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Emotion vs. deliberation in helping: a two-step model of donating decisions

Cristina-Elena Ivan

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Supervisors: Fredrik Björklund and
Arvid Erlandsson

Abstract

Emotions are influential in determining individuals to donate to charitable causes. However, emotions could interfere with the later decision to whom to allocate the donation resources by making people more likely to donate to a few individual victims instead of many statistical ones. Nevertheless, rationality could direct the allocation decision on the right way (i.e., by donating to statistical victims instead of determined victims). This paper investigated the role of emotional vs. deliberative information processing mode in decision-making in helping situations. In two studies, it was examined whether information processing mode (either emotional or rational) influenced participants' donation decisions. Information processing was manipulated by using both a mindset and conceptual prime (Study 1) or only a mindset prime (Study 2). The results yielded, similarly to Dickert, Sagara, and Slovic (2011), that an emotional processing mode increased people's tendency to donate to charity and also the amount donated (Study 1; Step 1). Furthermore, a rational processing mode determined people to choose the most normatively correct (i.e., from an utilitarian point of view) alternative, that is, to allocate the donation to a greater number of statistical victims instead of a lesser number of determined victims (Study 2; Step 2). The potential beneficial and disruptive implications for both emotions and rationality are discussed in line of a more complete two-step model of donating decisions, where Step 1 refers to the decision to donate or not donate and how much and Step 2 involves the decision to whom to allocate the donations.

Keywords: emotion, deliberation, helping, charity, information processing

Emotion vs. deliberation in helping: a two-step model of donating decisions

Helping others can take innumerable shapes, from donating to charity to helping a complete stranger (for example, rescuing somebody from a fire; Latané & Darley, 1970) and originates from many types of motivations, from ingrained empathy to a deliberately planned need for social recognition (Anik, Aknin, Norton, & Dunn, 2009).

One typical way of helping, by showing care for other people, is through giving financial donations for charitable purposes (Singer, 1972, 2009; Slovic, 2007). In this case, allocating one's resources to other people in need involves deciding whom to allocate those resources to, but also how much to donate. Deciding about these issues often implies difficult concessions (Li, Vietri, Galvani & Chapman, 2010; Unger, 1996), which can refer to how to use the money (e.g., either donating it or using it for themselves; Rubaltelli & Agnoli, 2011), but also how to choose among different recipients or charities and humanitarian causes (Soyer & Hogarth, 2011).

In helping decisions, most of the times, our intuitions and affective reactions serve as a basis for why we choose to help other people in need (Schwarz & Clore, 1983; Slovic, Finucane, Peters, & MacGregor, 2002), but also how much we are willing to donate (Dickert, et al., 2011). In accordance, Dickert et al. (2011) proposed a two-stage outlook on donating decisions: the first stage including the decision on whether to donate or not and the second stage including the decision on how much to donate. Their results concluded that emotional reactions determined individuals' donation in both stages.

However, the same emotional basis could act against us when making a decision, in the sense that, when confronted with the choice regarding whom to allocate the donation to, emotional reactions lead people to opt for a less than optimal decision. For example, Small and Loewenstein (2003) stated that people are more sympathetic towards and moved by an identified victim (or also labeled as "determined") and they are more likely to donate more resources to that victim instead of many statistical ones. A real-life example of this could be the case of "Baby Jessica", an 18-month-old girl who fell in a well in 1987. This misfortunate news triggered a great outflow of sympathy and determined people to donate thousands of American dollars in supporting Jessica and the many volunteers involved in the rescuing program (Belkin, 1995). Even though the flood of kindness towards such an identified victim as baby Jessica was remarkable, this massive amount of donation happened at the same time when other millions of other unidentified children were (and still are at present) predicted to die annually from sources that were less costly to cure (Cryder, Loewenstein, & Scheines, 2013; UNICEF, 2009). Despite the fact that Jessica was finally saved, if the amount of

donations that were given to Jessica had been instead given to programs that were supporting statistical victims, there would have been many more people whose lives could have been saved (Loewenstein & Small, 2007). This begs the question of why people choose to donate to a single identified victim (or to a relative smaller number of determined victims) instead of many statistical ones. One explanation for this could reside in the *proportion dominance effect* (PDE; Slovic et al., 2002). PDE or the "drop-in-the-bucket" effect is the tendency to favor relative savings over absolute ones (Bartels & Burnett, 2011). For example, if people were to choose between helping victims from a smaller group (e.g., 15 out of a total group of 20 victims) and victims from a larger group (e.g., 15 victims out a total group of 200), most of the time, they choose the first alternative, even though the number of saved victims is exactly the same. If connected to moral judgments, PDE follows a pattern that contradicts a utilitarian reasoning (Bartels & Burnett, 2011). For example, Unger (1996) posited that people feel less morally obligated to save fewer lives amongst a great number of lives to be saved (the drop-in-the-bucket effect). If so, why do people prefer relative savings to absolute ones? It might be possible that the answer lies in the never ending debate between deontology and utilitarianism.

Deontology and utilitarianism in helping

Deontology and utilitarianism are two contrasting philosophical stances that are underlied by distinct bases for assessing the moral condition of acts and they both entail different cognitive processes (Bartels, 2008). Utilitarianism (or "consequentialism") stipulates that moral judgments should be made in such a way that they are supporting the "greater good" (Greene, Nystrom, Engell, Darley, & Cohen, 2004; Mill, 1998) in the sense that one decides to choose the alternative that benefits the highest number of individuals (Bartels & Burnett, 2011), while deontology promotes the view that certain moral rules should not be broken, irrespective of how much greater good would otherwise be obtained (Kant, 1959). For example, a deontologist would agree that killing one person in order to rescue several more other people is morally wrong, even if this would optimize the good outcomes (Kagan, 1998). Accordingly, it might be very possible that deontology could stand as an explanation for why so many monetary resources were allocated to baby Jessica instead of other causes that could have used those resources more effectively (i.e., by helping a greater number of people in need, which is the utilitarian point of view). This could very well be that people might not estimate the number of lives that are saved when they choose to donate to an identified/determined victim instead of many statistical ones (Bartels, 2008).

Furthermore, there is empirical evidence suggesting that utilitarian judgments are underlied by cognitive mechanisms, whereas deontological judgments are based upon emotional mechanisms (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008; Greene et al., 2004; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). Furthermore, Greene (2008) argues, based on empirical evidence, that deontological arguments are directed by emotions and that deontology, rather than involving moral reasoning is more of a moral justification, whereas utilitarian arguments originate from cognitive processes and are more likely to be drawn in real moral reasoning. Moreover, the author claims that if these empirical affirmations are indeed true, deontology could be seen as being more or less disconnected from a normative moral philosophy. These same emotional mechanisms have also been proven to influence the identifiable victim effect (IVE; Kogut & Ritov, 2005a, 2005b, 2007). IVE is the tendency to provide greater help to identified victims instead of statistical ones (Kogut & Ritov, 2005a; Slovic, 2007; Small, Loewenstein, & Slovic, 2007). For example, Small and Loewenstein (2003) stated that people are more sympathetic and moved by an identified victim and they are more biased to choose to donate more resources to that victim instead of many statistical ones.

Thus, if emotional reactions underlie the motives to choose to donate more money to identified/determined victims instead of statistical ones, one way to avoid this is to make people think in a more rational, analytical manner and be aware of the consequences of their options. Small et al. (2007) found that after debiasing people's sympathy towards identifiable victims by using deliberative thinking or by priming them to think more rationally and analytically, they tended to give less to the identified victims (however, not more to the statistical ones). It could very well be possible that what is missing in this picture is an utilitarian framework of the many statistical victims (i.e., by emphasizing that choosing to help the statistical victims provides the greater good). This is because as Greene et al. (2001) argue, some parts of an utilitarian judgment are generated by superseding, in a deliberate manner, the emotional, deontologically dependent reaction. More precisely, if individuals were preoccupied with a rational, analytical reasoning, their moral feelings would then be pulled off from their first responses and aligned with an utilitarian thinking (Hare, 1981; Unger, 1996).

In line with these findings, this project aims at explaining when it is beneficial or detrimental to think emotionally or rationally in helping decisions. Even though Dickert et al. (2011) suggested a two-stage view of donating decisions (first stage being the decision to help or not to help and the second stage including the decision on how much to donate), a

more complete two-step model of helping decisions is proposed: the decision to help or not to help and how much help to provide (Step 1) and the decision whom to help (whom to allocate the resources; Step 2). The idea is that emotions are useful in the first step, but biasing in the second step. Even though the research that will be presented in the following literature review has yielded conclusive results concerning the role emotions (or emotional processing mode) and deliberation (or deliberative processing mode) in these decisions, all the studies were conducted disparately and, to our current knowledge, no other study has examined a more complete model of donating decisions that includes both aforementioned donating steps.

The role of emotions in decision-making in helping situations

Throughout history, there has been a continuing debate on whether cognitive or emotional mechanisms underlie decision-making, especially in fields such as moral judgments, with early research focusing on and emphasizing the constructing of an understanding of a moral principle that is based rather on reason and not on emotion (Denis, 2008). However, recent studies have illustrated that emotional reactions play a prominent role in moral reasoning. Indeed, the social intuitionist model, developed by Haidt (2001), is in part a reaction to the early prevalence of rationalist models. Haidt proposed that moral reasoning occurred after a judgment was made. It is considered a social model because it focuses on the socio-cultural aspects of moral reasoning, rather than emphasizing individuals' own ability to engage in moral reasoning. Furthermore, it is *intuitionist* because it states that moral judgments are based on automatic, rapid assessments called intuitions. Haidt argued that only on rare occasions were moral judgments based on rational deliberation. He also stated that the rational and emotional systems were temporally distant from an evolutionary perspective, with the rational system appearing at a much later stage in our evolution, coinciding with the development of language. The emotional system, which enables individuals to judge between good and bad behaviors among in-group members, is generally considered to have evolved much earlier, and likely plays a substantial part in our moral reasoning (Yan, 2008). Thus, if moral reasoning is an emotionally influenced process (Horberg, Oveis, & Keltner, 2011), this begs the question of to what extent helping decisions are influenced by emotional thinking. Furthermore, if helping decisions are indeed influenced by emotional thinking then when is it good and when it is detrimental (from an utilitarian or consequentialist point of view) to rely on intuitions for decision-making in helping situations?

Deciding to help. Regarding helping decisions, emotions have been proven to be of great importance for helping. For example, Batson (1990, p. 339) stated that ". . . considerable research suggests that we are more likely to help someone in need when we 'feel for' that person . . . ". And there are more complex and refined emotions such as empathy, sympathy, compassion, sadness, pity and distress that are considered to be essential in increasing people's motivation to help others (Coke, Batson, & McDavis, 1978; Eisenberg & Miller, 1987). All these emotions fall under the category labeled as *vicarious affect* (Fultz, Schaller, & Cialdini, 1988). For example, the cost-reward model (or emergency intervention model; Dovidio, Piliavin, Gaertner, Schroeder & Clark, 1991; Piliavin, Dovidio, Gaertner & Clark, 1981; Piliavin, Rodin, & Piliavin, 1969) states that the distress that arises when observing others in need will most likely generate *aversive arousal*. In order to decrease this aversive arousal, people will engage in helping others. Thus, it seems that distress stimulates helping in a way that helping is considered an effective manner to eliminate distress (e.g., Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983). Furthermore, the empathy-altruism model (Batson, 1987, 1991; Batson et al., 1989; Batson & Shaw, 1991) proposes that empathic concern serves as a base for helping others and this could stand as a proof for the fact that helping is rather motivated by altruistic or selfless reasons and not by selfish ones. When individuals notice others in need, they respond emotionally with empathy and frequently this empathic response leads those individuals to help (Batson, 1991, 1998; Davis, 1994; Eisenberg & Miller, 1987). Furthermore, according to Loewenstein and Small (2007), sympathy serves as a catalyst for individuals to help others.

However, even though emotional reactions could positively affect the decision to help, it might very well be possible that thinking deliberately could determine individuals not to help at all. For example, when it comes to identifiable victims, Small et al. (2007; Study 4) suggested that deliberation might actually diminish emotional reactions to those in need and decrease dependence on emotional heuristics and, in this way reducing help for individual victims. Nevertheless, the authors also revealed that deliberation does not result in an increase in helping statistical victims, thus suggesting that analytical thinking might stand as a determinant of not helping at all. Furthermore, by priming participants to think deliberately when making the helping decision, Dickert et al. (2011) discovered that they helped less compared to the participants primed with intuitive thinking. These findings could be explained through the fact that the process of deliberation is of rational nature and, whilst it promotes a better resource allocation, when it comes to the decision of whether to help, it is a

callous process, permitting individuals to restrain from offering help even for those who have the highest need of receiving it (Cryder et al., 2013).

Deciding whom to help. Understanding how individuals choose whom to allocate their helping resources is an important aspect of explaining common decision-making (Huber, Van Boven, McGraw, & Johnson-Graham, 2011). Furthermore, understanding the emotional basis of allocating helping resources is an important part of explaining how people choose whom to help. However, the same emotional basis that determines people to help could act against them when making a decision, in the sense that emotions lead people to opt for a less rational decision (i.e., from an utilitarian point of view, not choosing the option that will provide the "greater good"). For example, Batson et al. (1995) showed that inducing empathy could result in allocating resources to an individual target, but with the consequence of decreasing the collective welfare. Furthermore, people are more sympathetic and concerned about an identified victim and they are also more biased to choose to donate more financial resources to identified victims instead of statistical ones (Small & Loewenstein, 2003). Also, regarding the IVE, Kogut and Ritov (2005a) showed that a single victim described in a vivid manner (by having a name and a face) generated a higher level of distress than a group of vividly presented victims, but also than both a single unidentifiable victim or a group of unidentifiable victims. Furthermore, emotional reactions can be biasing in terms of money allocation decisions when they involve choosing between in-group vs. out-group victims. In most cases, people decide to allocate the resource to the victims that belong in the in-group even though out-group victims could be equally or even more deserving of their help. For example, Dovidio et al. (1997) discovered that students were more prone to help another student when they thought that he or she belonged to the in-group. Moreover, Hornstein (1976) suggested that when putting the focus on the sameness or shared fate generated a sense of community, which in turn promoted helping. Additionally, by using a nonconscious prime to make in-group belonginess more visible provides more support for the in-group effect (Garcia, Weaver, Moskowitz, & Darley, 2002). Lastly, when individuals are primed to take the victim's viewpoint, they show higher levels of altruism and also of altruistic conduct (Batson, Early, & Salvarani, 1997; Batson et al., 2003; Coke et al., 1978). Oceja (2008) showed that empathy could also be detrimental sometimes, in the sense that it can lead to people being partial when they feel empathy towards an individual who is in need of help. More precisely, the results of his study showed that when people are induced to feel empathy compared to those who are not, they tended to decide to help the person to whom

they were directed to feel empathy, but at the loss of helping others in a higher need of help. These findings are in contradiction with the utilitarian principle, in the sense that they do not maximize helping utility, and can be accounted for being biased, irrational choices.

Nevertheless, it might be possible that emotional reactions could provide the necessary impulse to help, but they can misguide our helping allocation decision on a wrong way. On the other hand, deliberative thinking could be the factor that can bring our allocation decision on the right path (Loewenstein & Small, 2007). Accordingly, Kahneman (1982) demonstrated how deliberation superseded intuitive thinking. Regarding helping decision, deliberation can direct help instigated by, for example, sympathy in a more beneficial path (Loewenstein & Small, 2007). For example, Hsee and Rottenstreich (2004; Study 3) provided evidence for this claim by inducing a feeling-based thinking in one condition and, on the other hand, by inducing a calculation-based thinking in the other condition. The results yielded the fact that when individuals confide on their feelings, they helped both a single or four victims in an equal manner. However, when they had to rely on calculation they tended to provide more help to four victims instead of one (Hsee & Rottenstreich, 2004; Study 3). This is in line with the utilitarian point of view (i.e., maximizing utility).

Furthermore, Loewenstein and Small (2007) proposed that it might be possible that, most of the times deliberation can be based on firstly, calculating which of the victim(s) is more entitled to receive help (maybe basing this calculation on their perceived level of experienced misfortune) and secondly, appraising if the donator can actually provide the much needed help. However, the authors argued that, by themselves, these components of deliberation are only cold and detached judgments. Only by incorporating deliberation after the first step of emotional decision-making, could helping decisions be optimized in terms of allocating the resources to the most deserving target (i.e., the target with the highest need of being helped).

Thus, it appears that the manner in which information about those in need is processed and symbolized mentally appears to be a key factor in determining individuals' affective responses (Dickert et al., 2011). This mental representation and processing of information can be understood from a dual-processing models perspective (Evans, 2008; Kahneman & Frederick, 2002).

Dual-process models

Essential for the dual-process models is the differentiation between intuition and rationality, which tries to make a distinction between what Kahneman and Frederick (2002)

and Evans (2003) called System 1 and System 2. System 1 category (labeled as intuitive) includes those processes that are deemed to be quick, reflexive and instinctive, whereas under the System 2 category (labeled as reflective) fall those cognitive processes that are slow-paced, deliberated and conscious (Evans, 2008; Kahneman & Frederick, 2002). The contrasts and the interplays between the systems have been proven to anticipate different outcomes in decision-making, moral judgments, persuasion and an array of other domains (Chaiken & Trope, 1999; Epstein, 1994; Greene et al., 2004; Greene et al., 2001; Petty & Cacioppo, 1986; Stanovich & West, 2000; Wilson, Lindsey, & Schooler, 2000). Furthermore, research has focused its attention on the supposed errors produced by System 1 and the supposed bias-adjustment capacities elicited by System 2 (Kahneman & Frederick, 2002). System 1 could also be insensitive to numeracy (Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997; Hsee & Rottenstreich, 2004) and it could, without difficulty, be biased by aspects that are ostensibly trivial such as the degree of newness, clarity, attention and social closeness (Loewenstein & Small, 2007; Slovic, 2007). If this type of system does not react as powerfully to numerous (either statistical or nonstatistical) victims, making use of this process in moral judgments and decision-making might prompt breaches from standard moral principles (e.g., Loewenstein, Weber, Hsee, & Welch, 2001; Slovic, et al., 2002). However, whilst System 1 is fast and offers rapid answers to judgmental dilemmas, System 2 relies more on deliberation, reflection and calculation and can operate as a supervisor, by verifying or correcting the answers System 1 provides (Sunstein, 2005). Essentially, this means that emotionally-guided intuitions have supremacy (Feinberg, Willer, Antonenko, & John, 2012), but they can be overcomed by rigorous reasoning (Cushman, Young, & Greene, 2010). In line with this framework, there is a reason to believe that whilst emotional thinking, with its rapid assessment of a situation, could serve as a determinant in helping those in need, the same rapid approach of a decision dilemma (i.e., deciding later on whom to help) could predispose people to choose the more biased of two options (i.e., conforming to the deontological argument of "it is morally correct to help one single person instead of not helping at all"). However, deliberative thinking, with its more systematic approach on helping decision dilemmas could debias this emotional basis and determine people to choose the option with the best outcome (i.e., helping more people and thus, providing the utilitarian "greater good").

Even though System 1 and System 2 tendencies could be viewed as individual differences (e.g., Epstein, Pacini, Denes-Raj, & Heier, 1996; Pacini & Epstein, 1999), this study is mainly focused on situational differences. In order to do this, one needs to

experimentally induce the two ways of information processing. One type of such manipulation is by using priming techniques (Dickert et al., 2011, Small et al., 2007). This study makes use of priming methods to induce either an emotional or deliberative/calculating processing mode.

Priming and helping behavior

A growing body of research indicates that using different priming techniques can determine people to engage in behaviors that require little conscious regulation, ranging from cognitive performance (Dijksterhuis & van Knippenberg, 1998) to walking speed (Bargh, Chen, & Burrows, 1996) and even conformity (Epley & Gilovich, 1999).

Regarding priming techniques, the most used methods are conceptual and mindset priming (see Bargh & Chartrand, 2000). Conceptual priming refers to activating definite mental representations (e.g., personality traits, goals or even stereotypes), which in turn act as frameworks in which to decipher the consequent information (Higgins, 1996). Once the concept is activated, other concepts are linked to it and triggered by spreading activation (Neely, 1977). One example of this type of priming would be the usage of the word "honest" in a language test in order to make the participants perceive another person as being more honest (Bargh & Chartrand, 2000). On the other hand, mindset priming "activates procedural knowledge. What is primed is a way of thinking" (Galinsky, Gruenfeld, & Magee, 2003, p. 463). Thus, it concerns the unconscious spinoff of a deliberately seeked mental operation (Galinsky et al., 2003). For instance, Wilson and Capitman (1982) instructed their male participants to read a story about a "boy-meets-girl" and it turned out that they acted in a friendlier conduct and smiled more to a female target in the subsequent part of the study than participants in the control group.

Furthermore, regarding mindset priming and helping decisions, Small et al. (2007; Study 4), adopted either a feeling-based processing mode prime or a deliberative processing mode prime by asking individuals to either perform mathematical calculations or to name what they feel in response to certain words (e.g., "baby"). After that, participants were asked to state where they wished to allocate their donation by choosing between an identified or a statistical victim. The results indicated that whereas priming a deliberative mode decreased the likelihood of donating to identified victims, however, it did not increase donations to statistical victims.

Building on Small et al.'s (2007; Study 4) study, Dickert et al. (2011; Study 1) used a different victim manipulation, taken from Kogut and Ritov (2005a) study which used either

an image of an identified victim (by name and age) or of a group of eight victims identified also by their name and age. Dickert et al. found an increase of the rate of participants who donate to charity, but also in the average donation amount in an emotional prime manipulation compared to a deliberative manipulation. However, even though these studies have shown that helping behavior schemas can be triggered through mindset priming, there is a need to use different priming techniques in order to induce helping. This is mostly because of the different ways in which conceptual and mindset priming operate. More precisely, conceptual priming triggers specific mental representations in one circumstance but, most of the times, it affects, in an unintentional and unaware manner, the subsequent task present in a different circumstance. On the other hand, mindset priming implies a conscious and intentional usage of a specific mental strategy. Furthermore, it can be more vulnerable to demand characteristics, but also its effects could be more powerful (Bargh & Chartrand, 2000).

Thus, for Study 1, both types of priming (conceptual and mindset) have been chosen in order to induce either an emotional or a deliberative processing mode and to increase the generalizability of the findings. For Study 2, only mindset priming was used.

From a two-stage process to a two-step model

Even though there certainly are other factors that motivate people to offer help (see Loewenstein & Small, 2007), the powerful relationship between emotional reactions and helping indicates that charitable giving is, in some ways, triggered by motives that are associated to feelings. More often than not, in order to study this relationship, helping is measured by participants' willingness to donate money to charity. Nevertheless, research has shown that donating decisions could be better construed in a two-stage process that includes two types of decisions: the first would be whether to donate or not to donate any amount of money and the second would be how much money to donate (Dickert et al., 2011). Research on choice formulation backs up this presumption showing that appraisals (for example, donation amount) are formulated instantaneously and not retrieved from an expert memory checklist (Payne, Bettman, & Johnson, 1992, 1993; Lichtenstein & Slovic, 2006; Slovic, 1995). Furthermore, previous research displaying indication of a two-stage process model involving appraisals and choices for gambles (Slovic & Lichtenstein, 1968) showed that the two stages could be divided into an initial stage of deciding whether to gamble or not to gamble and a second and final stage that includes the decision of how much money to allocate for the gamble. However, despite recent models, no study has so far incorporated

also the decision on whom to allocate the donation to (by choosing between two or more recipients). Furthermore, in contrast to Dickert et al. (2011) whose two-stage outlook focused more on how distinct emotional processes (i.e., mood management and empathy) influence both stages, this study is focused on how an emotional processing mode generally conceptualized influenced the two stages (incorporated in the Step 1 in this model). Thus, a more complete model is proposed, consisting of two steps: the first step incorporates the elements of the aforementioned two-stage approach (the decision to help or not to help and how much money to donate) and the second step adding up the decision whom to allocate the donation to. Moreover, incorporating these decisions into a two-step model allows a more comprehensive approach to the question of how informational processing modes motivate charitable giving.

The present study

The aim of this study is to create a different, more extended approach to the two-stage view, by including as a first step both the initial decision to donate and the donation amount (the two stages, according to Dickert et al., 2011) and having as a the second step, the decision whom to allocate the donation. In line with these findings, this project aims at explaining, within a more complete model, when it is beneficial or detrimental to think emotionally or rationally in helping decisions. A two-step model of helping decisions is proposed: the decision to help or not to help (Step 1) and the decision whom to help (whom to allocate the resources; Step 2). The main aim of this study is to investigate how an emotional processing mode influences decision-making in both steps. It is expected that in the first step, in a similar manner to Dickert et al. (2011; Study 1), emotional processing will determine people to help more often in contrast to deliberative processing. It is further expected that in the second step, similarly to previous studies (e.g., Kogut & Ritov, 2005a, 2005b, 2007), an emotional processing mode will determine people to choose the less-than-optimal alternative (i.e., donating to fewer determined victims instead of more statistical ones, thus, reducing utility). Nevertheless, in contrast to the aforementioned similar studies that involved concrete emotions (e.g., distress and sympathy), in Step 2, this study is more generally concerned about emotional processing mode *per se* and not about specific emotions. Furthermore, in the same second step, partially in line with Hsee and Rottenstreich (2004; Study 3), it is proposed and expected that a deliberative processing mode will determine people to choose the other, more optimal alternative (i.e., donating to more statistical victims instead of fewer determined victims) and thus proving the "greater good".

However, in contrast to their study, this current paper made use of different victim manipulations (i.e., in terms of number and description).

Furthermore, this study aims to show, within a more complete model, how we can take the greatest advantage out of our emotional thinking (in the first step of helping, we can use our emotional processing mode to make the decision to help other people) and of our rational thinking (in the second step, when we decide whom to allocate the help, by choosing in a rational, debiased manner, the solution that will have the greatest benefit, from an utilitarian point of view).

General hypothesis

According to a two-step model of charitable donations including two main types of donation decisions (whether to donate or not and how much and secondly, whom to allocate the resources), it was expected, similarly to Dickert et al. (2011; Study 1) that affective processing would result in a greater willingness to donate money, and additionally to their study, deliberative processing will result in choosing the more rational (i.e., utilitarian) of two alternatives.

Specific hypotheses

In accordance with the dual-process model, information processing was defined as being directed by emotion and deliberation. In Study 1a, information processing was manipulated using mindset priming and in Study 1b conceptual priming was used. However, in Study 2 only a mindset prime was used.

For Studies 1a and 1b, in accordance with Dickert et al. (2011; Study 1), it was hypothesized that participants primed with an emotional processing mode would help more often than participants primed with a deliberative processing mode.

Furthermore, for Study 2a and 2b, it was hypothesized that participants primed with an emotional processing mode will be impaired in their decision-making (within an utilitarian framework, by not choosing the solution that will yield the "greatest benefit"), compared to participants primed with a deliberative one. More precisely, willingness to opt for a more irrational option will be higher in those participants primed to think emotionally. Additionally, it was hypothesized, partially in line with Hsee and Rottenstreich (2004; Study 3), that participants primed with a deliberative, calculative processing mode will be willing more often to choose the option considered as being more rational and providing the highest benefit.

Study 1

This study examined the willingness to donate to charity and the donation amount following two types of priming procedures: mindset and conceptual. Study 1a made use of a mindset prime, in an attempt to conceptually replicate the findings of Dickert et al. (2011; Study 1), whilst Study 1b made use of a conceptual prime. Additionally, both studies were conducted at the same time.

Piloting work with 11 students preceded the study in order to test how much time did the questionnaire take and also, if it needed to be modified in terms of layout and question formulation.

Study 1a

This study examined the willingness to donate to charity and the donation amount following either an emotional mindset or a rationality mindset priming procedure.

Method

Participants

104 Swedish-speaking students completed a pen and paper questionnaire. They were recruited on Lund University, Helsingborg (pertaining to Lund University) and Malmö University campuses. The participants were also told that in exchange for their participation, they would have the opportunity to win 500 Swedish kronor in a lottery. In order to be selected for participation, the individuals had to fulfill two criteria: firstly, they had to be Swedish-speaking and secondly, they were not allowed to study psychology or have studied psychology. The participants were randomly assigned to two groups: emotional mindset and rationality mindset.

Two participants guessed the purpose of the study and five participants did not follow the instructions. They were excluded from further analyses. Thus, 97 (54 women, 43 men, age M = 23.77, *SD* = 7.82) were included in the final analyses.

Design

Participants were randomly assigned into two different types of conditions (emotion vs. rationality). Half of the participants were randomly assigned to receive a mindset emotion prime and the other half received a rational mindset prime. The resulting design was a two-group between-subject design, with two different conditions: *emotion mindset* and *rationality*

mindset. The critical dependent variable was participants' amount of donation to charity. Additionally, I measured participants' moods and individual differences in processing information (intuitive vs. rational; not reported here).[1]

Materials and procedure

At the beginning of the experiment, participants were randomly assigned into the two conditions. They were provided with a pen and paper questionnaire (see Appendices A, C, E and F), printed on both sides. They were led to believe that the study was investigating the relationship between handwriting and personality, and they were also told that the information they provide will be completely anonymous and that they can interrupt the study anytime they wished to. Participants in the emotional mindset condition were instructed to write a story about an event in their life when they felt compassion for another being, whereas those in the rationality mindset condition were instructed to solve a mathematical test and describe how they reasoned through the solving of the test, and also how they reached their result. Ostensibly, this was because handwriting tasks worked best when participants were in an emotional or rational processing mode. Furthermore, most research that involves mindset priming procedures aims at having participants purposely using the mental process at hand (in this case either emotion or rationality) rather than exposing them to the concepts themselves or to other words strongly connected with the concepts themselves (Bargh & Chartrand, 2000).

Secondly, they were instructed to wait for a minute before turning the page to complete a short personality test. They were explained that it was because it was "important to have a little break between the parts". However, while they were waiting to complete the personality items, they were encouraged to think how would they allocate the money if they would win 500 Swedish kronor in the lottery. They could allocate the money to three main categories (*basic needs* such as food and clothes, *entertainment* needs such as travelling and parties, and lastly, *charity*). Ostensibly, this was just a task to do while waiting. They were instructed that they could allocate the money however they wished to, for example, they could allocate all the money only to one category or divide (equally or unequally) the money between the three categories. The dependent variables of interest were participants'

[1] The reason why these items were included was because the participants were led to believe the study was examining the relationship between personality and handwriting, thus making it necessary to include personality items to support the study's cover story, otherwise they would have been aware of the real aim of the study.

willingness to donate at least some amount out of those 500 Swedish kronor to charity and also how much of that sum they donated. Furthermore, they also had to complete their gender and age. After completing those questions, they could proceed further in completing the manipulation check measuring participants' moods (consisting of a four 7 Likert-scale where 1 = "not at all" to 7 = "very much") items, measuring participant's self-reported measures on whether they felt more bored, happy (both items being more as fillers, to distract their attention from guessing the hypothesis) emotional, more kind, more analytical and lastly, more calculating during the task, some filler questions and four personality items (two measuring intuitive processing mode and the other two measuring rational processing mode; the analyses are not reported here[2]) from the REI scale (Rational–Experiential Inventory; Pacini & Epstein, 1999) translated by Björklund and Backström (2008; see Appendix F).

When they completed the whole questionnaire, they were given a separate list to write their emails on if they wished to participate in the lottery. After that, they were asked to answer to two funnel debriefing questions that tested whether they were aware or suspicious of the priming manipulation or the purpose of the study: 1. What do you think the purpose of this study was? 2. Did you think that any of the tasks were related in anyway?
a. if "yes", which of the tasks and in what way were they related? (see Appendix G). Finally, the participants were debriefed and thanked for their participation. Two participants guessed the purpose of the study and they were excluded from further analyses.

Results

Manipulation check

After the respondents completed both the handwriting task and the money allocation task, their moods were measured using the four 7-point Likert scale items measuring whether they felt more: emotional, kind, analytical and calculating and two filler questions (bored and happy) designed to hide the real aim of the study.

Results of four separate t-tests yielded that participants felt more emotional: $t(93) = 10.00$, $d = 2.06$ in the emotion mindset condition than in the rationality mindset condition, but not more kind, $t(93) = -.39$, $d = .08$. Furthermore, the participants felt less analytical: $t(94) = -3.88$, $d = .79$ in the emotion mindset condition than in the rationality mindset condition and also less calculating: $t(93) = -7.11$, $d = 1.45$. Additionally, regarding the filler items participants primed with emotion felt less bored, $t(94) = -3.55$, $d = .72$ than participants

[2] The analyses are beyond the scope of this study since the items were selected in order to support the cover story of the study (i.e., that the study was investigating the relationship between handwriting and personality.

primed with rationality and also less happy $t(93) = -3.38$, $d = .70$ (see Table 1 for means, standard deviations and p values). The results are in line with the expectations, since it was expected that people would feel more emotional in the emotional mindset condition and both more analytical and calculating in the rationality mindset prime condition. These results indicate that both the emotional and the analytical and calculating manipulations were effective for the mindset priming.

Table 1

Studies 1a and 1b: Means (and Standard Deviations) of the manipulation check

	Study 1a (mindset prime)			Study 1b (conceptual prime)		
Manipulation check	Emotion	Rationality	*p*	Emotion	Rationality	*p*
Emotional	4.62 (1.44)	1.80 (1.29)	< .001	2.20 (1.46)	2.17 (1.21)	.891
Kind	3.64 (1.61)	3.78 (1.78)	.693	4.22 (1.64)	3.92 (1.60)	.351
Analytical	3.34 (1.52)	4.54 (1.52)	< .001	3.73 (1.82)	3.25 (1.64)	.173
Calculating	2.82 (1.39)	5.04 (1.65)	< .001	3.24 (1.90)	3.02 (1.68)	.540
Bored	2.38 (1.23)	3.48 (1.77)	.001	3.51 (1.70)	3.54 (1.61)	.926
Happy	2.62 (1.44)	3.60 (1.37)	.001	3.80 (1.32)	4.06 (1.36)	.330

Willingness to donate

Of the 97 participants, 54 (55%) indicated that they would donate at least some amount of those 500 Swedish kronor to charity.

A χ^2-test revealed a statistically significant difference in the proportion of participants who donated in the emotion vs. rational condition χ^2 (1, N = 97) = 4.48, $p = .034$. As expected and shown in Figure 1, participants in the emotion mindset condition (64%) donated more frequently than participants in the rationality mindset condition (42%).

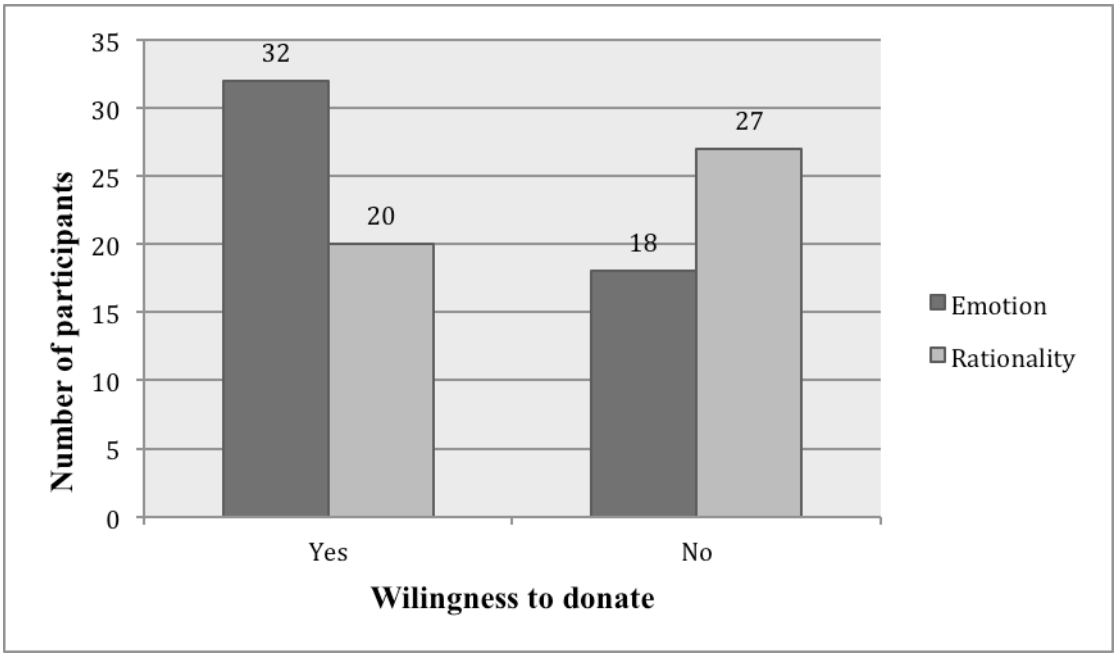

Figure 1. Participants' willingness to donate in the mindset prime condition

Donation amount

To further explore the effect of prime on the donation amount, a square root transformation of participants' donation amount was performed in order to reduce skewness and eliminate outliers. Furthermore, the means and standard deviations are reported for the untransformed variable.

An independent *t*-test was conducted in order to determine if participants primed with a compassion mindset would donate more money to charity than participants primed with a rationality mindset. The results were statistically significant, $t(88.2) = 3.09$, $p = .003$, $d = .62$, meaning that, indeed the participants in the compassion mindset condition donated more money to charity ($M = 79.70$, $SD = 104.35$) than the participants in the rationality mindset condition ($M = 29.04$, $SD = 44.04$).[3]

Study 1b

This study was intended to replicate Study 1a, by examining the willingness to donate to charity and the donation amount following either an emotion conceptual or a rationality conceptual priming procedure.

[3] A non-parametric method was also used to see if there were any differences in the analyses: Mann–Whitney (MW). The results of the test were also in the expected direction and significant, $U = 815$, $p = .006$. Participants primed with an emotion mindset had an average rank of 56.20, while participants primed with a rationality mindset had an average rank of 41.34.

Method

Participants

104 Swedish-speaking students completed a similar pen and paper questionnaire as in Study 1a with only one modification: participants in the emotion conceptual condition were instructed to transcribe a text that defined compassion, whereas those in the rationality conceptual condition were instructed to transcribe a text that defined rationality (see Appendices B and D). Two participants guessed the purpose of the study and five participants did not follow the instructions. They were excluded from further analyses. Thus, 97 (56 women, 41 men, age $M = 22.63$, $SD = 3.77$) were included in the final analyses.

Design

Participants were randomly assigned into two different types of conditions (emotion vs. rationality). Half of the participants were randomly assigned to receive an emotion conceptual prime and the other half received a rational conceptual prime. The resulting design was a two-group between-subject design, with two different conditions: *emotion conceptual* and *rationality conceptual*. Similar to Study 1a, the critical dependent variable was participants' amount of donation to charity. Additionally, similar to Study 1a, participants' moods and individual differences in processing information were measured (intuitive vs. rational; not reported here).

Materials and procedure

The procedure was the same as in Study 1a, except that, whereas in Study 1a, participants were instructed to either describe an event in their lifetime when they felt compassion for another being or to solve a mathematical test, in Study 1b they were instructed to transcribe a text that defined either compassion or rationality (see Appendix B and D). The transcription task is, in reality, a way to make sure that the participants represent mentally the constructs (related to emotion or rationality) without them being aware that the author is interested in these constructs (Abbate, Ruggieri, & Boca, 2013). Furthermore, two participants guessed the purpose of the study and they were excluded from further analyses.

Results

Manipulation check

In a similar manner to Study 1a, participants' moods were measured using the four 7-point Likert scale items measuring whether they felt more: emotional, kind, analytical and

calculating and two filler questions (bored and happy) designed to hide the real aim of the study.

Results of four separate t-tests failed to reach statistical significance (see Table 1 for *p* values). More precisely, participants did not feel more emotional in the emotion conceptual condition $t(95) = .14$, $d = .02$ than in the rationality conceptual condition, nor did they feel more kind in the emotion conceptual condition $t(95) = .94$, $d = .18$. Moreover, they did not feel less analytical $t(95) = 1.37$, $d = .28$ in the emotion conceptual condition compared to the rationality conceptual condition nor less calculating $t(95) = .61$, $d = .12$, and also nor more bored or happy. All the means, standard deviations and p values are presented in Table 1. These results indicate that neither one of the manipulations were effective for the conceptual priming.

Willingness to donate

Of the 97 participants, 55 (56%) indicated that they would donate at least some amount of those 500 Swedish kronor to charity.

A χ^2-test revealed a marginally significant difference in the proportion of participants who donated in the emotion vs. rational condition χ^2 (1, N = 97) = 2.99, $p = .084$. Thus, as shown in Figure 2, participants in the emotion conceptual condition (65%) donated slightly more often than participants in the rationality conceptual condition (47%).

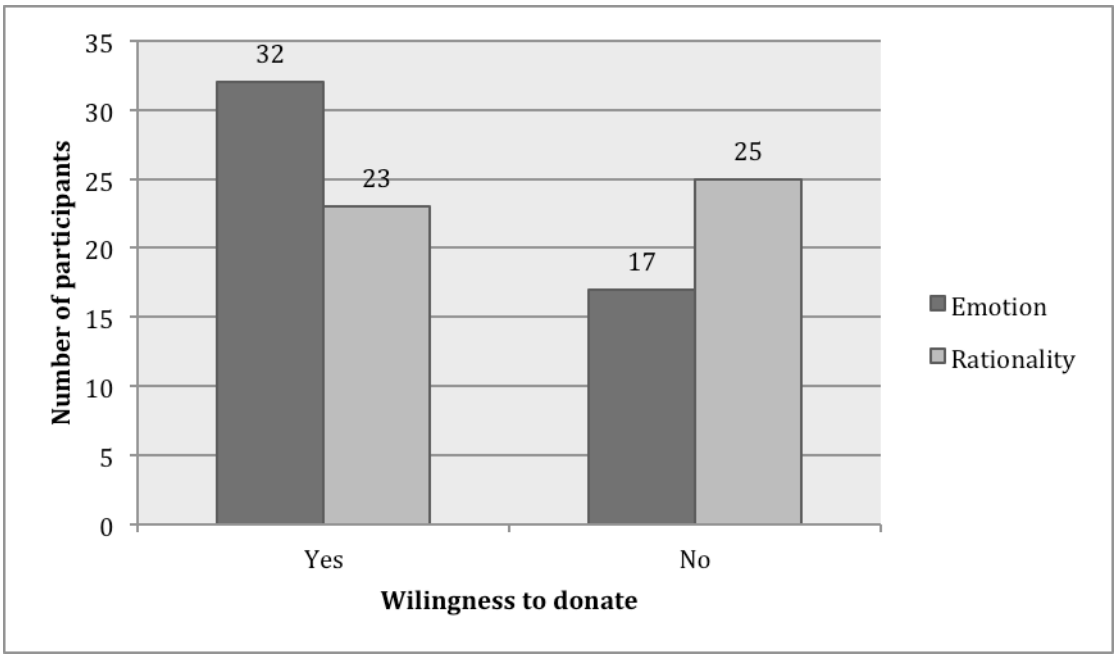

Figure 2. Participants' willingness to donate in the conceptual prime condition

Donation amount

To further explore the effect of prime on the donation amount, a square root transformation of participants' donation amount was performed in order to reduce skewness and eliminate outliers. Furthermore, the means and standard deviations are reported for the untransformed variable.

An independent t-test was conducted to determine if participants primed with an emotion concept donated more money to charity than participants primed with a rationality concept. The results were marginally significant, $t(95) = 1.63$, $p = .106$, $d = .33$, thus, participants in the emotion conceptual condition donated slightly more money to charity ($M = 64.49$, $SD = 87.56$) than participants in the rationality conceptual condition ($M = 43.75$, $SD = 60.69$).[4]

Discussion

Studies 1a and 1b made use of two types of priming manipulations (mindset and conceptual) to influence participants' informational processing mode. These manipulations were designed to prime participants with either an emotional thinking or a rational thinking that might, in turn, influence their decision whether to donate or not donate any amount of money to charity. As expected, by using a mindset prime, priming participants to focus on their emotional thinking lead to greater feelings of emotion and both a higher willingness to donate to charity and to a higher donation amount, compared to those primed to focus on their deliberative thinking. These are in line with the hypothesis, that an emotional processing mode will determine people to help more. As a result, Study 2 was conducted in order to test whether, when it comes to whom to allocate the help, emotional thinking can actually impair decision-making, but deliberation can lead individuals to opt for the most effective alternative.

Furthermore, by using a conceptual prime, the results for the Study 1b were also in the expected direction, but they were only marginally significant, which would imply that this type of priming manipulation was less strong than the mindset one and did not work according to the manipulation check. For this reason, only the mindset prime was chosen as an information processing manipulation for Study 2.

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[4] A non-parametric method was also used to see if there are any differences in the analyses: Mann–Whitney (MW). Results of a Mann-Whitney U did not confirm the hypothesis, that participants primed with a emotion concept would donate more money to charity, on average, than participants primed with a rationality concept, $U = 970$, $p = .116$. Participants primed with an emotion concept had an average rank of 53.19, while participants primed with a rationality concept had an average rank of 44.72.

Study 2

In Study 1, two different types of priming procedures (mindset and conceptual) were used in order to manipulate participants' processing mode by priming them to think either emotionally or rationally. The primes were used to influence their decision whether to help or not to help (by donating a certain amount of money to charity) and their donation amount (i.e., how much money they were willing to donate). Study 2 made use of only a mindset (emotional or rational prime) and it examined choice of allocations of donation money where one choice helps fewer people, makes one feel good about helping, but does not provide the greatest benefit (i.e., the choice of donating to determined victims), whereas the other option helps more people (i.e., statistical victims), does not make one feel so good about helping, but it will provide a greater good (from an utilitarian point of view). Study 2a involved a forced choice of money allocation between two organizations that were supporting the intuitive claim or the rational claim. Study 2b involved a free choice of money allocation within the same organization to three different areas in the organization (namely, an area that supports the intuitive claim, one that supports the rational claim and another one that was merely a filler choice to distract participants' attention from guessing the hypothesis). Additionally, Study 2a and Study 2b were conducted at the same time.

Study 2a

This study examined participants' forced choice of money allocation to two different organizations (one considered more of an intuitive choice and the other more of a rational choice) following either an emotion mindset or a rationality mindset priming procedure.

Method

Participants

105 Swedish-speaking students completed a pen and paper questionnaire. They were recruited on the Lund University campus. The participants were told that as a thank you for their participation, ten Swedish kronor will be donated to charity. They were explained that their participation in the study would "not only contribute to handwriting research, but also will make the world a little better". Similar to study 1, in order to be selected for participation, the individuals had to fulfill two criteria: firstly, they had to be Swedish-speaking and secondly, they were not allowed to study psychology or have studied psychology. The participants were randomly assigned into two groups: emotion mindset and rationality mindset.

Four participants guessed the purpose of the study and seven participants did not follow the instructions. They were excluded from further analyses. Thus, 94 (54 women, 40 men, age $M = 22.32$, $SD = 2.03$) were included in the final analyses.

Design

In this study, only a mindset prime was used. Half of the participants were randomly assigned to receive an emotion prime and the other half received a rational prime. The resulting design was a two-group between-subject design, with two different conditions: *emotion mindset* and *rationality mindset*. The critical dependent variable in was participants' choice of donating to either one of the two organizations. Additionally, similar to Study 1, participants' moods and individual differences in processing information (intuitive vs. rational; not reported here) were measured.

Materials and procedure

At the beginning of the experiment, participants were randomly assigned into the two conditions. They were provided with a similar pen and paper questionnaire as was used in Study 1a (see Appendices A, C and F). The procedure was the same as in Study 1, with only one difference: meanwhile they were waiting to complete the personality items, participants were encouraged to choose which of two organizations (the first of which it was considered to be more of an intuitive choice and the second one more of a rational, normatively correct choice) they would allocate those ten Swedish kronor to (see Appendix H). However, it should be mentioned that it was the author's decision to consider these two organizations of being either intuitive or rational.

The first organization, called *MinStoraDag* is a famous organization that aims at helping identified Swedish children, helping few people, but helping in a "feeling-good" kind of way. MinStoraDag was described as being a fundraising foundation that was helping children with serious illnesses in fulfilling their dreams (for example, singing with their idols, swimming with dolphins or meeting their favorite footballer). Its goal is to give these children "something wonderful to dream about when the days are long and the treatments are harsh". It is a more intuitive choice because the victims are identified (albeit anonymous) and it has been proposed that emotions regulate the IVE (Small & Loewenstein, 2003). Furthermore, by choosing this alternative, one can help a greater proportion of the group of children that suffer from serious illnesses. The second organization called *Världsinfektionsfonden* is also a known organization that is helping statistical outgroup

victims in a more abstract, indirect way. Världsinfektionsfonden was described as consisting of scientists and volunteers who were aiming at supporting research and development on poverty infectious diseases, but also at contributing to an increased knowledge about how these diseases impact poor communities. Its goal is to support the development of means and methods for combating infectious diseases. It is considered a normative choice, because it is more utilitarian since it provides "the greatest good for the greatest number" (Bartels, 2008, p. 382). Furthermore, according to the dual-process models, utilitarian judgments are connected to deliberation (Greene et al., 2008, 2004, 2001).

After answering the two debriefing questions (see Appendix G), four participants guessed the hypothesis and were thus excluded from further analysis. Finally, the participants were debriefed and thanked for their participation.

Results

Manipulation check

In a similar manner to Study 1, participants' moods were measured using the four 7-point Likert scale items measuring whether they felt more: emotional, kind, analytical and calculating and two filler questions (bored and happy) designed to hide the real aim of the study.

Results of four separate t-tests yielded that participants felt more emotional: $t(91) = 8.46$, $d = 1.76$ in the compassion mindset condition than in the rationality mindset condition, but not more kind, $t(91) = -.26$, $d = .06$. Furthermore, the participants felt less analytical: $t(90.5) = -5.10$, $d = 1.06$ in the compassion mindset condition than in the rationality mindset condition, and also less calculating: $t(91) = -6.12$, $d = 1.27$. Regarding the filler items, participants primed with emotion felt less bored, $t(90) = -3.13$, $d = .65$ than participants primed with rationality. Additionally, they felt marginally less happy $t(91) = -1.73$, $d = .36$ (see Table 2 for means, standard deviations and *p* values). These results indicate that both the emotional and the analytical and calculating manipulations were effective.

Table 2

Studies 2a and 2b: Means (and Standard Deviations) of the manipulation check

Manipulation check	Study 2a			Study 2b		
	Emotion	Rationality	*p*	Emotion	Rationality	*p*
Emotional	4.40 (1.38)	2.07 (1.27)	< .001	3.83 (1.54)	2.05 (1.30)	< .001
Kind	3.99 (1.62)	4.07 (1.56)	.791	3.62 (1.59)	3.68 (1.86)	.867
Analytical	2.69 (1.34)	4.11 (1.35)	< .001	3.12 (1.36)	4.27 (1.68)	.001
Calculating	2.65 (1.52)	4.60 (1.56)	< .001	2.92 (1.45)	4.63 (1.62)	< .001
Bored	2.64 (1.52)	3.60 (1.42)	.002	2.57 (1.73)	3.76 (1.84)	.003
Happy	2.90 (1.63)	3.42 (1.27)	.087	2.43 (1.40)	3.51 (1.47)	.001

Organization choice

A χ^2-test revealed a statistically significant difference in the proportion of participants who chose MinStoraDag instead of Världsinfektionsfonden in the emotion vs. rational condition χ^2 (1, N = 94) = 5.16, p = .023. As expected and shown in Figure 3, participants in the emotion mindset condition (64%) chose more frequently MinStoraDag than participants in the rationality mindset condition (36%). Conversely, participants in the rational mindset condition (60%) chose more frequently Världsinfektionsfonden than participants in the emotion mindset condition (40%).

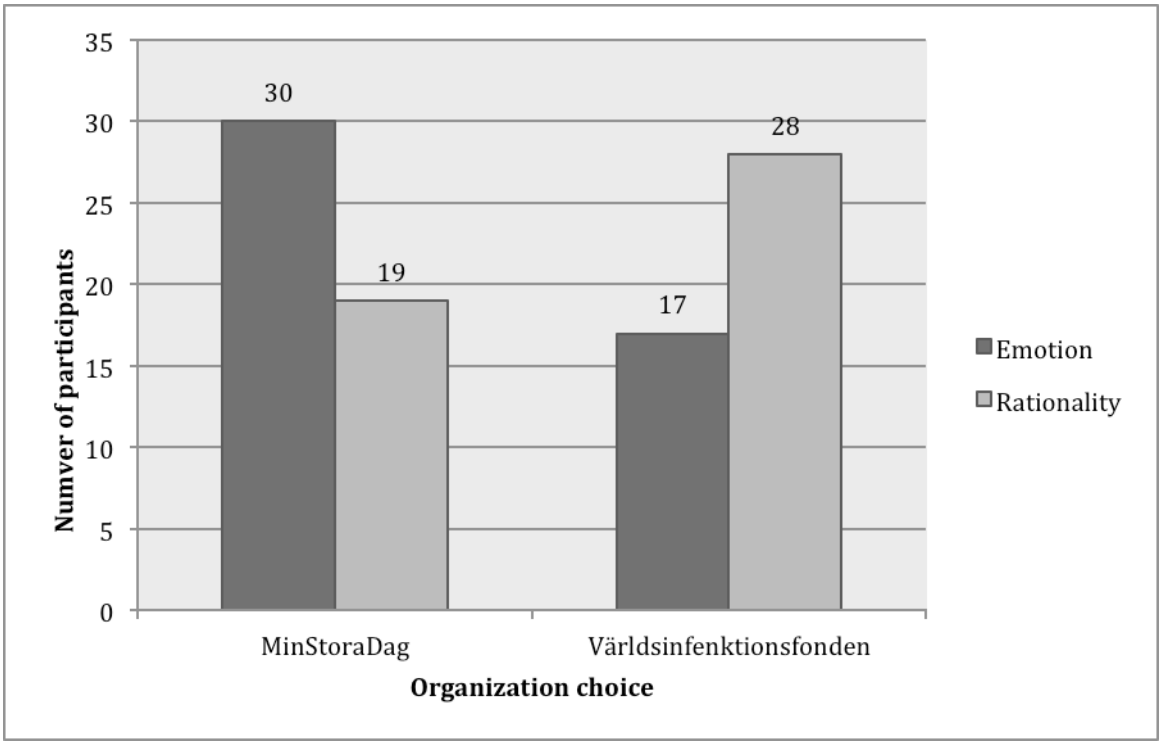

Figure 3. Participants' choice of organizations

Study 2b

This study examined participants' free choice of money allocation to three different areas of the same organization (the first area considered more of an intuitive choice, the second are more of a rational choice and the third one being a filler choice, to distract participants' attention from the real purpose of the study) following either an emotion mindset or a rationality mindset priming procedure.

Method

Participants

98 Swedish-speaking students completed a pen and paper questionnaire. They were recruited on the Lund University campus. Similar to the previous studies, in order to be selected for participation, the individuals had to fulfill two criteria: firstly, they had to be Swedish-speaking and secondly, they were not allowed to study psychology or have studied psychology. The participants were randomly assigned to two groups: emotion mindset and rationality mindset.

Three participants guessed the purpose of the study and eleven participants did not follow the instructions. They were excluded from further analyses. Thus, 84 participants (61 women, 23 men, age $M = 23.90$, $SD = 5.44$) were included in the final analyses.

Design

Similar to Study 2a, only a mindset prime was used. Half of the participants in the were randomly assigned to receive an emotion prime and the other half received a rational prime. The resulting design was a two-group between-subject design, with two different conditions: *emotion mindset* and *rationality mindset*. The critical dependent variable was participants' donation amount to three different areas of Children Cancer Foundation they would like to allocate those ten Swedish kronor.

Materials and procedure

At the beginning of the experiment, participants were randomly assigned into the two conditions. They were provided with a similar pen and paper questionnaire as was used the previous studies (see Appendices A, C and F). The procedure was the same as in the previous studies, the only difference being that meanwhile they were waiting to complete the personality items, participants were instructed to choose to allocate those ten Swedish kronor to three different areas of a cancer foundation called *Barncancerfonden* (see Appendix I). The first area, *Advice and Support* (intended to be an intuitive choice, in the same manner and for the same reasons as was explained above with MinStoraDag) was concerned with the development of children cancer care to support the child and their environment after the treatment. This meant that the sick children could do fun activities and that the family received comfort and financial support. The second area, *Research and Education* (intended to be a rational choice in the same manner and for the same reasons as was explained above with Världsinfektionsfonden) was supporting relevant research for child cancer. Lastly, the third area, *Information*, which was intended to be a filler choice, was providing informational activities on child cancer with the aim of increasing the understanding of the lives of children suffering of cancer (see Appendix I).

After answering the two debriefing questions (see Appendix G), three participants guessed the hypothesis and they were excluded from further analysis. Finally, participants were debriefed and thanked for their participation.

Results

Manipulation check

Results of four separate t-tests yielded that participants felt more emotional: $t(81) = 5.68$, $d = 1.25$ in the compassion mindset condition than in the rationality mindset condition,

but not more kind, $t(81) = -.17$, $d = .03$. Furthermore, the participants felt less analytical: $t(81) = -3.43$, $d = .75$ in the compassion mindset condition than in the rationality mindset condition and also less calculating: $t(80) = -6.88$, $d = 1.52$. Regarding the filler items, participants primed with emotion felt less bored, $t(81) = -3.02$, $d = .67$ than participants primed with rationality. Additionally, they felt less happy $t(81) = -3.44$, $d = .75$ (see Table 2 for means, standard deviations and *p* values). These results indicate that both the emotional and the analytical and calculating manipulations were effective.

Donation allocation

A t-test was conducted in order to determine if participants primed with an emotion mindset would donate more money to the Support Cancer Areas than participants primed with a rationality mindset. The results failed to reach statistical significance, $t(82) = -.25$, $d = .06$. Furthermore, a t-test was conducted to determine whether participants primed with an emotion mindset would donate less money to the Research Cancer Areas than participants primed with a rationality mindset. The results also failed to reach statistical significance, $t(82) = .31$, $d = .07$. Regarding the Information Cancer Areas (filler choice), results also failed to reach statistical significance, $t(82) = -.19$, $d = .04$ meaning that participants primed with emotion did not donate less money to the Information Areas than participants primed with rationality. The means, standard deviations and *p* values are presented in Table 3.

Table 3

Means (and Standard Deviations) and p values for Study 2b

Cancer Areas	Emotion	Rationality	*p*
Support	3.71 (2.80)	3.86 (2.39)	.802
Research	5.33 (2.94)	5.14 (2.70)	.758
Information	.95 (1.06)	1.00 (1.23)	.850

Discussion

Studies 2a and 2b made use of a mindset priming manipulations to influence participants' processing mode. These manipulations were designed to prime participants with either an emotional thinking or a rational thinking. which might, in turn, influence their decision whom to allocate the donation amount. Study 2a involved a forced choice of

decision allocation, participants being instructed to choose between an organization that supported a limited amount of determined victims (MinStoraDag) and an organization that supported a greater number of statistical victims (Världsinfektionsfonden). As expected, participants primed with an emotional mindset chose more often to donate to MinStoraDag, whereas participants primed with a deliberative mindset chose more often to donate to Världsinfektionsfonden, thus supporting the claim that emotions could determine people to choose to donate to fewer determined victims, whereas deliberation promotes a greater number of donations to more statistical victims, thus helping more people and promoting the greatest benefit. Study 2b examined participants' free choice of money allocation to three different areas of the same organization, namely Barncancerfonden: Support which also involved a limited amount of determined victims, Research which involved a greater number of statistical victims and Information which was a filler choice to distract participants from guessing the real purpose of the study. The results did not support the hypothesis that participants primed with emotional thinking would choose to donate more often to the Support area, nor that participants primed with deliberative thinking would choose to donate more often to the Research area. There were no such differences regarding donation choice, participants in both conditions donated in equal number to both Support and Research.

General Discussion

Emotional processing mode is an important factor to take in consideration when it comes to decision-making in helping situations. Nevertheless, one of the main questions in this study is whether emotional thinking is beneficial or detrimental in helping. In the current paper, it was found that emotional thinking came in aid for deciding whether to help or not to help, but impaired the decision on whom to allocate the helping resources to.

In two studies, the function of processing mode on individuals' donation decisions was investigated. Processing mode was conceptualized according to the dual-process models (Kahneman & Frederick, 2002; Evans, 2008), which divides and differentiates information processing into two main mechanisms: emotion and rationality.

In Study 1a, information processing was manipulated by priming participants with either an emotional or rational processing mode (by using a mindset priming technique) after which they were instructed to decide whether they wished to allocate a certain sum of money to charity and to specify how much. Taken together, the findings of this study indicate that an emotional processing mode results in a greater willingness to donate to charity, but also in a higher amount of donation, compared to a rational processing mode. The results are in line

with previous research (Dickert et al., 2011) pointing out that participants primed with intuitive thinking helped more than those primed with deliberative thinking. However, this study has a critical difference compared to Dickert et al. (2011) study, whose results pointed out that, in fact, there were different emotional mechanisms that guided willingness to donate and amount of money donated. More precisely, mood management was accountable for participants' donate/not donate decision, whereas feelings of empathy predicted donation amount. The main interest in this project was if an emotional processing mode *per se* would be predictive of both willingness to donate and how much to donate and the results were in the expected direction. More precisely, whether it was for selfish or altruistic motives, an emotional processing mode increased individuals' willingness to donate to charity, but also their amount of money that were donated.

Furthermore, the results also indicate that a more rational, deliberative processing mode has a detrimental impact on donations, in the sense that it reduces helping compared to emotional processing (Dickert et al., 2011; Small et al., 2007). One explanation for this would be the fact that it might be possible that a deliberative mode of processing might influence people to direct their attention on other cues when they evaluate whether they should donate or not and how much (Dickert et al., 2011).

Study 1b made use of a conceptual priming, to induce either an emotional or a deliberative processing mode. However, even though the manipulation check did not work as expected (i.e., participants did not feel more emotional nor more rational and analytical) the results were marginally significant in the expected direction (i.e., participants in the emotional condition donated more to charity than those in the rational/deliberative condition). Even though the results are unexpected, an explanation for this could be that the conceptual prime task (i.e., transcribing either a definition of compassion or of rationality; see Appendices B and D) did not make the participants engaged enough in the task, or that the number of times the words "compassion" or "rationality" would not have been enough to activate either of these concepts. If either of these two words had appeared more often in the text, participants would have been more exposed to either the emotional or rational concept and these concepts would have been more powerfully activated (Bargh & Pietromonaco, 1982) which might then account for their donation/no-donation choice. However, it might very well have been that the concepts were indeed activated, but it could have been just an issue of mnemonic duration. More precisely, in conceptual priming, when the concepts are activated, the activation in memory should be carried on for different tasks than those that explicitly involved the concepts of matter (Bargh, 1994; Higgins & King, 1981). For this

reason, it might have been possible that the activation lingered in participants' memory enough to influence their donation/no-donation choice, but not long enough to have an effect on the manipulation check, since the manipulation check items appeared after the donation choice (see Appendix F).

All in all, regarding Study 1, an explanation for such results would be the fact that both types of priming manipulations (mindset and conceptual) were designed in such a way that the writing task was presented as not being at all connected with the donate/not donate choice (see Appendix E). Thus, it may appear that the processing modes induced were more easily transferred from the initial writing task to the choice at hand. In contrast, if the priming manipulation had been presented more in connection to the donation/no donation choice, it could have been possible that it would have had no whatsoever effect on giving if, for example, the the first reaction of a cause would have been emotionally charged and interfering with the deliberative prime. More precisely, for instance, if the donation/no-donation choice had been aimed at supporting a certain cause (e.g., by presenting a charity letter), then it could have been that the first reaction to the cause might have been emotionally persuasive and inflexible (Small et al., 2007) for the participants primed with rationality. However, the donation choice was framed in a way that it was mixed with other two alternatives (participants perceiving it more as filler) and aimed at donating to charity in general (see Appendix E).

Furthermore, the results support the view that informational processing mode has an important part in philanthropy (Dickert et al., 2011). Further evidence for this view was brought in Study 2 where information processing was manipulated by priming participants with either an emotional or a rational mindset procedure followed by instructing them to choose between two main alternatives that were conceptualized as either being of an intuitive, less effective choice (i.e., helping a small amount of determined victims) or of an rational, utilitarian choice (i.e., helping a greater amount of statistical victims).

In Study 2a, participants had to choose one of two alternatives (intuitive vs. rational) to allocate their donation to. The results confirmed the hypothesis, that participants primed with emotion were more likely chose more often the more intuitive choice (the organization MinStoraDag that aimed at helping a lesser number of determined victims), and that participants primed with rationality more likely chose more often the more rational choice (the organization Världsinfektionsfonden that aimed at helping a greater number of statistical victims). These results are partially in line with previous research (Kogut & Ritov, 2005a, 2005b, 2007), in the sense that emotional reactions underlie the decision to donate to

identified (in this case, determined) victims. However, the main difference in this study was in its focus: it aimed at investigating the role of affective processing mode and not of emotions. Furthermore, the results are also slightly in line with the findings of Hsee and Rottenstreich (2004; Study 3) in the sense that when participants were presented with a more abstract image (i.e., the victims being represented by dots instead of pictures) they tended to provide more help to more victims described in a statistical, less vivid manner instead of helping only one victim described in the same manner. However, one difference with the current study is that the authors did not make use of priming, but instead only of the manner in which the victims were presented. Moreover, their presentation of the victims (i.e., either using dots or pictures and having an exact number of victims) differed from the description used in this study (i.e., by giving information on how the organizations differed in goals and functions in supporting the charitable causes).

In Study 2b, participants were instructed to freely allocate their donations to three different areas of the same organization (Barncancerfonden), the first of which (Support) was also aiming at helping determined victims, the second (Research) was aiming at helping statistical victims and the third one (Information) was a filler area of choice aimed at diverting participants' awareness of the real purpose of the study (see Appendix I). The results, however, did not confirm the hypothesis, that participants primed with emotion will more likely choose to donate more often and more money to the first area, nor that participants primed with deliberation will more likely choose to donate more often and more money to the second area. One explanation for this might be the fact that the choices participants were instructed to make involved different areas of the same organization, not different organizations, so it might be possible that participants felt that they were helping the organization overall by choosing either of the areas. More precisely, since the organization had the overall aim at helping children with cancer, it might have been possible that the participants did not see very clear that the different areas were aiming at helping the children in different ways (i.e., in an intuitive, feeling-good kind of way by providing support or in a rational, deliberate kind of way by providing research for child cancer). Moreover, it could have also been on issue of message framing. As such, it might very well have been that the main choices in Study 2b were both framed in an equally vivid manner (i.e., by emphasizing that the recipients were the same child victims suffering from cancer).

Emotional valence and message framing

It should also be argued that the emotional prime manipulation was not intended to be

of a certain valence (i.e., either positive or negative), but it was aimed at merely inducing participants with an intuitive processing mode. Similarly to Dickert et al. (2011) study, it was not intended to induce either a positive or a negative mood since most research findings regarding mood and helping behavior are quite intricate because research has shown that both positive and negative moods are connected to helping. Either for keeping their good mood up or for getting rid of their bad mood, people engage in helping behaviors as a consequence. For example, people in a happy mood state would offer support just because making another person feel happy would preserve their own positive mood (Lamy, Fischer-Lokou, & Guéguen, 2012). Additionally, individuals in a good mood are more likely to think of and appraise more positively their current experiences. As a result of that, they could also assess in a more positive manner a helping appeal, particularly the valuation of helping (Isen, Shalker, Clark, & Karp, 1978). Thus, irregardless of the valence of the induced mood, it was intended to examine whether an emotional processing mode *per se* could determine people to help more and the results were in the expected direction.

However, it should be pointed out that the manipulation check results from Study 1a and Study 2 yielded that participants primed with rationality felt happier that participants primed with emotion. One account for this would be that the in emotional mindset prime participants were instructed to describe an event in their lives when they felt compassion for another being, which might have induced them with a negative mood. Although is still debatable whether the emotion of compassion can be of a certain valence (e.g., Lazarus, 1991), and although compassion is usually defined as being a pleasant, positive emotion (Keltner & Lerner, 2010; Shaver, Schwartz, Kirson, & O'Connor, 1987) compassion can also sometimes be unpleasant (Condon, & Feldman Barrett, 2013). For example, by presenting people with images of poverty-stricken people or of defenseless children experience a high level of compassion and distress (Simon-Thomas et al., 2012). In line with these findings, it might be possible that, in the current study, the results could be explained by the fact that the emotion of compassion that was triggered through the mindset priming also brought participants in a negative mood.

Additionally, one important factor that can be influential for helping decisions could be the framing of the charitable message. When it comes to individual donations, how to frame the message is an important issue since individual donations appear to be the biggest separate source of charitable contributions (Chang & Lee, 2009). Donation requests can be advertised either by using positive messages or by using negative messages, both types of framing being aimed at promoting donations (Chang & Lee, 2010). Research has shown that

by using either one of the frames, donations increased compared to using a neutral framing of the message (Chang & Lee, 2010). However, research has focused more on the issue of which type of message framing valence (negative vs. positive) is more effective (Levin, Schneider & Gaeth, 1998). For example, negative messages determine people to feel the need to relieve the guilt and responsibility associated with not donating (Chang & Lee, 2009). However, recent studies propose that a negative frame could actually backfire (Chang 2007a; O'Keefe & Jensen 2007). For example, Chang (2007a) suggested that if people appraise the risks as being high, the impact of negative framing could be reduced. The author suggested that individuals could become less capable of handling extra negative information. When the message is highly charged with negative information, people may think that their potential contribution might not make any difference, thus curbing their willingness to donate at all (Chang, 2007a). However, for Study 2, the instructions were designed in such a way that participants had to donate to charity (see Appendices H and I), not if they wished to donate or not donate (in contrast to Study 1), therefore the findings in Study 2 may not have had anything to do with the framing of the message. This is mainly because it was focused more on participants' decision whom to allocate the donation, and both choices were rather framed positively (i.e., focusing on the positive outcomes of either choice; see Appendices H and I). However, there is a need for future research to use a negative message frame to see if they can find an effect between processing mode and donation allocation choices.

Theoretical contributions and practical implications

The present study contributes to the literature on charitable behavior. Normally, research on helping decisions has been focused more only on whether people wish to help or not help at all (e.g., Schwarz & Clore, 1983; Slovic et al., 2002, Small et al., 2007), and also how much help they are willing to provide (e.g., Dickert et al., 2011) or who will be the target that received the aid (e.g., Friedrich & McGuire, 2010; Kogut & Ritov, 2005a, 2005b, 2007). However, this study incorporated all these decisions in one full model and provided additional documentation on how people make these decisions. Additionally, the findings that emotional reactions are weakened by thinking deliberately provides further evidence for the dual-process models in which deliberation operatives as a supervisor by controlling and debiasing emotional reactions (Kahneman & Frederick, 2002; Sunstein, 2005).

Furthermore, these results could be of great importance for social welfare in the sense that a deliberative mode of processing could actually debias people from giving to the identified/determined victims and instead switch their aid to statistical victims. This is in line

with the utilitarian point of view, of maximizing the utility of giving by helping more people who are in greater need. And even more, a deliberative processing mode might come in aid for the framing of the message in an abstract, less vivid manner, since deliberation is in essence a process that promotes an abstract and less concrete thinking. As a result, this two-step model would prove itself useful when it comes to how charities will make use of people's informational processing modes when it comes to asking for a charitable contribution, but also when framing the charitable message.

Limitations and future directions

The current study was designed to investigate the function of informational processing on individuals' donation decisions.

Nonetheless, the study comes with a series of limitations. One of these limitations would be the lack of control group. Although previous research made use of a control group (Dickert et al., 2011), due to time constraints, it was felt that it was best to compare and contrast only intuitive processing mode and deliberative processing mode, since this was the main research question. Consequently, the differences found in the study were between the groups primed with emotion and those primed with deliberation and their subsequent decisions (regarding helping or not helping and whom to allocate the help). It might have been beneficial if there had been a third group that operated as a control, in which participants had received a handwriting task that had been neutral and had not influenced their processing mode and then they had been instructed, in the first study, to decide whether they would help or not help or, in the second study, to decide whom to allocate the help. As a result, it would have been able to make the distinction between processing modes and helping decisions more clear. Thus, future studies could include a control group in order to optimize these findings.

Another limitation would be the generalizability of the findings. First and foremost, the study was conducted in Sweden on a Swedish-speaking population and even though there is no reason to believe that the present findings would not be found in samples consisting of individuals from other countries and in another language, future studies could explore whether these effects still hold in that case. Furthermore, the sample that was used consisted of students, thus making it necessary for future research to test these effects on samples with other demographics and also take into consideration other factors such as, for example, the age, church participation, educational level, the degree of urbanization and financial status of the donators (Bekkers & Wiepking, 2011; Penner, Dovidio, Piliavin, & Schroeder, 2005;

Piliavin & Charng, 1990; Smith, 1994; Wilson, 2000; Wunderink, 2002).

In addition to the aforementioned limitations, another limitation would be the lack of a pilot study testing whether the choices in Study 2 were actually in the realm of either intuitition or deliberation. More precisely, if, for Study 2a, MinStoraDag would actually be considered, in general, as a more intuitive (or deontological) choice and Världsinfektionsfonden would actually be considered more as a deliberative (or utilitarian) choice. Analogously, for Study 2b, the same question remains: was the Support area of the organization Barncancerfonden more of a intuitive choice and the Research area of the same organization more of a deliberative/rational choice? Due to time constraints, the only pilot study conducted was concerned around the appropiateness of the questionnaire regarding the layout and completion time. This is also a vital matter since the results of Study 2b did not yield any differences in choices between people primed emotion compared to those primed with deliberation. It could very possibly be that maybe participants themselves could have not seen the Support area of Barncancerfonden as appealing more to feelings and that the Research area was appealing more to a deliberative, rational thinking. Consequently, future studies should conduct a pilot study with a sample of participants different to the ones used in the main study in order to examine their ratings of whether the two types of choices match the author's intuitive vs. rational choice operalization. If it indeed matches, then the explanation for not finding any effect in Study 2b lays on other factors that could, nevertheless be dependent on the description of the two choices, such as, for example, the framing of the message.

Conclusion

The findings of this paper document further evidence that informational processing plays an important part in donating decisions. More precisely, whereas an emotional processing mode might come in aid when people decide whether to donate or not donate at all, the same affective processing might lead the further decision whom to allocate the resources to on the "wrong" path (i.e., the less normatively correct, from an utilitarian perspective). However, a rational processing mode could be the factor that can direct people's allocation decision in the righteous direction. The implications for these findings could be notable and promising for charities in making the most efficient use of people's situational information processing when framing the donation request both when appealing to their willingness to donate, but also when requesting their monetary donations to certain causes that might have a potentially more powerful impact (i.e., helping a higher number of people

that are in greater and more vital need to be helped).

There are several significant directions for future work. Exploring the role of informational processing in a more complete model of donating decisons could provide a valuable framework to help guide future studies in both theoretical and practical endeavors. It is hoped that future research can provide further details about how emotion vs. deliberation intertwine in influencing decision-making in helping situations and, in doing so, providing the theoretical underpinnings for philanthropic organizations to make use of this causal relationship.

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Appendix A

Emotion mindset condition in Study 1a and Study 2

Tidigare forskning har visat att de personliga egenskaperna i handstilen framkommer tydligast när den som skriver är känslomässigt berörd av något och upplever starka emotioner riktade mot någon annan.

Vi vill därför att du tänker på en situation i ditt liv då du kände stark medkänsla för någon annan levande varelse. Beskriv situationen och försök sätta ord på de känslor du upplevde. Skriv 30-60 ord.

Appendix B

Emotion conceptual condition in Study 1b

I denna studie så undersöker vi kopplingen mellan handstil, sinnesstämning och personlighet. Din uppgift är att transkribera (kopiera) textstycket nedan.

Skriv följande textstycke för hand.

Compassion is the feeling of empathy for others. The etymology of "compassion" is Latin, meaning "co-suffering." Compassion commonly gives rise to an active desire to alleviate another's suffering. Compassion is considered in almost all traditions as amongst the greatest of virtues.

Appendix C

Rationality mindset condition in Study 1a and Study 2

Tidigare forskning har visat att de personliga egenskaperna i handstilen framkommer tydligast när den som skriver tänker väldigt objektivt och inte blandar in sina egna känslor för mycket. Vi vill därför att du med egna ord beskriver hur du kommer fram till svaret på följande fråga (skriv fullständiga meningar). A) En restaurangnota består av följande: 132,50 kr för förrätt, 280,50 kr för huvudrätt och 87 kr för efterrätt, plus 15 % moms. Hur stor blir den totala notan? Skriv 30-60 ord.

Appendix D

Rationality conceptual condition in Study 1a

I denna studie så undersöker vi kopplingen mellan handstil, sinnesstämning och personlighet. Din uppgift är att transkribera (kopiera) textstycket nedan.

Skriv följande textstycke för hand.

Rationality is the quality or state of being reasonable, based on facts or reason. A rational decision is one that is not just reasoned, but is also optimal for achieving a goal or solving a problem. Rationality is considered in almost all traditions as amongst the greatest of virtues.

Appendix E

Money allocation task for all conditions in Study 1

Vänta minst en minut innan du vänder blad för att fylla i ett kort personlighetstest.

Detta därför att det är viktigt med en liten paus mellan de olika momenten.

Läs följande information och svara på frågorna medan du väntar.

Som tack för din medverkan så deltar du i en utlottning där en person vinner 500kr.
Vinnaren blir kontaktad via e-mail och får 500kr insatta på sitt konto.
Tänk dig nu att just du skulle vinna 500kr. Uppskatta hur mycket pengar du tror att du skulle vara villig att spendera på följande saker. Skriv antal kronor efter varje typ av spendering.
Summan ska bli 500kr

1. Grundläggande behov (t.ex. mat, vardagskläder)_____ kr
2. Nöjen (t.ex. resor, fester)_____ kr
3. Välgörenhet (skänka bort till bättre behövande)_____ kr

- **Ringa in ditt biologiska kön**

  Man Kvinna

- **Skriv din nuvarande ålder**

  _____år

Appendix F

Manipulation check, filler questions and personality items for all conditions

- **Svara först på i vilken grad du kände följande sinnestämningar när du skrev texten för hand.**

	Inte Alls						**Väldigt mycket**
Uttråkad	1	2	3	4	5	6	7
Känslosam	1	2	3	4	5	6	7
Analytisk	1	2	3	4	5	6	7
Glad	1	2	3	4	5	6	7
Godhjärtad	1	2	3	4	5	6	7
Beräknande	1	2	3	4	5	6	7

- **Svara på följande frågor genom att ringa in den siffra som bäst representerar ditt svar.**

Jag tycker att min handstil är lättläst

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Jag tycker att min handstil är vacker

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Jag tycker om problem som kräver hårt tankearbete

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Jag tenderar att använda hjärtat som vägledare för mina handlingar

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Jag har sinne för logik

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Att använda mina instinkter brukar fungera väl för mig vid hantering av problem i mitt liv

1	2	3	4	5
Stämmer inte alls				Stämmer fullständigt

Appendix G

Funnel debriefing questions

1. Vad tror du att syftet med denna studie var?

2. Upplevde du att någon av uppgifterna hade något samband med varandra?

a. Om'' ja'', vilka uppgifter och vilket typ av samband?

Appendix H

Organization choice in Study 2a

Vänta minst en minut innan du vänder blad för att fylla i ett kort personlighetstest.

Detta därför att det är viktigt med en liten paus mellan de olika momenten.

Läs därför följande information och svara på frågorna medan du väntar.

Som tack för din medverkan så skänks 10kr till välgörenhet av oss. Du kan välja till vilken av de två organisationerna nedan som du vill skänka dina pengar.

Ge pengarna till den organisation som du tycker känns bäst.

MinStoraDag är en insamlingsstiftelse som hjälper barn med svåra sjukdomar att förverkliga sina önskedrömmar. MinStoraDags mål är att ge dessa barn någonting underbart att drömma om när dagarna är långa och behandlingarna tuffa.

I barns fantasi kan allting hända. Att sjunga med sin idol, att simma med delfiner, att träffa en fotbollsspelare, att åka på semester med sin familj eller att få bjuda vänner på kalas är bara några exempel på önskedrömmar som under åren blivit förverkligade tack vare MinStoraDags verksamhet.

Insamlingsstiftelsen Världsinfektionsfonden har bildats av forskare och frivilliga krafter i syfte att stödja forskning och utveckling kring fattigdomens infektionssjukdomar, men också att bidra till ökad kunskap om dessa sjukdomars inverkan på de fattiga samhällena. Världsinfektionsfonden ska med stor flexibilitet och effektivitet stödja utvecklingen av medel och metoder för att bekämpa infektionssjukdomar. Världsinfektionsfonden bygger sitt agerande på sakliga och vetenskapliga grunder och vill vara en naturlig partner för media, intresseorganisationer och andra som söker oberoende information om infektionssjukdomar och deras effekter på utvecklingsländer.

- **Ringa in den välgörenhetsorganisation som du vill skänka 10kr till**

Appendix I

Money allocation choice in Study 2b

Vänta minst en minut innan du vänder blad för att fylla i ett kort personlighetstest.

Detta därför att det är viktigt med en liten paus mellan de olika momenten.

Läs därför följande information och svara på frågorna medan du väntar.

Som tack för din medverkan så skänks 10kr till Barncancerfonden av oss.

Barncancerfonden jobbar inom de tre områden som står listade nedan. Du kan välja till vilken av nedanstående områdena du vill ge dina 10kr.

---

1. Råd och stöd

Barncancerfonden bidrar till utveckling av barncancervården för att stödja barnet och dess omgivning under och efter behandling. Detta innebär att det sjuka barnet kan göra roliga aktiviteter och att familjen får tröst och ekonomiskt stöd.

_____

2. Forskning och utbildning

Barncancerfonden stöder forskning som har relevans för barncancer. Tre oberoende forskningsnämnder avgör vilka forskningsprojekt som ska stödjas.

_____

3. Information

Barncancerfonden bedriver informationsverksamhet om barncancer i syfte att öka förståelsen för cancersjuka barns livssituation.

_____
