.48	0.17	0.14
IQ2	0.53	0.04	0.32	0.49	0.42	0.92	0.39	0.51	0.10	0.16
IQ3	0.44	0.05	0.28	0.58	0.38	0.93	0.39	0.47	0.09	0.08
AT1	0.54	0.12	0.39	0.40	0.51	0.39	0.92	0.56	0.17	0.24
AT2	0.55	0.11	0.39	0.36	0.53	0.37	0.94	0.52	0.13	0.19
AT3	0.54	-0.03	0.49	0.36	0.57	0.41	0.91	0.51	0.14	0.24
AT4	0.53	0.08	0.50	0.39	0.53	0.42	0.93	0.59	0.17	0.20
BI1	0.48	0.13	0.44	0.19	0.37	0.40	0.47	0.93	0.22	0.36
BI2	0.49	0.11	0.46	0.22	0.39	0.43	0.52	0.91	0.27	0.42
BI3	0.48	0.12	0.44	0.20	0.38	0.39	0.46	0.93	0.21	0.35
Phil.	0.05	-0.03	0.19	-0.02	0.08	0.13	0.17	0.21	1.00	0.24
Vol.	0.18	0.16	0.20	0.03	0.17	0.14	0.23	0.34	0.24	1.00

Legend; * indicates that item was removed. IQ = Information quality, AS= Argument strength, AT = Aesthetics, EU = Ease of use, NA = Negative Affect, PA = Positive affect, BI = Behavioural intention, TR = Trust.

Appendix 5. Differences between websites on items

Table 8. Differences across website viewer groups				
Category	Item	CG mean	AI mean	Difference
Demographics	Age	36.63	36.98	-0.35
Positive affect	PA1	5.25	4.07	1.18***
	PA2	4.19	2.62	1.57***
	PA3	3.43	2.29	1.14***
	PA4	4.57	2.83	1.74***
	PA5	5.21	3.85	1.36***
Negative affect	NA1*	2.29	3.67	-1.38***
	NA2	2.99	4.19	-1.20***
	NA3	2.99	3.75	-0.76**
	NA4	2.33	2.92	-0.59*
	NA5*	1.61	3.39	-1.78***
Aesthetics	AT1	5.10	4.93	0.17
	AT2	5.47	5.27	0.21
	AT3	5.72	5.15	0.57**
	AT4	5.46	4.81	0.65**
Information Quality	IQ1	5.87	5.53	0.33*
	IQ2	5.84	5.56	0.28*
	IQ3	5.86	5.56	0.29*
Trust	TR1	5.61	5.69	-0.09
	TR2	5.60	5.72	-0.12
	TR3	5.64	5.58	0.06
Argument strength	AS1	5.96	6.00	-0.04
	AS2*	3.52	4.34	-0.82**
	AS3	5.90	5.92	-0.02
	AS4	5.72	5.61	0.10
	AS5*	5.27	5.24	0.04
Behavioural intention	BI1	5.07	4.8	0.27
	BI2	4.94	4.7	0.24
	BI3	5.01	4.75	0.26
Ease of use	EU1	6.10	5.87	0.23
	EU2	6.09	5.82	0.27*
	EU3	6.03	5.75	0.28*
	EU4*	5.87	5.43	0.44*
Outcomes	Philanthropy	12.72	9.10	3.62
	Volunteering	0.32	0.36	-0.04

Legend: * indicates that item was removed from final analysis; Significance: * p < .05, ** p < .01, *** p < .001; N/A indicates that scale used was nominal, therefore significance measures do not apply.