Master degree thesis in Marketing

Donating to the one who stands representative of many
How adapting a practice-oriented perspective influences the inner workings of the identifiable victim effect

June 21, 2019

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ABSTRACT

Past research has shown that people do not value lives consistently following a donation appeal, as they are able to stay relatively unmoved when faced with aggregated, statistical victims, but at the same time become extremely responsive to the needs of specific, identifiable victims. Although this “identifiable victim effect” is of particular interest to charitable organizations’ marketing campaigns, research has adapted a perspective that does not directly relate to these campaigns in practice. In this thesis, I therefore introduce a new perspective on the identifiable victim effect that is based directly on charitable organizations’ marketing campaigns. I operationalize identifiable victims as victims representative of a larger group, which I name the one-among-many identifiable victim approach. I research the underlying psychological mechanisms of the identifiable victim effect using this approach, and integrate the recently introduced concept of lay rationalism as a potential moderator of the strength of the effect. I research these inner workings by conducting an online experiment, in which participants are shown either one of two different donation appeals. Based on the results of a comprehensive partial least squares modeling analysis, it appears that using a more practice-based operationalization results in an adverse direction of the effect. People donate more to statistical victims than to identifiable victims. This effect is robust under any degree of lay rationalism. This poses hopeful information for organizations supporting large-scale disasters, as this research is among the first to counter the general consensus that statistical victims decrease caring. Furthermore, it stresses the importance of a well-considered operationalization of the identifiable victim effect, as this may be crucial to any observed results.

**Key words:** Identifiable Victim Effect, Emotional Reactions, Lay Rationalism, One-Among-Another Identifiable Victim Approach, Donation Behavior
Preface

This thesis was written as the completion of a Master’s degree in Marketing at the Radboud University. During the project, I had the pleasure to be supervised by dr. Nina Belei of the Radboud University, and prof. dr. ir. Jörg Henseler of the University of Twente.

The idea for engaging in this research was first provided to me by dr. Belei, who after weeks of contemplating told me “Bas, you have a lot of ideas, but please try to create some structure in what you’re saying!” Not unfamiliar with this comment, I started looking at an article she provided me about a psychological concept measuring individual differences of people in preferences for decision making, in which a link was made with people’s donation behavior. Unknowingly what the literature on the identifiable victim effect embodied, I have spent the better part of my master’s year reading into this effect and the conditions under which it appears. I want to thank dr. Belei for her enthusiasm towards my project, and the patience she kept listening to the stream of (probably non-feasible) ideas I supplied right after our first meetings.

In March, I continued my thesis under the supervision of professor Jörg Henseler, which at first appeared as a daring task to me considering my limited knowledge on statistics. However, right from the moment we started talking about the project in a meeting he had driven over for from Enschede, I felt confident that I could make this ‘more than just an assignment’. In the meetings we had during the writing of my thesis, professor Henseler has helped me overcome many barriers I encountered in both writing and analyzing. Moreover, he proved to be a continuous asker of critical questions, which has helped me tremendously in bringing my research to a higher level. I want to thank him for all this guidance, as well as the interest he expressed in my research, which gave me the confidence to try and make it something special.

I further want to thank Martijn Pruijn for taking the time amidst his own thesis research to perform a back-translation, all the people who gave critical feedback on the thesis during the pre-test, Wouter Hoogeveen and Daniël Ludwig for the feedback they provided me in our self-created thesis circle, dr. Vera Blazevic for accepting to be the second examiner, and all the people who participated in this research. Their contributions to this research improved it significantly. Lastly, I would like to thank my family for lending a listening ear during the difficult parts of the research.

Bas van Heerwaarden

June 21, 2019
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Introduction

Marketers have long recognized the importance of presenting a vivid personal story when trying to influence human decision making. Such techniques are especially relevant in marketing campaigns for charitable organizations, and are often employed with the ultimate goal of influencing people’s donation behavior. The increasing number of charitable organizations that compete for donors’ contributions has placed critical importance on the design of these organizations’ marketing campaigns. Designing such a campaign has proven to be a difficult endeavour, since the effectiveness of various kinds of donation appeals differs substantially. People have been shown to be able to stay relatively unmoved when faced with a donation appeal displaying statistics about a large-scale disaster, but at the same time become extremely responsive to the needs of specific, identifiable victims (Jenni & Loewenstein, 1997). As an example, in 2015 the world was shocked in response to the release of a picture showing the three-year old Syrian refugee Aylan Kurdi, whose body was found washed ashore after a failed attempt to reach Greece with his family. During the weeks after the publication of the photo, donations to the Swedish Red Cross aiding in the Syrian refugee crisis rose from a weekly $3,850 to $214,300 (Cole, 2017). Yet, the crisis had been going on for five years at that point and had gained wide-spread media attention, begging the question why such donations did not occur at an earlier point in time.

Such a case is not unique in its existence, and illustrates the fact that people’s donation behavior following a crisis is inconsistent and even disproportionate (Slovic, 2007). The tendency of individuals to offer greater aid when a specific, identifiable person is observed under hardship, as compared to a large, vaguely defined group with the same need, has been defined by Jenni and Loewenstein (1997) as the “identifiable victim effect” (IVE). Research on the IVE has consistently shown that individuals donate more money following a donation request displaying an identifiable victim as opposed to statistical victims (Jenni & Loewenstein, 1997; Small & Loewenstein, 2003; Small, Loewenstein, & Slovic, 2007). This disproportionate donation behavior forms a problem for charity organizations, since focusing on a specific victim in a marketing campaign might very often not be the preferred approach (Ein-Gar & Levontin, 2013). A continuous focus on donation appeals displaying identifiable victims might cause people to become “emotionally immune”, reducing their effectiveness. Furthermore, when people see an opportunity to blame identifiable victims for their plight, they might even decrease donations (Kogut, 2011).

Perhaps the most problematic concern regarding the focus on an identifiable victim is that charitable organizations are permitted by law to use targeted donations for the intended purposes only, which may cause them problems when their marketing campaign makes it seem as if any monetary donation will go directly to the identifiable victim displayed (Ein-Gar & Levontin, 2013). As a result, charitable organizations act on the assumption that people donate more to an identifiable victim by using “poster
children” to create an emotionally appealing claim. Identifiable victims are typically displayed as being one of the many victims in need of help, representative for the critical situation of the group. Although this approach to designing marketing campaigns is widely used in practice, research on the IVE has generally focused its attention to differences in giving between statistical victims and individual, specific victims who are implied to benefit directly from any monetary donation. This approach has yielded interesting findings regarding the psychological mechanisms that come into play prior to a decision making bias, but it poses problems for the relevance of the research for organizations in practice. Therefore, I choose to use a different perspective, by looking directly into the workings of the IVE when people are presented with donation appeals either using statistical victims or an identifiable victim which is representative of a larger group, and therefore is “one of the many”.

Previous research on the underlying mechanisms behind the IVE is an interesting point of departure. A popularly hypothesized explanation for the IVE is the higher emotional reactions people experience as a result of identifiable as opposed to statistical victims. Emotional reactions have been considered to be an important antecedent to helping behavior (Batson, 2011; Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991; Piliavin, Rodin, & Piliavin, 1969), and identifiable victims have been shown to induce greater emotional reactions, specifically people’s experienced feelings of distress and sympathy, than statistical victims (Kogut & Ritov, 2005a, 2005b). However, research on the mediating role of emotional reactions has delivered mixed results, with some studies finding unsupportive evidence (e.g., Friedrich & McGuire, 2010; Ritov & Kogut, 2011; Small et al., 2007) where other studies did find such evidence (e.g., Erlandsson, Björklund, & Bäckström, 2015; Lee & Feeley, 2018). Taken together, the available findings for an affect-mediating mechanism have been mixed, and this popular explanation for the IVE remains untested for research using the one-among-many approach to identifiable victims.

Since identifiable victims are proposed to induce more sympathy and distress than statistical victims, individual differences in people’s natural tendency towards relying on those emotional reactions in decision making may be an important predictor of the actual effect these emotions subsequently have on people’s donation behavior (Friedrich & McGuire, 2010). A recent study introduced a variable measuring such individual differences. Hsee, Yang, Zheng and Wang (2015) discussed people’s individual differences in the degree to which they use reason rather than feelings to guide their decisions, and defined this as their degree of “lay rationalism”. Considering that lay rationalism measures the weight people place on reason and emotion in their decision making, it is interesting to look into how this concept determines the strength of the IVE, which plays specifically on people’s emotions to heighten donation behavior.

In sum, the IVE poses some interesting challenges for charitable organizations wanting to optimize their marketing campaigns. Previous research has looked into the workings of the IVE, but an interesting opportunity remains to look into the mediating mechanism of the IVE, and to examine the potential
influence of lay rationalism on the IVE. To fill this gap, the purpose of this research is twofold: (1) to provide more clarity in the mechanisms underlying the IVE by researching the mediating effect of the emotional reactions distress and sympathy, and (2) to examine what the influence of people’s degree of lay rationalism is on their donation behavior towards identifiable and statistical victims. Following these aims, I address the following two research questions:

1) Do emotional reactions serve as a mediating mechanism for the identifiable victim effect?

2) What influence does people’s lay notion of rationality have on their susceptibility to the identifiable victim effect?

This research has the potential to provide insights into the drivers of people’s donation behavior, and the role individual differences play in predicting people’s susceptibility to the IVE. This may help charity organizations supporting large numbers of victims and struggling to find the necessary funding, by giving them insights in the effectiveness of certain marketing campaigns. The one-among-many approach to operationalizing identifiable victims may prove to be especially useful in this regard, as it is directly relatable to these organizations’ marketing campaigns. This research contributes to theory by offering further insights in the mediating role of people’s experienced sympathy and distress, where other research has found mixed results. Furthermore, I am the first to link the IVE to the concept of lay rationalism, by which I expand the literature that looks into the effects of individual difference variables on people’s susceptibility to the IVE.

In the next chapter of this thesis, I elaborate on the theory of the IVE, and I discuss the diverse literature streams around the effect. This next chapter ends with a presentation of my hypotheses, which are visualized in a conceptual model. In the third section of my thesis, I introduce the methods used to test the hypotheses of this research. In this section, I also elaborate on the choices I made regarding the analysis of my data. The fourth chapter of my thesis consists of a presentation of the results I obtained from the various analyses. In the last part of my thesis, I interpret the results and answer the research questions posited above. In this chapter, I also discuss how my research contributes to theory and practice, and I reflect on some important limitations surrounding my research. I finish this thesis by offering some suggestions for further research on the IVE.
Theory

The theory section of this thesis is divided in a part discussing the theoretical framework, and a part elaborating on the diverse literature streams around the IVE. In the first part, I introduce the IVE as the theoretical lens through which the variables of this research are being viewed. In this part, I elaborate on the underlying mechanisms of the effect, and the various findings research has provided regarding these mechanisms. In the second part, I discuss the diverse literature streams around the IVE. In this part of the chapter, I start by looking into the differences in operationalization, and the effect these have on the workings of the IVE. I derive my hypotheses from the use of the one-among-many identifiable victim approach. Subsequently, I discuss the literature around individual difference variables in decision making, and how these may be of importance with regard to the IVE. Following this discussion, I present my hypotheses regarding the influence of lay rationalism on the IVE. This chapter ends with a presentation of the conceptual model built on the expected relationships between the core variables of this research.

Theoretical framework

2.1 The theory of the IVE

The IVE as part of a larger spectrum of biases in human decision making processes has firstly been discussed by Schelling (p. 142, 1986), who noticed that the death of a specific person evokes “anxiety and sentiment, guilt and awe, responsibility and religion, [but] ... most of this awesomeness disappears when we deal with statistical death”. Research on the IVE has shown that people show greater helping motivation towards personalized, single victims as compared to aggregated, statistical victims. These effects hold over different operationalizations of helping motivation, such as people’s motivation and willingness to donate following a donation appeal, as well as their actual donations (Small et al., 2007). In an effort to explain why identifiable victims and statistical victims evoke different donation behavior in people, research has looked into which kind of psychological responses are evoked by different donation appeals, as well as which factors contribute to an individual’s decision to help.

2.2 Underlying mechanisms (why do we help?)

When looking into possible mechanisms underlying the IVE, the factors underlying an individual’s decision to help are an interesting point of departure (Erlandsson et al., 2015). Weber and Lindemann (2007) described three modes of decision making, being affect-based, calculative-based, and recognition-based decision making. Affect-based decision making is driven by needs, wants and emotions, and is therefore generally fueled by the desire to fulfill needs or wants, or having feelings of autonomy and self-affirmation. Simply put, it is making decisions ‘by the heart’. Calculation-based decision making occurs based on traditional cost-benefit models and anticipated emotions, with the aim of maximizing material and
emotional outcomes. This can be seen as making decisions ‘by the head’. Finally, recognition-based decision making involves recognizing a situation in which help is needed, and is, in the context of helping, affiliated with ‘doing the right thing’ and building connectedness and self-esteem. It is decision-making ‘by the book’. These three modes of decision making have been operationalized as three psychological mechanisms which influence helping behavior: emotional reactions (affect-based decision making), perceived impact (calculation-based decision making) and perceived responsibility (recognition-based decision making). The IVE has been linked to all three of these psychological mechanisms underlying helping behavior (e.g., Erlandsson et al., 2015; Friedrich & McGuire, 2010). In the following paragraphs, I discuss the relevance of each mechanism with regard to the IVE.

2.2.1 Emotional reactions
The emotional reactions fundamental to helping motivation can be divided into distress reactions and sympathy reactions. Feelings of distress are a summarization of general feelings of sadness and uneasiness, and are feelings directed inwards.

Emotional reactions have been widely considered as an underlying mechanism of the IVE, because identifiable victims are considered to evoke higher emotional reactions than statistical victims. Following behavioral research (Hamilton & Sherman, 1996; Susskind, Maurer, Thakkar, Hamilton, & Sherman, 1999), Slovic (2007) argued that a single, individual victim is viewed as a more psychologically coherent unit, and individuals are struggling more to coherently process information about a group of victims. Therefore, a single victim would elicit more emotions than a group of victims, because they can be processed more extensively, leading to clearer impressions about the victim’s situation. Following this reasoning, emotional reactions evoked by single, identifiable victims begin to diminish as the number of victims becomes larger. This is what Slovic (2007) describes as the “collapse of compassion” (p. 88), and what makes large numbers of victims simply becoming a statistic, failing to elicit emotions as strong as an identifiable victim.

Another popular explanation stems from research on dual process models in social psychology (Lee & Feeley, 2018). Dual process models like the central-peripheral model (Petty & Cacioppo, 1986) and the Heuristic-Systematic model (Chaiken, 1980) suggest that specific targets are more emotionally and mentally involving than abstract targets. Hence, specific, identifiable victims may receive more cognitive attention, and deeper consideration. On the contrary, statistical victims, which are seen as an abstract target, are more likely to be judged on the basis of peripheral or heuristic cues (Small & Loewenstein, 2003). These theories explain why people experience stronger feelings in general when faced with a single, identifiable victim, as opposed to statistical victims (Small & Loewenstein, 2003).

In turn, the capacity to experience these feelings of distress and sympathy has been considered as
fundamental to any helping motivation (Slovic, 2007). Distress motivates helping, because people see helping as a way of getting rid of distressed feelings. This characterizes distress as a more ‘egoistic’ motivation to help (Erlandsson et al., 2015). Sympathy, on the other hand, is an outward feeling directed at the people in need. It motivates people to help even if they have the opportunity to ignore the problem, because they feel empathetic concern for the people in need. Therefore, it can be seen as an ‘altruistic’ motivation to help (Erlandsson et al., 2015; Batson, 2011). Batson and colleagues have provided evidence supporting the empathy-altruism model (see Batson, 2011), which states that when individuals see another person in need of help, this elicits feelings of sympathy in this individual, which in turn generates an altruistic motivation to help the other.

Additionally, research has shown that people frequently rely on emotional reactions when making decisions (Slovic, Finucane, Peters, & MacGregor, 2002). Slovic et al. (2002) described this as the “affect heuristic”, which entails that people tend to take mental shortcuts in their mind, thereby relying more on affect in decision-making than on rational thinking. People ‘tag’ events and objects with a certain affectional value in their mind, and confronted with making a judgment or decision, they generally turn to these tags as reference points because this is far easier than making a decision based on pros and cons. As a result of this, people are more likely to donate to identifiable victims, because following the affect heuristic, they are more likely to rely on the emotional reactions evoked by these victims when making decisions.

2.2.2 Perceived impact
Perceived impact has been linked to the IVE in several articles. Duncan (2004) introduced the concept of impact philanthropy, which discusses perceived impact as a model of altruism based on charitable donors who want to ‘make a difference’. As the number of donors increase, impact philanthropists experience reduced fulfillment as a result of their donation. Also, when a donation is spread among multiple causes, this fulfillment can be reduced. This might lead to a conflict, as charitable organizations want to spread a person’s donation among many victims, but this conflicts with the aim of the donor, who wants to maximize his or her experienced fulfillment.

Perceived impact is regarded as the main mediating mechanism behind the proportion dominance effect (PDE; Erlandsson et al., 2015). The PDE was identified firstly by Jenni and Loewenstein (1997), and specifically concerns individuals’ motivation to strive for saving a maximum proportion of victims out of the total group-to-be-saved (the reference group), rather than a maximum absolute number of victims. The PDE is closely related to the IVE, because identifiable victims inherently constitute their own reference group, and are therefore more attractive to donate to than statistical victims (Jenni & Loewenstein, 1997). Jenni and Loewenstein (1997) found this to be the single most important antecedent to the IVE, even concluding their research on the causes of the IVE by wondering if “(...) the identifiable victim effect could
more accurately (but less elegantly) be labeled the “percentage of reference group saved effect” (Jenni & Loewenstein, 1997, p. 254). Later research named this effect as the PDE, which generally has been described of the tendency of people to show greater sensitivity to the proportion of the reference group saved than to the absolute number of victims to be saved (Bartels, 2006; Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997; Friedrich et al., 1999).

2.2.3 Perceived responsibility
Finally, people’s experienced responsibility has also been discussed as a mechanism underlying the IVE. Basil, Ridgway and Basil (2006) linked people’s experienced responsibility to the IVE by looking into how an ad with an identified victim induces a guilt response in people. A guilt response, in their research, was characterized by a higher donation as a result of an increased sense of responsibility towards the victim. Identified victims showed to induce a greater guilt response (i.e. a higher donation) than statistical victims, because people felt more responsible for the victim in the ad. Further research found that people donate more money when they believe they are the only possible helper of the victim, because they feel more responsible (Cryder & Loewenstein, 2012).

2.2.4 Emotional reactions as the mediating mechanism in this research
In order to effectively capture the causes and consequences of the IVE, it is important to isolate the effect from any other effects that may occur as a result of identifiable victims. It can be argued that the IVE and the PDE, even though closely related, are in fact two effects that can be separated. The IVE then focuses solely on the effects of identifying a victim, where the PDE is more concerned with the effects following saving a certain proportion of the reference group. Erlandsson et al. (2015) were the first to recognize this, as they separated the IVE from the PDE, as well as from the in-group effect. The latter can be described as the tendency of people to help people which are part of their in-group (e.g., blood-related relatives) more than people that are part of their out-group (e.g., strangers) (Dovidio et al., 1997; Levine, Cassidy, Brazier, & Reicher, 2002). Erlandsson et al. (2015) looked into which psychological mechanisms (i.e. emotional reactions, perceived impact and perceived responsibility) predominantly mediated which effect. The results of their study imply that people’s experienced feelings of sympathy (as part of their emotional reactions) primarily mediated the IVE, perceived impact primarily mediated the PDE and perceived responsibility primarily mediated the in-group effect (Erlandsson et al., 2015). Therefore it can be stated that the IVE can be associated with affect-based decision making, the PDE with calculation-based decision making and the in-group effect with recognition-based decision making (Erlandsson et al., 2015; Weber & Lindemann, 2007). These findings offered support for the affect-mediation hypothesis where many previous studies had failed to provide so (e.g. Friedrich & McGuire, 2010; Ritov & Kogut, 2011; Small et al., 2007). Lee and Feeley (2018) extended this research on the mediators of the IVE by using an experimental-causal-chain
designed research (Spencer, Zanna, & Fong, 2005), in which they found a significant mediating effect not only of sympathy, but also of distress. The affect-mediation hypothesis is further supported by a number of articles which show that when people feel less affect, the IVE decreases (Erlandsson et al., 2015). For example, Small et al. (2007) found that when people are primed to think analytically, they become less susceptible to the IVE. Also, adding statistical information to an identifiable victim description, which is assumed to make people think analytically, lowers the amount people normally donate to an identifiable victim to the amount they would give to statistical victims (Small et al., 2007).

As the IVE, the PDE and the in-group effect have been associated with different psychological mechanisms, it is important to keep them separated while doing research into their inner workings. This way, findings about the IVE can be attributed to the vivid, personal information the victim conveys. A numerical difference between two reference groups to-be-saved may evoke the PDE, thereby confusing the cause of any changes in donation behavior. Following the same logic, research into the IVE should be aware of any differences between identifiable and statistical victims in psychological distance to the receiver of the donation appeal, since this may invoke the in-group effect (Dovidio et al., 1997; Levine et al., 2002).

In this research, I therefore attempt to isolate the IVE by focusing on identifiability and its effects on distress, sympathy and donation behavior.

**Literature review**

The IVE has been discussed extensively in the literature. The interesting thing, however, is that the literature does not always take the same perspective in researching the IVE, or adapts different operationalizations of the identifiable victim type. In this section, an effort is made to create clarity in the diverse literature streams around the IVE. Firstly, the differences in operationalizations of the identifiable victim type are described. Subsequently, the two main literature streams on people’s susceptibility to the IVE are discussed.

**2.3 Differences in operationalization**

Researchers base their operationalizations of the victim types on two main differences between identifiable and statistical victims. Firstly, identifiable victims are mostly presented as single victims in need of help, where statistical victims are presented as an aggregate number of victims in need of help. Secondly, the victim descriptions differ in the degree to which they provide the reader with vivid, personal or detailed information about the victims. Identifiable victims are often shown with a picture, or with other personal information like their name, age, or gender. Statistical victims are generally presented without this information (Lee & Feeley, 2018; Cryder, Loewenstein, & Scheines, 2013).

Research into the IVE has generally found that people donate more money to identifiable and statistical victims, but has not always been consistent in its results (Lee & Feeley, 2016). When researching the IVE in different contexts, some studies have failed to provide any support for this effect, while others
have even found effects in the opposite direction (e.g., Dickert, Kleber, Peters, & Slovic, 2011; Ein-Gar & Levontin, 2013; Kogut, 2011). The cause for these mixed results mainly lies in the operationalization of the victim types (Lee & Feeley, 2016). Operationalizations differ in the number of victims (a single victim or a group of victims), the information used to identify victims (a picture, their name or age, or a combination of the three), the cause of the victims' plight (poverty versus disease or injury) or whether the victims belonged to the respondent’s in-group or out-group.

An important difference which was not mentioned by Lee and Feeley (2016) is the one regarding the monetary end goal which is implied in the ad. A distinction can be made between two types of approaches used in the literature to portray an identifiable victim and its monetary end goal, which I name the “traditional identifiable victim approach” and the “one-among-many identifiable victim approach”.

2.3.1 The traditional identifiable victim approach
The traditional identifiable victim approach is used in research examining people’s donation behavior towards single identifiable victims as compared to statistical victims, which naturally represent an aggregate number of victims. The donation appeal thereby implies that any money donated to an identifiable victim is ‘earmarked’ for the victim depicted in the ad (Erlandsson et al., 2015), meaning that it will go directly towards helping this single victim. Consider the following operationalization of an identifiable victim by Friedrich and McGuire (2010, p.200):

“Any money that you donate will go to Sara, a 7-year-old girl from Zambia, Africa. Sara is desperately poor, and faces a threat of severe hunger or even starvation after her home and her community farm were destroyed in the recent floods. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, the International Red Cross will work with Sara’s family and other members of the community to help feed her, and provide for basic medical care.”

In this donation appeal, it is implied that any money donated will go to a single, identifiable victim (a 7-year-old girl), thereby offering a direct way of helping this victim.

2.3.2 The one-among-many identifiable victim approach
An alternative approach to presenting an identifiable victim is to display this victim as being representative of a larger group of victims. This approach can be recognized in campaigns by organizations like UNICEF, War Child and Greenpeace, which generally do not attribute the donated money to the identifiable victim depicted in their ads, but rather to the larger group of victims in general. An example of this can also be found in the introduction of this thesis, with Aylan Kurdi being representative of Syrian refugees. An identifiable victim is then displayed as being “one of the many” victims in need of help, thereby implying that any amount of money donated will go to the larger group of victims among which the victim depicted
in the donation appeal is one, rather than to the identifiable victim in specific (e.g., “With your support, the International Red Cross will be able to help feed Zambian children like Sara, and provide for basic medical care”). I name this approach the *one-among-many identifiable victim approach*.

The difference between the traditional identifiable victim approach and the one-among-many identifiable victim approach seems small, but is worth emphasizing prior to conducting research for several reasons. Firstly, the generality of the findings with following both approaches differs significantly. The traditional identifiable victim approach yields results that are generalizable only to cases wherein donations help a single, identified victim, whereas the results of research on the IVE using a one-among-many identifiable victim approach are directly relatable to the marketing campaigns of charitable organizations like the ones mentioned above.

Secondly, the duality in approaches reflects underlying differences in whether or not to account for the PDE as a mechanism behind the IVE. Under the traditional identifiable victim approach, the proportion of the reference group saved is 100% since the ad implies that any donated money is earmarked for the identified victim depicted in the ad. Therefore, effects of both identifiability and proportion dominance may occur. The one-among-many identifiable victim approach prevents this duality of effects by keeping the reference group constant, as the ad portrays an identifiable victim but implies that any donations go to a larger group. Therefore, in this approach the PDE does not account for donation behavior differences towards identifiable versus statistical victims. This may have important consequences for the mediating variables that appear when measuring the IVE.

The mixed effects that may occur as a result of the traditional identifiable victim approach point to a possible cause for the mixed findings with regard underlying mechanisms of the IVE. Since I want to isolate the effect of identifiability, and aim to generalize my findings to charitable organizations’ marketing campaigns, I use the one-among-many identifiable victim approach for researching the IVE. The hypotheses that are derived from using this approach, considering its focus on identifiability and the effect this has proven to have on emotional reactions, are:

*(H1) An identifiable victim results in a) a greater motivation to donate and b) a greater willingness to donate than a statistical victim.*

*(H2) An identifiable victim will yield greater feelings of a) distress and b) sympathy than a statistical victim, but no difference in feelings of c) perceived impact and d) perceived responsibility.*

*(H3) People’s experienced distress will have a positive effect on a) their motivation to donate and b) their willingness to donate.*
(H4) People’s experienced sympathy will have a positive effect on a) their motivation to donate and b) their willingness to donate.

2.4 Susceptibility to the IVE (when do we help?)
Research on people’s susceptibility to the IVE can be distinguished into two general streams of literature, with the first focusing itself mainly on situational differences in peoples’ susceptibility to the IVE, and the second aimed at investigating peoples’ individual differences in susceptibility to the IVE. The literature stream on situational differences in susceptibility to the IVE consists of many articles researching the IVE in different contexts and conditions. Small and Loewenstein (2003) researched the effect with a minimal addition of identifiability, by merely researching people’s helping motivation towards determined victims (“the victim”) as opposed to undetermined victims (“a victim”). They found that people have a significantly larger helping motivation when the victim is determined. Furthermore, victims evoke even more helping motivation when they are identified with their name, age or a picture (Kogut & Ritov, 2005a; Small & Verrochi, 2009).

2.4.1 Individual differences
The research on situational differences influencing the strength of the IVE has increasingly clarified the nature of the IVE, however, another trend in research remains relatively underexposed. Although situational differences in processing styles has been shown to be an important determinator of the IVE (e.g., Small et al., 2007), individual differences in processing styles are perhaps an even better, more robust determinant of people’s susceptibility to the IVE (Friedrich & McGuire, 2010). Studying individual differences in an effort to explain differences in behaviors or attitudes has been a popular practice in psychology and consumer research (Hsee et al., 2015). Friedrich and McGuire (2010) laid the groundwork to the research stream linking individual differences to the IVE by looking into how people’s difference in preferences towards a certain processing style influences their susceptibility to the effect. In their research, they relied on the Rational-Experiential Inventory (REI) scale developed by Epstein and colleagues (Epstein et al., 1996; Pacini & Epstein, 1999) as an individual difference variable. The REI scale consists of two separate scales: a rational scale, adapted from the Need for Cognition scale (Cacioppo et al., 1996) and an experiential scale, adapted from the faith in intuition scale (Epstein et al., 1996). The rational and experiential scales scored participants’ preferences in engaging in deliberative versus non-deliberative thinking. Friedrich and McGuire (2010) found that the IVE only occurs for people who have a low rational scale score. People who have a high rational scale score did not heighten their donations to identifiable victims in comparison with statistical victims. These findings resonate with those of Small et al. (2007), who found that analytical thinking dampens people’s increased donation behavior as a result of identifiable victims.
Although the research by Friedrich and McGuire (2010) clearly indicates that individual differences in preferences for processing styles play an important role in people’s susceptibility to the IVE, it does not relate to the hypothesis that people are in fact donating more money to an identifiable victim because it elicits more emotional reactions than a statistical victim. Furthermore, the authors base their findings only on the differences observed in donation behavior according to people’s score on the rational scale, as the experiential scale failed to account for any differences in donation behavior. In this thesis, I therefore propose a new individual difference variable that may offer a more comprehensive explanation of people’s susceptibility to the IVE, as it also relates to people’s experienced emotional reactions.

2.4.2 Lay rationalism

This variable was introduced in a study by Hsee et al. (2015), who described the concept of ‘lay rationalism’, a variable measuring people’s individual differences in using reason rather than feelings to guide their decisions. The concept of lay rationalism thereby focuses specifically on decision making. Lay rationalism refers to trade-off decisions people make between reason and feelings, which is colloquially referred to by people as making decisions “by the heart” (feelings) or “by the head” (reason). People who are high lay rationalistic use reason rather than feelings to guide their decisions, e.g., “I will buy this treadmill because it has a two-horsepower motor, has the incline feature, and is on sale today” (Hsee et al., 2015, p. 134). People who are low lay rationalistic guide their decisions vice versa, e.g., “I will buy this treadmill because I like the feeling of running on it” (Hsee et al., 2015, p. 134).

Hsee et al. (2015) distinguished lay rationalism from other popularly used individual difference variables, such as the two scales which together compose the REI scale used by Friedrich et al. (2010). Although they are to a certain extent similar, lay rationalism and Need for Cognition differ, because the latter focuses more on people’s tendency to engage in and enjoy thinking, and lay rationalism does not concern thinking per se but people’s reliance on thoughts in decision making (Hsee et al., 2015; Cacioppo & Petty, 1982; Cohen, Stotland, & Wolfe, 1955; Epstein et al., 1996). Furthermore, faith in intuition has been defined as a person’s engagement and confidence in intuitive judgement (Briggs, 1976; Epstein et al., 1996). Lay rationalism differs from this concept because it refers to people’s reliance on reason and feelings in decision making, not to people’s reliance on reason and intuition. Feelings are affective, hedonic experiences, whereas intuition can potentially be a nonaffective cognitive heuristic (Hsee et al., 2015).

Lay rationalism may be a crucial determinator of people’s susceptibility to the IVE, since it effectively measures the weight people place on their reason or feelings when making a decision. The IVE, as hypothesized in this research, is assumed to occur because identifiable victims elicit more emotional reactions than statistical victims. More importantly, following the empathy-altruism model (Batson, 2011) and the affect heuristic (Slovic et al., 2002), these emotional reactions have been considered to lead to a greater motivation to help the victim. However, following the concept of lay rationalism, this might not be
as straightforward as previously posited since high lay rationalistic people will not rely on these generated emotional reactions in decision making. Hence, they may be immune to the increased emotional reactions that are elicited as a result of the identifiable victim, and therefore do not give higher donations towards these victims in comparison with statistical victims.

Contrarily, it could be hypothesized that high lay rationalistic people donate more money when a victim is statistical than when a victim is identifiable, because statistical victims appeal more to reason, on which these people rely more in decision making. However, research indicates that this is unlikely to be true. Small et al. (2007) already showed that thinking analytically dampens people’s caring and giving to identifiable victims, and that it does not increase caring or giving to statistical victims. On a similar account, the literature on helping behavior has stressed the importance of emotional reactions in general as a motivator for people to help, and research has shown that these reactions are not evoked by statistical victims (Small et al., 2007; Slovic, 2007). Therefore, based on the literature on lay rationalism and emotional reactions as a motivator for helping behavior, I derive the following hypotheses:

(H5) The higher people’s degree of lay rationalism is, the weaker is the effect of their experienced feelings of sympathy on their a) motivation to donate and b) willingness to donate.

(H6) The higher people’s degree of lay rationalism is, the weaker is the effect of their experienced feelings of distress on their a) motivation to donate and b) willingness to donate.

2.5 Conceptual model

The aforementioned hypotheses are illustrated in the conceptual model of this research (see fig. 1).

Figure 1: Conceptual model.
Methods

This chapter starts by explaining why this research employs an experimental research method, and subsequently elaborates on the design of the research and the sample that was analyzed. Following the introduction of the research method, I discuss the ethical considerations I took into account prior to and while conducting the research. Hereafter follows information on the performed pre-tests, the operationalization of the variables, and several analyses conducted to estimate the quality of the data. This chapter ends by discussing the method used to analyze the data, and the motivation for using this method.

3.1 Research strategy

The twofold objective of this thesis was to examine if the relationship between victim type and donation behavior is mediated by people’s experienced emotional reactions, and to see what the influence of people’s degree of lay rationalism is on the relationship between identifiable versus statistical victims and donation behavior. An explanatory research design was the most appropriate, since the objective was concerned mainly with causal effects. I chose for an experiment, since an experiment is suitable for determining causal relationships (Vennix, 2011).

3.2 Design

Experiments seek to isolate cause and effect by manipulating one or more independent variables (Field & Hole, 2003). Causal, independent variables need to be isolated to make sure that only one cause exists that accounts for the change in the chosen dependent variable (Field & Hole, 2003). In this thesis, the independent variable of victim type was expected to account for changes in the dependent variable of donation behavior and was therefore the single independent variable being manipulated in the experiment, while the others were kept constant.

Research on the IVE has previously been conducted using different designs. Some research used a within-subjects design, showing participants both identifiable and statistical victim descriptions (e.g., Erlandsson et al., 2015). The advantage of such a design is that it allows for a dramatic reduction in variation in scores between conditions which is due merely to non-experimental factors, i.e. due to random individual differences between participants (Field & Hole, 2003). However, as Erlandsson et al. (2015) already noted, such a design is significantly more vulnerable to hypotheses guessing. Furthermore, the risk of participants responding to the demand characteristics of an experiment (meaning that they behave in the way they believe the experimenter wants them to, threatening the internal validity of the research, see Field and Hole, 2003) is higher. Participants might compare the two victim types and estimate what reactions the experimenter would like them to have as a result of these, which would undesirably affect their scores.

To counter these problems, a between-groups experimental design was chosen, so that a participant
was exclusively shown one victim type (Field & Hole, 2003). Each participant was tested only once. In a between-groups experimental design, it is essential that participants are allocated randomly to one of the groups of the independent variable (Field & Hole, 2003). In order to make sure that participants were randomly shown either the identifiable or the statistical victim description, the used survey software allocated participants at random and equally to one of the conditions. This randomized allocation to the two groups made sure that the only systematic effect on participant’s donation behavior was the experimenter’s manipulation of victim type (Field & Hole, 2003). A post-test only, or control group, design was used. The experimental group was given a treatment (i.e., the identifiable victim type description including information that identified the victim) that the control group was not (as they were shown a statistical victim type description without information that identified the victim).

The victim type operationalizations and subsequent questions were asked in Dutch. I chose to conduct my experiment only in Dutch, and specify my unit of analysis to Dutch people, for two reasons. Firstly, this research looks into differences in donation behavior as a result of identifiability. The operationalization of identifiability relies mostly on a vivid, personal story, which places critical importance on participants’ comprehension of the victim description. By conducting the experiment in Dutch, I minimized the chance of any side effects occurring as a result of misunderstandings due to language use. Secondly, I wanted to minimize the chance of any inter-cultural differences playing a role in people’s reactions to the victim descriptions.

3.3 Sample
Participants were recruited at several places, including the Radboud University campus grounds, Facebook groups meant for survey exchange, the website of Surveyswap (http://www.surveyswap.io/) and the researcher’s personal surroundings. Participants were recruited using convenience sampling.

407 people participated in an online experiment, of which 376 provided usable responses. Participants filled in an online survey which was constructed using the Qualtrics software (Qualtrics, 2019). 31 participants’ responses were filtered out as they completed the survey in under 3 minutes, which was regarded as too short to closely read the victim descriptions and subsequent questions. The demographics of these 376 participants are shown in table 1.
Table 1: Sample demographics.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N (%)</th>
<th>Age</th>
<th>N (%)</th>
<th>Education</th>
<th>N (%)</th>
<th>Income</th>
<th>N (%)</th>
<th>Yearly donation</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>122 (32.4)</td>
<td>Younger than 18</td>
<td>0 (0)</td>
<td>Primary school</td>
<td>0 (0)</td>
<td>Less than €2000</td>
<td>310 (82.4)</td>
<td>Less than €10</td>
<td>180 (47.9)</td>
</tr>
<tr>
<td>Female</td>
<td>246 (65.4)</td>
<td>18 – 25</td>
<td>291 (77.4)</td>
<td>High school</td>
<td>4 (1.1)</td>
<td>€2000 - €4000</td>
<td>43 (11.4)</td>
<td>€10 - €50</td>
<td>121 (32.2)</td>
</tr>
<tr>
<td></td>
<td>28 – 35</td>
<td>44 (11.7)</td>
<td>HBO – Bachelor</td>
<td>10 (2.1)</td>
<td>€4001 - €6000</td>
<td>5 (1.3)</td>
<td>€51 - €100</td>
<td>27 (7.2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>36 – 45</td>
<td>10 (2.7)</td>
<td>HBO – Master</td>
<td>32 (8.8)</td>
<td>More than €6000</td>
<td>2 (0.5)</td>
<td>€101 - €300</td>
<td>38 (10.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>46 – 55</td>
<td>15 (4.0)</td>
<td>HBO – Master</td>
<td>8 (2.1)</td>
<td>More than €6000</td>
<td>4 (1.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>56 – 65</td>
<td>12 (3.2)</td>
<td>WO – Bachelor</td>
<td>128 (34.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>66 – 75</td>
<td>1 (0.3)</td>
<td>WO – Master</td>
<td>152 (40.4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older than 75</td>
<td>2 (0.5)</td>
<td>Doctoral</td>
<td>12 (3.2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>368 (97.9)</td>
<td></td>
<td>375 (98.7)</td>
<td></td>
<td>366 (97.3)</td>
<td>366 (95.7)</td>
<td>370 (98.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>8 (2.1)</td>
<td></td>
<td>1 (0.3)</td>
<td></td>
<td>10 (2.7)</td>
<td>16 (4.3)</td>
<td>6 (1.6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The experimental group consisted of 189 participants (50.3%), whereas the control group consisted of 187 (49.7%) participants. Women were overrepresented in the sample (246 women, 65.4% as opposed to 122 men, 32.4%). Most participants fell in the age category of 18 to 25 years old (N = 291, 77.4%). The sample consisted mostly of highly educated people, with most people taking or having completed a WO-education at either a Master level (N = 152, 40.4%) or a Bachelor level (N = 128, 34.0%). The participants of this research generally had an income of less than €2000 per month (N = 310, 82.4%). Most participants donated less than €10 on a yearly basis to charity organizations (180, 47.9%) or between €10 and €50 (N = 121, 32.2%).

3.4 Research ethics

Prior to and while conducting the experiment, I took various ethical considerations into account. These ethical considerations were based on the advisory and assessment tasks of the Ethics Assessment Committee (EACLM) of the Radboud University, as well as on the guidelines described by The American Psychological Association and the British Psychological Society (following Field and Hole, 2003).

Participation was open for all people in the used unit of analysis. Participants were informed prior to participating in the research that they were participating in an experiment that was part of a Master’s thesis of a student at the Radboud University Nijmegen. Information about the research was given prior to the start of the experiment. The trade-off between deceiving participants and having them being able to guess the hypotheses of this research was made by telling participants the study was about their reaction towards a certain donation appeal, but to withhold information about the condition they were not exposed to. Participants as well as other interested parties were provided complete transparency regarding the way their data was obtained, handled and disseminated. Participation occurred anonymously and confidentially, and the collected data was handled with the utmost care. Participants were able to drop out of the experiment at any moment they would have wanted to.

Because the victim descriptions used in this research contained information which may have been
sensitive to participants, this was taken into account. Victim types may cause feelings of distress in participants, as is also hypothesized in this research, and therefore participants were informed prior that the experiment contained a victim description and were obliged to give their consent in order to participate. For every item asking participants about demographic, and therefore potentially sensitive information, participants were given the option to indicate they would rather not answer this question. After the experiment was done, participants were thanked for their time and effort. Prior to the experiment, as well as at the end of the experiment, participants were given the email address of the researcher, giving them the opportunity to contact him for any questions or feedback they might have had. No emails of participants were received. I was also open to any additional questions participants may have had during our face-to-face encounters on the Radboud University campus grounds, and in my personal surroundings.

Societal actors who can potentially benefit from this thesis are provided complete accessibility. While choosing the pictures used for the victim type descriptions, I took copyright issues and consent into account.

3.5 Pre-tests

I conducted a pre-test among a small sample of participants (N = 10; see appendix 5). The concrete purpose of the pre-test was to check whether the victim descriptions and subsequent items used in the questionnaire were clear to participants, as well as to see if the manipulation was perceived correctly. Differences between the statistical and identifiable victim types needed to be clear, so that subsequent donation behavior could have been accounted for by these differences.

Participants in the pre-test were shown the intended original questionnaire, including questions about the manipulation of the victim type. After each item they were able to provide feedback on the understandability and quality of the item. The manipulation check served to examine whether participants perceived the identifiable victim type as focusing on an identifiable victim, using a vivid story with personal details, and the statistical victim type as focusing on a group of victims, using a more generalized story type. After completing the questionnaire, participants had the opportunity of submitting any additional comments on the quality of the survey. Several items were adjusted according to the feedback received from the pre-test participants. The main critical points of feedback given by participants was that some statements were too similar to one another or too difficult to understand, which was taken into consideration while adjusting the survey prior to dissemination. Also, an additional control variable was added measuring people’s yearly donations towards charitable organizations, following the suggestion of a participant.

The four items of the manipulation check scale were based upon the distinctive features of identifiable victims in comparison with statistical victims mentioned in the literature (Cryder et al., 2013; Lee & Feeley, 2018). The first and second item relate to the differences in number, as the aim is that participants perceive the identifiable victim type as displaying a single victim, representative of a larger
group of victims. The third and second item relate to the difference in the degree to which the victim type
description displays personal information. The four items were measured using seven-point Likert-type
scale, with answer options ranging between ‘strongly disagree’ to ‘strongly agree’. A successful
manipulation occurred if the identifiable victim type yielded significantly higher scores on the four items
than the statistical victim type.

To analyze participants’ perceptions of the two victim descriptions, a paired-samples t-test was
conducted. The dependent variables were of a continuous nature, and the observations were dependent.
Furthermore, the differences between the dependent variables were approximately normally distributed.
One outlier was detected in the differences between the scores on the manipulation check item 2. This
meant that this participant perceived statistical victims as being more representative of a larger group than
the identifiable victim. The same participant provided contradicting scores on the other variables, indicating
a higher degree of identifiability for the identifiable victim type. Based on these theoretical considerations,
this outlier was deleted and the paired samples t-test was conducted with the other observations.

Mean differences between the scores that participants gave on the four manipulation check items
were analyzed. The results from the pre-test manipulation check showed that participants scored the
identifiable victim condition on all four aspects of identifiability (see appendix 8.1). Therefore, both victim
types were interpreted as intended.

3.6 Operationalization
In this section, I discuss the operationalization of the variables used in this research. Firstly, I elaborate on
the method used for translating the survey into Dutch. Subsequently, I present the operationalization of the
manipulation used in the experiment, as well as that of the variables.

3.6.1. Back-translations
In order to prevent misunderstandings or problems in interpretation of the victim types or survey items
under the Dutch population sample, the survey was held in Dutch. However, most variables used in the pre-
test and the final survey were adapted from previous research on the IVE, and were therefore originally
formulated in English. In order to preserve the accuracy and quality of the items, a back-translation was
performed. Firstly, the items and victim descriptions which were presented to pre-test participants were
translated by the researcher into Dutch. Subsequently, a fellow Radboud University student with sufficient
English level translated these items and victim descriptions back into English, after which both English lists
of items and victim descriptions were compared. Minor adjustments in wording were made following this
process, improving the quality of the pre-test. As previously mentioned, several items were adjusted
following the feedback from pre-test participants. To ensure that these items were still representative of the
originally intended items, another back-translation was performed using the list of adjusted pre-test items.
This back-translation was performed by a professor from another field of study, and again resulted in a number of minor adjustments.

### 3.6.2 Manipulation operationalization

The charity hypothetically displaying the ad was chosen to be Save the Children, which ensured that the participants perceived the charity as being closely aligned with the victims stated in the ad. Also, the results can be compared with other research using the same charity organization (e.g., Lee & Feeley, 2018; Small et al., 2007).

Using the one-among-many identifiable victim approach, I based the differences between the operationalizations of the identifiable and the statistical victim type on the previously mentioned differences in identifiability and number of victims which were *displayed*. The identifiable victim condition focused on a single person, whereas the statistical victim condition displayed statistical information about the larger group of people in need of help. The identifiable victim was presented with detailed information about the victim, such as their name, age, and gender. On the other hand, statistical victims were presented with more general information about the group, for example, their country of origin or their common difficulty (Cryder et al., 2013; Lee & Feeley, 2018).

I took several articles describing the boundary conditions of the IVE into account in my operationalization of the victim types. In their meta-analytical review, Lee and Feeley (2016) identified several boundary conditions under which the IVE is most reliable to appear. Based on these, an identifiable victim was presented as a single identified victim, including a photograph, suffering from poverty, having little responsibility for the cause of their aid, and asking for a monetary donation, because under these conditions the IVE has shown to be the most reliable to appear (Lee & Feeley, 2016, p. 211).

In addition to these boundary conditions, Lee and Feeley (2018) noted that sympathy and distress are most reliable to be evoked under two conditions. People are more likely to experience sympathetic feelings towards an identifiable victim when they see a sad expression on the victim’s face, as opposed to happy or neutral expressions (Small & Verrochi, 2009). Furthermore, people experience stronger feelings of distress as a result of a victim described with vivid and concrete information, as opposed to when they are described without such information (Kogut & Ritov, 2005a).

Finally, I chose to accompany the victim description with a picture in both the identifiable and the statistical victim condition. Previous research on the IVE has presented participants a picture to accompany the victim description in the identifiable victim condition, but no picture in the statistical victim condition (e.g. Friedrich & McGuire, 2010; Small & Loewenstein, 2007). However, using such an approach it may be unclear whether potential differences in donation behavior might stem from the use of a picture, of from the hypothesized difference in identifiability. Although identifying the victim may be partly done by focusing on a single victim in the picture, it might also be the case that merely a picture in itself already
gives people a more clear image of the situation. To isolate the effect of identifiability, the identifiable victim description in this research was accompanied with a picture of the child described in the donation request, and the statistical victim description with a picture of a city of the country in which the crisis took place (the city of Shibam, in Yemen).

In sum, based on the literature on the IVE, an identifiable victim (see appendix 1) was displayed as (1) a single victim, suffering from poverty, having little responsibility for the cause of its aid, and asking for a monetary donation (Lee & Feeley, 2016), (2) being representative of a larger group of victims (Erlandsson et al., 2015), (3) having a sad expression on its face (Small & Verrochi, 2009), and (4) with vivid and concrete information (Kogut & Ritov, 2005a). A statistical victim (see appendix 2) was represented with general information about the group, including the country of origin and the source of their common difficulty (Cryder et al., 2013). Both victim descriptions included factual information from the Dutch website of Save the Children (http://www.savethechildren.nl/). The Dutch versions, which were used in the experiment, can be found in appendix 3 and 4.

3.6.3 Variable operationalization

The variables were measured by using consumer self-report scales. The questions used in the experiment can be found in appendix 6. For the manipulation check, the same items were used as in the pre-test of this research.

3.6.3.1 Motivation to donate

The main difference in the literature measuring people’s donation behavior is the distinction between articles measuring motivation or willingness to donate (e.g., Lee & Feeley, 2018; Erlandsson et al., 2015, Kogut & Ritov, 2005a, 2005b) or people’s actual donation behavior (Small & Loewenstein, 2007; Friedrich & McGuire, 2010). Self-reported measures of motivation or willingness to contribute might differ from actual contributions, but because of monetary constraints, this research chose to measure people’s motivation and willingness to donate as dependent variables.

Participants’ motivation to donate referred to their feelings towards a potential monetary donation. The two items measuring motivation to donate were based upon research of Erlandsson et al. (2015). The first item relates to participants’ motivation, whereas the second item relates to the likeliness that they would actually donate money when they would be asked to do so. The items measuring participants’ motivation to donate relied on seven-point semantic differential scales, ranging from ‘Not motivated at all’ to ‘Very motivated’ and ‘Not likely at all’ to ‘Very likely’. Higher scores on these items represented higher experienced motivation to donate.

3.6.3.2 Willingness to donate

This variable provided an alternative to the more abstract measure of motivation to donate, and served to
provide a complete picture of participants’ donation behavior. Participants were able to fill in a minimum amount of €0,- and a maximum amount of €100,-.

3.6.3.3 Sympathy
Batson et al. (1991) described several characteristics of the feeling they name ‘sympathy’: sympathetic, softhearted, compassionate, warm, tender, and moved feelings towards a person. The scale for measuring people’s first emotional reaction, sympathy, was adapted from research of Lee and Feeley (2018), where it was previously also used by Erlandsson et al. (2015) and Kogut and Ritov (2005a, 2005b). The scale has proven its reliability ($\alpha = .88$) (Lee & Feeley, 2018). The four items were measured using a seven-point Likert-type scale, with answers ranging between ‘strongly disagree’ to ‘strongly agree’. Higher scores on these items represented higher experienced sympathy.

3.6.3.4 Distress
Batson et al. (1991) also described the characteristics of the feeling they name ‘distress’: alarmed, grieved, troubled, distressed, upset, disturbed, worried, and perturbed feelings towards a person. There have been several items used to measure people’s experienced distress towards a victim. The scale for measuring this second emotional reaction was adapted from research of Lee and Feeley (2018), and has also been used by Erlandsson et al. (2015) and Kogut and Ritov (2005a, 2005b). The scale has proven its reliability ($\alpha = .94$) (Lee & Feeley, 2018). The five items were measured using a seven-point Likert-type scale, with answer options ranging between ‘strongly disagree’ to ‘strongly agree’. Higher scores on these items represented higher experienced distress.

3.6.3.5 Lay rationalism
Lay rationalism has been introduced as an individual difference variable by Hsee et al. (2015) as the notion of people to use reason rather than feelings to guide decisions. In their article about lay rationalism, they also introduced the Lay Rationalism Scale (LR Scale). The reliability of the LR Scale was measured and proven among 14 samples, with $\alpha$ ranging from .80 up until .87. Hsee et al. (2015) measured the article using a six-point Likert-type scale, but since the other items measured with a Likert-type scale in this research are measured with a seven-point scale, this will also be done to measure people’s answers on the LR Scale. The answer options ranged between ‘strongly agree’ and ‘strongly disagree’. The higher participants scored on these items, with the ratings of the two reverse-coded items reversed, the higher their degree of lay rationalism was.

3.6.4 Control variables
Control variables were included in the measurement, to examine if and how they influence any of the results in the research. Basic demographic questions were asked to the participants regarding their gender, age,
educational level, income and average yearly monetary donations to charities.

In addition to the general demographic questions, the variables ‘perceived impact’ and ‘perceived responsibility’ were added as control variables, to examine whether possible differences in donation behavior were truly attributable to heightened feelings of sympathy and distress, or if other mechanisms account for these differences. As previously mentioned in the theory section of this thesis, literature on the IVE has expressed doubt about the underlying mechanisms behind the IVE, and therefore it is valuable to include these mechanisms to avoid being vulnerable to omitted variable bias (Field & Hole, 2003). The scales for measuring people’s perceived impact and their perceived responsibility are adapted from research of Erlandsson et al. (2015). The reliability of the perceived impact scale has been measured and proven among several samples, with \( \alpha \) ranging from .82 up until .96. Also, the reliability of the perceived responsibility scale has been measured and proven among several samples, with \( \alpha \) ranging from .82 up until .94 (Erlandsson et al., 2015). The six items were measured using a seven-point Likert-type scale, with answer options ranging between ‘strongly disagree’ to ‘strongly agree’. Higher scores on these items represented higher experienced perceived impact and perceived responsibility.

3.7 Factor analyses

A series of factor analyses served to uncover the underlying structure behind the larger set of variables. These analyses were conducted in IBM SPSS Statistics. The SPSS syntax file can be found in appendix 7, and contains a detailed description of how I conducted several data transformations and analyses prior to testing my hypotheses. As a first step in analyzing the structure behind the data, I conducted a principal axis factor analysis on all the indicators with oblique rotation (direct oblimin). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis (KMO = .841), and Bartlett’s Test of Sphericity was significant \( (p = .000) \), indicating that the correlations between variables are overall significantly different from zero. The initial analysis was run to obtain eigenvalues for each factor in the data. There existed seven factors in the data which had eigenvalues above Kaiser’s criterion of 1, they explained 58.32% of the variance in total (see appendix 8.2). The pattern matrix showed that the items for motivation to donate and willingness to donate loaded on the same factor, which was not surprising considering the theoretical overlap between the two variables. Therefore, this was not considered a problem. It also showed that total_LRscore5rev loaded on no factor.

Secondly, I conducted factor analyses per construct to see whether all indicators were functioning properly. The factor analysis examining the lay rationalism-factor showed that two factors had an eigenvalue above 1, indicating problems with the lay rationalism construct (see appendix 8.3). The pattern matrix of this analysis showed that total_LRscore5rev did not load on any of the two constructs and had a communality after extraction of .158. Therefore, another principal axis factor analysis (oblique rotation, direct oblimin) was run with total_LRscore5rev deleted (see appendix 8.4). In this analysis only one factor
had an eigenvalue above 1, although total_LRscore2rev had a communality after extraction of .095, which is extremely low and therefore made this indicator as a candidate for deletion. The factor matrix of this second analysis showed that total_LRscore2rev had a factor loading of .308, which was relatively low in comparison to the loadings of the other indicators, of which the lowest was .583. Therefore, another principal axis factor analysis (oblique rotation, direct oblimin) was run with total_LRscore5rev and total_LRscore2rev both deleted (see appendix 8.5). In this analysis there was one factor with an eigenvalue above 1, which explained 42.59% of the variance. Furthermore, the lowest factor loading was .562, which was deemed sufficient. The Kaiser-Meyer-Olkin measure provided sufficient values above the criterion of .5 (Field, 2013) for all analyses, and Bartlett’s Test of Sphericity was significant in all analyses ($p = .000$ in every analysis).

### 3.8 Manipulation check

The four manipulation check items used in the pre-test were again used in the distributed survey, to check whether participants perceived the manipulation as intended. Since a MANOVA analysis has the power to detect whether groups differ on a combination of dimensions, this test is excellent for analysing the differences between the experimental and control group’s scores on the manipulation check items.

#### 3.8.1 MANOVA assumptions

Since a MANOVA analysis is a parametrical test, its assumptions had to be tested prior to conducting the analysis. The SPSS output used to check the assumptions can be found in appendix 8.6. The manipulation check items consisted of metric data, and the independent variable of victim type was categorical with two groups. This made the data suitable for a MANOVA analysis. The observations were done independently, as previously explained in the research design. A common minimum used is 20 sets of scores on the dependent variables for each level of the independent variable, which would mean that I need 40 samples in total. This research has a minimum of 187 samples per group, so this assumption is met. Since a MANOVA is sensitive to outliers, they were checked using the Mahalanobis’ distance (Field, 2013). Opinions about the critical values of this distance differ, but the general critical value for four degrees of freedom, as in this research, is 18.47. One value (Mahalanobis’ distance = 27.83) exceeded this value, and was therefore considered an outlier. This response was excluded from the analysis. Looking at the scatter plots shown in appendix 8.6, no problems with linearity were observed. Multivariate normality could be assumed following the central limit theorem, since the sample size exceeded 30 (Field, 2013). Potential multicollinearity was checked by looking at the dependent variables’ bivariate correlations. The dependent variables all had Pearson $r$ values between .501 and .766, indicating that there was no case of multicollinearity. The final assumption checked prior to the MANOVA analysis was the homogeneity of covariance matrices using Box’s test. Box’s $M$ was significant ($p = .000$), but considering that in large
samples this test can be significant even when covariance matrices are relatively similar, this was not deemed problematic. Also, Pillai’s trace could be assumed to be robust since the group sizes in the manipulation check were relatively similar, which is why Box’s Test could be disregarded (Field, 2013). In sum, the assumptions were met, after which I conducted the MANOVA analysis.

3.8.2 MANOVA analysis
The MANOVA analysis was conducted with victim type as the fixed factor and the four manipulation check items as dependent variables. Using Pillai’s trace, there was a significant effect of victim type on the identifiability of the victim description, as measured by the manipulation check items, $V = .75, F = (4, 371) = 270.83, p = .000$ (see table 2). Separate univariate ANOVAs on the manipulation check items revealed that each of the four dimensions was perceived as intended (see appendix 8.7). The manipulation had a significant effect on participants’ perception of the donation request focusing on the individual, $(F(1, 374) = 887.00, p = .000)$, using a representative victim $(F(1, 374) = 244.74, p = .000)$, providing personal information about the victim $(F(1, 374) = 533.53, p = .000)$, and telling a vivid story $(F(1, 374) = 145.23, p = .000)$. In conclusion, the manipulation was perceived as successful on all four dimensions.

**Table 2**: MANOVA manipulation check output.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VictimType</td>
<td>Pillai’s Trace</td>
<td>.745</td>
<td>270.830</td>
<td>4.000</td>
<td>371.000</td>
</tr>
</tbody>
</table>

3.9 Method of analysis
To check the reliability and validity of the measurement and test the proposed research model, this thesis relied on the variance-based structural equation modeling (SEM) technique, using the partial least squares modeling (PLS) approach. The PLS analysis was conducted in ADANCO 2.0.1 (Henseler & Dijkstra, 2015). PLS path modeling is a SEM method that can handle both factor models and composite models for construct measurement, is able to estimate both recursive and non-recursive structural models, and employs a number of tests to estimate overall model fit (Henseler, Hubona, & Ray, 2016). PLS was chosen as a method for this research for a number of reasons. Firstly, this research looks into a number of causal relationships which influence each other in their nomological net, as the influence of victim type on donation behavior is hypothesized to be mediated by people’s emotional reactions and moderated by people’s degree of lay rationalism. PLS is able to model and analyze these relationships simultaneously, providing a context-sensitive approximation of endogenous constructs which is especially valuable for my research (Chin, Marcolin, & Newsted, 2003).
3.9.1 PLS requirements

Before the results obtained from the PLS analysis were analyzed, the sample and data requirements associated with the PLS method were checked. In PLS, the recommended sample size is ten times the number of maximum arrowheads pointing at an endogenous variable. In this research, the maximum number of arrowheads pointing at an endogenous variable can be found by looking at both the dependent variables. Willingness to donate and motivation to donate both had twelve arrowheads pointing at them, coming from the independent, mediating, moderating and control variables. Therefore the minimum sample size required for the analysis is 120. Since N = 376, the sample size is sufficient for interpreting the results of the PLS analysis.

PLS path modeling requires metric data for the endogenous constructs as well as the factor model’s indicators (Henseler et al., 2016). The quasi-metric data used in this research, being the Likert scales for sympathy, distress, lay rationalism, perceived impact and perceived responsibility, and the semantic differential scale used to measure the construct motivation to donate, are also acceptable, since their scale points are equidistant (Henseler et al., 2016). The inclusion of this data is relatively straightforward, however, two other types of measurement could benefit from some additional explanation. Firstly, this research used a number of demographic categorical control variables, as well as a dichotomous categorical grouping variable. Whereas the dichotomous variables victim type and gender could serve directly as construct indicators, the variables which had more than two levels were transformed into a composite model with dummy variables. This was done following the approach of Benitez, Henseler, Castillo, and Schuberth (in press), by specifying the dominant category as the reference group. For the four remaining categorical control variables, the reference group were therefore ‘18 to 25’ (Age), ‘WO - Master’ (Education), ‘Under €2000’ (Income), and ‘Less than €10’ (Yearly donation), respectively.

Secondly, since ADANCO (and the available software for PLS path modeling in general) only permits direct effects to be drawn, an alternative approach to modeling the moderating effect of lay rationalism has been chosen. Since both the moderator variable (lay rationalism) and the independent variables (sympathy and distress) are reflective constructs, there was chosen to model the moderating effect using the product indicator approach (Fassott, Henseler, & Coelho, 2016; Henseler & Fassott, 2010; Kenny & Judd, 1984; Chin, Marcolin, & Newsted, 1996, 2003). The product indicator approach entails the creation of product terms between the indicators of the latent independent variable and the indicators of the latent moderator variable (Fassott et al., 2016). The products of each indicator of lay rationalism with each indicator of sympathy and distress were created, which together formed two separate interaction variables: one which was used to model the interaction effect of lay rationalism and distress, and the other to model the interaction effect of lay rationalism and sympathy.

The constructs were modelled in ADANCO following a three-step approach. In the first model
(Model 1; see appendix 9.1), the constructs central to this research were modeled. These constructs are victim type, distress, sympathy, willingness to donate, motivation to donate, lay rationalism, and the two metric multi-item control variables perceived impact and perceived responsibility. This model was used to evaluate the measurement model. In the second model (Model 2; see appendix 9.5), the categorical control variables gender, age, education, income and yearly donation were added. This model was used to evaluate the structural model. The third model (Model 3; see appendix 9.6) included the previously specified interactions terms of lay rationalism with both distress and sympathy. This model was used to see whether the interaction terms added to the $R^2$ of the dependent variables.

During the ADANCO analysis, the factor type of inner weighting scheme was used. No maximum number of iterations was specified, causing the bootstrap algorithm to continue until convergence had been reached. The stop criterion was specified at the default value of $10^{-6}$. Missing data was treated by means of mean imputation. Following the suggestion made by Henseler et al. (2016), the bootstrapping procedure in the PLS analysis, that was used to measure the significance of the path coefficients, was conducted using 4,999 samples.

### 3.10 Common method variance

This research relied on relatively similar scales for the measurement of the six constructs distress, sympathy, lay rationalism, motivation to donate, perceived impact and perceived responsibility. Therefore, the possibility exists that the reliability of these constructs is not due to its substantial contents, but due to similar forms of measurement. This would mean that the reliability scores for these constructs are overestimated, and that structural equation modeling would not provide an adequate correction for measurement error (Eggert, Henseler, & Holman, 2012). A part of the shared correlation between these constructs could have been attributed to the common method.

To control for common method variance, I followed the approach used by Eggert et al. (2012), and checked if substantial effects occurred when I manually redefined the constructs’ reliability scores. All constructs were originally modeled with a reflective measurement model. The Dijkstra-Henseler’s rho scores provided in the output of the original model (Model 1c; see appendix 9.3) were manually inserted to the constructs’ predefined reliability scores in the ADANCO model. The constructs were redefined as having a composite measurement model with Mode A as a weighting scheme. Running this adapted model (Model 1d, see appendix 9.4) resulted in exactly the same path coefficients, as expected.

Subsequently, the predefined reliability score for the dependent variable motivation to donate was manually lowered, to see what the effects of a potential common method variance might have been. Using this approach, a potential common method bias was simulated in the model’s path coefficients. The results of this “what if”- analysis are reported in appendix 8.8. The general trend when the reliability of the variables decreased was that observed effect became stronger. Interestingly, some relations show the
inverse value of the original estimate when the common method variance would be 15%. Most estimates increase strongly when the common method variance shifts from 10% to 15%. However, prior to this shift, the estimates increased in such a minimal way that I do not deem a significant effect to take place as a result of potential common method bias. Therefore, even if common method bias would be present in the data of this research, it would not pose a problem for interpreting my conclusions (Ziggers & Henseler, 2016).
Results

This chapter elaborates on the results obtained from the SPSS and ADANCO analyses. Firstly, the descriptives of the sample are discussed. Secondly, inferential statistics from the ADANCO analyses are discussed.

4.1 Descriptive statistics

Table 3 displays several key frequencies for the variables measured in this research. Because of the Qualtrics settings, participants were requested to fill in every question and were additionally reminded to do so if they had skipped one of them. The results of this approach are visible as all indicators were filled in by all 376 respondents and had zero missing values. Although PLS does not rely on distributional assumptions (Henseler et al., 2016), the variables’ skewness and kurtosis level was checked, since it might lead to problems in interpreting the results. The variable total_WTD1, the only indicator measuring participants’ willingness to donate, had a kurtosis of 14.456, which is substantially above the critical value of 3.00. In order to reduce this level of kurtosis, a LOG-transformation was conducted, which brought the kurtosis value down to an acceptable level of .494 (see appendix 8.9). The skewness and kurtosis values of all other indicators fell between the acceptable levels of -3.00 and 3.00, and were thus considered to be acceptable.

<table>
<thead>
<tr>
<th>Table 3: Univariate statistics.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construct</strong></td>
</tr>
<tr>
<td>Willingness to donate</td>
</tr>
<tr>
<td>Motivation to donate</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Distress</td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Sympathy</td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Lay rationalism</td>
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<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Manipulation check</td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Perceived impact</td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Perceived responsibility</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>
4.2 Measurement model assessment

The constructs central to this research were modeled in Model 1a, according to the previously presented conceptual model. The assessment of the measurement model and the subsequent assessment of the structural model should always be preceded by checking the overall goodness-of-fit (GoF) of the model. Both the GoFs of the saturated and estimated model were evaluated. However, while running the model, a Heywood case was discovered in total_DIS3 (indicator weight of 1.019). Heywood cases occur when two indicators have some common correlation which is not explained by the model, which poses a problem for the analysis. This problem was solved by deleting the indicator total_DIS1, resulting in acceptable indicator weights (see appendix 9.1). After deleting total_DIS1, the model GoF could be assessed (see appendix 10.1).

The saturated model had sufficient values on all GoF measures, however, the GoF values of the estimated model were problematic. All of these values were above the 99% quantile, thereby indicating that the structural model was not specified well enough, and that more relations were playing a role in the model than were specified. Therefore, the inter-construct correlation matrix was consulted (see appendix 10.2). It appeared that especially the mediators distress and sympathy correlated highly with each other and with the control variable perceived responsibility. The two dependent variables had a high inter-correlation as well. Theory offers an explanation for both these appearances. Firstly, the reason why perceived responsibility, sympathy and distress are highly correlated is that they all refer to certain ‘feelings’ towards a victim. Therefore, it stands to reason that these constructs are related. Secondly, when people feel motivated, it appears to be logical that they are also more willing to donate to a victim. Therefore, a relationship between these constructs also appears logical.

As a result, relationships between perceived responsibility and the two mediators, between the two mediators, and between the two dependent variables were modeled. These relationships were modeled in Model 1b (see appendix 9.2) in an effort to increase the goodness of model fit. In this model, total_DIS1 could be added as an indicator for the distress construct without it resulting in any Heywood cases. The values of Model 1b’s saturated and estimated models on the GoF measures can be found appendix 10.3.

As can been seen in the tables, both the saturated and the estimated model displayed problematic values of δ₂. Therefore, the measurement model of Model 1b was assessed in an effort to detect potential problems that might result in a poor model fit. In the case of a reflective measurement model such as the one in this thesis, four analyses can be conducted to determine its reliability and validity. The construct reliability was checked by looking at the values for Dijkstra-Henseler’s ρ, Jöreskog’s ρ, and Cronbach’s alpha. The construct reliability scores of the multi-item variables in Model 1b are described in table 4.
Table 4: Construct reliability of multi-item variables (Model 1b).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>Dijkstra-Henseler’s rho ($\rho_d$)</th>
<th>Jöreskog’s rho ($\rho_c$)</th>
<th>Cronbach’s alpha ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>3</td>
<td>.8643</td>
<td>.8217</td>
<td>.8255</td>
</tr>
<tr>
<td>Sympathy</td>
<td>3</td>
<td>.8029</td>
<td>.8006</td>
<td>.8030</td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>2</td>
<td>.8257</td>
<td>.8250</td>
<td>.8247</td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>4</td>
<td>.7763</td>
<td>.6603</td>
<td>.7415</td>
</tr>
<tr>
<td>Perceived impact</td>
<td>3</td>
<td>.8543</td>
<td>.8542</td>
<td>.8541</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>3</td>
<td>.8824</td>
<td>.8805</td>
<td>.8796</td>
</tr>
</tbody>
</table>

Jöreskog’s rho indicated a problematic reliability of the construct lay rationalism, as its reliability was below the critical threshold of .7 ($\rho_c = .6603$). Therefore, the indicator loadings and indicator reliability scores of the lay rationalism indicators were assessed (see appendix 10.4). total_LRscore3 had the lowest indicator loading (.1964) and a low indicator reliability (.0386). However, deleting this indicator caused a decrease in lay rationalism’s construct reliability. Deleting total_LRscore6 did have a positive effect on lay rationalism’s construct reliability, bringing it to acceptable levels. After deleting this indicator, total_LRscore3 still proved to have a low indicator reliability (.0829). However, deleting total_LRscore3 would again lower lay rationalism’s construct reliability (see appendix 10.5). Considering that the deletion of this indicator would not increase construct reliability, the analyses were conducted including total_LRscore3 as an indicator for lay rationalism (Henseler, Ringle & Sinkovics, 2009), together with total_LRscore1 and total_LRscore4 (Model 1c, see appendix 9.3). Deleting total_LRscore6 resulted in acceptable values of model fit for both the estimated and the saturated model (see tables 5 and 6).

Table 5: Goodness of model fit (Model 1c, saturated model)

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.0445</td>
<td>.0617</td>
<td>.0674</td>
</tr>
<tr>
<td>$d_{ULS}$</td>
<td>.3768</td>
<td>.7237</td>
<td>.8633</td>
</tr>
<tr>
<td>$d_G$</td>
<td>.2233</td>
<td>.2388</td>
<td>.2743</td>
</tr>
</tbody>
</table>

Table 6: Goodness of model fit (Model 1c, estimated model)

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.0541</td>
<td>.0654</td>
<td>.0698</td>
</tr>
<tr>
<td>$d_{ULS}$</td>
<td>.5559</td>
<td>.8117</td>
<td>.9263</td>
</tr>
<tr>
<td>$d_G$</td>
<td>.2293</td>
<td>.2608</td>
<td>.2867</td>
</tr>
</tbody>
</table>
The final construct reliability scores for all constructs can be found in table 7.

Table 7: Adjusted construct reliability of multi-item variables (Model 1c).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>Dijkstra-Henseler’s rho ($\rho$)</th>
<th>Jöreskog’s rho ($\rho_c$)</th>
<th>Cronbach’s alpha ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>3</td>
<td>.8643</td>
<td>.8217</td>
<td>.8247</td>
</tr>
<tr>
<td>Sympathy</td>
<td>3</td>
<td>.8029</td>
<td>.8006</td>
<td>.8030</td>
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<tr>
<td>Motivation to donate</td>
<td>2</td>
<td>.8259</td>
<td>.8251</td>
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<td>Lay rationalism</td>
<td>3</td>
<td>.8756</td>
<td>.7183</td>
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<td>Perceived impact</td>
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<td>.8542</td>
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<tr>
<td>Perceived responsibility</td>
<td>3</td>
<td>.8824</td>
<td>.8805</td>
<td>.8796</td>
</tr>
</tbody>
</table>

Next, the indicator reliability of the constructs was evaluated. Other than total_LRscore3 (.0829), all the indicators showed acceptable reliability scores. Since deleting total_LRscore3 would lower construct reliability, all indicator reliability scores were regarded as acceptable (Henseler et al., 2009). The indicator reliability scores are shown in table 8.

Table 8: Indicator reliability (Model 1c).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Victim type</th>
<th>Sympathy</th>
<th>Distress</th>
<th>Motivation to donate</th>
<th>Willingness to donate</th>
<th>Lay rationalism</th>
<th>Perceived impact</th>
<th>Perceived responsibility</th>
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<tbody>
<tr>
<td>total_MTD1</td>
<td></td>
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<tr>
<td>total_MTD2</td>
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<tr>
<td>total_DIS1</td>
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<td>total_DIS2</td>
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<td>total_DIS3</td>
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<td>total_SYS1</td>
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<td>total_SYS2</td>
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<tr>
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</tbody>
</table>

Having checked the reliability of the measurement, the convergent and discriminant validity of the measurement was assessed. The convergent validity of the factors was checked to ensure they were unidimensional (Henseler et al., 2016). Convergent validity was assessed by looking at the average variance extracted (AVE). The critical value of .5 was exceeded by all constructs. Hence, all constructs had convergent validity, which ensured their unidimensionality.

Furthermore, the discriminant validity of the factors was checked by evaluating the heterotrait-
monotrait ratio of correlations (HTMT) and the Fornell-Larcker criterion. All HTMT values were below the critical threshold of .85, indicating discriminant validity (Henseler, Ringle, & Sarstedt, 2015). Since a bootstrap was performed, discriminant validity could also be checked by looking at the 95% quantile of the HTMT values in the ADANCO output (see appendix 10.6). All values were below one, indicating discriminant validity for all constructs (Henseler, 2017). Lastly, the AVE values of all constructs were higher than their squared correlations with the other constructs in the model, thereby meeting the Fornell-Larcker criterion which further ensured discriminant validity (Henseler et al., 2016). The statistics on which the assessment of convergent and discriminant validity is based can be found below in table 9.

**Table 9**: Convergent and discriminant validity assessment using AVE, HTMT and the Fornell-Larcker criterion (Model 1c).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Largest heterotrait-monotrait ratio of correlation</th>
<th>Average variance extracted</th>
<th>Largest squared correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victim type</td>
<td>.1744</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sympathy</td>
<td>.6867</td>
<td>.5729</td>
<td>.4773</td>
</tr>
<tr>
<td>Distress</td>
<td>.6867</td>
<td>.6156</td>
<td>.4773</td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>.7280</td>
<td>.7024</td>
<td>.5286</td>
</tr>
<tr>
<td>Willingness to donate</td>
<td>.6784</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>.1505</td>
<td>.5049</td>
<td>.0235</td>
</tr>
<tr>
<td>Perceived impact</td>
<td>.5778</td>
<td>.6614</td>
<td>.3327</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>.7280</td>
<td>.7110</td>
<td>.5286</td>
</tr>
</tbody>
</table>

**4.3 Structural model assessment**

This thesis further assesses the structural model by looking at the beta coefficients, their significance levels, and the $f^2$ values of the hypothesized relationships, as well as the $R^2$ values of the endogenous constructs. Table 10 presents the results of the PLS analysis that relate directly to my hypotheses. This table contains the path coefficients of both models, as well as the significance levels based on a bootstrap with 4,999 samples. Firstly, Model 2 (see appendix 6.5) was evaluated, including the central constructs and the control variables. Hereafter, Model 3 (see appendix 6.6) was evaluated, which included the interaction terms of lay rationalism with sympathy and distress. The results for the hypotheses tests are reviewed model by model.
Table 10: PLS structural model results Model 2 and Model 3 (direct effects).

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Model 2</th>
<th></th>
<th></th>
<th>Model 3</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Sig.</td>
<td>( f^2 )</td>
<td>Coefficient</td>
<td>Sig.</td>
<td>( f^2 )</td>
<td></td>
</tr>
<tr>
<td>Distress</td>
<td>Victim type</td>
<td>-.0140</td>
<td>n.s.</td>
<td>-.0140</td>
<td>n.s.</td>
<td>.0004</td>
<td></td>
</tr>
<tr>
<td>Sympathy</td>
<td>Victim type</td>
<td>.1764</td>
<td>***</td>
<td>.1764</td>
<td>***</td>
<td>.0321</td>
<td></td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>Victim type</td>
<td>-.1184</td>
<td>**</td>
<td>-.1193</td>
<td>**</td>
<td>.0394</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distress</td>
<td>-.0925</td>
<td>°</td>
<td>-.0981</td>
<td>°</td>
<td>.0134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sympathy</td>
<td>.3223</td>
<td>***</td>
<td>.3311</td>
<td>***</td>
<td>.1376</td>
<td></td>
</tr>
<tr>
<td>Lay rationalism</td>
<td></td>
<td>.0045</td>
<td>n.s.</td>
<td>.0041</td>
<td>n.s.</td>
<td>.0000</td>
<td></td>
</tr>
<tr>
<td>Distress ( \times ) Lay rationalism</td>
<td></td>
<td>.0077</td>
<td>n.s.</td>
<td>.0001</td>
<td></td>
<td>.0038</td>
<td></td>
</tr>
<tr>
<td>Sympathy ( \times ) Lay rationalism</td>
<td></td>
<td>.0469</td>
<td>n.s.</td>
<td>.0038</td>
<td></td>
<td>.0000</td>
<td></td>
</tr>
<tr>
<td>Control variable 1: Perceived impact</td>
<td>Victim type</td>
<td>.1578</td>
<td>**</td>
<td>.1621</td>
<td>**</td>
<td>.0477</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 2: Perceived responsibility</td>
<td>.4681</td>
<td>***</td>
<td>.4564</td>
<td>***</td>
<td>.2902</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 3: Gender</td>
<td>-.0494</td>
<td>n.s.</td>
<td>-.0526</td>
<td>n.s.</td>
<td>.0068</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 4: Age</td>
<td>-.0243</td>
<td>n.s.</td>
<td>-.0211</td>
<td>n.s.</td>
<td>.0012</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 5: Education</td>
<td>.1504</td>
<td>n.s.</td>
<td>.1595</td>
<td>n.s.</td>
<td>.0670</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 6: Income</td>
<td>.0435</td>
<td>n.s.</td>
<td>.0408</td>
<td>n.s.</td>
<td>.0045</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 7: Yearly donation</td>
<td>.1144</td>
<td>**</td>
<td>.1195</td>
<td>**</td>
<td>.0354</td>
<td></td>
</tr>
<tr>
<td>Willingness to donate</td>
<td>Victim type</td>
<td>-.0528</td>
<td>n.s.</td>
<td>-.0588</td>
<td>°</td>
<td>.0063</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distress</td>
<td>.0058</td>
<td>n.s.</td>
<td>-.0158</td>
<td>n.s.</td>
<td>.0002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sympathy</td>
<td>-.0072</td>
<td>n.s.</td>
<td>.0282</td>
<td>n.s.</td>
<td>.0006</td>
<td></td>
</tr>
<tr>
<td>Lay rationalism</td>
<td></td>
<td>-.0028</td>
<td>n.s.</td>
<td>-.0050</td>
<td>n.s.</td>
<td>.0000</td>
<td></td>
</tr>
<tr>
<td>Distress ( \times ) Lay rationalism</td>
<td></td>
<td>-.0506</td>
<td>n.s.</td>
<td>.0033</td>
<td></td>
<td>.0294</td>
<td></td>
</tr>
<tr>
<td>Sympathy ( \times ) Lay rationalism</td>
<td></td>
<td>.1584</td>
<td>°</td>
<td>.0294</td>
<td></td>
<td>.0000</td>
<td></td>
</tr>
<tr>
<td>Control variable 1: Perceived impact</td>
<td>Victim type</td>
<td>-.0859</td>
<td>n.s.</td>
<td>-.0691</td>
<td>°</td>
<td>.0056</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 2: Perceived responsibility</td>
<td>.0715</td>
<td>n.s.</td>
<td>.0421</td>
<td>n.s.</td>
<td>.0013</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 3: Gender</td>
<td>-.0265</td>
<td>n.s.</td>
<td>-.0374</td>
<td>n.s.</td>
<td>.0023</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 4: Age</td>
<td>-.0784</td>
<td>n.s.</td>
<td>-.0681</td>
<td>n.s.</td>
<td>.0088</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 5: Education</td>
<td>-.0096</td>
<td>n.s.</td>
<td>.0224</td>
<td>n.s.</td>
<td>.0008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 6: Income</td>
<td>.0579</td>
<td>n.s.</td>
<td>.0487</td>
<td>n.s.</td>
<td>.0044</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control variable 7: Yearly donation</td>
<td>.0366</td>
<td>n.s.</td>
<td>.0552</td>
<td>n.s.</td>
<td>.0049</td>
<td></td>
</tr>
</tbody>
</table>

Significance levels (one-tailed): *** p < .001; ** p < .01; * p < .05; ° p < .10; n.s. not significant.
One of the key results from Model 2 is the negative direct effect of victim type on motivation to donate ($\beta = -.1184^{**}$, $f^2 = .0388$) and the non-significant effect of victim type on willingness to donate ($\beta = -.0528$, $p > .10$), based on which H1a and H1b are rejected. The effect of victim type on motivation to donate actually occurs in the opposite direction of that which was hypothesized: identifiable victims do not cause a higher motivation to donate, but instead cause a lower motivation to donate than statistical victims. This effect can be regarded as weak, but substantial (Cohen, 1988).

Hypothesis 2a stated that an identifiable victim type resulted in higher experienced feelings of sympathy. Based on the results of Model 2, this hypothesis is accepted ($\beta = .1764^{***}$, $f^2 = .0321$). Again, the effect size can be regarded as weak, but substantial. Contrary to hypothesis 2a, hypothesis 2b is rejected. The beta coefficient is non-significant ($\beta = -.0140$, $p < .10$). An identifiable victim therefore did not evoke more distressed feelings than a statistical victim.

Sympathy had a significant positive effect on people’s motivation to donate, with a weak-to-moderate effect size ($\beta = .3223^{***}$, $f^2 = .1336$), and therefore, H3a can be accepted. An increase in sympathetic feelings leads to a higher motivation to donate. The results of Model 2 show that sympathy in fact does not have a significant effect on people’s willingness to donate ($\beta = -.0072$, $p > .10$). Therefore H3b is rejected. Regarding the effects of distress on people’s donation behavior, H4a predicted that higher feelings of distress would result in a higher motivation to donate. Based on the results of Model 2, this hypothesis is rejected. Distress had a slightly significant effect on motivation to donate ($\beta = -.0925^{°}$). However, the effect size ($f^2 = .0121$) indicated that although this effect is significant, it is non-substantial. H3d is rejected as well, following the non-significant effect of distress on willingness to donate ($\beta = -.0058$, $p > .10$).

The results of Model 2 are surprising, since they are to some extent contradictory. On the one hand, there exists a significant negative direct effect of victim type on motivation to donate. On the other, the model shows that an identifiable victim type evokes more sympathetic feelings, which, in turn, have a positive effect on the same dependent variable. To analyze this effect further, the Indirect Effects Inference-table and the Total Effects Inference-table provided by ADANCO were analyzed. The results of these tables are shown below (see table 11). Victim type has a significant positive indirect effect on motivation to donate ($\beta = .0948^{**}$). The Total Effects Inference shows that the influence of the indirect effect of victim type on motivation to donate counterbalances the direct effect, which makes the total effect non-significant. Victim type did not have a significant indirect effect on willingness to donate ($\beta = -.0144$, $p > .10$), but the combined direct and indirect effect made the influence of victim type on willingness to donate slightly significant ($\beta = -.0672^{°}$).
The R² values of Model 2 ranged between .0311 and .6549, showing that the explaining power of the model was not sufficient for all endogenous constructs. Sympathy (R² = .0311, adjusted R² = .0285) had an especially low explanation power. Since victim type was the only exogenous variable with arrows towards this variable, it can be stated that the effect of victim type on sympathy was minimal. The R² values without the inclusion of the interaction effect were sufficient for both motivation to donate (R² = .6549, adjusted R² = .6445) and willingness to donate (R² = .4784, adjusted R² = .4612).

In Model 3, the interaction terms between lay rationalism and both sympathy and distress were added to check whether lay rationalism had an effect on the relationship between sympathy and people’s motivation and willingness to donate, and distress and people’s motivation and willingness to donate. The results of Model 3 showed that lay rationalism did not have any particularly strong moderating effect on the relationship between emotional reactions and donation behavior. However, a slightly significant effect was observed. Higher levels of lay rationalism did not weaken the effect of people’s experienced sympathy on their motivation to donate (β = .0469, p > .10), but the interaction term did have a slightly significant effect on their willingness to donate (β = .1584°, f² = .0294). Higher levels of lay rationalism did not have an effect on the relationship between people’s experienced distress on their motivation to donate (β = .0469, p > .10), or their willingness to donate (β = -.0506, p > .10). Although a slight effect was observed, the R² values of the endogenous constructs motivation to donate (R² = .6566, adjusted R² = .6443) and willingness to donate (R² = .3554, adjusted R² = .4948) did not increase significantly as a result of including the interaction effects in the model. Based on these results, hypotheses 4a, 4b, 4c, and 4d are rejected.

The height of people’s yearly donations to charity appeared to have a significant influence on motivation to donate (β = .1144**, f² = .0327) and was thereby the only control variable with a significant influence on the dependent variables. Therefore, the model controlled for the significant effect of yearly donation on motivation to donate.

Model 2 furthermore showed some interesting additional results. Perceived responsibility had a significant positive effect on motivation to donate (β = .4681***), which had a strong effect size (f² = .3161). Furthermore, perceived impact had a significant positive effect on motivation to donate (β = .1578,
f^2 = .0454), although the effect size was rather weak. Considering the theory on the IVE, which has shown mixed results with regard to the mediating variables between victim type and donation outcomes, additional analyses were conducted to examine whether a mediating effect of perceived responsibility and perceived impact was indeed present in this study. These analyses are discussed in the next section.

4.4 Additional analyses

Following the significant effects of perceived impact and perceived impact on motivation to donate, two additional analyses were conducted. These analyses were conducted following the same approach as in Model 2 and Model 3. The first analysis (Model 5; see appendix 9.8) examined whether the two variables mediated the relationship between victim type and the two dependent variables, the second analysis (Model 6; see appendix 9.9) examined whether lay rationalism moderated the previously mentioned significant relationships. Below follows firstly the assessment of the measurement model, after which the relations in the structural model are discussed.

4.4.1 Measurement model assessment

In order to assess the measurement model, the key variables were modeled in Model 4 (see appendix 9.7) following a similar approach as described above. The relationships between constructs were modeled exactly like in Model 1c, with the exception that in this model, victim type had an influence on perceived impact and perceived responsibility, instead of on distress and sympathy. The goodness-of-fit values for were all sufficient (see tables 12 and 13).

Table 12: Goodness of model fit (Model 4, saturated model).

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.0447</td>
<td>.0618</td>
<td>.0674</td>
</tr>
<tr>
<td>d_{ULS}</td>
<td>.3800</td>
<td>.7253</td>
<td>.8633</td>
</tr>
<tr>
<td>d_0</td>
<td>.2269</td>
<td>.2387</td>
<td>.2748</td>
</tr>
</tbody>
</table>

Table 13: Goodness of model fit (Model 4, estimated model).

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.0552</td>
<td>.0645</td>
<td>.0687</td>
</tr>
<tr>
<td>d_{ULS}</td>
<td>.5781</td>
<td>.7905</td>
<td>.8959</td>
</tr>
<tr>
<td>d_0</td>
<td>.2323</td>
<td>.2606</td>
<td>.2935</td>
</tr>
</tbody>
</table>

Since the measurement model was again of a reflective nature, the same reliability and validity assessment were conducted for Model 4 as for Model 1c. The construct reliability scores displayed no critical values below .7 and were therefore regarded as sufficient (see table 14).
Looking at the indicator reliability scores, total_LRscore3 again had a low indicator reliability (.0829, see appendix 10.7), but deleting this indicator would not increase lay rationalism’s construct reliability (see appendix 10.8). Therefore, the analyses were conducted including total_LRscore3 as an indicator for lay rationalism (Henseler et al., 2009).

The AVE values of all constructs were above the critical value of .5, thereby ensuring convergent validity for these constructs. The HTMT values of the constructs were all below .85, and the 95% quantile scores were all below 1 (see appendix 10.9), indicating discriminant validity for all constructs (Henseler et al., 2015; Henseler, 2017). As was done before, the Fornell-Larcker criterion was also evaluated. The AVE value of each construct was higher than its highest squared correlation with any other construct, thereby ensuring discriminant validity (Henseler et al., 2016). Table 15 displays the assessment of validity for each construct.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>Dijkstra-Henseler’s rho ($\rho_A$)</th>
<th>Jöreskog’s rho ($\rho_c$)</th>
<th>Cronbach’s alpha ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived impact</td>
<td>3</td>
<td>.8542</td>
<td>.8541</td>
<td>.8541</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>3</td>
<td>.8825</td>
<td>.8805</td>
<td>.8796</td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>2</td>
<td>.8259</td>
<td>.8251</td>
<td>.8247</td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>3</td>
<td>.8756</td>
<td>.7183</td>
<td>.7141</td>
</tr>
<tr>
<td>Distress</td>
<td>3</td>
<td>.8675</td>
<td>.8217</td>
<td>.8255</td>
</tr>
<tr>
<td>Sympathy</td>
<td>3</td>
<td>.8028</td>
<td>.8009</td>
<td>.8030</td>
</tr>
</tbody>
</table>

Table 14: Construct reliability of multi-item variables (Model 4).

Table 15: Convergent and discriminant validity assessment using AVE, HTMT and the Fornell-Larcker criterion (Model 4).
4.4.2 Structural model assessment

The structural model was ran with 4,999 bootstrap samples, and missing values were dealt with using mean imputation. Table 16 contains the beta coefficients, significance levels, and the effect sizes of the most relevant relationships in Model 5 and Model 6. In Model 6, the interaction terms were added to examine whether there occurred a significant moderating effect, and if the addition of these terms influenced the $R^2$ values of the endogenous constructs in any way.

Model 5 shows that victim type did not have a significant effect on perceived responsibility ($\beta = .0864, p > .10$), thereby ruling out the possibility of any mediating effect of this variable. Furthermore, victim type did have a slightly significant positive effect on perceived impact ($\beta = .0690^\circ$), but the effect size indicated that this effect was non-substantial ($f^2 = .0071$). In conclusion, there was no mediating effect present of either perceived responsibility or perceived impact.

Interestingly, looking at the total effect of victim type on willingness to donate, it is shown that victim type does in fact have a significant negative effect on this variable ($\beta = -.1261^{**}$, see table 17). This can be attributed to the significance of the indirect effect ($\beta = -.0734^*$). However, as the direct effects of Model 5 have shown that victim type does not have any direct effect on perceived impact or perceived responsibility, these variables cannot be seen as mediators (Baron & Kenny, 1986).

The $R^2$ values of Model 5 showed similar results to those of Model 2, ranging between .2666 and .6206. To examine whether lay rationalism moderated the relationships between perceived impact and perceived responsibility and the dependent variables, interaction terms between lay rationalism and the proposed mediators in were modeled in Model 6. Model 6 showed that the interaction effects of lay rationalism with both perceived impact and perceived responsibility were non-significant. Moreover, the $R^2$ values of the endogenous constructs motivation to donate ($R^2 = .6622$, adjusted $R^2 = .6501$ as opposed to $R^2 = .6202$, adjusted $R^2 = .6140$ in Model 5) and willingness to donate ($R^2 = .4884$, adjusted $R^2 = .4686$ as opposed to $R^2 = .4680$, adjusted $R^2 = .4579$ in Model 5) were not significantly increased as a result of the inclusion of the interaction effects in the model.

Table 17: Direct, indirect and total effects of victim type on donation outcome variables.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Model 5</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent variable</td>
<td>Coefficient</td>
<td>Sig.</td>
<td>Coefficient</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(direct)</td>
<td></td>
<td>(indirect)</td>
<td></td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>Victim type</td>
<td>-.1183</td>
<td>**</td>
<td>.0133</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>Willingness to donate</td>
<td>-.0527</td>
<td>n.s.</td>
<td>-.0734</td>
<td>*</td>
</tr>
</tbody>
</table>
Table 16: PLS structural model results Model 5 and Model 6 (direct effects).

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Sig.</td>
<td>f^2</td>
</tr>
<tr>
<td>Perceived impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>.0690</td>
<td>°</td>
<td>.0071</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>.0043</td>
<td>n.s.</td>
<td>.0000</td>
</tr>
<tr>
<td>Motivation to donate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>-.1183</td>
<td>**</td>
<td>.0388</td>
</tr>
<tr>
<td>Perceived impact</td>
<td>.1576</td>
<td>**</td>
<td>.0453</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>.4681</td>
<td>***</td>
<td>.3161</td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>.0044</td>
<td>n.s.</td>
<td>.0001</td>
</tr>
<tr>
<td>Perceived impact × Lay rationalism</td>
<td></td>
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<td>°</td>
<td>.0118</td>
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<td>***</td>
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<tr>
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<td>**</td>
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Significance levels (one-tailed): *** p < .001; ** p < .01; * p < .05; ° p < .10; n.s. not significant.
Discussion

The IVE is of significant importance for charity organizations using marketing campaigns to gain donations. Its prevalence and relevance for organizations in practice has caused the IVE to receive wide-ranging academic attention. However, the psychological mechanisms underlying the IVE have been a focal point of discussion, resulting in mixed explanations and a general uncertainty around the origins of this decision-making bias. The first aim of this thesis was therefore to provide more clarity to the question what mediating mechanisms underlies the IVE. Although answering this question advances the debate on how the IVE can be explained, people’s susceptibility to the IVE might not only depend on situational circumstances, but on their individual differences as well. Hence, this thesis went beyond the previously mentioned research examining the situational workings of the effect in general, by looking into what role the individual differences in relying on reason or feelings when making decisions play with regard to the IVE. For the purpose of this research, an experiment was held based on which the relationship between victim descriptions, induced psychological mechanisms, preferences in decision making and donation behavior could be assessed. In this section, I first discuss the findings of the experiment, and how these relate to the hypotheses I formulated in the theory section of this thesis. Based on these findings, I subsequently answer the two research questions central to this thesis. Hereafter, I elaborate on this thesis’ theoretical and practical implications. I end by discussing the limitations of this thesis, and provide suggestions for future research on the IVE.

5.1 Discussion of the research questions and findings

Two research questions were central to this thesis. With regard to the workings of the IVE, I addressed the following question:

Do emotional reactions serve as a mediating mechanism for the identifiable victim effect?

Before the influence of lay rationalism on the strength of the IVE was assessed, it was important to examine whether and how the IVE took place in my experiment.

5.1.1 The absence of the IVE

Following the previous research on the IVE, I proposed that identifiable victims would result in a greater motivation to donate (H1a) and willingness to donate (H1b). Interestingly, the findings suggest that there does not exist any effect of victim type on willingness to donate, and that there is even a significant direct negative effect of victim type on motivation to donate. Participants’ motivation to donate was actually higher when faced with a statistical victim than with an identifiable victim. This finding is remarkable, since previous research has consistently reported that individuals donate more money following an identifiable victim than a statistical victim (e.g. Small & Loewenstein, 2003; Jenni & Loewenstein, 1997).
An explanation for the absence of any positive effects of identifiable victims on donation type might lie in the use of the one-among-many identifiable victim approach. This approach differs significantly from previous operationalizations, which may have resulted in different perceptions of the victims in need. In order for the IVE to occur under the one-among-many identifiable victim approach, respondents will need to be able to transfer their motivation to help the identifiable victim to the group as a whole. They need to be able to transfer this motivation because the donation appeal specifically implies that any donation will go to the larger group of victims, of which the identifiable victim is representative. Research on the IVE has partly explained the effect by relying on the empathy-altruism model (Batson, 2011), which predicts that when an individual observes another individual in need, this elicits empathy in this person, which motivates them to help the other. However, Batson (2011) also mentioned that the empathy-altruism model is fairly target-specific, which poses problems for the transfer of this empathy-induced helping motivation to a larger group of victims. The question that many academics throughout the years have asked (e.g., Oceja et al., 2014; Batson et al., 1995; Batson et al., 2002), and that I did as well in this thesis, is if feeling empathy for an individual victim will lead to behavior that helps the entire group of victims, or if this is not the case and may even hamper the help given to the group.

Oceja et al. (2014) may have provided an explanation for the fact that the transfer of helping motivation did not occur in this research. They researched the conditions under which the combination of empathy for one victim, and the awareness of other victims in need, lead to the generalization of helping motivation to the others. In what they name the one-among-others effect, they found that when a victim is presented as one among other individuals, this will increase awareness that the other individuals are in need, which in turn enhances respondents’ willingness to increases those others’ welfare (Oceja et al., 2014). However, of critical importance is the ability to perceive the ‘others’ as an aggregate of individuals, rather than a single group. When the others are perceived as an aggregate of individuals, empathy-induced helping intentions are able to generalize to individuals other than the eliciting target. However, when an aggregate of individuals is perceived as an entity (i.e., a single group), this generalizing effect will not occur (Oceja et al., 2014). Entitativity (i.e., the perception of individuals as a single group) depends on “whether an aggregate of individuals has sharp boundaries, internal homogeneity, clear internal structure, common goals, and common fate” (Oceja et al., 2014, p. 112). Yemeni children were described in both victim descriptions as having a large internal homogeneity, as the donation appeal described them in a generalized form, and more importantly, as sharing a common fate, since they are all endangered by bombardments, famine and diseases. Furthermore, entitativity also depends on the size of the aggregate (Brewer & Harasty, 1996). Since the ‘others’ in this research consisted of a massive number of Yemeni children in need of help, which was also implied in the donation appeal, respondents were likely to have perceived the larger aggregate of victims as a single group. In sum, the description of Yemeni children in the identifiable victim
condition is likely to have evoked entitativity, which may have hampered respondents’ ability to generalize their motivation to help the identifiable victim to the larger group.

The presentation of the ‘others’ therefore may have been a cause for the absence of an increase in helping motivation as a result of identifiable victims. However, looking at the presentation of the identifiable victim in itself, there also may have occurred certain problems. Oceja, Stocks, and Lishner (2010) proved that prosocial action increases when there is a certain ‘congruence’ between the target in need and the beneficiary of help. They based this finding on the assumption that people strive to achieve and maintain cognitive consistency when perceiving and reacting to their environment. When a victim is presented as an individual, this will result in a greater helping motivation to help that individual, but not the larger group of which the individual is a part. This corresponds to the IVE using the traditional identifiable victim approach, since in that approach, victims are presented as single targets in need, but also as the single beneficiaries of help. Additionally, Oceja et al. (2010) found that when an individual is perceived as one among others, this results in a motivation to help the group, but not the specific individual in need. To illustrate the differences between presenting a victim as an individual in need or as one among other individuals within a larger group in need of help, Oceja et al. (2010) presented a child in need as one among others by describing her as “Guddi, one of thousands of girls who live in Sierra Leone under extreme poverty” (p. 2818), and including a picture of the girl surrounded by other children. Contrarily, they presented the same child as an individual by describing her as “Guddi, who lives in Sierra Leone under extreme poverty” (p. 2818), and including the same picture with all the children except Guddi digitally removed. Looking at the identifiable victim description used in this research, it appears that the victim was presented more as an individual than as one among others in need of help. The victim description included a picture of a single victim, and although it was mentioned that Yemeni children in general are endangered by bombings, hunger and diseases, Saida was not explicitly mentioned as a part of this group, as was done in Oceja et al. (2010). Hence, there was a certain incongruence between the target in need and the beneficiary of help, because the latter was explicitly specified as the larger group of children. This incongruence may have hampered respondents to increase their donations following the identifiable victim description.

Incongruence may even cause respondents to feel deceived, which may lower their donations (Oceja et al., 2010). Considering that respondents were aware that they were participating in research measuring their reactions towards donation appeals, it is not unlikely that they might have alerted themselves to the possibility of being deceived. When feelings of deception played a role in their responses, this might even offer an explanation for the fact that statistical victims invoked higher donations than identifiable victims, because the donation appeal describing statistical victims was more congruent, and therefore may have invoked less feelings of deception than the donation appeal describing an identifiable
Another explanation for the significant negative effect of victim type on motivation to donate might lie in the way people evaluate the information given in the two victim descriptions. Considering that the sample in this research consisted mainly of highly educated people, these people might have had a relatively high level of intelligence. Higher intelligence in general has been proven to correlate negatively with error frequency in judgement (Kahneman & Frederick, 2005), which led Dickert et al. (2012) to propose that the relationship between the number of victims and emotions and valuation outcomes is more linear for highly intelligent people. This results of this thesis seem to resonate with this proposition, although a construct measuring individual differences in intelligence was not included.

5.1.2 The role of emotional reactions

Emotional reactions have been popularly hypothesized as mediating mechanisms for the IVE. I predicted that an identifiable victim would result in higher experienced feelings of distress ($H2a$) as well as sympathy ($H2b$). Contrary to other studies finding an effect of identifiability only on feelings of distress (e.g. Kogut & Ritov, 2005a), or on both feelings of distress and sympathy together (e.g. Lee & Feeley, 2018), the findings of this study indicate that one-among-many identifiable victims result in the increase of sympathetic feelings alone. Dickert and Slovic (2009) have shown that affective responses are less when an individual is presented as part of a larger group, rather than as a single victim. This offers a partial explanation for the reason why people do not feel distressed as a result of a one-among-many identifiable victim, however, it does not offer an explanation for the reason why sympathy as an affective response was observed. Perhaps distress is in fact increased by an identifiable victim type, but people simply lack the ability to tap into this emotion and are unable to report any changes in them (Friedrich & McGuire, 2010). This corresponds to the model of dual attitudes, developed by Wilson, Lindsey, and Schooler (2000). They looked into the process of attitude changing and subsequent reporting, and found an individual might not be able to report a change in their explicit attitude (such as their feelings of distress) when they do not have the motivation and cognitive capacity to retrieve it. Feelings of distress are not considered as pleasant, and participants might have lacked the motivation to retrieve such feelings in the experiment. In such a case, they might report their implicit attitude, which is generated automatically and might not be different for identifiable and statistical victim descriptions. Another explanation might be that feelings of distress simply might not be the right mediator for the IVE. Despite the fact that this study went beyond previous studies and controlled for the potential mediating effects of perceived impact and perceived responsibility, there might be yet unmeasured affective responses that have an important mediating role in the IVE.

Relying on research on decision making, and in particular the theory on the affect heuristic (Slovic et al., 2002), I hypothesized that people’s experienced distress would have a positive effect on their motivation to donate ($H3a$) and their willingness to donate ($H3b$). The results indicate this not to be true,
contrasting them with previous research on the IVE that proved distress to be a mediator (e.g. Lee & Feeley, 2018), and research underlying the importance of emotional reactions as the main mechanism behind helping (Slovic, 2007). On the other hand, experienced feelings of sympathy did have a significant positive effect on participants’ motivation to donate (H4a) but not on their willingness to donate (H4b). People appeared to be driven more by altruistic motivations (i.e. sympathy) than egoistic motivations (i.e. distress). The absence of a mediating effect of distress adds to the uncertainty around the mediating mechanism of emotional reactions, but a few explanations have the potential to offer more clarity. Erlandsson et al. (2015) mention that personal distress is an emotion directed inwards, and that it is easier to get rid of distress by escaping the situation, or if someone believes that helping will not reduce the distress. Both causes have the potential to be present in this study. As the experiment was conducted online, participants were perhaps better able to escape the situation as opposed to when the experiment was conducted in a laboratory setting. It might have been easier for them to downplay their feelings of distress or shift their attention to something more positive in an online setting. Also, the one-among-many identifiable victim approach might have contributed to participants’ perception that helping would not reduce the distress. This approach would then result in a dual effect. On the one hand, making the monetary end goal the larger group of victims reduces the chance of a PDE occurring and thus isolates the effect of identifiability. On the other hand, the elimination of a PDE may have caused participants’ overall perceived impact to be lower, which could have contributed to the feeling that helping the victim would not have reduced the participants’ feelings of distress. Erlandsson et al. (2015) argued that sympathy is an emotion directed outwards, towards the person in need. It therefore has the potential to motivate people even when they can easily escape the situation, and is not fueled by the desire to get rid of the feeling itself, like distress is. A lower feeling of perceived impact as a result of the one-among-many identifiable victim approach therefore might not play a role with regard to the effects of sympathetic feelings on donation outcomes. This makes a feeling of sympathy more ‘robust’, and therefore a more reliable predictor of donation outcomes.

To analyze whether sympathy was indeed the single psychological mechanism mediating the influence of an identifiable victim on donation outcomes, the variables perceived impact and perceived responsibility were also analyzed as potential mediators. Perceived impact and perceived responsibility both had a positive effect on motivation to donate, whereas they did not have a significant effect on willingness to donate. However, for a mediating effect to occur, the independent variable victim type has to influence the mediators perceived impact and perceived responsibility, which was not the case (Baron & Kenny, 1986). The inclusion of perceived impact and perceived responsibility as mediators did not change the significant total negative effect of victim type on motivation to donate, unlike the inclusion of sympathy.

In conclusion, the results of my research offer support for a mediating effect of sympathy in specific. Emotional reactions in the form of sympathy mediate the influence of victim type on motivation
5.1.3 The influence of lay rationalism

This thesis went beyond previous research on the IVE and looked into the potential moderating effect of the individual difference variable lay rationalism. To examine this effect, I addressed the following question:

*What influence does people’s lay notion of rationality have on their susceptibility to the identifiable victim effect?*

Contrary to the results of Hsee et al. (2015), lay rationalism did not have direct significant effect on donation outcomes. Additionally, lay rationalism had no moderating effect on either the relationships between distress and motivation to donate \((H5a)\) or willingness to donate \((H5b)\), or the relationships between sympathy and motivation to donate \((H6a)\) or willingness to donate \((H6b)\). This result is surprising, especially since sympathy resulted in a higher motivation to donate even when people do not base their decisions on those donations. The absence of any effect of lay rationalism thereby adds to the robustness of the mediating effect of sympathy. Furthermore, lay rationalism did not have a moderating influence on the significant effect of perceived impact and perceived responsibility on motivation to donate. Therefore, it can be stated that when people experience feelings of sympathy, if they deem the impact they can make to be big, or if they feel that they are responsible to the victim(s), this will have a positive effect on their motivation to donate regardless of their personal preferences in relying on reason or feelings in decision making.

5.2 Theoretical and managerial implications

Over the years, a growing body of research on the IVE has helped to determine under which conditions the effect is most likely to appear, and which psychological mechanisms might play a crucial role in the relationship between victim type and subsequent donation behavior. However, findings on the IVE have not always been consistent, and research has relied on various operationalizations of victim types (Lee & Feeley, 2016). By providing a theoretical discussion and synthesis of these various operationalizations, I add to the existing debate on the IVE by offering a clear view on how to interpret the mixed outcomes from previous research. As was also shown in this thesis, minor differences in operationalization may cause substantial effects in people’s observed emotional reactions and donation behavior. Hence, research on the IVE would benefit from a thoughtful consideration of the operationalization of victim types, and the reporting of conclusions which takes this operationalization into account.

Using the one-among-many identifiable victim approach furthermore ensures that the effects of
identifiability are isolated from others like the PDE or a visualization effect, which adds to the validity of my conclusions. I show that using this approach results in vastly different effects than previously observed. Oceja et al. (2010) advocated the consideration of the one-among-others effect in conjunction with the IVE. In this thesis I have combined the two effects, which supported the hypothesis of Oceja et al. (2010) that congruence between the target in need and the beneficiary of help is an important predictor of the strength of the IVE. It also supports the finding that entitativity forms a problem for the generalization of helping motivation.

The conclusion that sympathy mediates the effect of identifiable victims on motivation to donate, as opposed to previously hypothesized variables like distress, perceived impact, and perceived responsibility, adds to the debate on the underlying mechanisms of the IVE. Relying on the same scale used in previous research that proved that identifiable victims result in higher feelings of distress (Lee & Feeley, 2018), I show that this effect does not hold when using a different operationalization of victim types. Furthermore, isolating the effect of identifiability from effects like the PDE and the in-group effect results in an influence of identifiable victims on sympathy alone, which resonates with the findings of Erlandsson et al. (2015).

This study is among the first to examine the influence of individual difference variables on the IVE. The findings suggest that lay rationalism does not have an influence on the relationship between emotional reactions and donation outcomes. By showing that people’s degree of lay rationalism does not alter the significant positive effect of sympathy on motivation to donate, I provide evidence that makes the empathy-altruism model more robust (Batson, 2011).

The findings of this thesis may be insightful for charitable organizations using marketing campaigns to increase their donations. I show that the use of ‘poster children’ does not necessarily increase people’s motivation to donate, and that displaying statistics about the disaster may even be a more effective approach. This research found that sympathy, perceived impact and perceived distress have a particularly strong effect on people’s motivation to donate. Charitable organizations may therefore benefit from focusing their marketing campaigns on stimulating these feelings in people. Many charitable organizations are naturally already aiming their campaigns at invoking these feelings, however, my research shows that organizations should do more than simply displaying an identifiable victim if they want to invoke a multitude in feelings towards victims. Gaining information on how to invoke the in-group effect and the PDE might prove to be useful to these organizations (see Erlandsson et al., 2015). In this thesis, I have described the characteristics of the identifiable victim description that, based on scientific research, resulted in increased feelings of sympathy in people. Specific knowledge on how to increase perceived impact and perceived responsibility is outside the scope of this thesis (see Erlandsson et al., 2015).

Furthermore, as incongruence between the target in need and the beneficiary of help might have
hampered people’s motivation and willingness to donate in my research, organizations could benefit from ensuring congruence between these two in their marketing campaigns (Oceja et al., 2010).

5.3 Limitations and suggestions for further research

In this thesis, I have examined people’s donation behavior as a result of two different kinds of donation appeals, and the mechanisms underlying changes in this donation behavior. However, it can be stated that motivation to donate and willingness to donate are two measures which, although they make a valid attempt, can never fully predict if and how people will donate to charitable organizations in reality. The online surroundings of the experiment may have made it easy for people to overstate their donation intentions. Previous research by Small et al. (2007) found a valid method to measure actual donation behavior. Respondents in this research were given an amount of USD as a reward for taking a survey in which they saw the donation appeal. At the end of the survey, respondents were asked how much money of the received amount of USD they were willing to donate to the charitable organization mentioned in the donation appeal (Small et al., 2007). Future research could benefit from using this approach to measuring donation behavior, since it is a more direct measure.

The construct of lay rationalism exhibited several problems during the analyses in both SPSS and in ADANCO, which is why the construct ended up being measured with only three out of the six indicators in total. Although the measurement model assessment showed no problems with the construct, measuring it with half of its intended indicators may have resulted in a certain aspect of lay rationalism being overlooked in this research. Although I used back-translations to minimize any problems in interpretation of the indicators, the possibility exists that participants still found these questions about their way of decision making difficult to answer. Therefore, future research could benefit from a more careful measurement of this construct.

The finding that statistical victims yielded a higher motivation to donate than identifiable victims in this research was remarkable. I offered an explanation for this effect by using the insights from the one-among-others effect described by Oceja et al. (2010) and Oceja et al. (2014), however, these remain speculative until tested. Future research could operationalize the victim types in such a way that congruence occurs, and entitativity is minimized, to see whether this yields different results than those of the present study. Furthermore, a concept measuring the degree to which people feel deceived after seeing the donation appeal could control future research’s findings for any influences of this feeling.

The finding that lay rationalism as an individual difference variable does not have a significant influence on the IVE does not necessarily mean that this is the case for other individual difference variables as well. Friedrich and McGuire (2010) already showed this by finding that the IVE only occurs for people scoring low on the Rational scale (as part of the REI scale). Also, as Dickert et al. (2012) already pointed out, numeracy could be an important moderator regarding the IVE which still remains unexplored. Research
by Dieckmann, Slovic, and Peters (2009) and Peters et al. (2006) has shown that people’s numerical skill is an important predictor of the information they use in decision making. People high in numerical skill rely more on numerical information in decision making, whereas people low in numerical skill rely more on the narrative information provided with such information. An interesting opportunity for further research on the IVE would lie in relating the concept of numeracy (Peters et al., 2006) to the IVE, since it could be posed that statistical victim descriptions display more numerical information, and identifiable victims rely more on narrating a story.

As a final remark, I have advocated the use of an one-among-many identifiable victim approach to increase generality of the findings and isolate the effects of identifiability. It should be mentioned, however, that my aim was primarily to look into how charity organizations’ marketing campaigns can be optimized. This perspective warrants the use of an one-among-many identifiable victim approach, since it relates directly to marketing campaigns in practice. However, this does not imply that research using a traditional identifiable victim approach is in any regard ‘wrongly conducted’. The IVE is a popular research topic in social psychology and research into human decision making biases. For these purposes, a traditional identifiable victim approach may serve excellently. Moreover, future research might benefit from examining the IVE using a multitude of perspectives, to see how these effects occur in a similar setting.
References


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Appendix

Appendix 1: Identifiable victim description.

Help children in war zones

Yemen is the poorest country in the Middle East. The recent history of the country is dominated by conflict and violence. Children in Yemen are endangered by bombings, hunger and diseases. The picture in this message is of Saida, a desperately poor girl from Yemen. She is traumatized by such bombings and suffers from occasional nightmares. Her parents died two years ago as a result of the war in Yemen, and the rest of her family is not able to take care of her. Saida is 18 years old, but looks like a child of age 9. This is the result of severe undernutrition. Together, we can prevent children from starving, having to suffer lifelong traumas and to die from diseases that can be prevented and cured. With your financial gift, we can save more children like Saida by providing them with food, education and medical help.
Appendix 2: Statistical victim description.

Help children in war zones

Yemen is the poorest country in the Middle East. The recent history of the country is dominated by conflict and violence. According to the UN, 14 million out of the total 28 million people in Yemen are suffering from famine. Children in Yemen are endangered by bombings, hunger and diseases. At the moment, around 150 Yemeni children die every day because of these tragedies. Since the beginning of the war, in April 2015, an estimated 85,000 children have died from starvation. Together we can prevent children from starving, having to suffer lifelong traumas, and to die from diseases that can be prevented and cured. With your financial gift, we can save more lives of children by providing them with food, education and medical help.
Appendix 3. Dutch version of the identifiable victim description used in the experiment.

**Help kinderen in oorlogsgebieden**

Jemen is het armste land in het Midden-Oosten. De recente geschiedenis van het land wordt gedomineerd door conflict en geweld. Kinderen in Jemen worden bedreigd door bombardementen, honger en ziektes. Op de foto in dit bericht staat Saida, een verschrikkelijk arm meisje uit Jemen. Ze is getraumatiséerd door zulke bombardementen en heeft regelmatig nachtmerries. Haar ouders stierven twee jaar geleden als gevolg van de oorlog in Jemen, en de rest van haar familie kan niet voor haar zorgen. Saida is 16 jaar oud, maar ziet eruit als een kind van 8. Dit is het gevolg van ernstige ondervoeding. We kunnen samen voorkomen dat kinderen uithongeren, voor het leven beschadigd raken of sterven aan ziektes die te voorkomen en genezen zijn. Met uw bijdrage kunnen we meer kinderen zoals Saida redden door ze voedsel, onderwijs en medische hulp te geven.
Appendix 4. Dutch version of the statistical victim description used in the experiment.

**Help kinderen in oorlogsgebieden**

Appendix 5: Pre-test.

Appendix 5.1: Pre-test (Dutch version).

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Introduction

Beste meneer/mevrouw,

Dankuwel voor uw bereidheid om deel te nemen aan mijn onderzoek. Mijn naam is Bas van Heerwaarden, ik ben een student aan de Radboud Universiteit Nijmegen. Deze vragenlijst is onderdeel van het scriptieonderzoek dat ik uitvoer als onderdeel van mijn masteropleiding Bedrijfskunde.

Mijn onderzoek gaat over de effectiviteit van de marketingcampagnes van goede doelen. Ik onderzoek hoe mensen reageren als gevolg van het lezen van een donatieverzoek. Ik ben van plan dit te onderzoeken aan de hand van een vragenlijst. Echter, voor ik begin met het verspreiden van deze vragenlijst wil ik zeker zijn dat deze voor iedereen te begrijpen en van goede kwaliteit is. Daar kan ik uw hulp goed voor gebruiken.

Uw medewerking is voor mij heel waardevol, omdat ik aan de hand van uw feedback mijn vragenlijst kan verbeteren. Uw antwoorden zijn daarom ook niet goed of fout, het is voor mij alleen belangrijk hoe duidelijk de donatieverzoeken en de vragen voor u zijn. Als u wenst het survey niet voort te zetten, kan u het op elk moment dat u wilt afsluiten. Het invullen van de vragen zal ongeveer 10 minuten duren. Uw antwoorden worden uiteraard volledig anoniem verwerkt en uitsluitend voor mijn onderzoek gebruikt.

In het onderzoek krijgt u twee donatieverzoeken te zien, waarbij ook slachtoffer beschrijvingen te lezen zijn. Eén van deze twee donatieverzoeken is inclusief een foto van een slachtoffer. Als u hier gevoelig voor bent en u wenst dit niet te zien, bent u vanzelfsprekend niet verplicht om deel te nemen. Als u akkoord gaat met het deelnemen aan mijn onderzoek, bevestig dit dan hieronder.

Mocht u na het lezen van deze informatie nog vragen hebben, neem dan gerust contact met me op: b.vanheerwaarden@student.ru.nl. Nogmaals bedankt voor uw medewerking.

Met vriendelijke groet,

Bas van Heerwaarden

---

Questions

1. Ik heb bovenstaande informatie gelezen en ga akkoord met het deelnemen aan deze vragenlijst.

---

Explanation text
De volgende donatieverzoeken zijn gebaseerd op het werk van het goede doel ‘Save the Children’. Deze organisatie is actief in meer dan 120 landen, en is momenteel ‘s werelds grootste onafhankelijke hulporganisatie op het gebied van kinderrechten. Lees alstublieft de volgende donatieverzoeken aandachtig door en vul de daaropvolgende vragen in.

Onder het donatieverzoek kunt u eerst antwoorden met een ‘+’ of een ‘-’. Hiermee geeft u een oordeel over de kwaliteit en formulering van de vraag. Als u vindt dat het verzoek duidelijk en goed geformuleerd is, geef dan het antwoord ‘+’. Als u vindt dat het verzoek beter geformuleerd had kunnen worden, geef dan het antwoord ‘-’. Na dit antwoord volgt een open ruimte waarin u eventuele verbeteringen kunt aangeven. Geef vervolgens uw mening over een aantal stellingen over het donatieverzoek.

At this point, participants were shown both the identifiable and the statistical victim description (see appendix 3 and 4)

Questions

1. Is het donatieverzoek in uw mening duidelijk geformuleerd?

Geef hieronder alstublieft aan in hoeverre u het eens bent met de volgende stellingen over het donatieverzoek.

2. In het donatieverzoek wordt gefocust op het individu om de zwaarte van de crisis te beschrijven.
3. Het donatieverzoek gebruikt een slachtoffer dat representatief is voor een grotere groep slachtoffers.
4. Het donatieverzoek geeft me persoonlijke informatie over het slachtoffer/de slachtoffers.
5. Het donatieverzoek vertelt een verhaal met een levendige beschrijving van het slachtoffer/de slachtoffers.

Explanation text

Bij de volgende vragen verzoek ik u om wederom te antwoorden met een ‘+’ of een ‘-’ (met eventuele feedback in de open ruimte). Hiermee geeft u een oordeel over de kwaliteit en formulering van de vraag. Als u vindt dat een vraag duidelijk en goed geformuleerd is, geef dan het antwoord ‘+’. Als u vindt dat een vraag beter geformuleerd had kunnen worden, geef dan het antwoord ‘-’. Na dit antwoord volgt een open ruimte waarin u eventuele verbeteringen kunt aangeven.

Noot: in mijn onderzoek krijgen deelnemers slechts één van bovenstaande donatieverzoeken te zien, daarom zijn de vragen iets anders geformuleerd dan in het echte onderzoek (bijvoorbeeld: ‘Ik heb medelijden met het kind/de kinderen’).

Questions

6. Als het u gevraagd zou worden, welk bedrag zou u dan bereid zijn om te doneren aan het goede doel dat beschreven staat in het donatieverzoek?
7. Hoe gemotiveerd bent u om te helpen na het lezen van het donatieverzoek?
8. Hoe waarschijnlijk zou het zijn dat u gaat helpen na het lezen van het donatieverzoek?

*Geef aan hoe u zich voelt wanneer u dit donatieverzoek leest.*

9. Ik voel me terneergeslagen.
10. Ik voel me verdrietig.
11. Ik voel me bedroefd.

*Geef aan wat voor emoties u voelt wanneer u dit donatieverzoek leest.*

12. Ik heb veel medelijden met het slachtoffer/de slachtoffers.
13. Ik voel veel medeleven met het slachtoffer/de slachtoffers.

*Geef aan hoe u denkt over het nut van geld doneren aan het goede doel beschreven in het donatieverzoek.*

15. Ik denk dat ik iets goeds teweeg kan brengen.
16. Ik denk dat het mogelijk is om een verschil te maken.
17. Ik denk dat de invloed van mijn donatie erg positief is.

*Geef aan hoe u denkt over uw persoonlijke verantwoordelijkheid om te helpen wanneer u dit donatieverzoek leest.*

18. Ik voel me moreel verplicht om zo goed mogelijk te helpen.
19. Ik voel me persoonlijk verantwoordelijk om zo goed mogelijk te helpen.
20. Ik voel me verplicht om te helpen.

**Explanation text**

De volgende vragen zijn bedoeld om te meten wat de manier is waarop deelnemers over het algemeen hun beslissingen maken. Voor deze set vragen gelden dezelfde instructies als die van de vorige set vragen. Als u vindt dat een vraag duidelijk en goed geformuleerd is, geef dan het antwoord ‘+’. Als u vindt dat een vraag beter geformuleerd had kunnen worden, geef dan het antwoord ‘-’. Hiermee geeft u een oordeel over de kwaliteit en formulering van de vraag. Na dit antwoord volgt een open ruimte waarin u eventuele verbeteringen kunt aangeven.

**Questions**

21. Als ik beslissingen maak, vind ik het fijn om de financiële kosten en opbrengsten te analyseren en de invloed van mijn gevoelens te weerstaan.
22. Als ik kies tussen twee opties, waarvan de een me beter laat voelen en de ander beter is om het doel te behalen waar ik naar streef, kies ik degene die me beter laat voelen.
23. Als ik beslissingen maak, denk ik meer na over wat ik wil bereiken in plaats van over hoe ik mezelf voel.
24. Als ik kies tussen twee opties, waarvan de een in financieel opzicht beter is en de ander “beter voelt”, kies ik degene die in financieel opzicht beter is.
25. Als ik tussen producten moet kiezen, vertrouw ik op mijn gevoel in plaats van op product specificaties (getallen en objectieve beschrijvingen).
26. Als ik beslissingen maak, focus ik liever op de objectieve feiten dan op subjectieve gevoelens.
De volgende vragen zijn bedoeld om de demografische gegevens van deelnemers te meten. Voor deze set vragen gelden dezelfde instructies als die van de vorige set vragen. Als u vindt dat een vraag duidelijk en goed geformuleerd is, geef dan het antwoord ‘+’. Als u vindt dat een vraag beter geformuleerd had kunnen worden, geef dan het antwoord ‘-’. Hiermee geeft u een oordeel over de kwaliteit en formulering van de vraag. Na dit antwoord volgt een open ruimte waarin u eventuele verbeteringen kunt aangeven.

**Questions**

27. Met welk gender identificeert u zich het meest?
28. Wat is uw leeftijd?
29. Wat is uw opleidingsniveau (het hoogst gerangschikte diploma dat u behaald heeft, of de hoogst gerangschikte opleiding waar u momenteel aan deelneemt)?
30. Wat is het gemiddelde maandelijkse inkomen van uw huishouden?

**Explanation text**

Vergeet na deze pagina niet op het rode pijltje onderaan te drukken om uw feedback op te slaan.

Bedankt voor uw deelname aan mijn onderzoek. Aan de hand van uw feedback ga ik mijn survey optimaliseren. Indien u nog algemene opmerkingen over het survey heeft, kunt u deze hieronder in de open antwoordruimte invullen.

Als u vragen heeft, of geïnteresseerd bent in een kopie van het mijn scriptie na afronding, kunt u me altijd een e-mail sturen op b.vanheerwaarden@student.ru.nl.

Met vriendelijke groet,

Bas van Heerwaarden
Appendix 5.2: Pre-test (English version)

Introduction

Dear sir/madam,

Thank you for your willingness to participate in my research. My name is Bas van Heerwaarden, I am a student at the Radboud University Nijmegen. This survey is part of the thesis research I am conducting as part of my master’s program Business Administration.

My research looks into the effectiveness of the marketing campaigns of charitable organizations. I am researching how people react after reading a donation request. I am planning to research this by using a survey. However, before I start disseminating this survey, I want to make sure that it is understandable for everybody, and of good quality. In checking this, I could benefit from your help.

Your participation is very valuable to me, because I can improve my survey based on your feedback. Your answers are therefore not right or wrong, to me it’s only important how clear the donation requests and the subsequent questions are for you. If you wish to discontinue the survey, you can exit it at any moment. Filling in the questions will take about 10 minutes. Of course, your answers will be processed completely anonymously and will be used exclusively for my research.

In the research you will see two donation requests, in which you may also read victim descriptions. One of these two donation requests is including a picture of a victim. If you are sensitive to this and wish not to see this, you are naturally not obliged to participate. If you agree with participating in my research, please indicate so below.

If you have any questions left after reading this information, feel free to contact me: b.vanheerwaarden@student.ru.nl. Again, thanks for your cooperation.

Kind regards,

Bas van Heerwaarden

Questions

1. I have read the information above and agree with participating in this survey.

Explanation text

The following donation requests are based on the work of the charitable organization ‘Save the Children’. This organization is active in over 120 countries, and is at the moment world’s largest independent helping organization in the area of children’s rights. Please read the following donation requests carefully and fill in the subsequent questions.
Below the donation request you are firstly able to answer with a ‘+’ or a ‘-‘. With this, you judge the quality and the formulation of the question. If you think that the donation request is clearly and well formulated, give the answer ‘+‘. If you think that the donation request could be formulated better, give the answer ‘-‘. Following this answer is an open answer space where you can indicate potential improvements. Subsequently, state your opinion on a few statements about the donation request.

At this point, participants were shown both the identifiable and the statistical victim description (see appendix 3 and 4)

### Questions

2. In your opinion, is the donation request clearly formulated?

Please indicate below to what extent you agree with the following statements about the donation request.

3. The donation request by Save the Children shows uses a single victim to describe the severity of the crisis.
4. The donation request by Save the Children uses a victim that is representative of a larger group to describe the severity of the crisis.
5. The donation request by Save the Children gives me personal information about the victims.
6. The donation request by Save the Children tells a story with vivid information about the victims.

### Explanation text

In the following questions, I want to ask you again to answer with a ‘+’ or a ‘-‘ (with potential feedback in the open answer space). In doing this, you give a judgement on the quality and formulation of the question. If you think that the donation request is clearly and well formulated, give the answer ‘+‘. If you think that the donation request could be formulated better, give the answer ‘-‘. Following this answer is an open answer space where you can indicate potential improvements.

Note: in my research, participants only get to see one of the donation request you saw above, therefore the questions are formulated somewhat differently than in the real research (for example: ‘I feel sorry for the victim/the victims’).

### Questions

7. If you would be asked, how much money would you be willing to donate to the good cause described in the donation request?
8. To what extent do you feel motivated after reading the donation request?
9. To what extent is it likely that you will help after reading the donation request?

Rate how you feel when reading this donation request.

10. I feel downhearted.
11. I feel sad.
12. I feel emotionally uneasy.

Rate how you react emotionally when reading this donation request.

13. I feel intense compassion towards the victim/the victims.
14. I feel strong empathic feelings towards the victim/the victims.
15. I feel emotionally touched.

*Rate how you perceive that the utility of donating money is in this donation request.*

16. I think I can do a lot of good.
17. I think it seems possible to make a big difference.
18. I believe the expected consequences of my donation are very positive.

*Rate how you consider your personal responsibility when reading this donation request*

19. I have a moral obligation to help to the best of my ability.
20. I have a personal responsibility to help as much as I can.
21. I have a duty to try to help.

**Explanation text**

The following questions are meant to measure in what way participants generally engage in decision-making. The same instructions apply to this set of questions. If you think that the donation request is clearly and well formulated, give the answer ‘+’. If you think that the donation request could be formulated better, give the answer ‘-’. Following this answer is an open answer space where you can indicate potential improvements.

**Questions**

22. When making decisions, I like to analyze financial costs and benefits and resist the influence of my feelings.
23. When choosing between two options, one of which makes me feel better and the other better serves the goal I want to achieve, I choose the one that makes me feel better.
24. When making decisions, I think about what I want to achieve rather than how I feel.
25. When choosing between two options, one of which is financially superior and the other “feels” better to me, I choose the one that is financially better.
26. When choosing between products, I rely on my gut feelings rather than on product specifications (numbers and objective descriptions).
27. When making decisions, I focus on objective facts rather than subjective feelings.

**Explanation text**

The following questions are meant to measure the demographics of participants. The same instructions apply to this set of questions. If you think that the donation request is clearly and well formulated, give the answer ‘+’. If you think that the donation request could be formulated better, give the answer ‘-’. Following this answer is an open answer space where you can indicate potential improvements.

**Questions**

28. To which gender identity do you most identify?
29. What is your age?
30. What is your educational level (the highest-ranking degree you earned, or the highest-ranking education you are currently following)?
31. What is the average monthly income of your household?

Explanation text

Do not forget to press the red arrow below to save your feedback properly.

Thank you for participating in my research. Based on your feedback, I am going to optimize my survey. If you have any questions about the survey, you may pose these in the open answer space below.

If you have any other questions, or are interested in a copy of my thesis after it is finished, you can always send an email to b.vanheerwaarden@student.ru.nl.

Kind regards,

Bas van Heerwaarden
Appendix 6: Experiment.

Appendix 6.1 : Experiment (Dutch version).

Introduction

Beste meneer/mevrouw,

Dankuwel voor uw bereidheid om deel te nemen aan mijn onderzoek! Mijn naam is Bas van Heerwaarden, ik ben een student aan de Radboud Universiteit Nijmegen. Deze vragenlijst is onderdeel van het scriptieonderzoek dat ik uitvoer als onderdeel van mijn masteropleiding Bedrijfskunde.

Ik onderzoek hoe mensen reageren als gevolg van het lezen van een donatieverzoek.

Uw medewerking is voor mij heel waardevol, omdat ik met de gegevens die u mij geeft een beeld kan vormen van de onderliggende mechanismen achter donatiegedrag. Uw antwoorden zijn niet goed of fout, alleen uw mening is voor mij belangrijk. Als u wenst de vragenlijst niet voort te zetten, kan u deze op elk moment dat u wilt afsluiten.

Het invullen van de vragen zal ongeveer 8 minuten duren. Uw antwoorden worden uiteraard volledig anoniem verwerkt en uitsluitend gebruikt voor mijn onderzoek.

In het onderzoek krijgt u een donatieverzoek te zien, waarbij ook een slachtoffer beschrijving te lezen is. Als u hier gevoelig voor bent en u wenst dit niet te zien, bent u vanzelfsprekend niet verplicht om deel te nemen. Als u akkoord gaat met het lezen van deze informatie, bevestig dat dan hieronder.

Op de laatste pagina van deze vragenlijst staat de code voor credits op Surveyswap. Mocht u na het lezen van deze informatie nog vragen hebben, neem dan gerust contact met me op: b.vanheerwaarden@student.ru.nl . Nogmaals bedankt voor uw medewerking.

Met vriendelijke groet,

Bas van Heerwaarden

Questions

1. Ik heb bovenstaande informatie gelezen en ga akkoord met het deelnemen aan deze vragenlijst.

Explanation text

Stel u voor dat u een donatieverzoek heeft ontvangen van het goede doel ‘Save the Children’. Deze organisatie is actief in meer dan 120 landen, en is momenteel ‘s werelds grootste onafhankelijke hulporganisatie op het gebied van kinderrechten. Lees alstublieft het volgende donatieverzoek aandachtig door en vul de daaropvolgende vragen in.

Indien u aan dit survey deelneemt via een mobiele telefoon, raad ik u aan uw scherm te kantelen om de informatie goed te kunnen lezen.
At this point, participants were shown either an identifiable or a statistical victim description (see appendix 3 or 4)

Questions

1. Als het u gevraagd zou worden, hoe veel geld zou u dan bereid zijn om eenmalig te doneren aan het goede doel dat beschreven staat in het donatieverzoek?
2. In welke mate voelt u zich gemotiveerd om te helpen na het lezen van het donatieverzoek?
3. In welke mate is het waarschijnlijk dat u zou gaan helpen na het lezen van het donatieverzoek?

Geef aan hoe u zich voelt wanneer u dit donatieverzoek leest.

4. Ik voel me somber.
5. Ik voel me verdrietig.
6. Ik voel me bezorgd.

Geef aan wat voor emoties u voelt wanneer u dit donatieverzoek leest.

7. Ik heb veel medelijden met het slachtoffer/de slachtoffers.
8. Ik voel veel medeleven met het slachtoffer/de slachtoffers.
9. Ik voel me ontroerd door dit bericht.

Geef aan hoe u denkt over het nut van geld doneren aan het goede doel beschreven in het donatieverzoek.

10. Ik denk dat ik iets goeds teweeg kan brengen.
11. Ik denk dat het mogelijk is om een verschil te maken.
12. Ik denk dat mijn donatie een erg positieve invloed heeft.

Geef aan hoe u denkt over uw persoonlijke verantwoordelijkheid om te helpen wanneer u dit donatieverzoek leest.

13. Ik voel me moreel verplicht om te helpen.
15. Ik heb de plicht om zo goed als ik kan te helpen.

Explanation text

U bent over de helft van de vragen!

De volgende vragen gaan over de manier waarop u uw beslissingen maakt. In sommige situaties kan dit natuurlijk verschillen, daarom wil ik u vragen de stellingen goed door te lezen en om de manier aan te geven waarop u over het algemeen uw beslissingen maakt.

Questions

Geef aan hoe uw over het algemeen uw beslissingen maakt.

16. Als ik beslissingen maak kijk ik liever naar de financiële voordelen en nadelen van de opties, dan dat ik naar mijn gevoelens luister.
17. Als ik kies tussen twee opties, waarvan de één me beter laat voelen en de ander beter is om het doel te behalen waar ik naar streef, kies ik degene die me beter laat voelen.
18. Als ik beslissingen maak, denk ik meer na over wat ik wil bereiken in plaats van over hoe ik mezelf voel.
19. Als ik kies tussen twee opties, waarvan de één in financieel opzicht beter is en de ander “beter voelt”, kies ik degene die in financieel opzicht beter is.
20. Als ik tussen producten moet kiezen, vertrouw ik op mijn gevoel in plaats van op product specificaties (getallen en objectieve beschrijvingen).
21. Als ik beslissingen maak, focus ik liever op de objectieve feiten dan op subjectieve gevoelens.

**Explanation text**

Ik zou u graag nog wat vragen stellen over de inhoud van het donatieverzoek. Hieronder staat het donatieverzoek nogmaals weergeven. Geef alstublieft uw mening op de daaropvolgende stellingen over het donatieverzoek.

**At this point, participants were again shown the same victim description as previously in the survey**

**Questions**

*Geef hieronder alstublieft aan in hoeverre u het eens bent met de volgende stellingen over het donatieverzoek.*

22. In het donatieverzoek wordt gefocust op een individueel slachtoffer om de zwaarte van de crisis te beschrijven.
23. In het donatieverzoek wordt gefocust op een individueel slachtoffer om de zwaarte van de crisis te beschrijven.
24. Het donatieverzoek geeft me persoonlijke informatie over het slachtoffer/de slachtoffers.
25. Het donatieverzoek vertelt een verhaal met een levendige beschrijving van het slachtoffer/de slachtoffers.

**Explanation text**

Hieronder volgen de laatste vragen!

Vul alstublieft de volgende algemene vragen in.

**Questions**

26. Met welk gender identificeert u zich het meest?
27. Wat is uw leeftijd?
28. Wat is uw opleidingsniveau (het hoogst gerangschikte diploma dat u behaald heeft, of de hoogst gerangschikte opleiding waar u momenteel aan deelneemt)?
29. Wat is uw gemiddelde maandelijkse netto-inkomen?
30. Hoe veel geld doneert u gemiddeld jaarlijks aan goede doelen?

*Met een goed doel wordt bedoeld: een non-profitorganisatie die geld inzamelt voor een goed doel. Zo’n goed doel kan bijvoorbeeld zijn: het verbeteren van de gezondheid, het welzijn of de cultuur, het geven van internationale hulp zoals ontwikkelingswerk, of het helpen van de natuur en het milieu.*
Bedankt!

Heel erg bedankt voor het deelnemen aan mijn onderzoek!

Als u vragen heeft, of geïnteresseerd bent in een kopie van mijn scriptie na afronding, kunt u me altijd een e-mail sturen op b.vanheerwaarden@student.ru.nl.

Komt u hier via Surveyswap? Klik dan op deze link voor uw credits! -- > https://surveyswap.io/sr/b4bOuGrb2tvVkAs5

Met vriendelijke groet,

Bas van Heerwaarden
Appendix 6.2: Experiment (English version).

**Introduction**

Dear sir/madam,

Thank you for your willingness to participate in my research. My name is Bas van Heerwaarden, I am a student at the Radboud University Nijmegen. This survey is part of the thesis research I am conducting as part of my master’s program Business Administration.

I am researching how people react after reading a donation request.

Your participation is very valuable to me, because with your response, I can get an idea of the underlying mechanisms behind donation behavior. Your answers are therefore not right or wrong, to me it’s only important how clear the donation requests and the subsequent questions are for you. If you wish to discontinue the survey, you can exit it at any moment you may want to.

Filling in the questions will take about 8 minutes. Of course, your answers will be processed completely anonymously and will be used exclusively for my research.

In the research you will see a donation request, in which you may also read a victim description. If you are sensitive to this and wish not to see this, you are naturally not obliged to participate. If you agree with participating in my research, please indicate so below.

The last page of this survey contains the credit code on Surveyswap. If you have any questions left after reading this information, feel free to contact me: b.vanheerwaarden@student.ru.nl. Again, thanks for your cooperation.

Kind regards,

Bas van Heerwaarden

**Questions**

2. I have read the information above and agree with participating in this survey.

**Explanation text**

Imagine you have received a donation request from the charitable organization ‘Save the Children’. This organization is active in over 120 countries, and is at the moment world’s largest independent helping organization in the area of children’s rights. Please read the following donation request carefully and fill in the subsequent questions.

If you fill in this survey on a mobile phone, I advise you to turn your screen in order to be able to read the information properly.
At this point, participants were shown either an identifiable or a statistical victim description (see appendix 3 or 4)

Questions

31. If you would be asked, how much money would you be willing to donate once to the good cause described in the donation request?
32. To what extent do you feel motivated after reading the donation request?
33. To what extent is it likely that you will help after reading the donation request?

Rate how you feel when reading this donation request.

34. I feel downhearted.
35. I feel sad.
36. I feel worried.

Rate how you react emotionally when reading this donation request.

37. I feel intense compassion for the victim/the victims.
38. I feel strong empathetic feelings towards the victim/the victims.
39. I feel emotionally touched by this message.

Rate how you perceive that the utility of donating money is in this donation request

40. I think I can do a lot of good.
41. I think it seems possible to make a difference.
42. I believe the expected consequences of my donation are very positive.

Rate how you consider your personal responsibility when reading this donation request

43. I feel morally obliged to help.
44. I have a personal responsibility to help as much as I can.
45. I have a duty to try and help to the best of my ability.

Explanation text

You have completed half of the questions!

The following questions are about the way you engage in decision-making. In certain situations, this of course may differ, that is why I want to ask you to read the statements carefully and to indicate the way in which you generally engage in decision-making.

Questions

Indicate how you generally engage in decision-making.

46. When making decisions, I rather like to analyze financial costs and benefits than listen to my feelings.
47. When choosing between two options, one of which makes me feel better and the other better serves the goal I want to achieve, I choose the one that makes me feel better.
48. When making decisions, I think about what I want to achieve rather than how I feel.
49. When choosing between two options, one of which is financially superior and the other “feels” better to me, I choose the one that is financially better.

50. When choosing between products, I rely on my gut feelings rather than on product specifications (numbers and objective descriptions).

51. When making decisions, I focus on objective facts rather than subjective feelings.

Explanation text

I would like to ask you some questions about the content of the donation request. Below follows again the donation request. Please state your opinion on the subsequent statements about the donation request.

At this point, participants were again shown the same victim description as previously in the survey

Questions

Please indicate below to what extent you agree with the following statements about the donation request.

52. The donation request by Save the Children shows uses a single victim to describe the severity of the crisis.

53. The donation request by Save the Children uses a victim that is representative of a larger group to describe the severity of the crisis.

54. The donation request by Save the Children gives me personal information about the victims.

55. The donation request by Save the Children tells a story with vivid information about the victims.

Explanation text

Below follow the final questions!

Questions

56. To which gender identity do you most identify?

57. What is your age?

58. What is your educational level (the highest-ranking degree you earned, or the highest-ranking education you are currently following)?

59. What is your average monthly net income?

60. How much money do you generally donate to good causes on a yearly basis?

With good causes is meant: a non-profit organization which collects money for a good cause. This may be: improving health, welfare or culture, engaging in international aid such as development work, or helping nature and environment.

Explanation text

Thank you!
Thanks a lot for participating in my research!

If you have any questions, or are interested in a copy of my thesis after it is finished, you can always send me an email on b.vanheerwaarden@student.ru.nl.

Did you arrive at this survey through Surveyswap? Then click this link for your credit! -- > https://surveyswap.io/sr/b4bOuGrb2ivVkAs5

Kind regards,

Bas van Heerwaarden
Appendix 7: SPSS syntax.

Appendix 7.1: Pre-test syntax.

* Created on May 20, 2019
* Master's thesis 2018-2019
* By Bas van Heerwaarden, Radboud University Nijmegen

* Open file from computer.
GET FILE="U:\Documents\Master thesis - Lay Rationalism\ANALYSIS\SPSS files\Data\Pre-test master's June 15, 2019_12.46.sav".
DATASET NAME DataSet2 WINDOW=FRONT.

* Assumptions check for all variables.
COMPUTE differenceMANC1=MC1_1 - MC2_1.
EXECUTE.

COMPUTE differenceMANC2=MC1_2 - MC2_2.
EXECUTE.

COMPUTE differenceMANC3=MC1_3 - MC2_3.
EXECUTE.

COMPUTE differenceMANC4=MC1_4 - MC2_4.
EXECUTE.

EXAMINE VARIABLES=differenceMANC1 differenceMANC2 differenceMANC3 differenceMANC4
/PLOT BOXPLOT HISTOGRAM NPLOT
/COMPARE GROUPS
/STATISTICS DESCRIPTIVES EXTREME
/CINTERVAL 95
/MISSING LISTWISE
/NOTOTAL.

* Delete outlier difference MANC2.
USE ALL.

COMPUTE filter_$=(differenceMANC2 > 0).

VARIABLE LABELS filter_$ differenceMANC2 < 0 (FILTER).

VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

FORMATS filter_$ (f1.0).

FILTER BY filter_$.

EXECUTE.

* Conduct paired-samples t-test.

T-TEST PAIRS=MC1_1 MC1_2 MC1_3 MC1_4 WITH MC2_1 MC2_2 MC2_3 MC2_4 (PAIRED)
   /CRITERIA=CI(.9500)
   /MISSING=ANALYSIS.
Appendix 7.2: Syntax of the main research.

* Created on May 20, 2019
* Master's thesis 2018-2019
* By Bas van Heerwaarden, Radboud University Nijmegen

* Open base file from computer.
GET
FILE="\CNAS.RU.NL\s4448960\Documents\Master thesis - Lay Rationalism\ANALYSIS\SPSS "+
"files\Data\Master's thesis Bas van Heerwaarden_May 15, 2019_14.03.sav".
DATASET NAME DataSet1 WINDOW=FRONT.

* OR if from own computer.
GET
FILE="C:\Users\bassv\Desktop\Thesis master\ANALYSIS docs\Master's thesis Bas van "+
"Heerwaarden_May 15, 2019_14.03.sav".
DATASET NAME DataSet1 WINDOW=FRONT.

* Specify how output looks, both values and lables of the variables in the output.
Set tnumbers=both onumbers=both ovars=both tvars=both.

* --------------------------------------------- DATA TRANSFORMATIONS ---------------------------------------------
* CREATE ID VARIABLE.
* Compute ID variable.
COMPUTE id=$CASENUM.
FORMAT id (F8.0).
EXECUTE.

* BASIC TRANSFORMATIONS.
* Adjust measurement level (scale to nominal). Variables: Agree1, Agree2, DEM1_1 (gender), DEM2_2 (gender).
VARIABLE LEVEL Agree1 (NOMINAL).
VARIABLE LEVEL Agree2 (NOMINAL).
VARIABLE LEVEL DEM1_1 TO DEM1_5 (NOMINAL).
VARIABLE LEVEL DEM2_1 TO DEM2_5 (NOMINAL).
* Adjust value labels. Variables: Motivation to Donate.

value labels MTD1_1 1 'Very unmotivated' 2 'Unmotivated' 3 'Slightly unmotivated' 4 'Neutral' 5 'Slightly motivated' 6 'Motivated' 7 'Very motivated'.

value labels MTD1_2 1 'Very unlikely' 2 'Unlikely' 3 'Slightly unlikely' 4 'Neutral' 5 'Slightly likely' 6 'Likely' 7 'Very likely'.

value labels MTD2_1 1 'Very unmotivated' 2 'Unmotivated' 3 'Slightly unmotivated' 4 'Neutral' 5 'Slightly motivated' 6 'Motivated' 7 'Very motivated'.

value labels MTD2_2 1 'Very unlikely' 2 'Unlikely' 3 'Slightly unlikely' 4 'Neutral' 5 'Slightly likely' 6 'Likely' 7 'Very likely'.

* SPECIFY MISSING VALUES.

* Specify 3 and 4 as missing values for "DEM1_1" and "DEM2_1" (gender).

missing values DEM1_1(3,4).

missing values DEM2_1(3,4).

* Specify 9 as missing value for "DEM1_2" and "DEM2_2" (age).

missing values DEM1_2(9).

missing values DEM2_2(9).

* Specify 9 and 10 as missing value for "DEM1_3" and "DEM2_3" (education).

missing values DEM1_3(9,10).

missing values DEM2_3(9,10).

* Specify 5 as missing value for "DEM1_4" and "DEM2_4" (income).

missing values DEM1_4(5).

missing values DEM2_4(5).

* Specify 6 as missing value for "DEM1_5" and "DEM2_5" (yearlydonation).

missing values DEM1_5(6).

missing values DEM2_5(6).

* COMPUTE REVERSED ITEMS LAY RATIONALISM.

* Recode lay rationalism variables 2 and 5 (which were reversed).

DATASET ACTIVATE DataSet1.

RECODE LRscore1_2 LRscore1_5 LRscore2_2 LRscore2_5 (7=1) (6=2) (5=3) (4=4) (3=5) (2=6) (1=7) INTO LRscore1_2rev LRscore1_5rev LRscore2_2rev LRscore2_5rev.

VARIABLE LABELS LRscore1_2rev 'LRscore 2 IV reversed'.

VARIABLE LABELS LRscore1_5rev 'LRscore 5 IV reversed'.

/ LRscore2_2rev 'LRscore 2 SV reversed'.

/ LRscore2_5rev 'LRscore 5 SV reversed'.

EXECUTE.

* Define the level of measurement of the new variables (LRscore1_2rev, LRscore1_5rev, LRscore2_2rev, LRscore2_5rev).
VARIABLE LEVEL LRscore1_2rev TO LRscore2_5rev (SCALE).

* Create value labels for the new variables (LRscore1_2rev, LRscore1_5rev, LRscore2_2rev, LRscore 2_5rev).
value labels LRscore1_2rev TO LRscore2_5rev 1 'Completely disagree' 2 'Disagree' 3 'Slightly disagree' 4 'Neutral' 5 'Slightly agree' 6 'Agree' 7 'Completely agree'.

* COMPUTE GROUPING VARIABLE VICTIM TYPE.
* Create grouping variable (dummy) for victim type.
RECODE Agree1 (1=1) (ELSE=0) INTO VictimType.
VARIABLE LABELS VictimType 'Victim type 0=SV, 1=IV'.
EXECUTE.

* Create value label for the grouping variable.
value labels VictimType 0 'Statistical victim' 1 'Identifiable victim'.

* COMPUTE TOTAL SCORES FOR ALL VARIABLES.
* Create total scores for the variables WTD, MTD, SYM, DIS, IMP, RES, LRscore and DEM.
COMPUTE total_WTD1=SUM(WTD1_1,WTD2_1).
EXECUTE.
COMPUTE total_MTD1=SUM(MTD1_1,MTD2_1).
EXECUTE.
COMPUTE total_MTD2=SUM(MTD1_2,MTD2_2).
EXECUTE.
COMPUTE total_DIS1=SUM(DIS1_1,DIS2_1).
EXECUTE.
COMPUTE total_DIS2=SUM(DIS1_2,DIS2_2).
EXECUTE.
COMPUTE total_DIS3=SUM(DIS1_3,DIS2_3).
EXECUTE.
COMPUTE total_SYM1=SUM(SYM1_1,SYM2_1).
EXECUTE.
COMPUTE total_SYM2=SUM(SYM1_2,SYM2_2).
EXECUTE.
COMPUTE total_SYM3=SUM(SYM1_3,SYM2_3).
EXECUTE.
COMPUTE total_IMP1=SUM(IMP1_1,IMP2_1).
EXECUTE.
COMPUTE total_IMP2=SUM(IMP1_2,IMP2_2).
EXECUTE.
EXECUTE.
COMPUTE total_IMP3=SUM(IMP1_3,IMP2_3).
EXECUTE.
COMPUTE total_RES1=SUM(RES1_1,RES2_1).
EXECUTE.
COMPUTE total_RES2=SUM(RES1_2,RES2_2).
EXECUTE.
COMPUTE total_RES3=SUM(RES1_3,RES2_3).
EXECUTE.
COMPUTE total_LRscore1=SUM(LRscore1_1,LRscore2_1).
EXECUTE.
COMPUTE total_LRscore2rev=SUM(LRscore1_2rev,LRscore2_2rev).
EXECUTE.
COMPUTE total_LRscore3=SUM(LRscore1_3,LRscore2_3).
EXECUTE.
COMPUTE total_LRscore4=SUM(LRscore1_4,LRscore2_4).
EXECUTE.
COMPUTE total_LRscore5rev=SUM(LRscore1_5rev,LRscore2_5rev).
EXECUTE.
COMPUTE total_LRscore6=SUM(LRscore1_6,LRscore2_6).
EXECUTE.
COMPUTE total_DEM1=SUM(DEM1_1,DEM2_1).
EXECUTE.
COMPUTE total_DEM2=SUM(DEM1_2,DEM2_2).
EXECUTE.
COMPUTE total_DEM3=SUM(DEM1_3,DEM2_3).
EXECUTE.
COMPUTE total_DEM4=SUM(DEM1_4,DEM2_4).
EXECUTE.
COMPUTE total_DEM5=SUM(DEM1_5,DEM2_5).
EXECUTE.
COMPUTE total_MANC1=SUM(MANC1_1,MANC2_1).
EXECUTE.
COMPUTE total_MANC2=SUM(MANC1_2,MANC2_2).
EXECUTE.
COMPUTE total_MANC3=SUM(MANC1_3,MANC2_3).
EXECUTE.
COMPUTE total_MANC4=SUM(MANC1_4,MANC2_4).
EXECUTE.

* Define the level of measurement of the new variables (WTD, MTD, SYM, DIS, IMP, RES, LRscore, MANC).
VARIABLE LEVEL total_WTD1 TO total_LRscore6 (SCALE).
VARIABLE LEVEL total_MANC1 TO total_MANC4 (SCALE).

* Define the level of measurement of the new variables (DEM).
VARIABLE LEVEL total_DEM1 TO total_DEM5 (NOMINAL).

* Specify 3 and 4 as missing values for "total_DEM1" (gender).
missing values total_DEM1(3,4).

* Specify 9 as missing value for "total_DEM2" (age).
missing values total_DEM2(9).

* Specify 9 and 10 as missing value for "total_DEM3" (education).
missing values total_DEM3(9,10).

* Specify 5 as missing value for "total_DEM4" (income).
missing values total_DEM4(5).

* Specify 6 as missing value for "DEM1_5" and "DEM2_5" (yearlydonation).
missing values total_DEM5(6).

* Create labels for new variables.
variable labels total_WTD1 'Total willingness to donate 1'.
variable labels total_MTD1 'Total motivation to donate 1'.
variable labels total_MTD2 'Total motivation to donate 2'.
variable labels total_DIS1 'Total distress 1'.
variable labels total_DIS2 'Total distress 2'.
variable labels total_DIS3 'Total distress 3'.
variable labels total_SYM1 'Total sympathy 1'.
variable labels total_SYM2 'Total sympathy 2'.
variable labels total_SYM3 'Total sympathy 3'.
variable labels total_IMP1 'Total impact 1'.
variable labels total_IMP2 'Total impact 2'.
variable labels total_IMP3 'Total impact 3'.
variable labels total_RES1 'Total responsibility 1'.

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variable labels total_RES2 'Total responsibility 2'.
variable labels total_RES3 'Total responsibility 3'.
variable labels total_LRscore1 'Total LRscore 1'.
variable labels total_LRscore2rev 'Total LRscore 2 reversed'.
variable labels total_LRscore3 'Total LRscore 3'.
variable labels total_LRscore4 'Total LRscore 4'.
variable labels total_LRscore5rev 'Total LRscore 5 reversed'.
variable labels total_LRscore6 'Total LRscore 6'.
variable labels total_DEM1 'Total demographics 1 - gender'.
variable labels total_DEM2 'Total demographics 2 - age'.
variable labels total_DEM3 'Total demographics 3 - education'.
variable labels total_DEM4 'Total demographics 4 - income'.
variable labels total_DEM5 'Total demographics 5 - yearlydonation'.
variable labels total_MANC1 'Total manipulation check 1'.
variable labels total_MANC2 'Total manipulation check 2'.
variable labels total_MANC3 'Total manipulation check 3'.
variable labels total_MANC4 'Total manipulation check 4'.

* Create value labels for new variables.

value labels total_MTD1 1 'Very unmotivated' 2 'Unmotivated' 3 'Slightly unmotivated' 4 'Neutral' 5 'Slightly motivated' 6 'Motivated' 7 'Very motivated'.
value labels total_MTD2 1 'Very unlikely' 2 'Unlikely' 3 'Slightly unlikely' 4 'Neutral' 5 'Slightly likely' 6 'Likely' 7 'Very likely'.
value labels total_DIS1 TO total_LRscore6 1 'Completely disagree' 2 'Disagree' 3 'Slightly disagree' 4 'Neutral' 5 'Slightly agree' 6 'Agree' 7 'Completely agree'.
value labels total_DEM1 1 'Male' 2 'Female' 3 'None of the two options mentioned above' 4 'I would rather not answer this question'.
value labels total_DEM2 1 'Younger than 18' 2 '18-25' 3 '26-35' 4 '36-45' 5 '46-55' 6 '56-65' 7 '66-75' 8 'Older than 75' 9 'I would rather not answer this question'.
value labels total_DEM3 1 'Primary school' 2 'High school' 3 'MBO' 4 'HBO - Bachelor' 5 'HBO - Master' 6 'WO - Bachelor' 7 'WO-Master' 8 'Doctoral' 9 'Other' 10 'I would rather not answer this question'.
value labels total_DEM4 1 'Less than €2000' 2 'Between €2000 and €4000' 3 'Between €4001 and €6000' 4 'More than €6000' 5 'I would rather not answer this question'.
value labels total_DEM5 1 'Less than €10' 2 'Between €10 and €50' 3 'Between €51 and €100' 4 'Between €101 and €500' 5 'More than €500' 6 'I would rather not answer this question'.
value labels total_MANC1 TO total_MANC4 1 'Completely disagree' 2 'Disagree' 3 'Slightly disagree' 4 'Neutral' 5 'Slightly agree' 6 'Agree' 7 'Completely agree'.

* CREATE LOG FOR WTD1.

* Create logarithmic term for willingness to donate 1.

COMPUTE LOG_total_WTD1=LG10(total_WTD1 + 1).
VARIABLE LABELS LOG_total_WTD1 'Logarithmic term total willingness to donate 1'.
EXECUTE.
* RECODE VARIABLE RESPONSE TIME.
* Adjust value label. Variable: Duration_seconds.

value labels Duration_seconds 0 'Less than 180 seconds' 1 '180 seconds or more'.

* Recode variable: Duration_seconds into filter variable, with everything under 180 seconds = 0, 180 and above = 1.
RECODE Duration_seconds (Lowest thru 179=0) (180 thru Highest=1).
EXECUTE.

* Create new label for filter variable.
variable labels Duration_seconds 'Everything lower than 180 = 0, 180 and above is 1'.

* FILTER RESPONSES UNDER 180 SECONDS.
* Filter out responses under 180 seconds.
filter by Duration_seconds.

* CREATE INTERACTION TERM FOR MODERATING VARIABLE LAY RATIONALISM.
* Compute means of independent variabels 'sympathy' and 'distress' and moderator 'lay rationalism'.
aggregate outfile * mode addvariables
   /mean_total_DIS1 = mean(total_DIS1).
aggregate outfile * mode addvariables
   /mean_total_DIS2 = mean(total_DIS2).
aggregate outfile * mode addvariables
   /mean_total_DIS3 = mean(total_DIS3).
aggregate outfile * mode addvariables
   /mean_total_SYM1 = mean(total_SYM1).
aggregate outfile * mode addvariables
   /mean_total_SYM2 = mean(total_SYM2).
aggregate outfile * mode addvariables
   /mean_total_SYM3 = mean(total_SYM3).
aggregate outfile * mode addvariables
   /mean_total_LRscore1 = mean(total_LRscore1).
aggregate outfile * mode addvariables
   /mean_total_LRscore2rev = mean(total_LRscore2rev).
aggregate outfile * mode addvariables
   /mean_total_LRscore3 = mean(total_LRscore3).
aggregate outfile * mode addvariables
/mean_total_LRscore4 = mean(total_LRscore4).
aggregate outfile * mode addvariables
/mean_total_LRscore5rev = mean(total_LRscore5rev).
aggregate outfile * mode addvariables
/mean_total_LRscore6 = mean(total_LRscore6).

* Create variable labels for new mean variables.
variable labels mean_total_DIS1 'Mean total distress 1'.
variable labels mean_total_DIS2 'Mean total distress 2'.
variable labels mean_total_DIS3 'Mean total distress 3'.
variable labels mean_total_SYM1 'Mean total sympathy 1'.
variable labels mean_total_SYM2 'Mean total sympathy 2'.
variable labels mean_total_SYM3 'Mean total sympathy 3'.
variable labels mean_total_LRscore1 'Mean total LRscore 1'.
variable labels mean_total_LRscore2rev 'Mean total LRscore 2rev'.
variable labels mean_total_LRscore3 'Mean total LRscore 3'.
variable labels mean_total_LRscore4 'Mean total LRscore 4'.
variable labels mean_total_LRscore5rev 'Mean total LRscore 5rev'.
variable labels mean_total_LRscore6 'Mean total LRscore 6'.

* Center variable scores of independent variables 'sympathy' and 'distress' and moderator 'lay rationalism'.
compute cent_total_DIS1 = total_DIS1 - mean_total_DIS1.
exe.
compute cent_total_DIS2 = total_DIS2 - mean_total_DIS2.
exe.
compute cent_total_DIS3 = total_DIS3 - mean_total_DIS3.
exe.
compute cent_total_SYM1 = total_SYM1 - mean_total_SYM1.
exe.
compute cent_total_SYM2 = total_SYM2 - mean_total_SYM2.
exe.
compute cent_total_SYM3 = total_SYM3 - mean_total_SYM3.
exe.
compute cent_total_LRscore1 = total_LRscore1 - mean_total_LRscore1.
exe.
compute cent_total_LRscore2rev = total_LRscore2rev - mean_total_LRscore2rev.
exe.
compute cent_total_LRscore3 = total_LRscore3 - mean_total_LRscore3.
exe.
compute cent_total_LRscore4 = total_LRscore4 - mean_total_LRscore4.
exe.
compute cent_total_LRscore5rev = total_LRscore5rev - mean_total_LRscore5rev.
exe.
compute cent_total_LRscore6 = total_LRscore6 - mean_total_LRscore6.
exe.

* Create variable labels for new centered variables.

variable labels cent_total_DIS1 'Centered total distress 1'.
variable labels cent_total_DIS2 'Centered total distress 2'.
variable labels cent_total_DIS3 'Centered total distress 3'.
variable labels cent_total_SYM1 'Centered total sympathy 1'.
variable labels cent_total_SYM2 'Centered total sympathy 2'.
variable labels cent_total_SYM3 'Centered total sympathy 3'.
variable labels cent_total_LRscore1 'Centered total LRscore 1'.
variable labels cent_total_LRscore2rev 'Centered total LRscore 2rev'.
variable labels cent_total_LRscore3 'Centered total LRscore 3'.
variable labels cent_total_LRscore4 'Centered total LRscore 4'.
variable labels cent_total_LRscore5rev 'Centered total LRscore 5rev'.
variable labels cent_total_LRscore6 'Centered total LRscore 6'.

* Build interaction terms SYM*LRscore.

compute int_SYM1_LRscore1=cent_total_SYM1 * cent_total_LRscore1.
exe.
compute int_SYM1_LRscore2rev=cent_total_SYM1 * cent_total_LRscore2rev.
exe.
compute int_SYM1_LRscore3=cent_total_SYM1 * cent_total_LRscore3.
exe.
compute int_SYM1_LRscore4=cent_total_SYM1 * cent_total_LRscore4.
exe.
compute int_SYM1_LRscore5rev=cent_total_SYM1 * cent_total_LRscore5rev.
exe.
compute int_SYM1_LRscore6=cent_total_SYM1 * cent_total_LRscore6.
exe.
compute int_SYM2_LRscore1=cent_total_SYM2 * cent_total_LRscore1.
exe.
compute int_SYM2_LRscore2rev=cent_total_SYM2 * cent_total_LRscore2rev.
exe.
compute int_SYM2_LRscore3=cent_total_SYM2 * cent_total_LRscore3.
exe.
compute int_SYM2_LRscore4=cent_total_SYM2 * cent_total_LRscore4.
exe.
compute int_SYM2_LRscore5rev=cent_total_SYM2 * cent_total_LRscore5rev.
exe.
compute int_SYM2_LRscore6=cent_total_SYM2 * cent_total_LRscore6.
exe.
compute int_SYM3_LRscore1=cent_total_SYM3 * cent_total_LRscore1.
exe.
compute int_SYM3_LRscore2rev=cent_total_SYM3 * cent_total_LRscore2rev.
exe.
compute int_SYM3_LRscore3=cent_total_SYM3 * cent_total_LRscore3.
exe.
compute int_SYM3_LRscore4=cent_total_SYM3 * cent_total_LRscore4.
exe.
compute int_SYM3_LRscore5rev=cent_total_SYM3 * cent_total_LRscore5rev.
exe.
compute int_SYM3_LRscore6=cent_total_SYM3 * cent_total_LRscore6.
exe.

* Build interaction term DIS*LRscore.

compute int_DIS1_LRscore1=cent_total_DIS1 * cent_total_LRscore1.
exe.
compute int_DIS1_LRscore2rev=cent_total_DIS1 * cent_total_LRscore2rev.
exe.
compute int_DIS1_LRscore3=cent_total_DIS1 * cent_total_LRscore3.
exe.
compute int_DIS1_LRscore4=cent_total_DIS1 * cent_total_LRscore4.
exe.
compute int_DIS1_LRscore5rev=cent_total_DIS1 * cent_total_LRscore5rev.
exe.
compute int_DIS1_LRscore6=cent_total_DIS1 * cent_total_LRscore6.
compute int_DIS2_LRscore1=cent_total_DIS2 * cent_total_LRscore1.
compute int_DIS2_LRscore2rev=cent_total_DIS2 * cent_total_LRscore2rev.
compute int_DIS2_LRscore3=cent_total_DIS2 * cent_total_LRscore3.
compute int_DIS2_LRscore4=cent_total_DIS2 * cent_total_LRscore4.
compute int_DIS2_LRscore5rev=cent_total_DIS2 * cent_total_LRscore5rev.
compute int_DIS2_LRscore6=cent_total_DIS2 * cent_total_LRscore6.
compute int_DIS3_LRscore1=cent_total_DIS3 * cent_total_LRscore1.
compute int_DIS3_LRscore2rev=cent_total_DIS3 * cent_total_LRscore2rev.
compute int_DIS3_LRscore3=cent_total_DIS3 * cent_total_LRscore3.
compute int_DIS3_LRscore4=cent_total_DIS3 * cent_total_LRscore4.
compute int_DIS3_LRscore5rev=cent_total_DIS3 * cent_total_LRscore5rev.
compute int_DIS3_LRscore6=cent_total_DIS3 * cent_total_LRscore6.

* Create labels for new interaction terms of SYM*LRscore.
variable labels int_SYM1_LRscore1 'Interaction term sympathy 1 and LRscore 1'.
variable labels int_SYM1_LRscore2rev 'Interaction term sympathy 1 and LRscore 2rev'.
variable labels int_SYM1_LRscore3 'Interaction term sympathy 1 and LRscore 3'.
variable labels int_SYM1_LRscore4 'Interaction term sympathy 1 and LRscore 4'.
variable labels int_SYM1_LRscore5rev 'Interaction term sympathy 1 and LRscore 5rev'.
variable labels int_SYM1_LRscore6 'Interaction term sympathy 1 and LRscore 6'.
variable labels int_SYM2_LRscore1 'Interaction term sympathy 2 and LRscore 1'.
variable labels int_SYM2_LRscore2rev 'Interaction term sympathy 2 and LRscore 2rev'.
variable labels int_SYM2_LRscore3 'Interaction term sympathy 2 and LRscore 3'.
variable labels int_SYM2_LRscore4 'Interaction term sympathy 2 and LRscore 4'.
variable labels int_SYM2_LRscore5rev 'Interaction term sympathy 2 and LRscore 5rev'.
variable labels int_SYM2_LRscore6 'Interaction term sympathy 2 and LRscore 6'.
variable labels int_SYM2_LRscore6 'Interaction term sympathy 2 and LRscore 6'.
variable labels int_SYM3_LRscore1 'Interaction term sympathy 3 and LRscore 1'.
variable labels int_SYM3_LRscore2rev 'Interaction term sympathy 3 and LRscore 2rev'.
variable labels int_SYM3_LRscore3 'Interaction term sympathy 3 and LRscore 3'.
variable labels int_SYM3_LRscore4 'Interaction term sympathy 3 and LRscore 4'.
variable labels int_SYM3_LRscore5rev 'Interaction term sympathy 3 and LRscore 5rev'.
variable labels int_SYM3_LRscore6 'Interaction term sympathy 3 and LRscore 6'.

* Create labels for new interaction terms of DIS*LRscore.

variable labels int_DIS1_LRscore1 'Interaction term distress 1 and LRscore 1'.
variable labels int_DIS1_LRscore2rev 'Interaction term distress 1 and LRscore 2rev'.
variable labels int_DIS1_LRscore3 'Interaction term distress 1 and LRscore 3'.
variable labels int_DIS1_LRscore4 'Interaction term distress 1 and LRscore 4'.
variable labels int_DIS1_LRscore5rev 'Interaction term distress 1 and LRscore 5rev'.
variable labels int_DIS1_LRscore6 'Interaction term distress 1 and LRscore 6'.
variable labels int_DIS2_LRscore1 'Interaction term distress 2 and LRscore 1'.
variable labels int_DIS2_LRscore2rev 'Interaction term distress 2 and LRscore 2rev'.
variable labels int_DIS2_LRscore3 'Interaction term distress 2 and LRscore 3'.
variable labels int_DIS2_LRscore4 'Interaction term distress 2 and LRscore 4'.
variable labels int_DIS2_LRscore5rev 'Interaction term distress 2 and LRscore 5rev'.
variable labels int_DIS2_LRscore6 'Interaction term distress 2 and LRscore 6'.
variable labels int_DIS3_LRscore1 'Interaction term distress 3 and LRscore 1'.
variable labels int_DIS3_LRscore2rev 'Interaction term distress 3 and LRscore 2rev'.
variable labels int_DIS3_LRscore3 'Interaction term distress 3 and LRscore 3'.
variable labels int_DIS3_LRscore4 'Interaction term distress 3 and LRscore 4'.
variable labels int_DIS3_LRscore5rev 'Interaction term distress 3 and LRscore 5rev'.
variable labels int_DIS3_LRscore6 'Interaction term distress 3 and LRscore 6'.

* CREATE DUMMY VARIABLES FOR CATEGORICAL CONTROL VARIABLES.
* Create dummy variables for gender categories (biggest category 2 'female' as reference category).
RECODE total_DEM1 (1=1) (SYSMIS=SYSMIS) (2=0) INTO dummy_DEM1_male.
VARIABLE LABELS  dummy_DEM1_male 'Gender male'.
EXECUTE.

* Create value label for gender dummy.
value labels dummy_DEM1_male 0 'Female' 1 'Male'.

* Create dummy variables for age categories (biggest category 2 '18-25' as reference category).
RECODE total_DEM2 (1=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_under18.
VARIABLE LABELS  dummy_DEM2_under18 'Age under 18'.
EXECUTE.

RECODE total_DEM2 (3=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_26to35.
VARIABLE LABELS  dummy_DEM2_26to35 'Age 26-35'.
EXECUTE.

RECODE total_DEM2 (4=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_36to45.
VARIABLE LABELS  dummy_DEM2_36to45 'Age 36-45'.
EXECUTE.

RECODE total_DEM2 (5=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_46to55.
VARIABLE LABELS  dummy_DEM2_46to55 'Age 46-55'.
EXECUTE.

RECODE total_DEM2 (6=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_56to65.
VARIABLE LABELS  dummy_DEM2_56to65 'Age 56-65'.
EXECUTE.

RECODE total_DEM2 (7=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_66to75.
VARIABLE LABELS  dummy_DEM2_66to75 'Age 66-75'.
EXECUTE.

RECODE total_DEM2 (8=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM2_over75.
VARIABLE LABELS  dummy_DEM2_over75 'Age over 75'.
EXECUTE.

* Create value labels for age dummies.
value labels dummy_DEM2_under18 0 'other' 1 'Under 18'.
value labels dummy_DEM2_26to35 0 'other' 1 '26-35'.
value labels dummy_DEM2_36to45 0 'other' 1 '36-45'.
value labels dummy_DEM2_46to55 0 'other' 1 '46-55'.
value labels dummy_DEM2_56to65 0 'other' 1 '56-65'.
value labels dummy_DEM2_66to75 0 'other' 1 '66-75'.
value labels dummy_DEM2_over75 0 'other' 1 'Over 75'.

* Create dummy variables for education categories (biggest category 7 'WO-master' as reference category).
RECODE total_DEM3 (1=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_Primaryschool.
VARIABLE LABELS dummy_DEM3_Primaryschool 'Education Primary school'.
EXECUTE.

RECODE total_DEM3 (2=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_Highschool.
VARIABLE LABELS dummy_DEM3_Highschool 'Education High school'.
EXECUTE.

RECODE total_DEM3 (3=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_MBO.
VARIABLE LABELS dummy_DEM3_MBO 'Education MBO'.
EXECUTE.

RECODE total_DEM3 (4=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_HBObachelor.
VARIABLE LABELS dummy_DEM3_HBObachelor 'Education HBO - Bachelor'.
EXECUTE.

RECODE total_DEM3 (5=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_HBOmaster.
VARIABLE LABELS dummy_DEM3_HBOmaster 'Education HBO - Master'.
EXECUTE.

RECODE total_DEM3 (6=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_WObachelor.
VARIABLE LABELS dummy_DEM3_WObachelor 'Education WO - Bachelor'.
EXECUTE.

RECODE total_DEM3 (8=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM3_Doctoral.
VARIABLE LABELS dummy_DEM3_Doctoral 'Education Doctoral'.
EXECUTE.

* Create value labels for education dummies.
value labels dummy_DEM3_Primaryschool 0 'other' 1 'Primary school'.
value labels dummy_DEM3_Highschool 0 'other' 1 'High school'.
value labels dummy_DEM3_MBO 0 'other' 1 'MBO'.
value labels dummy_DEM3_HBObachelor 0 'other' 1 'HBO - Bachelor'.
value labels dummy_DEM3_HBOmaster 0 'other' 1 'HBO - Master'.
value labels dummy_DEM3_WObachelor 0 'other' 1 'WO - Bachelor'.
value labels dummy_DEM3_Doctoral 0 'other' 1 'Doctoral'.

* Create dummy variables for income categories (biggest category 1 'Minder dan €2000' as reference category).
RECODE total_DEM4 (2=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM4_€2000to€4000.
VARIABLE LABELS dummy_DEM4_€2000to€4000 'Income €2000 - €4000'.
EXECUTE.

RECODE total_DEM4 (3=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM4_€4001to€6000.
VARIABLE LABELS dummy_DEM4_€4001to€6000 'Income €4001 - €6000'.
EXECUTE.

RECODE total_DEM4 (4=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM4_over€6000.
VARIABLE LABELS dummy_DEM4_over€6000 'Income over €6000'.
EXECUTE.

* Create value labels for income dummies.
value labels dummy_DEM4_€2000to€4000 0 'other' 1 'Income €2000 - €4000'.
value labels dummy_DEM4_€4001to€6000 0 'other' 1 'Income €4001 - €6000'.
value labels dummy_DEM4_over€6000 0 'other' 1 'Income over €6000'.

* Create dummy variables for income categories (biggest category 1 'Minder dan €10' as reference category).
RECODE total_DEM5 (2=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM5_€10to€50.
VARIABLE LABELS dummy_DEM5_€10to€50 'Yearly donation €10 - €50'.
EXECUTE.

RECODE total_DEM5 (3=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM5_€51to€100.
VARIABLE LABELS dummy_DEM5_€51to€100 'Yearly donation €51 - €100'.
EXECUTE.

RECODE total_DEM5 (4=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM5_€101to€500.
VARIABLE LABELS dummy_DEM5_€101to€500 'Yearly donation €101 - €500'.
EXECUTE.

RECODE total_DEM5 (5=1) (SYSMIS=SYSMIS) (ELSE=0) INTO dummy_DEM5_over€500.
VARIABLE LABELS dummy_DEM5_over€500 'Yearly donation over €500'.
EXECUTE.

* Create value labels for yearly donation dummies.
value labels dummy_DEM5_€10to€50 0 'other' 1 '€10 to €50'.
value labels dummy_DEM5_€51to€100 0 'other' 1 '€51 to €100'.
value labels dummy_DEM5_€101to€500 0 'other' 1 '€101 to €500'.

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value labels dummy_DEM5_over€500 0 'other' 1 'over €500'.

* ADDITIONAL COMPUTATIONS FOR ADDITIONAL ANALYSES.
* Compute mean for perceived impact and perceived responsibility.

aggregate outfile * mode addvariables
/mean_total_IMP1 = mean(total_IMP1).
aggregate outfile * mode addvariables
/mean_total_IMP2 = mean(total_IMP2).
aggregate outfile * mode addvariables
/mean_total_IMP3 = mean(total_IMP3).

aggregate outfile * mode addvariables
/mean_total_RES1 = mean(total_RES1).
aggregate outfile * mode addvariables
/mean_total_RES2 = mean(total_RES2).
aggregate outfile * mode addvariables
/mean_total_RES3 = mean(total_RES3).

* Create variable labels for new mean variables.
variable labels mean_total_IMP1 'Mean total impact 1'.
variable labels mean_total_IMP2 'Mean total impact 2'.
variable labels mean_total_IMP3 'Mean total impact 3'.
variable labels mean_total_RES1 'Mean total responsibility 1'.
variable labels mean_total_RES2 'Mean total responsibility 2'.
variable labels mean_total_RES3 'Mean total responsibility 3'.

* Center variable scores of independent variables 'impact' and 'responsibility'.
compute cent_total_IMP1 = total_IMP1 - mean_total_IMP1.
exe.
compute cent_total_IMP2 = total_IMP2 - mean_total_IMP2.
exe.
compute cent_total_IMP3 = total_IMP3 - mean_total_IMP3.
exe.

compute cent_total_RES1 = total_RES1 - mean_total_RES1.
exe.
compute cent_total_RES2 = total_RES2 - mean_total_RES2.
exe.
compute cent_total_RES3 = total_RES3 - mean_total_RES3.
exe.

* Create variable labels for new centered variables.
variable labels cent_total_IMP1 'Centered total impact 1'.
variable labels cent_total_IMP2 'Centered total impact 2'.
variable labels cent_total_IMP3 'Centered total impact 3'.
variable labels cent_total_RES1 'Centered total responsibility 1'.
variable labels cent_total_RES2 'Centered total responsibility 2'.
variable labels cent_total_RES3 'Centered total responsibility 3'.

* Build interaction term IMP*LRscore.
compute int_IMP1_LRscore1=cent_total_IMP1 * cent_total_LRscore1.
exe.
compute int_IMP1_LRscore3=cent_total_IMP1 * cent_total_LRscore3.
exe.
compute int_IMP1_LRscore4=cent_total_IMP1 * cent_total_LRscore4.
exe.
compute int_IMP1_LRscore6=cent_total_IMP1 * cent_total_LRscore6.
exe.
compute int_IMP2_LRscore1=cent_total_IMP2 * cent_total_LRscore1.
exe.
compute int_IMP2_LRscore3=cent_total_IMP2 * cent_total_LRscore3.
exe.
compute int_IMP2_LRscore4=cent_total_IMP2 * cent_total_LRscore4.
exe.
compute int_IMP2_LRscore6=cent_total_IMP2 * cent_total_LRscore6.
exe.
compute int_IMP3_LRscore1=cent_total_IMP3 * cent_total_LRscore1.
exe.
compute int_IMP3_LRscore3=cent_total_IMP3 * cent_total_LRscore3.
exe.
compute int_IMP3_LRscore4=cent_total_IMP3 * cent_total_LRscore4.
exe.
compute int_IMP3_LRscore6=cent_total_IMP3 * cent_total_LRscore6.
exe.
* Build interaction term RES*LRscore.
compute int_RES1_LRscore1=cent_total_RES1 * cent_total_LRscore1.
exe.
compute int_RES1_LRscore3=cent_total_RES1 * cent_total_LRscore3.
exe.
compute int_RES1_LRscore4=cent_total_RES1 * cent_total_LRscore4.
exe.
compute int_RES1_LRscore6=cent_total_RES1 * cent_total_LRscore6.
exe.
compute int_RES2_LRscore1=cent_total_RES2 * cent_total_LRscore1.
exe.
compute int_RES2_LRscore3=cent_total_RES2 * cent_total_LRscore3.
exe.
compute int_RES2_LRscore4=cent_total_RES2 * cent_total_LRscore4.
exe.
compute int_RES2_LRscore6=cent_total_RES2 * cent_total_LRscore6.
exe.
compute int_RES3_LRscore1=cent_total_RES3 * cent_total_LRscore1.
exe.
compute int_RES3_LRscore3=cent_total_RES3 * cent_total_LRscore3.
exe.
compute int_RES3_LRscore4=cent_total_RES3 * cent_total_LRscore4.
exe.
compute int_RES3_LRscore6=cent_total_RES3 * cent_total_LRscore6.
exe.

* Create labels for new interaction terms of IMP*LRscore.
variable labels int_IMP1_LRscore1 'Interaction term impact 1 and LRscore 1'.
variable labels int_IMP1_LRscore3 'Interaction term impact 1 and LRscore 3'.
variable labels int_IMP1_LRscore4 'Interaction term impact 1 and LRscore 4'.
variable labels int_IMP1_LRscore6 'Interaction term impact 1 and LRscore 6'.
variable labels int_IMP2_LRscore1 'Interaction term impact 2 and LRscore 1'.
variable labels int_IMP2_LRscore3 'Interaction term impact 2 and LRscore 3'.
variable labels int_IMP2_LRscore4 'Interaction term impact 2 and LRscore 4'.
variable labels int_IMP2_LRscore6 'Interaction term impact 2 and LRscore 6'.
variable labels int_IMP3_LRscore1 'Interaction term impact 3 and LRscore 1'.
variable labels int_IMP3_LRscore3 'Interaction term impact 3 and LRscore 3'.
variable labels int_IMP3_LRscore4 'Interaction term impact 3 and LRscore 4'.
variable labels int_IMP3_LRscore6 'Interaction term impact 3 and LRscore 6'.

variable labels int_IMP3_LRscore6 'Interaction term impact 3 and LRscore 6'.

* Create labels for new interaction terms of RES*LRscore.

variable labels int_RES1_LRscore1 'Interaction term responsibility 1 and LRscore 1'.
variable labels int_RES1_LRscore3 'Interaction term responsibility 1 and LRscore 3'.
variable labels int_RES1_LRscore4 'Interaction term responsibility 1 and LRscore 4'.
variable labels int_RES1_LRscore6 'Interaction term responsibility 1 and LRscore 6'.
variable labels int_RES2_LRscore1 'Interaction term responsibility 2 and LRscore 1'.
variable labels int_RES2_LRscore3 'Interaction term responsibility 2 and LRscore 3'.
variable labels int_RES2_LRscore4 'Interaction term responsibility 2 and LRscore 4'.
variable labels int_RES2_LRscore6 'Interaction term responsibility 2 and LRscore 6'.
variable labels int_RES3_LRscore1 'Interaction term responsibility 3 and LRscore 1'.
variable labels int_RES3_LRscore3 'Interaction term responsibility 3 and LRscore 3'.
variable labels int_RES3_LRscore4 'Interaction term responsibility 3 and LRscore 4'.
variable labels int_RES3_LRscore6 'Interaction term responsibility 3 and LRscore 6'.

* ------------------------------------------------------------------------------------- ANALYSES -----------------------------------------------------------------------
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-------------------------------------------------.

* CHECK HOW MANY RESPONSES ARE NON-VALID (UNDER 180 SECONDS).

* Frequency check of the Duration_seconds variable.
FREQUENCIES VARIABLES=Duration_seconds
/ORDER=ANALYSIS.

* Checking the frequencies of the raw data.
FREQUENCIES VARIABLES=Duration_seconds VictimType total_WTD1 total_MTD1 total_MTD2 total_DIS1
total_DIS2 total_DIS3 total_SYM1 total_SYM2 total_SYM3 total_IMP1 total_IMP2 total_IMP3 total_RES1
total_RES2 total_RES3 total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4
total_LRscore5rev total_LRscore6 total_DEM1 total_DEM2 total_DEM3 total_DEM4 total_DEM5 total_MANC1
total_MANC2 total_MANC3 total_MANC4 LOG_total_WTD1
/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN SKEWNESS KURTOSIS
/ORDER=ANALYSIS.

* CHECK TO SEE IF EXPERIMENTAL AND CONTROL GROUP ARE OF THE SAME SIZE.

* Checking how many people completed the IV survey and how many the SV survey.
FREQUENCIES VARIABLES=VictimType
/ORDER=ANALYSIS.

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* DEMOGRAPHICS CHECK TO REPORT IN METHODS.
* Checking the demographics of the sample.

DATASET ACTIVATE DataSet1.

FREQUENCIES VARIABLES=total_DEM1 total_DEM2 total_DEM3 total_DEM4 total_DEM5
/STATISTICS=STDDEV VARIANCE RANGE MINIMUM MAXIMUM SEMEAN MEAN MEDIAN MODE
/OPTION=ANALYSIS.

* FACTOR ANALYSIS.
* First factor analysis with all items.

FACTOR
/VARIABLES LOG_total_WTD1 total_MTD1 total_MTD2 total_DIS1 total_DIS2 total_DIS3 total_SYM1 total_SYM2 total_SYM3 total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore5rev total_LRscore6 total_MANC1 total_MANC2 total_MANC3 total_MANC4 total_IMP1 total_IMP2 total_IMP3 total_RES1 total_RES2 total_RES3
/MISSING LISTWISE
/ANALYSIS LOG_total_WTD1 total_MTD1 total_MTD2 total_DIS1 total_DIS2 total_DIS3 total_SYM1 total_SYM2 total_SYM3 total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore5rev total_LRscore6 total_MANC1 total_MANC2 total_MANC3 total_MANC4 total_IMP1 total_IMP2 total_IMP3 total_RES1 total_RES2 total_RES3
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Motivation to Donate.

FACTOR
/VARIABLES total_MTD1 total_MTD2
/MISSING LISTWISE
/ANALYSIS total_MTD1 total_MTD2
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
FACTOR
/VARIABLES total_SYM1 total_SYM2 total_SYM3
/MISSING LISTWISE
/ANALYSIS total_SYM1 total_SYM2 total_SYM3
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Sympathy.

FACTOR
/VARIABLES total_DIS1 total_DIS2 total_DIS3
/MISSING LISTWISE
/ANALYSIS total_DIS1 total_DIS2 total_DIS3
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Distress.

FACTOR
/VARIABLES total_RES1 total_RES2 total_RES3
/MISSING LISTWISE
/ANALYSIS total_RES1 total_RES2 total_RES3
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Perceived Responsibility.
* Separate factor analysis per construct: Perceived Impact.

FACTOR
/VARIABLES total_IMP1 total_IMP2 total_IMP3
/MISSING LISTWISE
/ANALYSIS total_IMP1 total_IMP2 total_IMP3
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Lay Rationalism.

FACTOR
/VARIABLES total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore5rev total_LRscore6
/MISSING LISTWISE
/ANALYSIS total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore5rev total_LRscore6
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.
* Separate factor analysis per construct: Lay Rationalism. Second iteration without total_LRscore5rev.

FACTOR
/VARIABLES total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore6
/MISSING LISTWISE
/ANALYSIS total_LRscore1 total_LRscore2rev total_LRscore3 total_LRscore4 total_LRscore6
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Lay Rationalism. Third iteration without total_LRscore2rev.

FACTOR
/VARIABLES total_LRscore1 total_LRscore3 total_LRscore4 total_LRscore6
/MISSING LISTWISE
/ANALYSIS total_LRscore1 total_LRscore3 total_LRscore4 total_LRscore6
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria ITERATE(25) DELTA(0)
/ROTATION OBLIMIN
/METHOD=CORRELATION.

* Separate factor analysis per construct: Manipulation Check.

FACTOR
/VARIABLES total_MANC1 total_MANC2 total_MANC3 total_MANC4
/MISSING LISTWISE
/ANALYSIS total_MANC1 total_MANC2 total_MANC3 total_MANC4
/PRINT UNIVARIATE INITIAL CORRELATION SIG KMO EXTRACTION ROTATION
/FORMAT SORT BLANK(.30)
/PLOT EIGEN
/Criteria MINEIGEN(1) ITERATE(25)
/EXTRACTION PAF
/Criteria Iterate(25) Delta(0)
/Rotation Oblimin
/Method=Correlation.

* Manipulation check.
* Outlier check.

Regression
/MISSING Listwise
/Statistics Coeff Outs R ANOVA
/Criteria=PIN(.05) POUT(.10)
/NoOrigin
/Dependent VictimType
/Method=Enter total_MANC1 total_MANC2 total_MANC3 total_MANC4
/Save Mahal.

* Sort cases by Mahalanobis distance to spot outliers.
Sort cases by MAH_1(D).

Compute probability_MD=1 - CDF.CHISQ(MAH_1,4).
Execute.

Compute Outlier_MANOVA=probability_MD < .001.
Execute.

Use all.
Compute filter_S=(Outlier_MANOVA = 0).
Variable Labels filter_S 'Outlier_MANOVA = 0 (Filter)'.
Value Labels filter_S 0 'Not Selected' 1 'Selected'.
Formats filter_S (f1.0).
Filter by filter_S.
Execute.

* Additivity and linearity assumption.
Graph
/Scatterplot(Matrix)=total_MANC1 total_MANC2 total_MANC3 total_MANC4
/PANEL RowVar=VictimType RowOp=CROSS
/Missing=VARIABLEWISE.
* Multicollinearity assumption.

CORRELATIONS

/VARIABLES=total_MANC1 total_MANC2 total_MANC3 total_MANC4

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

* MANOVA.

GLM total_MANC1 total_MANC2 total_MANC3 total_MANC4 BY VictimType

/CONTRAST(VictimType)=Simple

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY

/CRITERIA=ALPHA(.05)

/DESIGN= VictimType.

* FILE CLEANING BEFORE EXPORTING TO EXCEL.

* Delete responses with response time under 180 seconds to clean the data before exporting.

select if Duration_seconds ne 0.

exe.

* Delete helper variables for ease of use in ADANCO.

delete variables Duration_seconds TO LRscore2_5rev.

delete variables mean_total_DIS1 TO mean_total_LRscore6.
Appendix 8: SPSS output.

Appendix 8.1: Pre-test manipulation check (paired samples t-test, N = 9).

<table>
<thead>
<tr>
<th>Aspect of identifiability</th>
<th>Identifiable victim Mean (SE)</th>
<th>Statistical victim Mean (SE)</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
<th>df</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on the individual</td>
<td>6.11 (.26)</td>
<td>1.44 (.24)</td>
<td>4.667</td>
<td>1.000</td>
<td>.333</td>
<td>14.00</td>
<td>.000</td>
<td>8</td>
<td>.98</td>
</tr>
<tr>
<td>Use of a representative victim</td>
<td>6.11 (.31)</td>
<td>.89 (.56)</td>
<td>4.222</td>
<td>1.641</td>
<td>.547</td>
<td>7.72</td>
<td>.000</td>
<td>8</td>
<td>.94</td>
</tr>
<tr>
<td>Use of personal information</td>
<td>5.67 (.53)</td>
<td>2.11 (.56)</td>
<td>3.556</td>
<td>2.128</td>
<td>.709</td>
<td>5.01</td>
<td>.001</td>
<td>8</td>
<td>.87</td>
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<tr>
<td>Use of a vivid description</td>
<td>5.33 (.53)</td>
<td>3.00 (.62)</td>
<td>2.333</td>
<td>2.062</td>
<td>.687</td>
<td>3.40</td>
<td>.009</td>
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<td>.77</td>
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</table>
### Appendix 8.2: Eigenvalues of first factor analysis.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Variance</td>
<td>Cumulative %</td>
<td>% of Variance</td>
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<tr>
<td>1</td>
<td>6,450</td>
<td>25,799</td>
<td>6,107</td>
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<tr>
<td>2</td>
<td>2,847</td>
<td>11,387</td>
<td>2,519</td>
</tr>
<tr>
<td>3</td>
<td>2,665</td>
<td>10,660</td>
<td>2,212</td>
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<tr>
<td>4</td>
<td>1,904</td>
<td>7,616</td>
<td>1,460</td>
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</tr>
<tr>
<td>22</td>
<td>0,246</td>
<td>0,986</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0,233</td>
<td>0,934</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>0,212</td>
<td>0,847</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>0,168</td>
<td>0,674</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.

$^a$ When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.
**Appendix 8.3:** First factor analysis of the lay rationalism factor.

**Appendix 8.3.1:** Eigenvalues of lay rationalism.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>2,469</td>
<td>41,153</td>
<td>41,153</td>
</tr>
<tr>
<td>2</td>
<td>1,113</td>
<td>18,556</td>
<td>59,709</td>
</tr>
<tr>
<td>3</td>
<td>0,807</td>
<td>13,453</td>
<td>73,162</td>
</tr>
<tr>
<td>4</td>
<td>0,663</td>
<td>11,052</td>
<td>84,214</td>
</tr>
<tr>
<td>5</td>
<td>0,540</td>
<td>8,999</td>
<td>93,213</td>
</tr>
<tr>
<td>6</td>
<td>0,407</td>
<td>6,787</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.
**Appendix 8.3.2**: Pattern matrix of lay rationalism.

<table>
<thead>
<tr>
<th>Pattern Matrix&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>total_LRscore1</td>
<td>0.803</td>
<td></td>
</tr>
<tr>
<td>Total LRscore 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore4</td>
<td>0.684</td>
<td></td>
</tr>
<tr>
<td>Total LRscore 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore3</td>
<td>0.408</td>
<td>0.345</td>
</tr>
<tr>
<td>Total LRscore 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore6</td>
<td></td>
<td>0.526</td>
</tr>
<tr>
<td>Total LRscore 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore2rev</td>
<td></td>
<td>0.511</td>
</tr>
<tr>
<td>Total LRscore 2 reversed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore5rev</td>
<td></td>
<td>0.408</td>
</tr>
<tr>
<td>Total LRscore 5 reversed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Axis Factoring.*
*Rotation Method: Oblimin with Kaiser Normalization.*
*a. Rotation converged in 7 iterations.*
**Appendix 8.3.3:** Communalities of the indicators of lay rationalism.

<table>
<thead>
<tr>
<th>Communalities</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>total_LRscore1</td>
<td>0.333</td>
<td>0.574</td>
</tr>
<tr>
<td>Total LRscore 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore2rev reversed</td>
<td>0.135</td>
<td>0.246</td>
</tr>
<tr>
<td>Total LRscore 2 reversed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore3</td>
<td>0.312</td>
<td>0.403</td>
</tr>
<tr>
<td>Total LRscore 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore4</td>
<td>0.411</td>
<td>0.574</td>
</tr>
<tr>
<td>Total LRscore 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore5rev reversed</td>
<td>0.100</td>
<td>0.158</td>
</tr>
<tr>
<td>Total LRscore 5 reversed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total_LRscore6</td>
<td>0.305</td>
<td>0.455</td>
</tr>
<tr>
<td>Total LRscore 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Axis Factoring.*
**Appendix 8.4**: Second factor analysis of the lay rationalism factor, with total_LRscore2rev deleted.

**Appendix 8.4.1**: Eigenvalues of lay rationalism.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>2,374</td>
<td>47,484</td>
</tr>
<tr>
<td>2</td>
<td>0.990</td>
<td>19,807</td>
</tr>
<tr>
<td>3</td>
<td>0.668</td>
<td>13,350</td>
</tr>
<tr>
<td>4</td>
<td>0.556</td>
<td>11,125</td>
</tr>
<tr>
<td>5</td>
<td>0.412</td>
<td>8,234</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
Appendix 8.4.2: Factor matrix of lay rationalism.

<table>
<thead>
<tr>
<th>Factor Matrix$^a$</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>total_LRscore4</td>
<td>0.758</td>
</tr>
<tr>
<td>Total LRscore 4</td>
<td></td>
</tr>
<tr>
<td>total_LRscore3</td>
<td>0.658</td>
</tr>
<tr>
<td>Total LRscore 3</td>
<td></td>
</tr>
<tr>
<td>total_LRscore6</td>
<td>0.592</td>
</tr>
<tr>
<td>Total LRscore 6</td>
<td></td>
</tr>
<tr>
<td>total_LRscore1</td>
<td>0.583</td>
</tr>
<tr>
<td>Total LRscore 1</td>
<td></td>
</tr>
<tr>
<td>total_LRscore2rev</td>
<td>0.308</td>
</tr>
<tr>
<td>Total LRscore 2 reversed</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method:
Principal Axis Factoring.
a. 1 factors extracted. 8 iterations required.
Appendix 8.4.3: Communalities of the indicators of lay rationalism.

<table>
<thead>
<tr>
<th>Communalities</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>total_LRscores1 Total LRscores 1</td>
<td>0.333</td>
<td>0.340</td>
</tr>
<tr>
<td>reversed</td>
<td>0.110</td>
<td>0.095</td>
</tr>
<tr>
<td>total_LRscores2 Total LRscores 2 reversed</td>
<td>0.312</td>
<td>0.433</td>
</tr>
<tr>
<td>total_LRscores3 Total LRscores 3</td>
<td>0.411</td>
<td>0.574</td>
</tr>
<tr>
<td>total_LRscores4 Total LRscores 4</td>
<td>0.276</td>
<td>0.350</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
Appendix 8.5: Third factor analysis of the lay rationalism factor, with total_LRscore2rev and total_LRscore5rev deleted.

Appendix 8.5.1: Eigenvalues of lay rationalism.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Total Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>2,258</td>
<td>56,459</td>
</tr>
<tr>
<td>2</td>
<td>0,765</td>
<td>19,116</td>
</tr>
<tr>
<td>3</td>
<td>0,558</td>
<td>13,942</td>
</tr>
<tr>
<td>4</td>
<td>0,419</td>
<td>10,484</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
### Appendix 8.5.2: Factor matrix of lay rationalism.

<table>
<thead>
<tr>
<th>Factor Matrix&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>total_LRscore4</td>
<td>0.777</td>
</tr>
<tr>
<td>Total LRscore 4</td>
<td></td>
</tr>
<tr>
<td>total_LRscore3</td>
<td>0.629</td>
</tr>
<tr>
<td>Total LRscore 3</td>
<td></td>
</tr>
<tr>
<td>total_LRscore1</td>
<td>0.623</td>
</tr>
<tr>
<td>Total LRscore 1</td>
<td></td>
</tr>
<tr>
<td>total_LRscore6</td>
<td>0.562</td>
</tr>
<tr>
<td>Total LRscore 6</td>
<td></td>
</tr>
</tbody>
</table>

**Extraction Method:**
Principal Axis Factoring.

<sup>a</sup> 1 factors extracted.
10 iterations required.
### Appendix 8.5.3: Communalities of lay rationalism.

<table>
<thead>
<tr>
<th>Total LRscore</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.325</td>
<td>0.388</td>
</tr>
<tr>
<td>3</td>
<td>0.293</td>
<td>0.396</td>
</tr>
<tr>
<td>4</td>
<td>0.405</td>
<td>0.604</td>
</tr>
<tr>
<td>6</td>
<td>0.262</td>
<td>0.316</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis Factoring.
Appendix 8.6: MANOVA assumptions.

**Appendix 8.6.1:** Bivariate correlations of the manipulation check items to check for multicollinearity.

<table>
<thead>
<tr>
<th></th>
<th>total_MANC1 Total manipulation check 1</th>
<th>total_MANC2 Total manipulation check 2</th>
<th>total_MANC3 Total manipulation check 3</th>
<th>total_MANC4 Total manipulation check 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>total_MANC1</strong> Total manipulation check 1</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.711**</td>
<td>.766**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>375</td>
<td>375</td>
<td>375</td>
</tr>
<tr>
<td><strong>total_MANC2</strong> Total manipulation check 2</td>
<td>Pearson Correlation</td>
<td>.711**</td>
<td>1</td>
<td>.595**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>375</td>
<td>375</td>
<td>375</td>
</tr>
<tr>
<td><strong>total_MANC3</strong> Total manipulation check 3</td>
<td>Pearson Correlation</td>
<td>.766**</td>
<td>.595**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>375</td>
<td>375</td>
<td>375</td>
</tr>
<tr>
<td><strong>total_MANC4</strong> Total manipulation check 4</td>
<td>Pearson Correlation</td>
<td>.558**</td>
<td>.501**</td>
<td>.694**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>375</td>
<td>375</td>
<td>375</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).**
Appendix 8.6.2: Linearity check.
**Appendix 8.7:** MANOVA manipulation check output (separate ANOVAs).

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Error df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VictimType</td>
<td>total_MANC1 Total manipulation check 1</td>
<td>1340.689</td>
<td>1</td>
<td>374</td>
<td>1340.689</td>
<td>886.994</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>total_MANC2 Total manipulation check 2</td>
<td>548.222</td>
<td>1</td>
<td>374</td>
<td>548.222</td>
<td>244.740</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>total_MANC3 Total manipulation check 3</td>
<td>867.139</td>
<td>1</td>
<td>374</td>
<td>867.139</td>
<td>533.528</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>total_MANC4 Total manipulation check 4</td>
<td>350.470</td>
<td>1</td>
<td>374</td>
<td>350.470</td>
<td>145.232</td>
<td>.000</td>
</tr>
</tbody>
</table>
Appendix 8.8: What-if analysis to examine effect of a potential common method bias.

Explanation: on the left side of the table, the original path coefficients of are displayed, including the differences in the coefficients for the linear effects on motivation to donate if the common method variance were 5%, 10%, and 15% (Eggert et al., 2012).

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Original estimate</th>
<th>Hypothetical estimate if the common method variance were…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Independent variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Willingness to donate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>-.054</td>
<td>-.035</td>
</tr>
<tr>
<td>Distress</td>
<td>.011</td>
<td>.026</td>
</tr>
<tr>
<td>Sympathy</td>
<td>.004</td>
<td>-.049</td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>-.010</td>
<td>-.008</td>
</tr>
<tr>
<td>Perceived impact</td>
<td>-.076</td>
<td>-.107</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>.065</td>
<td>.008</td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>.662</td>
<td>.770</td>
</tr>
<tr>
<td><strong>Motivation to donate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>-.128</td>
<td>-.137</td>
</tr>
<tr>
<td>Distress</td>
<td>-.066</td>
<td>-.116</td>
</tr>
<tr>
<td>Sympathy</td>
<td>.340</td>
<td>.384</td>
</tr>
<tr>
<td>Lay rationalism</td>
<td>-.023</td>
<td>-.019</td>
</tr>
<tr>
<td>Perceived impact</td>
<td>.181</td>
<td>.175</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>.492</td>
<td>.528</td>
</tr>
<tr>
<td><strong>Perceived impact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>.577</td>
<td>.612</td>
</tr>
<tr>
<td><strong>Perceived responsibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distress</td>
<td>.203</td>
<td>.192</td>
</tr>
<tr>
<td>Sympathy</td>
<td>.355</td>
<td>.385</td>
</tr>
<tr>
<td><strong>Distress</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sympathy</td>
<td>.693</td>
<td>.739</td>
</tr>
<tr>
<td>Victim type</td>
<td>-.014</td>
<td>-.023</td>
</tr>
<tr>
<td><strong>Sympathy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim type</td>
<td>.176</td>
<td>.182</td>
</tr>
</tbody>
</table>
Appendix 8.9: Univariate statistics of the logarithmic term of willingness to donate.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicator</th>
<th>N</th>
<th>Missing</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to donate</td>
<td>LOG_total_WT_D1</td>
<td>376</td>
<td>0</td>
<td>.9616</td>
<td>.43314</td>
<td>.00</td>
<td>2.00</td>
<td>-1.014</td>
<td>.494</td>
</tr>
</tbody>
</table>
Appendix 9: ADANCO models.

Appendix 9.1: Model 1a.
Appendix 9.2: Model 1b.
Appendix 9.3: Model 1c.
Appendix 9.4: Model 1d (used for checking common method variance).
Appendix 9.5: Model 2.
Appendix 9.6: Model 3.
Appendix 9.7: Model 4.
Appendix 9.8: Model 5.
Appendix 9.9: Model 6.
**Appendix 10.1:** Goodness of model fit (Model 1a).

Saturated model:

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.0565</td>
<td>.0661</td>
<td>.0739</td>
</tr>
<tr>
<td>$d_{ULS}$</td>
<td>.6057</td>
<td>.8306</td>
<td>1.0365</td>
</tr>
<tr>
<td>$d_{G}$</td>
<td>.2238</td>
<td>.2163</td>
<td>.2531</td>
</tr>
</tbody>
</table>

Estimated model:

<table>
<thead>
<tr>
<th>Goodness of fit measure</th>
<th>Value</th>
<th>HI95</th>
<th>HI99</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>.1597</td>
<td>.0687</td>
<td>.0769</td>
</tr>
<tr>
<td>$d_{ULS}$</td>
<td>4.8428</td>
<td>.8979</td>
<td>1.1222</td>
</tr>
<tr>
<td>$d_{G}$</td>
<td>.4154</td>
<td>.2162</td>
<td>.2612</td>
</tr>
</tbody>
</table>
### Appendix 10.2: Inter-construct correlations (Model 1a).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Victim type</th>
<th>Sympathy</th>
<th>Distress</th>
<th>Motivation to donate</th>
<th>Willingness to donate</th>
<th>Lay rationalism</th>
<th>Perceived impact</th>
<th>Perceived responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victim type</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sympathy</td>
<td>0.1744</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distress</td>
<td>0.0972</td>
<td>0.7291</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation to donate</td>
<td>-0.0099</td>
<td>0.5638</td>
<td>0.4920</td>
<td>1.0000</td>
<td></td>
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**Appendix 10.3**: Goodness of model fit (Model 1b).

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Appendix 10.4: Indicator loadings and indicator reliability assessment (Model 1b).

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**Appendix 10.4.2: Indicator reliability:**

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Appendix 10.5: Construct reliability of lay rationalism after deleting different variables (Model 1b).

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### Appendix 10.6: Discriminant validity assessment using the 95% HTMT bootstrap quantile scores (Model 1c).

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Appendix 10.9: Discriminant validity assessment using the 95% HTMT bootstrap quantile scores (Model 4).

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<td>Willingness to donate</td>
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<td>Motivation to donate</td>
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<td>Perceived impact</td>
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