



# Comparing the Effectiveness of Default, Framing, and Social Norm Nudges on Charitable Giving and Donor Happiness: An Experimental Study

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## **Abstract**

Title: Comparing the Effectiveness of Default, Framing, and Social Norm Nudges on Charitable Giving and Donor Happiness: An Experimental Study

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This study investigates how behavioral nudges can support charitable fundraising to overcome the challenge of gathering funds by comparing their effectiveness on donation behavior and donor happiness. Although the impact of individual nudges has been widely studied, limited research explores their comparison under identical, neutral conditions. Moreover, the isolated effects on donor happiness remains unexplored, carrying potential ethical and long-term retention implications. To address this gap, the study compared default, framing, and social norm nudges under identical neutral conditions exploring their isolated effects on donation amount, participation rate, and donor happiness. A quantitative between-subject online experiment (N=408) was conducted. Participants were randomly assigned to one of four conditions (control, default, framing, or social norm) and asked how much of a 50€ Amazon gift card prize they would like to donate, followed by a self-report of their post-donation mood. The analyzed results showed no significant difference between conditions on donation amount, participation rates, or donor happiness. Independent of the nudge types a high baseline donation rate and a significant correlation between higher donation amounts and increased happiness was registered. These findings suggest that the isolated effects of nudges are weaker than previously assumed and that their power potentially derives from underlying contextual or psychological mechanisms. Hence, their effect may not originate from the nudge itself but from its ability to combine and convey different contextual and psychological cues.

Keywords: Nudges; Charitable giving; Donation behavior; Donor happiness; Nudge effectiveness; Comparative analysis

## Resumo

Título: Comparação da Eficácia de Nudges de Padrão, Enquadramento e Norma Social na Doação de Caridade e Felicidade do Doador: Um estudo experimental

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Este estudo investiga de que forma os nudges comportamentais podem apoiar a angariação de fundos para instituições de caridade, comparando a sua eficácia no comportamento de doação e na felicidade dos doadores. Embora o impacto de nudges individuais tenha sido amplamente estudado, são raras as comparações em condições neutras e idênticas. Além disso, o modo como estes efeitos isolados afetam a felicidade dos doadores permanece pouco explorado, com potenciais implicações éticas e para a retenção a longo prazo. Para colmatar esta lacuna, foram comparados os nudges por defeito, de enquadramento e de normas sociais, em condições neutras idênticas, avaliando os seus efeitos na quantia doada, na taxa de participação e na felicidade dos doadores. Realizou-se uma experiência quantitativa entre sujeitos (N = 408), com distribuição aleatória por quatro condições (controlo, defeito, enquadramento, norma social). Os participantes indicaram quanto desejavam doar de um prémio de 50 euros em cartão-presente da Amazon, seguido de um auto-relato do seu estado de espírito após a doação. Os resultados não revelaram diferenças significativas entre condições em nenhuma das variáveis medidas. Observou-se uma elevada taxa de doação à partida e uma correlação positiva entre maiores donativos e maior felicidade. Estas conclusões sugerem que os efeitos isolados dos nudges são mais fracos do que se supunha, e que o seu impacto pode derivar da combinação com pistas contextuais e psicológicas.

Palavras-chave: Nudges; Doação de caridade; Comportamento de doação; Felicidade do doador; Eficácia do nudge; Análise comparativa

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## 1 Introduction

Globally, individuals face a diverse set of challenges, reaching from local issues to international crises. While some parts of the world already struggle with the consequences of climate change, others are shaken by wars or political oppression. Meanwhile, many Western countries and global powers move towards a “their nation first” political attitude, limiting international support. Consequently, non-governmental organizations (NGOs) and humanitarian charities have become increasingly critical in providing support to those in need, trying to mitigate these developments.

Since most charities are nonprofit, the backbone of their actions is gathering funds (Kumar & Chakrabarti, 2021). While there are multiple ways of approaching this issue, the most common method is collecting donations. Subsequently, acquiring contributions is demanding and ranges from hosting galas to asking for participation at supermarket checkouts. Moreover, advertisements, online and offline, get more sophisticated in setting incentives to give. Accompanied by the option to give anonymously online, these promotions apply psychological cues, trying to cautiously balance between encouraging donations and avoiding being overly manipulative.

Among these cues, nudges are recognized as a prominent tool in behavioral economics and represent a form of choice architecture that induces subtle changes in how choices are presented to influence behavior without removing the freedom of choice or significantly altering economic incentives (Thaler & Sunstein, 2008; Ruele et al., 2021). Nevertheless, to maintain autonomy (Bovens, 2018), nudges must be easily avoided without causing any disadvantages for the exposed person (Thaler & Sunstein, 2008). Applied responsibly, they function as a cost-efficient instrument for nonprofits to overcome financial challenges (Thaler & Sunstein, 2008).

Despite nudges differing in their functionality and implementation, they share a common goal: increasing prosocial spending, defined in this study as donation amount and donation participation rate. Especially three of them have been found to demonstrate a robust effectiveness in promoting charitable behavior (Chan et al., 2024). A meta-analysis suggests that default, framing, and social norm nudges are among the most relevant in increasing prosocial spending (Chan et al., 2024).

Defaults constitute pre-selected options that automatically apply if not altered by the participant (Goswami & Urminsky, 2016). Typically, they suggestively increase the donation amount by implementing higher initial settings (Goswami & Urminsky, 2016). Moreover, they are assumed to increase the donation participation rate, with increments reaching up to 25 percentage points (Zarghamee et al., 2017).

Framing nudges alter how information or choices are presented without altering the existing choices (Chang & Lee, 2009; Chang & Lee, 2010; Das et al., 2008). Typically, loss-framed (negative) appeals have proven to result in higher donation amounts (Chang & Lee, 2009; Erlandsson et al., 2018). Similarly, investigating the increase of donation rate, different formulations increase the total number of donations (Wang et al., 2023).

Social norm nudges exert their effect by communicating information regarding the behavior of others. Simply mentioning the donation behavior of prior donors can increase the given amount significantly (Agerström et al., 2016). As for donation participation rate, providing comparative behavioral information can positively influence the contributions (Gråd et al., 2024).

While extensive literature researches the effects of many individual nudges and their role in prosocial spending, little is known about how different behavioral cues perform relative to each other. Furthermore, multiple sources assume underlying mechanisms are responsible for the effectiveness of nudges (Goswami & Urminsky, 2016; Wang et al., 2023; Andersson et al., 2020; Mrkva, 2021). The aim of this paper is to gain insights on how they compare among each other when their effectiveness is isolated by observing them in equally neutral conditions. These investigations intend to close the research gap and obtain relevant information for the industry to help overcome the challenge of gathering funds most effectively.

Beyond this, understanding how nudges impact donor happiness is essential, as a trade-off between increased giving and reduced well-being could have ethical and long-term retention implications. The concept of “warm glow” describes the positive feelings after helping others and can be transferred to the mechanisms of charitable giving (Andreoni, 1989, p. 1448; Becker, 1974; Erlandsson et al., 2018). Thus, the analysis additionally explores the influence of nudges on donor happiness.

In summary, charities rely on strategies to increase funds, yet evidence on which nudge types are most effective to overcome this challenge remains inconsistent. These investigations aim to close this gap and provide actionable conclusions for the industry.

Therefore, this study conducted an online survey examining the following research question: *“Which of the three nudges (default, framing, or social norm) is most effective in increasing charitable donation behavior (donation amount and participation rate) under identical neutral conditions, and how do they individually influence donor happiness?”*

The following sections give an extensive overview of the existing literature on all three nudges as well as the effect of prosocial behavior on donor mood. After introducing the specific hypotheses, an explanatory review guides through the methodology, elaborating on the decisions and procedures used in the experiment. Subsequently, the analyzed data is presented in the result section and interpreted in the discussion chapter. After debating possible reasons, limitations, and recommendations, the conclusion summarizes the core results.

## 2 Literature Review

The literature review below introduces default, framing, and social norm nudges, as well as the effect of donations on donor mood. To close the research gap, it outlines the foundation for a comparative analysis of the three nudges under identical neutral conditions and their impact on donation behavior and donor happiness.

### 2.1 Default Nudges

Default nudges present a pre-selected option that is applied if the participant takes no action (Goswami & Urminsky, 2016; Brown & Krishna, 2004; Fiala & Noussair, 2017). However, in the context of charitable donations, default nudges differ slightly. Here, doing nothing means not donating (Goswami & Urminsky, 2016). While in organ donations the preselected choice will be applied if the participant remains inactive, in charitable donations donors need to actively choose their contribution (Goswami & Urminsky, 2016). Thus, the default option serves as a strong suggestion rather than an automatic outcome, also known as a “choice-option default” (Goldstein & Dinner, 2013, p. 12; Goswami & Urminsky, 2016).

Numerous studies show that default nudges can significantly increase donation behavior in a charitable context by impacting the donation amount (Briscese, 2019; Altmann et al., 2014; Gråd et al., 2024; Goswami & Urminsky, 2016; Doob & McLaughlin, 1989) and the number of people who donate (Briscese, 2019; Altmann et al., 2014; Edwards & List, 2014; Everett et al., 2015; Weyant & Smith, 1987; Goswami & Urminsky, 2016; Zarghamee et al., 2017).

Analyzing the effect on donation amount, findings suggest that using higher defaults increases the contributions more than lower defaults (Goswami & Urminsky, 2016; Doob & McLaughlin, 1989; Altmann et al., 2014). In one field experiment of Altmann et al. (2014), a high 50\$ default significantly increased the individual donation amount in comparison to a low 20\$ or 10\$ default option. However, while more people selected the high default, the total revenue did not grow significantly (Altmann et al., 2014; Goswami & Urminsky, 2016; Desmet & Feinberg, 2003). Possibly due to donors who could not meet the high suggestion and chose to not donate at all (Altmann et al., 2014; Goswami & Urminsky, 2016). Similar experiments find a significant effect on the increase of donation amount on an individual level while creating no substantial impact on the accumulated revenue (Goswami & Urminsky, 2016). This could derive from donors feeling exploited and perceiving the charity as selfish or prioritizing their own gain (Goswami & Urminsky, 2016; Brown & Krishna, 2004). On the contrary, lower

defaults lead to a reduction in the average donation amount, known as the “scale back effect” (Goswami & Urminsky, 2016, p.39). Additionally, low-choice options potentially dampen the overall revenue by nudging donors who are willing to donate a high amount towards a decreased contribution (Edwards & List, 2014).

Moreover, investigating the impact on donation rate, low defaults induce more people to give, thereby raising the overall donation numbers and potentially the total revenue (Goswami & Urminsky, 2016, p.39; Weyant & Smith, 1987; Altmann et al., 2014). This is known as the “lower-bar effect” (Goswami & Urminsky, 2016, p.39). Likewise, simply using a default that pre-selects donating instead of not donating (opt-out of giving) has been shown to increase the donation rate significantly (Zarghamee et al., 2017; Everett et al., 2015). In one case the increase was as immense as 25 percentage points over the opt-in condition (Zarghamee et al., 2017). Nevertheless, this effect was observed not to be significant in every replicating study, calling for caution in its evaluation (Everett et al., 2015).

The evidence suggests that the default nudge could gain its effectiveness on prosocial behavior from complex underlying mechanisms (Goswami & Urminsky, 2016). It is theorized that the type of charity moderates the default’s effect. While well-known charities with positive reputations might see smaller increases in donations, lesser-known organizations provide more effective results (Goswami & Urminsky, 2016). Moreover, charities with a high donor appeal and increased awareness seem to lower the number of donations (Goswami & Urminsky, 2016). Additionally, appealing to social norms can mediate the effect if the pre-selected option is seen as the right thing to do (Everett et al., 2015). Lastly, the donor’s need for control can moderate the decision-making (Crow et al., 2019).

To conclude, while default nudges tend to increase the individual donation amount, they do not consistently increase overall revenue. Their main strength lies in raising the participation rate, although their effectiveness varies across settings. These mixed results highlight the importance of contextual and psychological factors in shaping the impact of default nudges.

## 2.2 Framing Nudges

Framing nudges influence decisions by altering how information or choices are presented, without changing the actual options (Chang & Lee, 2009; Chang & Lee, 2010; Das et al., 2008). While there are different types of framing nudges, this baseline assumption is true for all of

them. Researchers theorize about many different framing strategies in donation appeals. Gain vs. loss framing presents outcomes positively or negatively (Chang & Lee, 2009; Chang & Lee, 2010; Das et al., 2008; Xu & Huang, 2020). Terminology framing describes a contribution as a “gift” rather than a “donation” (Wang et al., 2023, p. 137), uses need vs. want appeals by stating the charity “needs” support instead of “wants” it (Su et al., 2024, p. 26), or depicts the act as an exceptional “once-a-year” event rather than something “ordinary” (Sussman et al., 2015, p. 132). Lastly, temporal framing highlights the impact a donation has as immediate vs. in the future (Ye et al., 2015). Across these different framing approaches, it is theorized that this nudge method can significantly increase the donation amount (Wang et al., 2023; Ye et al., 2015; Chang & Lee, 2009; Cardoso et al., 2021; Su et al., 2024; Sussman et al., 2015; Hung & Wyer Jr., 2009; Erlandsson et al., 2018) as well as increase the quantity of donations (Wang et al., 2023).

Multiple studies find that loss-framed (negative) appeals yield higher donations than gain-framed (positive) messages (Chang & Lee, 2009; Erlandsson et al., 2018; Cao, 2016). Erlandsson et al. (2018) demonstrated this in an experiment where participants read either a positively or negatively framed charity appeal. Those exposed to the negative appeal donated significantly more than those who read the positive appeal. However, while these results were significant in most experiments of this study, there are two that could not significantly replicate this assumption (Erlandsson et al., 2018), aligning with findings of a meta-analysis that did not conclude a significant difference in effectiveness between gain and loss framing (Xu & Huang, 2020). This indicates that the nudge’s effect may depend on context. Other research theorizes that terminology and temporal framing boost prosocial spending (Wang et al., 2023; Su et al., 2024; Sussman et al., 2015). Findings show that the perceived benefits of prosocial behavior, whether for others or oneself, as well as the temporal gap between donating and its impact, significantly affect the average donation amount (Ye et al., 2015; Chang & Lee, 2009). Thereby, donors contribute more money when appeals highlight benefits to others with immediate impact or benefits to themselves with a distant impact (Ye et al., 2015). While this may be the case, considering the effects of “benefit to others” and “the self” alone, it appears that the outcome is contradictory in different cultural contexts (Ye et al., 2015). An experiment shows that in collectivistic cultures like China, framing appeals around benefits to others leads to the highest donation amounts. In contrast, in individualistic cultures like Canada, emphasizing personal benefits has the same positive effect (Ye et al., 2015). These findings suggest that aligning messages with cultural values (collectivist vs. individualist) increases effectiveness. Apart from

message content, framing the donation mechanism itself can influence outcomes. For example, Cardoso et al. (2021) suggest how the giving process is framed matters. In their public goods experiment, participants gave more when the donation was framed as an indirect deduction by reducing a payout rather than a direct payment from their funds. Beyond this, the order in which information is presented can function as a frame. Presenting emotional information and victims' pictures before asking for help increases donations, whereas asking for willingness to support first and revealing the distressing details after has the opposite effect (Hung & Wyer Jr., 2009). However, these findings could not be replicated in all the experiments conducted, suggesting that its impact could be due to underlying factors.

Investigating the influence of framing nudges on the increase in donation rates, evidence shows that "gift" wording results in higher quantities of donations than "donation" phrasing (Wang et al., 2023, p. 137). Interestingly, a big body of literature finds positive effects of framing on the willingness to donate as a substitute for actual donation rates. Even though they cannot be evaluated to the same gravity as experiments with real donation settings, the findings are interesting to consider on the impact of framing nudges. Key framing strategies that increased willingness to donate include emphasizing a donation as an exceptional act rather than an ordinary one (Sussman et al., 2015). Furthermore, benefit framing shows framing the donation's benefit to oneself increases the willingness in individualistic cultures, while in collectivistic cultures, emphasizing benefits to others is more effective (Ye et al., 2015). Likewise, highlighting benefits to the self for an impact in the future versus benefits to others for an immediate impact each raised willingness to donate (Ye et al., 2015). On another note, negatively framed appeals (loss framing) yielded higher willingness to donate than positive frames (gain framing) (Chang & Lee, 2009). Similar effects have shown an increase when comparing donations framed as an indirect rather than direct cost. However, not always on a significant level (Cardoso et al., 2021). Lastly, asking donors if they "want" to give vs. if the charity "needs" the donation influenced the willingness to donate significantly in favor of the "need" framed request (Su et al., 2024, p. 26).

Due to the complexity of the framing nudge, research theorizes about various underlying mechanisms. Perceived social distance is assumed to play a significant role in framing; it suggests that lower perceived social distance enhances prosocial behavior (Wang et al., 2023). Hence, if differently framed information changes the donor's perceived social distance, it is a moderator for its effectiveness (Wang et al., 2023). Likewise, temporal distance, describing the

time between a donation and its impact on the cause, is considered to equally impact framing outcomes (Ye et al., 2015; Gu & Chen, 2021). Lastly, the considered dependency of a charitable organization does so respectively (Su et al., 2024). Messages framed as “need” over “want” are recognized as more desperate, implying a dependency and vulnerability of the organization, which is assumed to have a persuasive effect on donors (Su et al., 2024, p. 26).

In summary, studies on framing effects find a strong and diverse impact on increasing donation amount, while less evidence has been gathered on actual increases in donation rate. However, this lower number of findings does not decrease its significance and is backed with holistic results on the willingness to donate.

### 2.3 Social Norm Nudges

Social norm nudges function by informing people about others’ behavior. In a charitable context, this typically means telling potential donors how previous benefactors behaved (Bartke et al., 2016; van Teunenbroek et al., 2021; Agerström et al., 2016). While descriptive norm nudges provide data about what is usually done, injunctive norm nudges reflect on what is considered the right thing to do (van Teunenbroek et al., 2021; Agerström et al., 2016). The consensus of current findings indicates that social norm nudges positively influence prosocial behavior by increasing the donation amount (Capraro et al., 2019; Shang and Croson, 2009; van Teunenbroek et al., 2021; White & Peloza, 2009; Satow, 1975; Agerström et al., 2016) and total number of donations (Gråd et al., 2024; Bartke et al., 2016; Agerström et al., 2016; Frey & Meier, 2004).

Capraro et al. (2019) found that promoting people with normative questions significantly increased donations. In their study, one group was asked what they think the correct donation behavior is, another what they expect others to consider as right, and a third served as the control. To evaluate the results, both nudge conditions were combined and tested against the control group for their effectiveness, exposing a significant increase in donation amount (Capraro et al., 2019). To illustrate this further, they replicated these findings, showing that in actual donation conditions for two different charities, one being a humanitarian NGO and the other an organization helping the victims of a terrorist attack in France, exposing donors to a social norm nudge increases the donation amount significantly (Capraro et al., 2019). Similarly, van Teunenbroek et al. (2021) reported that an injunctive norm message (telling

people what is considered right) significantly increased donation amounts without decreasing the amount of higher donations. Their descriptive norm condition (telling people what others do), however, showed only a marginal improvement. Suggesting that simply citing others' behavior may sometimes be less powerful or dependent on other factors (van Teunenbroek et al., 2021). Several other studies confirm the strong effect of social norms on donation amount when exposing participants to the behavior of others (Agerström et al., 2016; Capraro et al., 2019; Shang and Croson, 2009; Gråd et al., 2024). For example, Agerström et al. (2016) provide evidence by exposing Swedish students to a charitable organization supporting orphan children in Uganda. Participants from the descriptive nudge condition donate significantly more money than the control group and almost double the average donation amount. Additionally, they provide nuanced insights into descriptive norms, showing that when the nudge condition distinguishes between students from one's own university and students from universities in general, the former is more effective in increasing the donation amount (Agerström et al., 2016). Beyond this, a body of research theorizes that public exposure impacts prosocial spending (White & Peloza, 2009; Satow, 1975). Although contextually this should be classified as an underlying mechanism and will be discussed in more detail later.

Regarding the number of people who donate, Agerström et al. (2016) observed a higher donation rate when two different descriptive norms were combined compared to a control condition. Likewise, Bartke et al. (2016) reported that having potential donors guess the norm before donation led to significantly more prosocial contributors. However, not all studies found strong effects; some increases were only marginally significant (Bartke et al., 2016), indicating that context or implementations matter. Like for the donation amount, research additionally investigates the nuanced differences between descriptive norms in reference to students from the same university as themselves or students from different universities. Aligning with the results from the sum of prosocial spending, the quantity of donations is impacted more by the local descriptive condition (Agerström et al., 2016).

As mentioned earlier, research theorizes about complex underlying mechanisms that could mediate the effectiveness of social norm nudges (Andersson et al., 2020). It suggests that public recognition and concerns about reputation may influence the effect of norms, as people tend to give more when their behavior is visible or when they seek to align with socially approved actions (White & Peloza, 2009; Satow, 1975; Savary, 2020). Further, evidence indicates that the specific number used in a norm message can serve as a reference point (Frey

& Meier, 2004). Frey & Meier (2004) found different participation rates when the presented flyer stated “64% of others donated” versus “46%”.

Overall, social norm nudges are effective at increasing charitable giving, though similarly to the default and framing nudge are assumed to gain their effect at least partially from underlying mechanisms.

## 2.4 Synthesis and Comparison

While the above sections reviewed individual studies, the following synthesizes those findings to estimate which type of nudge might be most effective overall to answer the following research question:

*“Which of the three nudges (default, framing, or social norm) is most effective in increasing charitable donation behavior (donation amount and participation rate) under identical neutral conditions, and how do they individually influence donor happiness?”*

A meta-analysis, evaluating the effectiveness of nudges on prosocial behavior, provides valuable classification on the topic in a broader scope. Chan et al. (2024) conclude that in relation to their reviewed literature, 75% of default nudges, 73.3% of descriptive norms nudges, and 62.5% of framing nudges provide a significant effect on positively impacting prosocial behavior. Inspired by Chan et al. (2024), the specific literature reviewed for this paper reveals that 62.5% of studies on default nudges report significant increases in donation amount, and 52.9% in donation participation. For framing nudges, 86.4% found effects on donation amount and 85% on participation. Correspondingly, social norm nudges registered 81.8% for donation amount and 62.5% for participation.

Overall, this approach of estimating the most effective nudge suggests that framing has the most consistent impact on both metrics. While this is true for the increase in donation amount, the participation rate has less explanatory power since most experiments were tested in theoretical donation settings. However, this is not the case for the literature on default and social norm nudges. Hence, this study expects the framing nudge to be most effective in increasing donation amount but not participation rate. While this contradicts the conclusion of

Chan et al. (2024), depicting default nudges as most effective, it is most consistent with the largely unanimous results gathered on the narrow scope of this thesis.

Conversely, despite a somewhat lower percentage of significant results in the literature reviewed, the default nudge is anticipated to be most effective at increasing participation rate. Due to the abundance of related research and its significant results predicting the strongest impact on participation, this decision is pivotal. It further aligns with previous findings that identify default nudges as most effective in promoting prosocial behavior (Chan et al., 2024).

Due to contextual differences across previous studies, a direct comparison remains challenging. While meta-analyses create a solid foundation for a comparative understanding, they cannot substitute for a head-to-head experiment. In fact, no single study to date has tested default, framing, and social norm nudges side by side under identical neutral conditions. To address this gap, the present research compares all three nudge types directly and proposes the following hypotheses:

*H1: Framing nudges will be most effective in increasing donation amount.*

*H2: Default nudges will be most effective in increasing the number of donations.*

## 2.5 Effect of Donations on Donor Happiness

While increasing funds is the main goal of nudges, an important secondary consideration is how these mental cues affect donor happiness. Prosocial spending is known to produce a “warm glow” effect, an increase in positive feeling gained from helping others (Andreoni, 1989, p. 1448; Becker, 1974; Erlandsson et al., 2018). If a nudge significantly increases the donation behavior but simultaneously decreases donor happiness, it could result in long-lasting implications for donor retention and ethical acceptability. Therefore, understanding how utilizing choice architecture impacts momentary donor happiness is valuable. The following elaborates pivotal literature on the topic.

Research theorizes that beyond caring for the altruistic outcome, people gain joy simply from the act of giving (Andreoni, 1989; Becker, 1974). Andreoni (1989, p. 1449) defined this as “impure altruism”, describing that some donors may give out of self-interest to boost their

own happiness. Strengthening this assumption, in a survey of 136 countries, 120 showed a positive correlation between prosocial spending and happiness, and in 66% of those countries, this link was statistically significant (Aknin et al., 2013a; Dunn et al., 2014). This suggests that the emotional benefit of giving is a universal phenomenon, not confined to specific cultures. Additionally, evidence dictates that the act of prosocial spending increases happiness (Aknin et al., 2013b; Aknin et al., 2013a; Dunn et al., 2008; Moche & Västfjä, 2022; Fiala & Noussair, 2017; Gråd et al., 2024). Building on these findings, the emotional benefit is stronger when individuals perceive their giving as voluntary and making a noticeable difference (Aknin et al., 2013b; Erlandsson et al., 2018; Gråd et al., 2024). On the contrary, when donors perceive a donation to be invasive or compulsory, the emotional impact significantly decreases (Aknin et al., 2013b; Weinstein & Ryan, 2010). Giving greater amounts suggestively increases the level of happiness significantly (Dunn et al., 2008; Zarghamee et al., 2017). Opposing this assumption, some findings conclude that higher donations lead to a decrease in happiness (Fiala & Noussair, 2017). This contradiction stems from a discrepancy between the self-evaluated happiness of participants and results gathered from face-reading technology (Fiala & Noussair, 2017). While donors who gave more said they felt happier, their facial expressions (measured via face-reading technology) suggested a decrease in happiness as donations grew larger (Fiala & Noussair, 2017). Moreover, how the donation decision is made affects happiness. Moche & Västfjä (2022) theorized that people are less happy when they have to make an active choice to donate than when a donation is made by default (passively). However, with the exception that overwriting a selfish default and opting into a donation leads to the biggest increase in happiness, likely to be caused by a combined sense of autonomy and generosity (Moche & Västfjä, 2022).

In summary, prosocial spending has a significant impact on donor happiness. Nevertheless, most studies examine the emotional impact of giving in general, overlooking the role of specific factors, like individual nudges, on donor happiness. To close this gap, this research introduces the following hypotheses:

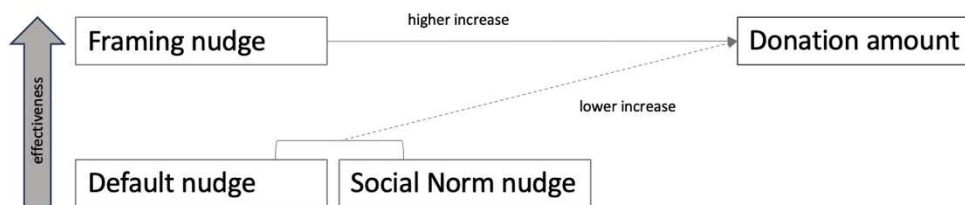
*H3a: Default, Framing, and Social Norm nudges will each individually positively influence donor happiness.*

*H3b: Default, Framing, and Social Norm nudges will each individually positively influence donor happiness by increasing donation amount or the number of donations.*

## 2.6 Conceptual Framework

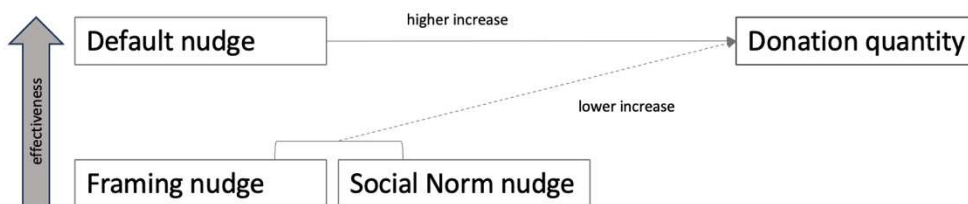
Hypothesis 1 tests whether framing nudges (independent variable) produce a stronger impact on increasing the donation amount (dependent variable) than the other two nudges (see Figure 1). Whereas no assumption is made in this hypothesis regarding the relative effectiveness between default and social norm nudges.

**Figure 1**  
*Hypothesis 1*



Hypothesis 2 evaluates if default nudges (independent variable) are most effective in creating a higher donation participation rate (dependent variable) compared to framing or social norm nudges (see Figure 2). Again, no assumptions are made about the relative effectiveness between the remaining two nudge types.

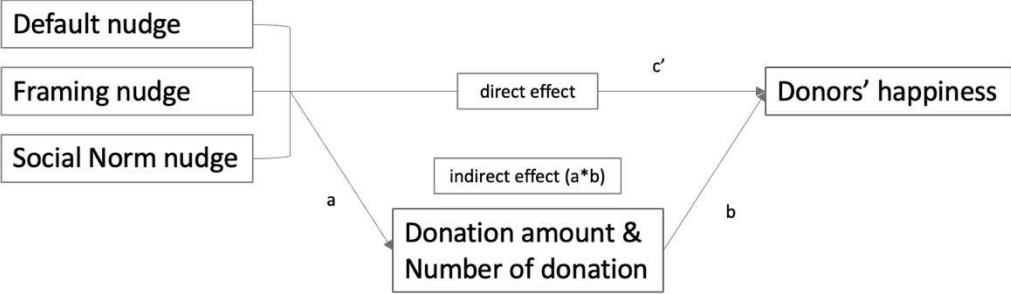
**Figure 2**  
*Hypothesis 2*



Hypothesis 3a analyzes whether each nudge type (independent variable) positively affects donor happiness in the moment after donating (dependent variable). Exceeding this effort, H3b investigates a potential mediating effect, which proposes that the increase of donation amount and donation participation (mediators) by nudge exposure is responsible for

an increase in donor happiness (see Figure 3). These effects are tested separately for each nudge type.

**Figure 3**  
*Hypothesi 3a-b*



### **3 Methodology**

Drawing from the insights in the reviewed literature, this section details the research design, participant recruitment, and sampling strategy, as well as the procedural steps undertaken for data collection. In addition, it outlines the structure of the questionnaire, the operationalization of key measures, and explains how these were applied in the data analysis to address the research question. Together these parts provide an understanding of how the study was conducted and how it obtained its results.

#### **3.1 Research Design**

This research adopted a quantitative, between-subjects experimental design, conducting an online survey to answer the research question. The study is primarily hypothesis-testing and descriptive in nature, aiming to systematically quantify how each nudge influences donation amount, donation participation, and self-reported after-donation happiness. At the same time, it is partially exploratory, as until now research paid limited attention towards directly comparing multiple nudges under identical neutral conditions and examining their influence on donor happiness.

Since this investigation explored new insights by comparison, gathering primary quantitative data was necessary to calculate and compare effects. However, to get a deeper understanding of this subject matter, a review of existing secondary literature was conducted, which laid the groundwork for the hypotheses' formulation. The literature reviewed originates from journal articles published in high-ranking academic outlets relevant to marketing and psychology.

#### **3.2 Participants and Sampling**

The participant sample was recruited through convenience and snowball sampling methods. Recruiting occurred via online channels, including personal networks, social media, and SurveySwap, which directed potential volunteers to the online questionnaire. Participation in the study was anonymous and unsupervised as respondents completed the survey alone on their own devices. To ensure participants relevance and increase the ecological validity of this experiment, a qualifying question asked whether the individual ever considered donating to charity. Only those who answered “yes” proceeded, ensuring a real-world scenario in which

donation appeals typically target receptive individuals. It further reduced the risk of random responses and enhanced meaningful responses rather than indifference or confusion.

No other restrictions on demographics such as age, gender, education, or income were imposed due to research suggesting that prosocial giving has been observed similarly across diverse countries and social groups (Aknin et al., 2013a; Dunn et al., 2014). Participant demographics are summarized in Appendix A. The sample was predominantly composed of students aged 18–25 and showed a higher proportion of female respondents. Most participants had at least donated once before (93.2%), held a minimum of a bachelor’s degree, and reported lower income brackets, reflecting their current employment and student status.

### 3.3 Procedure

The study was conducted using a five-minute online survey administered via Qualtrics. Upon accessing the survey, participants were introduced to the topic, assured of data confidentiality, provided with a contact email for questions or concerns, and asked to give consent. After accepting, they were presented with the qualifying question. Participants who qualified were informed that they would be making a real donation decision during the survey. To increase the realism of this choice, a random draw was incorporated (Goswami & Urminsky, 2016). At the end of the survey, participants could enter their email address for a chance to win a 50€ Amazon gift card. They were assured that their information would only be used to contact the winner and that their identity would remain anonymous, even if selected. If chosen as the winner, participants would receive the 50€ gift card minus the amount they chose to donate (see Appendix B). The deducted amount was donated to charity on their behalf. This setup ensured that each donation decision had real financial consequences, increasing the psychological stakes and sincerity of the choice (Su et al., 2024; van Teunenbroek et al., 2021; Everett et al., 2015).

After this introduction, the Qualtrics survey flow structure automatically randomly assigned each participant to one of four experimental conditions. These contained one control condition and three different nudge conditions. In all conditions, the core scenario was identical except for the nudge manipulation. After exposure, participants were asked to choose what donation amount out of 50€ they wanted to donate. They were able to choose from six preset options (0€, 10€, 20€, 30€, 40€, and 50€). Presenting fixed donation options instead of a free selection was a deliberate design choice to simplify the decision and the later analysis of data (Goswami & Urminsky, 2016). Given the anticipated sample size, using categorical options

helped to ensure enough observations were registered at each donation level and streamlined the comparison of donation amounts across conditions.

Following the donation decision, participants proceeded to answer the remaining questions. After completing these sections, contestants were thanked and given the option to provide contact information for the prize draw. Further, they were given the link and code for the *SurveySwap* platform. The full survey is provided in Appendix C.

### 3.4 Questionnaire Design

The survey was structured into five sections: introduction and qualifying question, nudge exposure and donation decision, emotional evaluation, general attitudes towards charities, and demographics.

At the start of the survey, participants were introduced to the topic and informed about data security. The next section presented one qualifying question, ensuring that participants were eligible to be considered as respondents. Those who passed this threshold were informed about the upcoming donation decision and the possibility to win a 50€ Amazon gift card. All participants were introduced to a brief description of the same charitable cause and then asked how much they wanted to donate from the available 50€. The charitable cause was described in neutral, generic terms to avoid evoking any strong prior affiliations or emotions. Specifically, the survey described an “*international humanitarian organization providing basic medical care, food, and emergency assistance*”. No specific charity names, logos, or images were used, as they could deviate from the nudges’ effects or induce decisions not related to the nudge exposure (Zarghamee et al., 2017). This ensured that participants did not have personal ties to the charity or crisis, which could otherwise bias the decisions due to emotional involvement (Fiala & Noussair, 2017).

Participants in the control condition received a neutral request asking how much of the available money (50€) they wanted to donate. This served as a baseline donation scenario without any nudging elements and was important for the later comparative analysis.

In the default condition, the donation request was formulated the same way as in the control condition. The manipulation was presented through the pre-selected donation response of 30€. However, it was possible for the donor to change the donation; the default option was merely highlighted as the starting option (Zarghamee et al., 2017).

Furthermore, the framing condition had a different phrasing than the control and default conditions. It emphasized a negatively framed message to highlight the consequences of not donating. Before asking for the donation, participants were told that for each euro not donated, there would be less aid available for people in need. Although several framing methods exist, the limited scope of the survey required a decision for one variation. A strong negative frame was identified as particularly effective and chosen to maximize the clarity and impact of the comparative analysis (Erlandsson et al., 2018).

Lastly, in the social norm condition, participants were given information about how others typically donate in this situation (descriptive norm). The prompt described that other donors usually give 30€. Like the framing nudge, out of many variations, only one social norm type could be chosen. Descriptive norm nudges qualified as most promising in increasing prosocial behavior (Bartke et al., 2016; Shang and Croson, 2009).

Following the exposure to one of the conditions, each respondent was asked to make a donation decision. Immediately after the donation, participants answered a series of follow-up questions to gauge their emotional status and general attitude towards charities. Three questions assessed the respondent's mood. Each of these items was rated on a 5-point Likert scale. One item asked about mood at that moment (1 = very unhappy; 5 = very happy), capturing the temporary happiness. The other two asked how strongly they agreed with the following statements. Stating that they were satisfied with their donation decision and that the donation improved their overall mood (1 = strongly disagree; 5 = strongly agree). Next, one attention-check was inserted to ensure participants had read the questions carefully and were not selecting answers randomly. To evaluate past donation behavior, a multiple-choice question asked how often respondents have donated to charities before. Moreover, five questions measured the general attitude towards charitable organizations, using 5-point Likert scale statements. These items were included to capture any predispositions towards charity that might be relevant in interpreting results or as control variables. Finally, the survey concluded with demographic questions.

Before publishing and distributing the survey, a pretest among five colleagues was conducted to detect possible misunderstandings or logical mistakes in the questionnaire. This process discovered minor flaws and structural errors, which were adapted to create the just-described layout.

### 3.5 Measures

This section introduces six measures used to evaluate the effects and interactions of nudge conditions, donation behavior, mood, and exploratory outcomes. The independent variable was the randomly allocated nudge condition (Control, Default, Framing, or Social Norm). Key dependent variables included the donation amount (in €) and a binary donation participation (whether donated or not). Post-donation mood was captured, indicating the momentary donor happiness using a 5-point Likert scale. Moreover, two exploratory measures were incorporated, all measured on 5-point Likert scales. First, mood improvement was captured by two items (satisfaction with donation and self-reported mood improvement) and averaged in a combined variable due to their correlation. Second, the new variable attitude towards charities merged five items, forming a scale with acceptable internal consistency ( $\alpha = .66$ ). The donation amount, usage of the Likert scale, and evaluation of attitudes towards charities followed former research examples (Goswami & Urminsky, 2016). Table 1 provides a detailed overview of all variables, their coding, and measurement formats.

**Table 1**  
*Measures Overview*

<b>Variable</b>	<b>Description and Coding</b>
<b>Independent Variable:</b> Nudge condition (NEWCond)	4-level categorical (1 = Control, 2 = Default, 3 = Framing, 4 = Social Norm). Each participant was randomly assigned to one condition.
<b>Dependent Variable:</b> Donation Amount (DonAmou)	Euros donated (0€, 10€, 20€, 30€, 40€, or 50€). Chosen from preset options.
<b>Dependent Variable:</b> Donation Participation (DonPart)	Binary indicator of donating vs not donating. Coded 1 if Donation Amount > 0€, or 0 if 0€ (not donated)
<b>Dependent Variable:</b> Donor Mood (Q3_Mood)	Self-reported mood on a 5-point Likert scale immediately after the donation decision (1 = very unhappy, 5 = very happy). Measuring momentary happiness, higher score = higher happiness.
<b>Secondary Outcome:</b> Mood Improvement (MoodIm)	Composite of two 5-point items (satisfaction with donation decision; mood improvement after donating). The two items were averaged (correlation at $r = .405^{**}$ , $p^{**} < .001$ ) to index overall mood lift.

<b>Secondary Outcome:</b> Attitude Toward Charities (AttdSc)	Scale mean of 5 Likert items assessing general attitude to charitable organizations. Higher scores = more positive attitude. (Cronbach's $\alpha = .66$ for these items, just below the typical 0.70 threshold, interpret with caution.)
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### 3.6 Data Analysis

#### 3.6.1 Data Preparation

All descriptive, inferential, and exploratory statistical analyses were performed using IBM SPSS Statistics (Version 30). Before conducting any tests, the data of 512 responses were screened and cleaned. Responses that did not meet the qualifying criteria or failed to pass the attention check were removed. Further, the dataset examined any missing responses and eliminated participants that answered less than 70% of the questions. Respondents above this threshold were kept since SPSS treats missing data for singular questions automatically when conducting an analysis. Missing values in donation responses were substituted when it was the only unanswered item. These cases were assumed to result from participants confirming the pre-selected amount, which Qualtrics mistakenly registered as not responding. For the Control, Framing, and Social Norm conditions, a 0€ donation was imputed. In the default condition, the pre-selected 30€ option was inserted. Since the design of the study did not allow for outliers, none needed to be removed. After having conducted these cleaning parameters, 408 respondents remained for the analysis.

Building on this data preparation, some variables had to be recoded to be suitable for investigation. First, a condition variable was introduced, serving as the independent variable, allocating the exposed condition for each respondent (1 = Control, 2 = Default, 3 = Framing, 4 = Social Norm). Next, the first dependent variable, the donation amount, was created, combining each of the donation decision from respondents across all four conditions in one variable. Similarly, the dependent variable of the total number of donations was coded. For this, a binary approach was appropriate. The donation amount of 0€ was coded as "NO"/0; every other donation choice (10€, 20€, 30€, 40€, 50€) was coded as "YES"/1. The dependent variable of mood, measuring momentary happiness, had no need for recoding as it was measured on a single 5-point Likert scale question. The variables donation amount and mood (ordinal in nature) were, as commonly practiced in SPSS, treated as scales.

As secondary dependent variables, this paper introduced “mood increase” and “attitude towards charities”. Mood increase was combined from two and attitude from five questions, each measured on a 5-point Likert scale.

### 3.6.2 Analytical Methods

Following the data preparation initially, descriptive statistics such as means, standard deviations, and frequencies were generated for all primary variables.

To evaluate Hypothesis 1, a one-way ANOVA was conducted with the experimental condition as the independent variable and donation amount as the dependent variable. Accordingly, Hypothesis 3a applied a one-way ANOVA with experimental condition as the independent variable and mood as the dependent variable. For both post-hoc pairwise comparisons (Tukey HSD) were planned to detect significant differences between conditions in case of an overall significant ANOVA. Homogeneity of variances was assessed with Levene’s test, and the robustness by using Welch and Brown-Forsythe tests.

For Hypothesis 2, a chi-square test evaluated whether the proportion of donors differed significantly by each condition. While a confirming logistic regression supplementary examined if the nudge conditions could predict the donation participation, including an assessment of odds ratios and the overall model fit.

Hypothesis 3b conducted a mediation analysis (PROCESS macro v4.2 Model 4 by Hayes) examining whether the effect of the experimental condition (independent variable) on mood (dependent variable) was mediated by donation amount. Importantly, the mediator in the PROCESS model automatically captured both the donation amount and participation. For effect estimation, bootstrapping procedures with 5,000 samples were incorporated.

Exceeding the analyses conducted for hypothesis testing, exploratory evaluations have been analyzed. These tests investigated relations of secondary dependent and primary variables, including mood, mood improvement, attitudes towards charities, experimental condition, donation amount, and donation participation. One-way ANOVAs explored potential condition-based differences, while Pearson correlations and binary logistic/linear regressions were run to investigate relationships between the secondary variables and donation behaviors. Importantly, these exploratory analyses do not directly relate to the predefined hypotheses.

All the above tests used a significance level of .05.

## 4 Results

The following section introduces the outcomes of every statistical analysis conducted to gain insights on the research question. All data outputs are listed in Appendix D.

### 4.1 Descriptive Statistics

A total of  $N = 408$  participants were included in the analyses. Descriptive statistics for the key measures in each experimental condition are summarized in Table 2. In terms of donation behavior, participants donated on average around 30€ across conditions. Donation participation was uniformly high in all groups, with 94–95% of participants in each condition choosing to donate. For donor mood (5-point scale), mean self-reported momentary happiness was slightly higher in the Default and Social Norm conditions than in the Control and Framing conditions. However, as detailed below, these differences were small and not statistically significant.

**Table 2**  
*Descriptives Data Analysis*

<b>Condition</b>	<b>N</b>	<b>Donation Amount (€) M (SD)</b>	<b>Donation Participation (%)</b>	<b>Post-donation Mood M (SD)</b>
Control	99	28.59 (17.20)	94.9%	3.51 (0.98)
Default	101	29.50 (15.71)	95.0%	3.74 (1.02)
Framing	108	31.39 (17.21)	94.4%	3.44 (0.95)
Social Norm	100	29.00 (15.80)	94.0%	3.74 (0.90)
<b>Total</b>	<b>408</b>	<b>29.66 (16.48)</b>	<b>94.6%</b>	<b>3.60 (0.97)</b>

### 4.2 Hypothesis testing

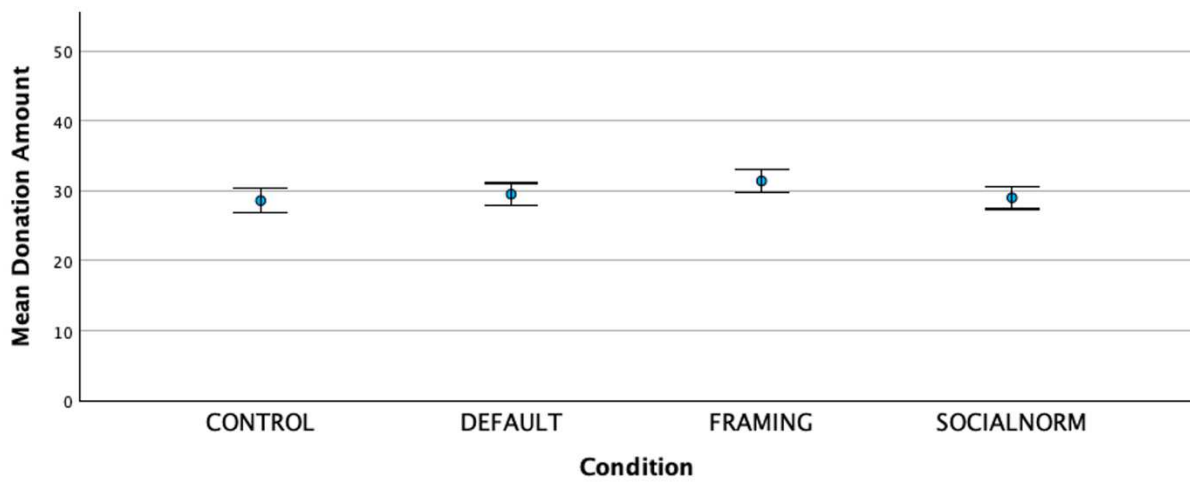
#### 4.2.1 Donation Amount by Nudge Condition

Hypothesis 1 predicted that framing nudges would be most effective in increasing the donation amount. To test this, a one-way ANOVA was conducted with experimental condition as the independent variable and donation amount as the dependent variable. The four conditions showed very similar mean donation amounts (see Table 2), and the ANOVA revealed no significant effect of condition on donation amount,  $F(3, 404) = 0.591, p = .621, \eta^2 = .004$ . Levene’s test for homogeneity of variances was just not significant ( $p = .051$ ), so the equal variances assumption held, however not very clearly. A robust Welch test likewise indicated no

group differences ( $p > .649$ ). Post hoc comparisons (Tukey HSD) confirmed that no pairwise differences between conditions were statistically significant (all  $p > .05$ ). Thus, although the framing condition had a slightly higher mean donation (31.39€) than the other groups (control 28.59€, default 29.50€, social norm 29.00€), this difference was not reliable (see Figure 4).

**Figure 4**

*Mean donation amount by condition with error bars representing  $\pm 1$  standard error of the mean*



#### 4.2.2 Donation Participation by Nudge Condition

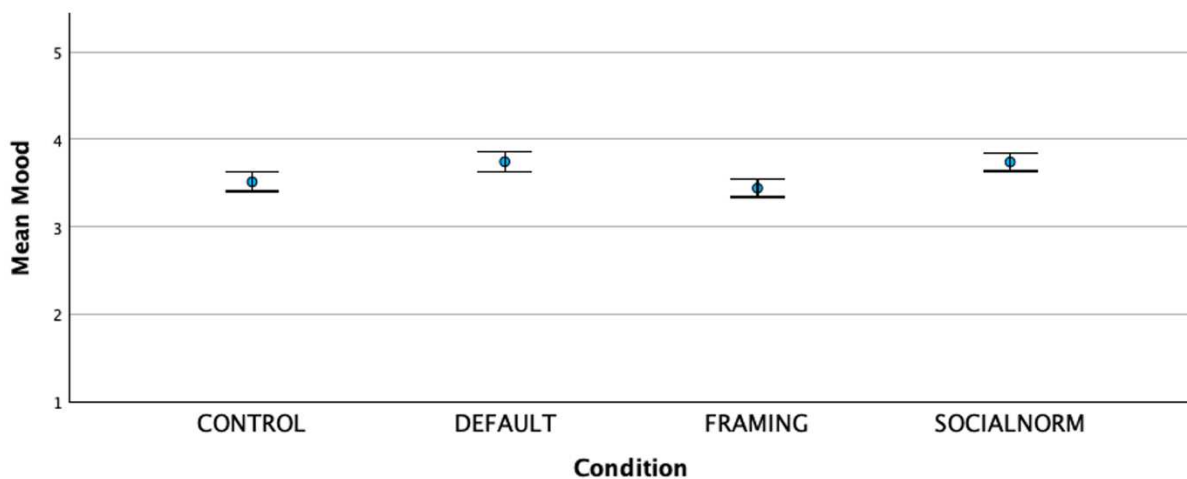
Hypothesis 2 expected that default nudges would yield the highest number of donation participation. In the sample, donation rates were high in every condition: roughly 94–95% of participants donated something in the control, default, framing, and social norm groups. A chi-square test of independence showed no significant association between experimental condition and whether participants donated (yes/no),  $\chi^2(3, N = 408) = 0.14, p = .987$ , Cramér's  $V = .02$ . All expected cell counts exceeded 5, meeting chi-square assumptions. The default condition's donation rate (95.0%) was essentially identical to the control group's (94.9%) and those of the other nudge conditions (framing 94.4%, social norm 94.0%). To further confirm this null result, a binary logistic regression was performed with donation participation as the outcome and condition as a predictor. The overall model was not significant,  $\chi^2(3) = 0.139, p = .987$ , Nagelkerke  $R^2 < .001$ , indicating that knowing the nudge condition did not improve prediction of donating. In sum, there was no evidence that any nudge, including the default nudge, increased the donation participation rate relative to the other conditions.

### 4.2.3 Nudge Effects on Donor Happiness

Hypothesis 3a suggested that each nudge type would individually increase donor happiness (post-donation mood) compared to the control. This study compared participants' self-reported mood after the donation decision across conditions using a one-way ANOVA. Descriptively, participants in the default and social norm conditions reported the highest post-donation mood ( $M = 3.74$  on a 5-point scale for both), compared to control ( $M = 3.51$ ) and framing ( $M = 3.44$ ). Despite these slight differences, the effect of condition on mood was not statistically significant,  $F(3, 307) = 2.045, p = .108, \eta^2 = .020$ . Levene's test indicated equal variances across groups ( $p = .278$ ), and a Welch robust test likewise was non-significant ( $p > .10$ ). Tukey post hoc tests showed no significant pairwise differences in mood between any conditions (all  $p > .20$ ). The largest mean difference (default vs. framing,  $\Delta M \approx 0.30$ ) did not reach significance ( $p = .201$ ). In summary, mere exposure to a nudge did not produce a detectable difference in immediate donor happiness (mood) across the four conditions (see Figure 5).

**Figure 5**

*Mean mood (momentary happiness) by condition with error bars representing  $\pm 1$  standard error of the mean*



### 4.2.4 Mediation by Donation Behavior on Donor Happiness

Hypothesis 3b stated that nudges would increase donor happiness indirectly by increasing donation amount and donation participation. This mediation hypothesis was tested

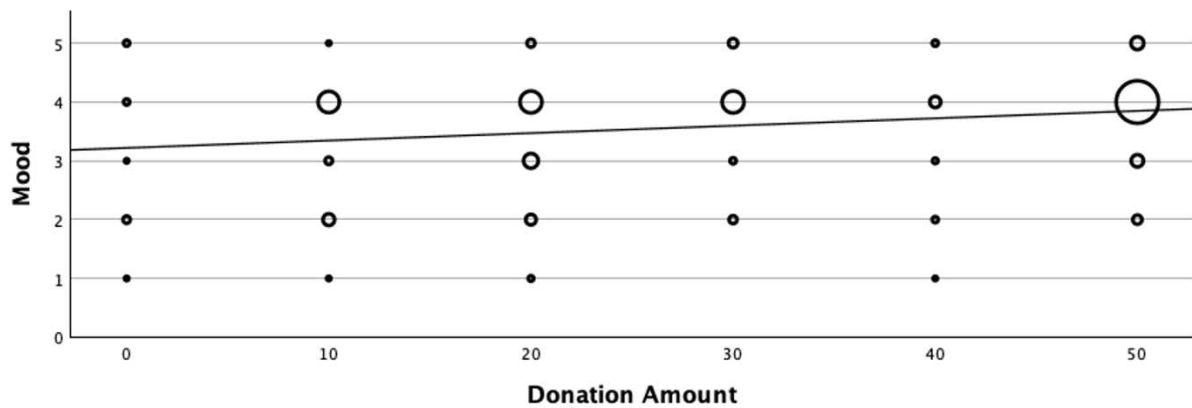
using Hayes' PROCESS macro (Model 4) with 5,000 bootstrap samples for confidence intervals. The experimental condition (multi-categorical predictor with control as reference) was entered as the independent variable, donation amount (in euros, with non-donors coded as 0) served as the mediator, and post-donation mood was the outcome. This approach captures both donation incidence and magnitude in one mediator variable.

Consistent with the ANOVA results above, the overall (total) effect of condition on momentary happiness was not significant,  $F(3, 307) = 2.045, p = .108, R^2 = .020$ . When the donation amount was included in the model, the direct effects of each nudge condition on mood remained nonsignificant. In the regression predicting mood from condition and donation amount, donation amount was a significant positive predictor of mood (see Figure 6;  $b = 0.013, p < .001, R^2 = .046$ ), indicating that participants who donated more tended to feel happier. However, none of the dummy-coded nudge conditions differed significantly from the control in this model (default vs. control:  $b = 0.237, p = .12$ ; framing vs. control:  $b = -0.105, p = .48$ ; social norm vs. control:  $b = 0.205, p = .18$ ), confirming that the nudges did not directly influence happiness beyond their effect on donation amount.

The indirect effect of condition on mood through donation amount was assessed via bootstrapped 95% confidence intervals. These indirect effects were very small and not statistically significant for all comparisons. Specifically, for the default nudge (vs. control), the indirect effect was  $b = -0.006$  (95% CI [-0.084, 0.068]); for the framing nudge,  $b = 0.034$  (95% CI [-0.038, 0.114]); and for the social norm nudge,  $b = 0.023$  (95% CI [-0.051, 0.100]). Each of these confidence intervals included zero, indicating no reliable mediation effect of donation amount on mood. In other words, there was no evidence that the nudges increased momentary donor happiness by boosting the amount donated or donation participation.

**Figure 6**

*Linear relationship between donation amount and mood (momentary happiness)*



*Note.* Dot size represents how many participants selected each donation amount and mood level

### 4.3 Exploratory Analyses

In addition to the hypothesis-driven tests above, several exploratory analyses were conducted on secondary outcome measures. These analyses examined differences by condition on other variables and investigated relationships between individual differences (e.g., attitudes) and donation behavior or mood. All exploratory results are reported separately here and were not tied to a priori hypotheses.

Testing for mood improvement by condition a one-way ANOVA found no significant differences in this score across conditions,  $F(3, 403) = 0.401, p = .752, \eta^2 = .003$ . The Default condition showed a slightly higher mean mood improvement ( $M = 3.82, SD = 0.88$ ) than the Control ( $M = 3.76$ ), Social Norm ( $M = 3.79$ ), and Framing ( $M = 3.69$ ) conditions, but these small variations were not statistically reliable. Tukey post hoc tests confirmed that no group differed significantly from another on the mood improvement measure (all  $p > .70$ ).

Moreover, investigating attitudes toward charity by condition, the Default group reported the most positive attitude toward charities on average ( $M = 4.04, SD = 0.65$ ), followed by the Framing ( $M = 3.93$ ), Social Norm ( $M = 3.91$ ), and Control ( $M = 3.83$ ) groups. A one-way ANOVA showed no significant effect of condition on attitude,  $F(3, 404) = 1.87, p = .133, \eta^2 = .014$ . Thus, exposure to different nudge conditions did not substantially alter participants' general pro-charity attitude. Notably, Levene's test was non-significant,  $p = .478$ , and post hoc comparisons revealed no significant pairwise differences, all  $p > .09$ .

This research further explored whether individual differences in attitudes or mood were associated with donation outcomes. Participants' general attitude toward charities was found to have a small but significant positive correlation with how much they donated,  $r(406) = .224, p < .001$ . A simple linear regression confirmed that higher attitude scores predicted higher donation amounts,  $F(1, 406) = 21.53, p < .001, R^2 = .050$ , with an unstandardized coefficient  $B = 5.79$  (meaning each 1-point increase in attitude corresponded to an extra €5.79 donated on average). In addition, attitude was a significant predictor of the donation participation. A logistic regression showed that a one-unit increase in attitude score more than doubled the odds of donating,  $\text{Exp}(B) = 2.59, 95\% \text{ CI } [1.49, 4.52]$ . The logistic model was significant,  $\chi^2(1, N = 408) = 10.34, p = .001, \text{Nagelkerke } R^2 = .073$ , indicating that attitudes explained about 7% of the variance in donation participation.

Post-donation mood, measuring momentary happiness, was modestly related to donation behavior as well. The amount donated was positively correlated with participants' mood after donating,  $r(309) = .215, p < .001$ , suggesting that those who gave more money felt slightly happier afterward. Similarly, the mood improvement index correlated with the donation amount at  $r(405) = .309, p < .001$ , echoing this relationship. A logistic regression using post-decision mood to predict donation participation was not significant,  $\chi^2(1) = 2.08, p = .149$ . Although the odds of donating tended to increase with higher mood ( $\text{OR} = 1.44$  for a 1-point mood increase), this effect was not statistically reliable ( $95\% \text{ CI for OR } [0.89, 2.32], p = .140$ ).

## 5 Discussion

This research finds no significant evidence that any of the three nudges (default, framing, or social norm) increases donation behavior (amount and number of donations) under identical neutral conditions or influences donor happiness. The following section explores potential reasons for these null findings, drawing on the study's context and prior literature.

### 5.1 General Discussion

First, the participant sample was relatively homogeneous and highly prosocial. Most respondents were young adults (predominantly university students) with generally positive attitudes toward charitable giving. This might have caused a high baseline donation behavior even in the control group. Indeed, donation participation in the control condition was exceptionally high (95%), limiting the potential for any nudge to further increase participation or amounts, which indicates a classic ceiling effect (Jang & Irwin, 2021; Altmann et al., 2014). The donation amounts were also high on average across all groups, suggesting participants were already motivated to give. The elevated donation levels may be partly attributed to the study's "windfall money" scenario, where participants were donating out of a potential prize (a 50€ gift card) rather than their own money. This setup increased the realism of the decision while not directly costing participants out-of-pocket funds, potentially making them more generous overall (Li et al., 2019; van Teunenbroek et al., 2021).

Another influential factor may be the used decision format. Participants chose from six preset donation amounts (0€, 10€, 20€, 30€, 40€, 50€), rather than entering any number freely. Providing fixed options may constrain variability, automatically clustering responses and potentially reducing the sensitivity to experimental manipulations. That said, prior studies have found significant effects even using fixed donation options, and the null results from this study were so pronounced that allowing free choice would likely not have produced dramatically different outcomes. In other words, the lack of significant differences does not seem attributable solely to the response format, especially since other research using similar methods found effects (Weyant & Smith, 1987; Doob & McLaughlin, 1989; Edwards & List, 2014).

Moreover, a key element of this research was the neutral testing conditions, created by removing all contextual factors. This approach aimed to isolate the pure effect of each nudge. Taking into consideration that former studies suggest underlying mechanisms are partially responsible of nudges' effectiveness, it could explain the results indicating that a nudge by itself

may not be as powerful and that much of its impact comes from accompanying mechanisms (Grad et al., 2024; Capraro et al., 2019). In line with this, a recent meta-analysis suggests many nudge effects in charitable giving are smaller than initially thought (Xu & Huang, 2020) or even negligible when accounting for publication bias (Maier et al., 2022).

It is worth noting that the study was adequately powered to detect moderate effects, so the null findings are less likely due to statistical power issues and more likely reflect a genuine lack of large differences. In summary, this discussion interprets each hypothesis result, exploring why the expected effects did not materialize and how these findings relate to existing research.

### *5.1.1 Donation Amount by Nudge Condition Interpretation*

This study found no significant evidence indicating that framing nudges increase the donation amount more than other conditions. Donation means were similar across all conditions, and an ANOVA confirmed no reliable effect. Hence, H1 was not supported.

This null finding contrasts numerous studies reporting framing effects increase donation amounts (Wang et al., 2023; Su et al., 2024), among them papers that used similar loss-framed messages as manipulation conditions (Chang & Lee, 2009; Erlandsson et al., 2018). While the different findings on general effectiveness could originate from the various implementations of framed messages, such as reframing contributions (Wang et al., 2023; Su et al., 2024; Sussman et al., 2015), affected groups (oneself or others), or temporal impact (now or in the future) (Ye et al., 2015; Chang & Lee, 2009), it appears to be highly context-dependent, and some framing manipulations are stronger than others. However, in support of this paper's non-significant results, other experiments failed to replicate framing effects using loss-framed appeals before or suggested that there are no reliable differences between gain-framed and loss-framed charity messages (Erlandsson et al., 2018; Xu & Huang, 2020). This indicates that framing alone might not be a consistently powerful lever in charitable giving; its effectiveness may rely on other factors in the environment or in the person.

As mentioned above, various underlying psychological mechanisms could mediate the framing effect. The nudge may not work by itself, but by altering aspects such as the perceived social distance to the cause (Wang et al., 2023), the perceived temporal distance of the charity's impact (Ye et al., 2015; Gu & Chen, 2021), or the perceived dependency of the organization on the donation (Su et al., 2024). In this study, the appeal was deliberately kept

content neutral aside from the framing wording, which may have weakened its emotional resonance. It is possible that the framing in this scenario was too subtle to trigger the psychological drivers that normally lead to higher giving. In essence, the nudge might serve as a “vessel” for these mechanisms rather than being inherently potent on its own.

Another consideration is if the donation decision is hypothetical or real. Prior studies conducted hypothetical donations or measured the intended donation amount (Sussman et al., 2015; Cardoso et al., 2021; Su et al., 2024). This could influence the donation decision in two ways: either the participant does not feel that not donating would impact the charitable cause as negatively as described in the loss-framed message, or they are aware that donating a high amount will not actually have a financial impact on them. That could create more variability and room for framing to impose an effect. This paper, in contrast, created a real donation setting. The real stake could make participants more cautious and their responses more uniform, potentially muting the effect of framing. However, it’s worth noting that the “real” aspect applied to all conditions equally, so while it might generally dampen generosity compared to a hypothetical setup, it doesn’t explain differences between conditions.

### *5.1.2 Donation Participation by Nudge Condition Interpretation*

Hypothesis 2 stated that a default nudge would lead to the highest donation participation rate. However, the default nudge did not increase the proportion of participants who donated. In fact, the donation rate was essentially the same in every condition, including the control group with no nudge. Therefore, H2 was not supported.

This null finding opposes the results of prior research, which suggests that pre-selecting a donation boosts donation participation with margins up to 25 percentage point increases (Zarghamee et al., 2017; Everett et al., 2015). However, these findings are not universal, and replication attempts yielded mixed results before (Everett et al., 2015). This investigation falls into the latter category of mixed outcomes, aligning with those cases where a default did not significantly change behavior.

One potential explanation for the non-significant results could be the nature of defaults in monetary donations. While in other fields, such as organ donations, participants are automatically enrolled with the option to opt out, in monetary donations to charity, the default is a pre-selected donation amount that requires confirmation or change (Goswami & Urminsky, 2016; Goldstein & Dinner, 2013). However, all donation studies face this limitation, so while

this factor might reduce the impact of defaults relative to some other domains, it is a common challenge and likely only a partial explanation.

More importantly, as for H1, underlying factors seem to be a possible explanation for the results. The reputation of the charity, the level of donor appeal, the awareness of a charity (Goswami & Urmitsky, 2016), the social norm (seeing the default as the right thing to do) (Everett et al., 2015), and the perceived control over the decision (Crow et al., 2019) are observed to be potential underlying mechanisms that might be responsible for the effectiveness of default nudges. Since this study created a setting under neutral conditions, all these mechanisms were eliminated or weakened. Without them, the isolated default showed no significant effect, suggesting that by itself it is less impactful than anticipated (Grad et al., 2024; Capraro et al., 2019).

Another consideration is the selected default (30€). Since 30€ turned out to be roughly the average donation that people chose, even in the control group, it could explain why no significant results were measured. The default was likely not distinctive enough to change behavior. It was not low enough to entice additional hesitant donors nor high enough to make participants opt out.

Moreover, as discussed earlier, the high baseline donation rate of around 95% created a ceiling effect, leaving little room for improvement (Jang & Irwin, 2021; Altmann et al., 2014). Respondents may have felt it was natural or expected to donate something, perhaps due to social desirability or the charitable context, despite anonymity.

### *5.1.3 Nudge Effects on Donor Happiness Interpretation*

Similarly, no significant effects of conditions on respondents' self-reported momentary happiness were materialized. In practical terms, simply donating, which almost everyone did in every condition, resulted in a mild "warm glow" for participants, and adding a nudge didn't substantially intensify or diminish that glow (Andreoni, 1989, p. 1448). Hence, H3a was not supported.

The general positive mood across all conditions aligns with the idea that prosocial spending increases the mood, a phenomenon observable across many contexts and countries (Andreoni, 1989; Aknin et al., 2013a). Participants of this research likely experienced this emotional reward, independent of condition, simply by donating. Having a strong baseline

happiness effect could explain the null findings, as detecting any additional boosts from the nudges is difficult when there is only limited room for improvement regardless (Jang & Irwin, 2021).

Interestingly, the default condition had a similar high mean mood as the social norm. While this does not directly explain the null findings, it leaves room to speculate if certain aspects or underlying mechanisms of these nudges overlap, such as the feeling of doing what others do (descriptive norms) or the comfort and validation of having a pre-set choice (default). However, these are post-hoc interpretations; the differences were not statistically reliable.

By contrast, the framing condition showed a slightly lower mean mood than the control. While not being significant, this pattern is noteworthy. It is possible that the framing nudge created a subtle sense of being persuaded or influenced, which might have diluted the joy of giving by deriving autonomy of decision (Aknin et al., 2013b; Weinstein & Ryan, 2010). Yet again, these are post-hoc interpretations and not statistically significant, thus they must be considered with caution. Likewise, there is no proof that any nudge condition significantly made people feel worse. The prior assumption that certain nudges, especially social norm nudges, could potentially undermine donor happiness by making the act feel compulsory or by inducing social pressure could not be replicated in this study (van Teunenbroek et al., 2021). On the contrary, the results showed the highest average mood mean in the social norm condition. However, this was again not significant. In practical terms, implementing these nudges in a fundraising context is unlikely to leave donors with a negative experience, at least in the short term, as per the data in this study.

Another plausible explanation for the absence of observed differences in happiness could be that any positive effects are counterbalanced by subtle negative ones. For instance, a default nudge might slightly increase happiness by making a voluntary “right” decision, while at the same time it decreases the satisfaction as the choice felt less autonomous (Aknin et al., 2013b; Erlandsson et al., 2018; Gråd et al., 2024; Weinstein & Ryan, 2010). These opposing influences might cancel each other out, producing no observable difference in reported happiness. Similar balancing acts could be imagined for the other nudges.

It is also worth considering the measurement itself. Mood was measured only once, immediately after the donation decision, as a between-subject outcome. As no pre-donation mood was measured, the analysis looks at absolute post-donation mood levels. It is possible that any nudge-induced mood differences are transient and might require a more sensitive

measure. Moreover, self-reported mood can be subject to biases; participants may report feeling good after donating because they believe that's the socially desirable feeling. Such self-report bias might mask subtle differences or lead to generally high mood reports regardless of condition. These possibilities, timing, and self-report artifacts are speculative, but they are reminders that the absence of evidence for mood differences does not guarantee the nonexistence of psychological differences. It does indicate, however, that any such differences were small.

#### *5.1.4 Mediation by Donation Behavior on Donor Happiness Interpretation*

There was no significant mediation effect of donation behavior on the relationship between nudges and happiness. Given that both H1 and H3a were null findings, it follows logically that H3b would also find no support.

The failure of the mediation hypothesis is not surprising considering earlier results. H3b was essentially an explanatory extension of H3a. Since no nudge had a direct impact on happiness, and no nudge significantly affected donation amounts either, there was nothing for a mediator to transmit. H3b was therefore not supported by the data.

The one significant relationship that could be observed was that those who gave more tended to be slightly happier. Aligning with literature linking generosity and well-being (Dunn et al., 2008; Zarghamee et al., 2017). These findings reinforce the general principle that suggests that the joy of giving can scale with the magnitude of the donation.

As prior investigations theorize, the relationships between nudges, behavior, and internal outcomes, like mood, are complex and cannot easily be broken down into a simple chain in every scenario (van Teunenbroek et al., 2021). Sometimes nudges might influence feelings in unexpected ways, and other times, like in this study, they have no measurable influence at all on either behavior or mood.

#### *5.1.5 Exploratory Findings Interpretation*

Beyond the hypothesis-driven tests, several exploratory analyses were conducted to gain additional insights into participants' attitudes and experiences. All the following analyses in this section were not tied to any pre-registered hypotheses, so they must be interpreted cautiously and seen as suggestive rather than conclusive. The exploratory checks included

comparing the experimental conditions on secondary outcome measures (self-reported mood improvement and attitudes toward charities) and examining relationships between those secondary measures and donation behavior (amount donated or donation participation) as well as post-donation happiness.

When analyzing the self-reported mood improvement, no significant differences can be concluded between any of the conditions. Suggesting that none of the nudges had a unique effect on how much improvement people felt after giving. Similarly interpreting the findings of the attitude towards charities, no significant conclusions can be drawn across the different conditions. Attitudes remained uniformly positive, indicating participants in all conditions felt similarly about the cause.

While the nudges did not affect attitudes, individual differences in attitude influenced donation behavior when looking at the entire sample. Results found significant indications that participants with more positive attitudes toward charity tended to donate more and were more likely to donate. This suggests a possible link between one's charitable disposition and generosity.

Expanding on the earlier point from H3b, a positive correlation between the amount donated and the post-donation donor mood could be observed. This held true regardless of condition and is consistent with the notion that the emotional reward of giving can increase with the size of the gift (Dunn et al., 2008; Zarghamee et al., 2017). The relationship between donation amount and the self-reported mood improvement measure was checked accordingly and found a similar pattern.

When exploring the relationship between mood and donation participation, no significant conclusions could be drawn. As no clear pattern emerged linking post-donation mood to the decision of whether to donate, likely because the vast majority donated.

In summary, the exploratory analyses provided some additional depth, as people's preexisting attitudes toward charity play a role in how much they give, and giving more tends to make people feel slightly happier. Both intuitive findings are consistent with prior knowledge.

## 5.2 Theoretical and Managerial Implications

This study offers valuable insights into the effectiveness of nudges on donation behavior and donor happiness, carrying implications from both theoretical and managerial perspectives.

The findings demonstrate that in isolation no nudge (default, framing, or social norm) had significant effects on donation behavior. Supporting arguments that assume their impact could originate from context and underlying mechanisms, not from the nudge structure itself (Grad et al., 2024; Capraro et al., 2019), and contradicting findings that claim strong effects of singular nudges (Goswami & Urminsky, 2016; Doob & McLaughlin, 1989; Altmann et al., 2014). These assumptions serve as a theoretical foundation for understanding which parts of a nudge's effectiveness could be allocated to itself and what portions may depend on accompanying factors.

Regarding mood, the findings align with accompanying theories suggesting higher donations as well as the simple gesture of giving increases happiness (Andreoni, 1989; Aknin et al., 2013a; Dunn et al., 2008; Zarghamee et al., 2017). However, no impact of default, framing, or social norm nudges on donor happiness could be found.

From a managerial perspective, this research finds no evidence that isolated default, framing, or social norm nudges significantly increase donation behavior. Therefore, fundraising strategies should not exclusively rely on these choice architectures but rather account for contextual and psychological factors connected to the donation decision. Based on secondary findings in this research, the attitude towards charities was a significant predictor for donation amount and participation rate. Thus, identifying and targeting potential donors with these traits could be a suitable approach for increasing funds.

## 6 Limitations and Future Research

While providing valuable insights, this research presents several limitations. Due to the scope of the study, only the most promising representation of each nudge (default, framing, and social norm), based on the literature reviewed, could be applied in each exposure condition (Ye et al., 2015; van Teunenbroek et al., 2021). This limits the evaluation of their effectiveness, as each version yields different effect strength. Thus, they do not capture the full range of the nudges' possible impact.

Furthermore, the study focused on a one-time monetary donation decision, using an online survey experiment. Participants were asked to donate from a provided possible endowment rather than from their own money. Compared to a hypothetical request, this was a feasible approach to create gravity to the donation decision. Nevertheless, it restricts behavior as people tend to be more generous with windfall money than with earned money (Li et al., 2019; van Teunenbroek et al., 2021). Correspondingly, participants could not choose the donation amount freely between 0€ and 50€ but chose from six pre-defined options (0€, 10€, 20€, 30€, 40€, 50€). As explained in the methodology, this choice was reasonable for the scope of this study; however, it limits the decision of participants regardless (Goswami & Urminsky, 2016). Moreover, this study was limited to monetary donations. The effects these nudges could have on other forms of prosocial contributions, such as donations, goods, time, or blood, remain unexamined.

When considering the sampling for the survey conducted, the overall size was reasonable. However, since the research divided participants into four experimental conditions, each group evaluated fewer participants, which reduced statistical power and confidence in detecting effects. Similarly, although the participant pool was demographically broad, it was not a representative sample of any specific donor population, as it did not target a particular group of donors, nor did it account for individual differences. It is possible that certain demographic or psychographic segments respond differently to nudges. However, the study was not powered to explore these interactions (Aknin et al., 2013a). In sum, the combination of a smaller, non-representative sample (in each condition) and unexamined cultural and sociological factors limits the generalizability of the results to broader populations and settings.

As this study focuses exclusively on quantitative outcomes, it did not include any qualitative measures. While this limits insights into subjective perspectives, it allowed for a controlled design focused on an isolated comparison. Additionally, donor happiness was

assessed via self-evaluation immediately following the donation decision. Relying solely on self-reported happiness is limiting, as such responses may be biased. Similarly, measuring the mood of the participants once during the survey only allowed for a between-subjects comparison and did not give any insight on the within-subjects change of each respondent.

Building on the above limitations, future research can take several directions to expand these findings. Primarily, a suggested consideration is testing the same nudges under equally neutral circumstances but with a higher count of conditions. While the setting should remain as unbiased as possible, it would be interesting to investigate how different default, framing, and social norm formulations and exposures alter among each other when compared for their effectiveness. This could discover not only which nudge is most effective, but which implementation of each nudge has the biggest impact.

Furthermore, the parameters of measuring effectiveness could be changed. For instance, it would be suitable to investigate the influence of nudges on charitable behavior in these impartial settings when evaluating blood, organ, goods, or time donations. Similarly, investigating different mediators such as the feeling of guilt would expand the insight on this topic.

Another plausible extension for future research could be a qualitative approach testing the perceived effectiveness of the measured nudges. While this approach needs more resources, the results would be interesting, especially in regard to understanding underlying motives.

Lastly, future research could expand the understanding of nudges by determining what portion of a nudge's effectiveness is distinct to the nudge itself and what part derives from other factors.

## 7 Conclusion

This study set out to determine which of three nudges (default, framing, or social norm) is most effective in increasing charitable giving, both in terms of donation amount and participation rate, and whether these nudges positively influence donor happiness. Based on the findings, the study concludes that under neutral conditions, none of the tested nudges reliably increased donation behavior or donor happiness.

Hypothesis 1, proposing that framing nudges would most effectively increase donation amounts, was not supported. While mean donation amounts were slightly higher in the framing condition, the differences were not statistically significant. Similarly, Hypothesis 2, which expected default nudges to produce the highest donation participation, found no support. The participation rate remained consistently high across all groups, including the control condition, suggesting a ceiling effect (Jang & Irwin, 2021). Hypothesis 3a, which expected each nudge to increase donor happiness individually, was not supported. All post-donation mood ratings were similar across conditions. Moreover, Hypothesis 3b, proposing that nudges might increase happiness indirectly through the mediator donation behavior, found no significant evidence. However, a significant connection between higher donation amounts and the self-evaluated mood of the participant could be measured. Implying that donating higher amounts increases happiness, congruent with former findings (Dunn et al., 2008; Zarghamee et al., 2017).

Despite the absence of significant results, this study offers valuable insights by providing possible explanations for these null findings. First, nearly all participants chose to donate regardless of nudge exposure, indicating a highly prosocial sample. This could have been driven by using windfall money, which is often spent more liberally than earned funds (Li et al., 2019; van Teunenbroek et al., 2021). While on the contrary, using real financial stakes may have minimized variation across conditions. This ceiling effect restricted the observation of any possible nudge effect (Jang & Irwin, 2021; Altmann et al., 2014). Second, the neutral experiment design intentionally removed all emotionally charged or contextual cues, leading to weakened or eliminated underlying mechanisms. Without these, their isolated effects might be weaker than anticipated (Grad et al., 2024; Capraro et al., 2019). Third, the donation options were limited to six options, which may have dampened variability and sensitivity to nudge effects. Lastly, happiness was measured by self-evaluation and thus may have been biased by potential influences such as social desirability.

Exploratory analyses yielded no additional significant differences in either mood improvement or general attitude towards charities across conditions. Additional positive links could be found between the attitude towards charities and the donation amount as well as the amount donated and mood improvement, implying potential connections. Although these variables were not central to the primary hypothesis and were included to provide additional context, they must be considered with caution.

In summary, while this study did not find evidence supporting the effectiveness of default, framing, or social norm nudges in a controlled setting, it contributes valuable knowledge to the academic discourse on charitable giving by suggesting possible reasons for the heritage of nudges' effectiveness and aligning with critical evaluations implying an overestimation of their impact on prosocial behavior and donor happiness (van Teunenbroek et al., 2021; Grad et al., 2024; Capraro et al., 2019; Maier et al., 2022). Finally, this paper theorizes that the effectiveness of nudges may stem only partially from the nudge itself and possibly more from their ability to combine and convey contextual and psychological cues.

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## Appendix A

### Demographics

Variable	Category	Frequency	Valid Percent (%)
Age	< 18	7	1.7
	18–25	237	58.4
	26–30	78	19.2
	31–40	49	12.1
	41–60	29	7.1
	> 60	6	1.5
Gender	Male	125	30.8
	Female	273	67.2
	Non-binary / Other	5	1.2
	Prefer not to say	3	0.7
Top Countries	Germany	76	19.0
	Netherlands	53	13.2
	United States of America	49	12.2
	United Kingdom	30	7.5
Education	Less than High School	8	2.0
	High School Diploma	81	19.9
	Bachelor Degree	197	48.4
	Master Degree	107	26.3
	Doctorate / PhD	10	2.5
	Prefer not to say	4	1.0
Employment	Unemployed	14	3.4
	Student	251	61.8
	Employed	103	25.4
	Self-employed	27	6.7
	Retired / Unable to work	6	1.5
	Prefer not to say	5	1.2
Salary	< 1000€	97	23.9
	1000€–2000€	90	22.2
	2001€–3500€	59	14.5
	3501€–5000€	39	9.6
	5001€–10000€	29	7.1
	> 10000€	18	4.4
	Prefer not to say	74	18.2

## Appendix B

### Poll Selection of 50€ Amazon Gift Card

LS Lucas Strziga 13:10 FK [redacted] 11:23  
Master Thesis / Survey Poll Winner // Amazon gift card  
Re: Master Thesis / Survey Poll Winner // Amazon gift card  
To: [redacted] To: Lucas Strziga

Dear Participant,  
Thank you for taking part in my master's thesis survey. I'm pleased to inform you that you were randomly selected as the winner of the incentive draw.  
In line with the survey design and your response, 40€ of the 50€ prize has been donated on your behalf to the international humanitarian organization Doctors Without Borders. You can find the donation confirmation attached below. For more information about the organization, please visit: <https://www.msf.org/>.  
The remaining €10 has been issued to you as an Amazon gift card, which is also included below.  
Please rest assured that your personal information remains fully confidential and will not be published or used any further.  
If you have any questions or issues feel free to contact me.  
Thank you again for your valuable contribution.  
Kind regards,  
Lucas

Hi Lucas,  
Wow, thanks a lot for the donation on my behalf and the Amazon giftcard! Wishing you good luck with your master thesis.  
Kind regards,  
[redacted]  
[See More](#)

#### Donation Proof:

**Ihre Spende**  
♥ 40,00 Euro Einmalig   
Bei einer Spende über 20 € wird die Spendenbescheinigung automatisch im Februar des nächsten Jahres zugestellt.

## Ihre Spende

♥ 40,00 Euro Einmalig 

**Bei einer Spende über 20 € wird die Spendenbescheinigung automatisch im Februar des nächsten Jahres zugestellt.**

## Meine persönlichen Angaben

Herr Lucas Strziga

Zittelstraße 3  
80796 München  
Deutschland

lucas.strziga@web.de  
+4917624290552

**Ja, ich möchte aktuelle Infos von Ärzte ohne Grenzen erhalten.**

Nein



## Ärzte ohne Grenzen-Spendenservice

Vielen Dank für Ihre Spende

To: Lucas Strziga

Inbox - Web 12:45

Sehr geehrter Herr Lucas Strziga,

ich danke Ihnen sehr herzlich für Ihre Spende, die uns kürzlich erreicht hat. Ihr Vertrauen in unsere Arbeit freut mich sehr. Denn nur dank Ihrer Unterstützung können wir weltweit Leben retten.

Wie und wo Ihre Spende wirkt – das erfahren Sie stets aktuell in unserem Newsletter. [Melden Sie sich gerne an.](#)

Mein Team und ich freuen uns, wenn wir Ihnen bei allen Fragen rund um Ihre Spenden helfen können. Viele häufig gestellte Fragen beantworten wir [hier](#) auf unserer Website.

Ich danke Ihnen nochmals herzlich für Ihre Unterstützung.

Ihre

Sonja Röhrborn  
Leitung Spendenservice

**Ärzte ohne Grenzen e.V. / Médecins Sans Frontières**

Schwedenstr. 9

D-13357 Berlin

[www.aerzte-ohne-grenzen.de](http://www.aerzte-ohne-grenzen.de)

Telefon: [030 700 130-130](tel:030700130130)

E-Mail: [spendenservice@berlin.msf.org](mailto:spendenservice@berlin.msf.org)



Hallo Lucas Strziga!

**Sie haben 40,00 € EUR an  
Médecins Sans Fronti...  
gezahlt**

**Hope you enjoy this Gift Card!**

**10,00 €**

Auf Amazon-Konto gutschreiben

Du suchst nach einem Einlösungscode? Klicke einfach, um dein Guthaben auf dein Konto überweisen zu lassen.

Sie haben kein Amazon-Konto?  
[Melden Sie sich](#) zum Einlösen an.

Sobald der Geschenkgutschein zu Ihrem Amazon-Konto hinzugefügt wurde, wird dessen Betrag zu Ihrem Geschenkgutschein-Guthaben hinzugefügt. Ihr Geschenkgutschein-Guthaben kann nicht auf andere Konten übertragen, zum Kauf anderer Geschenkgutscheine verwendet, oder sofern dies nicht gesetzlich vorgeschrieben ist, für Bargeld eingelöst werden.

Ihr Geschenkgutschein-Guthaben wird automatisch mit berechtigten Bestellungen während des Bezahlvorgangs sowie bei der Verwendung von 1-Click verrechnet. Wenn Sie Ihren Geschenkgutschein-Guthaben nicht verwenden möchten, können Sie ihn an der Kasse als Zahlungsmittel deaktivieren.

Wenden Sie sich bitte an die Gutscheinmarke, falls Sie Probleme oder Fragen zur Einlösung, Verwendung oder dem aktuellen Guthabenstatus haben. Falls Sie Probleme mit oder allgemeine Fragen zu Ihrer Bestellung haben, wenden Sie sich an den Kundendienst und stellen Sie folgende Informationen bereit:

Bestellnummer: 303-5214009-7603509

## Appendix C

### Survey

#### Block 1: Introduction

Q1 Thank you for participating in this research study as part of my Master's thesis at Católica Lisbon School of Business & Economics! This survey aims to better understand donation behavior and how individuals make decisions regarding charitable contributions. The survey takes less than **5 minutes** to complete, and your participation is completely voluntary. It is anonymous, and the data collected will be kept strictly confidential. There are no right or wrong answers; your honest opinions and reactions are what matter most. If you have any questions or comments, please contact me at s-lmstrziga@ucp.pt. By proceeding with this survey, you are agreeing to participate in this study. Thank you for your time!

Q2 Have you ever considered donating to a charitable organisation?

Yes (1)

No (2)

#### Block 2: Randomised Experimental Manipulation

Q3 In the following section, you will be asked to make a donation decision to an international humanitarian organization that provides basic medical care, food, and emergency assistance. As part of this study, you have the opportunity to **win a 50€ Amazon gift card**. At the end of the survey, you may voluntarily enter your email address to participate in a random draw. One participant will be selected as the winner. If you are selected, the amount you choose to donate in the next step will be deducted from the 50€ prize and donated on your behalf. You will receive the remaining balance as an Amazon gift card.

*Random allocation to one out of four conditions*

##### *Control Condition*

Q4 How much of the available 50€ do you want to donate to an international humanitarian organization providing basic medical care, food, and emergency assistance?

0      10      20      30      40      50

---

Select donation amount in € (start position 0€)

---

##### *Default Condition*

Q5 How much of the available 50€ do you want to donate to an international humanitarian organization providing basic medical care, food, and emergency assistance?

0      10      20      30      40      50

---

Select donation amount in € (start position 30€)

---

##### *Framing Condition*

Q6 Every euro you decide NOT to donate to an international humanitarian organization could mean less food, medical care, or emergency assistance for someone in urgent need. How much of the available 50€ do you want to donate?

0      10      20      30      40      50

Select donation amount in € (start position 0€)	
---	--

*Social Norm Condition*

Q7 Most people typically donate around 30€ to international humanitarian organizations providing basic medical care, food, and emergency assistance. How much of the available 50€ do you want to donate?

0      10      20      30      40      50

Select donation amount in € (start position 0€)	
---	--

**Block 3: Mood & Previous Donation Behavior**

Q8 - Q1: At this moment, how would you describe your mood?

Very unhappy	Somewhat unhappy	Neither happy nor unhappy	Somewhat happy	Very happy
1	2	3	4	5

Q9 - Q2: Please indicate how strongly you agree or disagree with the following statements (1 = strongly disagree, 5 = strongly agree)

	1 (Strongly disagree) (1)	2 (Somewhat disagree) (2)	3 (Neither agree nor disagree) (3)	4 (Somewhat agree) (4)	5 (Strongly agree) (5)
I feel happy with my donation decision. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My donation decision improved my overall mood today. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 - Q3: To ensure the quality of responses, please select '6–10' from the options provided.

- 0 (1)
- 1-5 (2)
- 6-10 (3)
- More than 10 (4)
- Prefer not to say (5)

Q11 Q4: Approximately how many times have you donated to a charitable organisation in your life?

- 0 (1)
- 1-5 (2)
- 6-10 (3)
- More than 10 (4)
- Prefer not to say (5)

**Block 4: Attitudes & Perception of Charitable Organisations**

Q12 - Q1: Please indicate how strongly you agree or disagree with the following statements (1 = strongly disagree, 5 = strongly agree)

	1 (Strongly disagree) (1)	2 (Somewhat disagree) (2)	3 (Neither agree nor disagree) (3)	4 (Somewhat agree) (4)	5 (Strongly agree) (5)
Charitable organizations make a meaningful impact on society. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I generally trust charitable organizations to use donations effectively. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important for me to see proof of the impact of my donations. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The reputation of a charity significantly influences my decision to donate. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer donating online rather than in person. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Block 5: Demographic Questions

Q13 - Q1: How old are you?

- < 18 (1)
- 18-25 (2)
- 26-30 (3)
- 31-40 (4)
- 41-60 (5)
- > 60 (6)

Q14 - Q2: What is your gender?

- Male (1)
- Female (2)
- Non-binary / Other (3)
- Prefer not to say (4)

Q15 - Q3: What country are you from?

▼ Afghanistan (1) ... Zimbabwe (1357)

Q16 - Q4: What is your highest completed educational level?

- Less than High School Diploma (1)
- High School Diploma (2)
- Bachelor Degree (3)
- Master Degree (4)
- Doctorate / PhD (5)
- Prefer not to say (6)

Q17 - Q5: What is your current employment status?

- Unemployed (looking for work) (1)
- Student (2)
- Employed (3)
- Self-employed (4)
- Not working (retired, unable to work, etc.) (5)
- Prefer not to say (6)

Q18 - Q6: What is your approximate monthly household net income (after taxes)?

- < 1000€ (1)
- 1000€ - 2000€ (2)
- 2001€ - 3500€ (3)
- 3501€ - 5000€ (4)
- 5001€ - 10000€ (5)
- > 10000€ (6)
- Prefer not to say (7)

### Block 5: Price Participation

Q19 If you would like to enter the draw to win a 50€ Amazon gift card (minus the amount you chose to donate), please enter your email address below. Participation is completely **optional**. You may leave the field blank and continue to complete the survey without entering the draw. Your email will be kept strictly confidential and will only be used to contact you if you are selected as the winner.

Q20 Enter your email address below:

---

---

We thank you for your time spent taking this survey. Your response has been recorded. The following code gives you Karma that can be used to get free research participants at SurveySwap.io. Go to: [surveyswap.io/st/7CAQ-LN8X-305P](https://surveyswap.io/st/7CAQ-LN8X-305P). Or, alternatively, enter the code manually: 7CAQ-LN8X-305P

# Appendix D

## Data Analysis SPSS Output

### H1 ANOVA

Descriptives								
Amount Donated								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
CONTROL	99	28.59	17.203	1.729	25.15	32.02	0	50
DEFAULT	101	29.50	15.708	1.563	26.40	32.61	0	50
FRAMING	108	31.39	17.210	1.656	28.11	34.67	0	50
SOCIALNORM	100	29.00	15.795	1.580	25.87	32.13	0	50
Total	408	29.66	16.481	.816	28.05	31.26	0	50

Tests of Homogeneity of Variances					
Amount Donated					
	Levene Statistic	df1	df2	Sig.	
Based on Mean	2.612	3	404	.051	
Based on Median	2.478	3	404	.061	
Based on Median and with adjusted df	2.478	3	398.740	.061	
Based on trimmed mean	2.832	3	404	.038	

ANOVA					
Amount Donated					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	483.026	3	161.009	.591	.621
Within Groups	110068.934	404	272.448		
Total	110551.961	407			

ANOVA Effect Sizes <sup>a,b</sup>				
Amount Donated				
	Point Estimate	Lower	Upper	
Eta-squared	.004	.000	.018	
Epsilon-squared	-.003	-.007	.011	
Omega-squared Fixed-effect	-.003	-.007	.011	
Omega-squared Random-effect	-.001	-.002	.004	

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.  
 b. Negative but less biased estimates are retained, not rounded to zero.

Robust Tests of Equality of Means				
Amount Donated				
	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	.549	3	224.039	.649
Brown-Forsythe	.592	3	401.309	.621

a. Asymptotically F distributed.

### Post Hoc Tests

#### Multiple Comparisons

Dependent Variable: Amount Donated

Tukey HSD

(I) Correct Randomized Condition Exposure	(J) Correct Randomized Condition Exposure	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
CONTROL	DEFAULT	-.919	2.334	.979	-6.94	5.10
	FRAMING	-2.803	2.297	.614	-8.73	3.12
	SOCIALNORM	-.414	2.340	.998	-6.45	5.62
DEFAULT	CONTROL	.919	2.334	.979	-5.10	6.94
	FRAMING	-1.884	2.285	.843	-7.78	4.01
	SOCIALNORM	.505	2.329	.996	-5.50	6.51
FRAMING	CONTROL	2.803	2.297	.614	-3.12	8.73
	DEFAULT	1.884	2.285	.843	-4.01	7.78
	SOCIALNORM	2.389	2.291	.724	-3.52	8.30
SOCIALNORM	CONTROL	.414	2.340	.998	-5.62	6.45
	DEFAULT	-.505	2.329	.996	-6.51	5.50
	FRAMING	-2.389	2.291	.724	-8.30	3.52

### Amount Donated

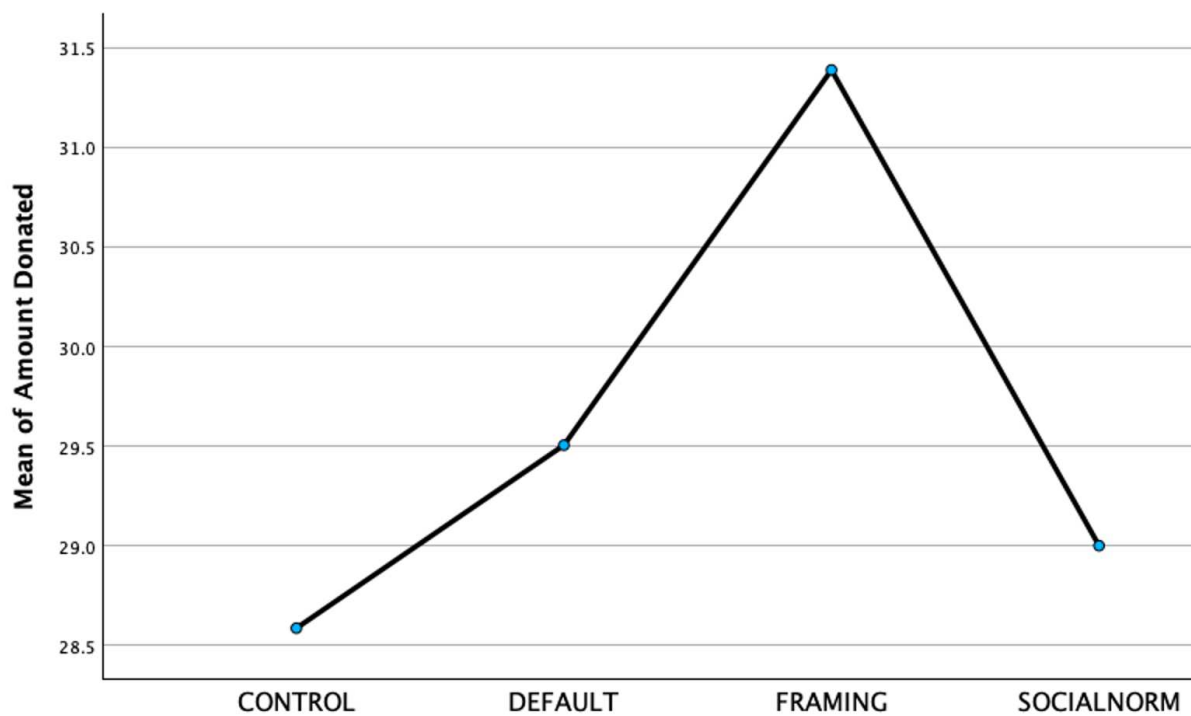
Tukey HSD<sup>a,b</sup>

Correct Randomized Condition Exposure	N	Subset for alpha = 0.05 1
CONTROL	99	28.59
SOCIALNORM	100	29.00
DEFAULT	101	29.50
FRAMING	108	31.39
Sig.		.620

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 101.882.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

### Means Plots



H2 – Logistic Regression & Chi Square

➔ **Logistic Regression**

**Case Processing Summary**

Unweighted Cases	N	Percent
Selected Cases: Included in Analysis	408	100.0
Missing Cases	0	.0
Total	408	100.0
Unselected Cases	0	0.0
Total	408	100.0

a. If weight is in effect, see classification table for the total number of cases.

**Dependent Variable Encoding**

Original Value	Internal Value
NO	0
YES	1

**Categorical Variables Codings**

Correct Randomized Condition Exposure	Frequency	Parameter coding		
		(1)	(2)	(3)
CONTROL	99	.000	.000	.000
DEFAULT	101	1.000	.000	.000
FRAMING	108	.000	1.000	.000
SOCIALNORM	100	.000	.000	1.000

**Block 0: Beginning Block**

**Classification Table<sup>a,b</sup>**

Observed	Donated - Yes or No	Predicted		Percentage Correct
		NO	YES	
Step 0 Donated - Yes or No	NO	0	22	.0
	YES	0	386	100.0
Overall Percentage				94.6

a. Constant is included in the model.  
b. The cut value is .500

**Variables in the Equation**

Step 0	Constant	B	S.E.	Wald	df	Sig.	Exp
		2.865	.219	170.819	1	<.001	17

**Variables not in the Equation**

Step 0	Variables	Correct Randomized Condition Exposure	Score	df	Sig.
		Correct Randomized Condition Exposure	.139	3	.987
		Correct Randomized Condition Exposure(1)	-.051	1	.821
		Correct Randomized Condition Exposure(2)	.008	1	.930
		Correct Randomized Condition Exposure(3)	.096	1	.757
	Overall Statistics		.139	3	.987

Block 1: Method = Enter

**Omnibus Tests of Model Coefficients**

Step 1	Step	Chi-square	df	Sig.
		.138	3	.987
	Block	.138	3	.987
	Model	.138	3	.987

**Model Summary**

Step	-2 Log Likelihood	Cox & Snell R Square	Nagelkerke R Square
1	171.143 <sup>a</sup>	.000	.001

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Hosmer and Lemeshow Test**

Step	Chi-square	df	Sig.
1	.000	2	1.000

**Contingency Table for Hosmer and Lemeshow Test**

Step 1	Observed	Donated - Yes or No = NO		Donated - Yes or No = YES		Total
		Expected	Observed	Expected	Observed	
1	6	6.000	94	94.000	100	
2	6	6.000	102	102.000	108	
3	5	5.000	94	94.000	99	
4	5	5.000	96	96.000	101	

**Classification Table<sup>a</sup>**

Observed	Donated - Yes or No	Predicted		Percentage Correct
		NO	YES	
Step 1 Donated - Yes or No	NO	0	22	.0
	YES	0	386	100.0
Overall Percentage				94.6

a. The cut value is .500

**Variables in the Equation**

Step 1 <sup>a</sup>	Correct Randomized Condition Exposure	B	S.E.	Wald	df	Sig.	Exp(B)
	Correct Randomized Condition Exposure			.139	3	.987	
	Correct Randomized Condition Exposure(1)	.021	.649	.001	1	.974	1.021
	Correct Randomized Condition Exposure(2)	-.101	.622	.026	1	.871	.904
	Correct Randomized Condition Exposure(3)	-.182	.623	.086	1	.770	.833
	Constant	2.934	.459	40.864	1	<.001	18.800

a. Variable(s) entered on step 1: Correct Randomized Condition Exposure.

➔ **Crosstabs**

**Case Processing Summary**

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Correct Randomized Condition Exposure * Donated - Yes or No	408	100.0%	0	0.0%	408	100.0%

**Correct Randomized Condition Exposure \* Donated - Yes or No Crosstabulation**

Correct Randomized Condition Exposure	CONTROL	Count	Donated - Yes or No		Total
			NO	YES	
Correct Randomized Condition Exposure	CONTROL	Count	5	94	99
		Expected Count	5.3	93.7	99.0
		% within Correct Randomized Condition Exposure	5.1%	94.9%	100.0%
		DEFAUL	Count	5	96
Correct Randomized Condition Exposure	DEFAULT	Count	5	96	101
		Expected Count	5.4	95.6	101.0
		% within Correct Randomized Condition Exposure	5.0%	95.0%	100.0%
		FRAMING	Count	6	102
Correct Randomized Condition Exposure	FRAMING	Count	6	102	108
		Expected Count	5.8	102.2	108.0
		% within Correct Randomized Condition Exposure	5.6%	94.4%	100.0%
		SOCIALNORM	Count	6	94
Correct Randomized Condition Exposure	SOCIALNORM	Count	6	94	100
		Expected Count	5.4	94.6	100.0
		% within Correct Randomized Condition Exposure	6.0%	94.0%	100.0%
		Total	Count	22	386
Total		Expected Count	22.0	386.0	408.0
		% within Correct Randomized Condition Exposure	5.4%	94.6%	100.0%

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.139 <sup>a</sup>	3	.987
Likelihood Ratio	.138	3	.987
Linear-by-Linear Association	.117	1	.732
N of Valid Cases	408		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.34.

H3a - ANOVA

➔ **Oneway**

**Descriptives**

Mood in the Moment

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CONTROL	80	3.51	.981	.110	3.29	3.73	1	5
DEFAULT	74	3.74	1.021	.119	3.51	3.98	2	5
FRAMING	84	3.44	.949	.104	3.23	3.65	1	5
SOCIALNORM	73	3.74	.898	.105	3.53	3.95	1	5
Total	311	3.60	.968	.055	3.49	3.71	1	5

**Tests of Homogeneity of Variances**

Mood in the Moment

	Based on	Levene Statistic	df1	df2	Sig.
Based on Median	.767	3	307	.513	
Based on Median and with adjusted df	.767	3	303.042	.513	
Based on trimmed mean	1.424	3	307	.236	

**ANOVA**

Mood in the Moment

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.693	3	1.898	2.045	.108
Within Groups	284.866	307	.928		
Total	290.559	310			

**ANOVA Effect Sizes<sup>a,b</sup>**

Mood in the Moment

	Point Estimate	95% Confidence Interval	
		Lower	Upper
Eta-squared	.020	.000	.052
Epsilon-squared	.010	-.010	.043
Omega-squared Fixed-effect	.010	-.010	.043
Omega-squared Random-effect	.003	-.003	.015

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.  
 b. Negative but less biased estimates are retained, not rounded to zero.

**Robust Tests of Equality of Means**

Mood in the Moment

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	2.062	3	169.471	.107
Brown-Forsythe	2.046	3	302.570	.108

a. Asymptotically F distributed.

**Post Hoc Tests**

Dependent Variable: Mood in the Moment

Tukey HSD

**Multiple Comparisons**

(I) Correct Randomized Condition Exposure	(J) Correct Randomized Condition Exposure	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
CONTROL	DEFAULT	-.231	.155	.448	-.63	.17
	FRAMING	.072	.150	.964	-.32	.46
	SOCIALNORM	-.227	.156	.465	-.63	.18
DEFAULT	CONTROL	.231	.155	.448	-.17	.63
	FRAMING	.303	.154	.201	-.09	.70
	SOCIALNORM	-.004	.159	1.000	-.41	.41
FRAMING	CONTROL	-.072	.150	.964	-.46	.32
	DEFAULT	-.303	.154	.201	-.70	.09
	SOCIALNORM	-.299	.154	.213	-.70	.10
SOCIALNORM	CONTROL	.227	.156	.465	-.18	.63
	DEFAULT	-.004	.159	1.000	-.41	.41
	FRAMING	.299	.154	.213	-.10	.70

**Homogeneous Subsets**

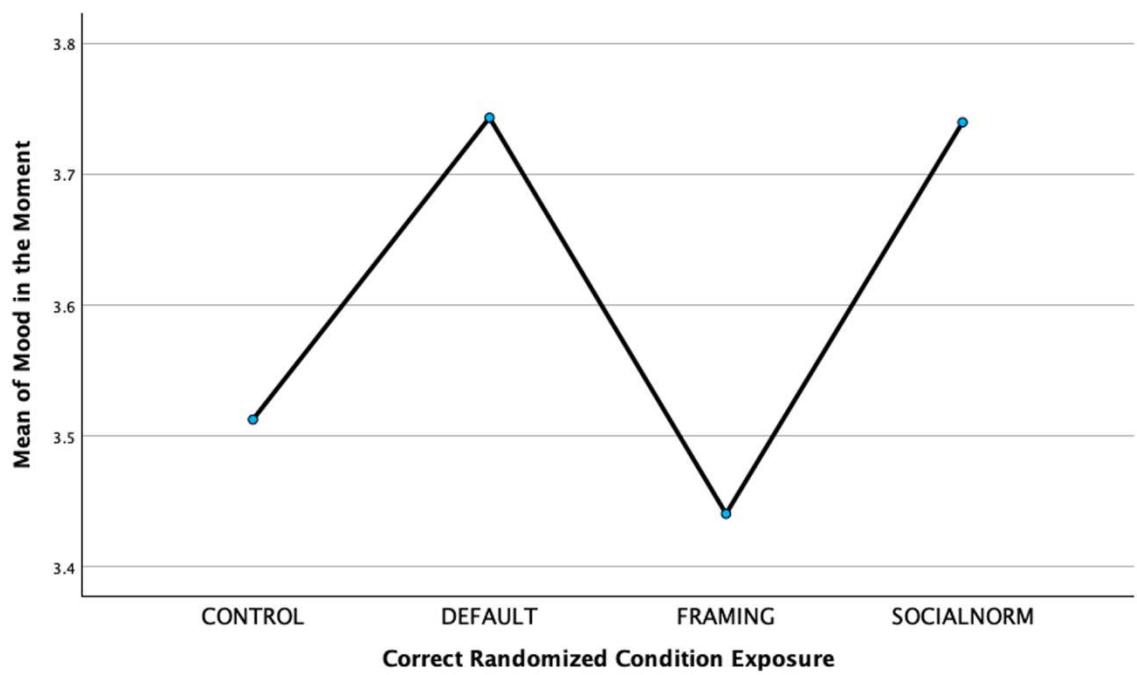
**Mood in the Moment**

Tukey HSD<sup>a,b</sup>

Correct Randomized Condition Exposure	N	Subset for alpha = 0.05
FRAMING	84	3.44
CONTROL	80	3.51
SOCIALNORM	73	3.74
DEFAULT	74	3.74
Sig.		.207

Means for groups in homogeneous subsets are displayed.

**Means Plots**



H3b – Process Model 4

➔ Matrix

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

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

\*\*\*\*\*

Model : 4  
Y : Q3\_Mood  
X : NEWCond  
M : DonAmou

Sample  
Size: 311

Coding of categorical X variable for analysis:

NEWCond	X1	X2	X3
1.000	.000	.000	.000
2.000	1.000	.000	.000
3.000	.000	1.000	.000
4.000	.000	.000	1.000

\*\*\*\*\*  
OUTCOME VARIABLE:  
DonAmou

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.0747	.0056	273.5825	.5742	3.0000	307.0000	.6324

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	29.3750	1.8493	15.8847	.0000	25.7362	33.0138	
X1	-.4561	2.6677	-.1710	.8644	-5.7055	4.7933	
X2	2.5298	2.5839	.9790	.3283	-2.5547	7.6142	
X3	1.7209	2.6772	.6428	.5208	-3.5471	6.9889	

Standardized coefficients			
	coeff		
X1	-.0276		
X2	-.1533		
X3	.1043		

\*\*\*\*\*  
OUTCOME VARIABLE:  
Q3\_Mood

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.2605	.0679	.8851	5.5702	4.0000	306.0000	.0002

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	3.1329	.1420	22.0664	.0000	2.8535	3.4122	
X1	.2366	.1517	1.5594	.1199	-.0620	.5352	
X2	-.1047	.1472	-.7114	.4774	-.3944	.1849	
X3	.2050	.1524	1.3452	.1795	-.0949	.5048	
DonAmou	.0129	.0032	3.9810	.0001	.0065	.0193	

Standardized coefficients			
	coeff		
X1	.2444		
X2	-.1082		
X3	.2117		
DonAmou	.2203		

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*  
OUTCOME VARIABLE:  
Q3\_Mood

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.1400	.0196	.9279	2.0452	3.0000	307.0000	.1076

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	3.5125	.1077	32.6144	.0000	3.3006	3.7244	
X1	-.2307	.1554	-1.4852	.1385	-.0750	.5365	
X2	-.0720	.1505	-.4786	.6326	-.3681	.2241	
X3	.2272	.1559	1.4574	.1460	-.0796	.5340	

Standardized coefficients			
	coeff		
X1	.2383		
X2	-.0744		
X3	.2347		

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

Relative total effects of X on Y

	Effect	se	t	p	LLCI	ULCI	c_ps
X1	.2307	.1554	1.4852	.1385	-.0750	.5365	.2383
X2	-.0720	.1505	-.4786	.6326	-.3681	.2241	-.0744
X3	.2272	.1559	1.4574	.1460	-.0796	.5340	.2347

Omnibus test of total effect of X on Y

R2-chng	F	df1	df2	p
.0196	2.0452	3.0000	307.0000	.1076

Relative direct effects of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
X1	.2306	.1517	1.5594	.1199	-.0620	.5352	.2444
X2	-.1047	.1472	-.7114	.4774	-.3944	.1849	-.1082
X3	.2050	.1524	1.3452	.1795	-.0949	.5048	.2117

Omnibus test of direct effect of X on Y:

R2-chng	F	df1	df2	p
.0218	2.3803	3.0000	306.0000	.0697

Relative indirect effects of X on Y

NEWCond	Effect	BootSE	BootLLCI	BootULCI
X1	-.0059	.0366	-.0810	.0654
X2	.0327	.0373	-.0376	.1113
X3	.0222	.0364	-.0493	.0986

Partially standardized relative indirect effect(s) of X on Y:

NEWCond	Effect	BootSE	BootLLCI	BootULCI
X1	-.0061	.0377	-.0839	.0675
X2	.0338	.0384	-.0381	.1140
X3	.0230	.0374	-.0512	.0996

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

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in partially standardized form.

NOTE: The contrast option is not available with a multicategorical X.

NOTE: Missing data resulted in the deletion of the following row(s) of data from the analysis:

3	4	5	7	29	34	39	48	53	58	61	65
66	71	78	82	83	84	86	90	91	95	105	108
111	114	118	129	133	138	141	144	148	161	162	167
172	174	175	178	182	183	185	193	201	202	204	207
208	209	217	226	232	235	238	251	253	254	258	259
260	265	266	274	275	278	279	288	294	300	303	308
312	319	320	323	325	327	332	334	339	342	349	353
355	361	364	366	370	375	376	377	378	387	388	401

407

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

## Exploratory Testing Output

### ANOVA

➔ Oneway

**Descriptives**

Average self evaluated Satisfaction and Improvement of mood through donation

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CONTROL	99	3.7626	.88739	.08919	3.5856	3.9396	1.00	5.00
DEFAULT	101	3.8168	.87955	.08752	3.6432	3.9905	1.00	5.00
FRAMING	107	3.6869	.91766	.08871	3.5110	3.8628	1.00	5.00
SOCIALNORM	100	3.7850	.88550	.08855	3.6093	3.9607	1.00	5.00
Total	407	3.7617	.89109	.04417	3.6748	3.8485	1.00	5.00

**Tests of Homogeneity of Variances**

		Levene Statistic	df1	df2	Sig.
Average self evaluated Satisfaction and Improvement of mood through donation	Based on Mean	.145	3	403	.933
	Based on Median	.229	3	403	.876
	Based on Median and with adjusted df	.229	3	398.390	.876
	Based on trimmed mean	.180	3	403	.910

**ANOVA**

Average self evaluated Satisfaction and Improvement of mood through donation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.960	3	.320	.401	.752
Within Groups	321.422	403	.798		
Total	322.382	406			

**ANOVA Effect Sizes<sup>a,b</sup>**

		Point Estimate	95% Confidence Interval	
			Lower	Upper
Average self evaluated Satisfaction and Improvement of mood through donation	Eta-squared	.003	.000	.014
	Epsilon-squared	-.004	-.007	.007
	Omega-squared Fixed-effect	-.004	-.007	.007
	Omega-squared Random-effect	-.001	-.002	.002

- a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.  
 b. Negative but less biased estimates are retained, not rounded to zero.

➔ Oneway

**Descriptives**

General Attitude towards Charities

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
CONTROL	99	3.8263	.58946	.05924	3.7087	3.9438	2.00	4.80
DEFAULT	101	4.0376	.64604	.06428	3.9101	4.1652	1.40	5.00
FRAMING	108	3.9333	.66977	.06445	3.8056	4.0611	1.60	5.00
SOCIALNORM	100	3.9080	.63654	.06365	3.7817	4.0343	1.80	5.00
Total	408	3.9270	.63899	.03163	3.8648	3.9891	1.40	5.00

**Tests of Homogeneity of Variances**

		Levene Statistic	df1	df2	Sig.
General Attitude towards Charities	Based on Mean	.830	3	404	.478
	Based on Median	.602	3	404	.614
	Based on Median and with adjusted df	.602	3	400.059	.614
	Based on trimmed mean	.704	3	404	.550

**ANOVA**

General Attitude towards Charities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.281	3	.760	1.874	.133
Within Groups	163.902	404	.406		
Total	166.183	407			

**ANOVA Effect Sizes<sup>a,b</sup>**

		Point Estimate	95% Confidence Interval	
			Lower	Upper
General Attitude towards Charities	Eta-squared	.014	.000	.038
	Epsilon-squared	.006	-.007	.031
	Omega-squared Fixed-effect	.006	-.007	.031
	Omega-squared Random-effect	.002	-.002	.010

- a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.  
 b. Negative but less biased estimates are retained, not rounded to zero.

**Robust Tests of Equality of Means**

Average self evaluated Satisfaction and Improvement of mood through donation

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	.390	3	223.675	.761
Brown-Forsythe	.402	3	402.878	.752

a. Asymptotically F distributed.

**Post Hoc Tests**

**Multiple Comparisons**

Dependent Variable: Average self evaluated Satisfaction and Improvement of mood through donation  
 Tukey HSD

(i) Correct Randomized Condition Exposure	(j) Correct Randomized Condition Exposure	Mean Difference (i-j)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
CONTROL	DEFAULT	-.05421	.12631	.973	-.3800	.2716
	FRAMING	.07571	.12454	.930	-.2456	.3970
	SOCIALNORM	-.02237	.12662	.998	-.3490	.3043
DEFAULT	CONTROL	.05421	.12631	.973	-.2716	.3800
	FRAMING	.12992	.12390	.721	-.1897	.4495
	SOCIALNORM	-.03183	.12599	.994	-.2932	.3568
FRAMING	CONTROL	-.07571	.12454	.930	-.3970	.2456
	DEFAULT	-.12992	.12390	.721	-.4495	.1897
	SOCIALNORM	-.09808	.12422	.859	-.4185	.2224
SOCIALNORM	CONTROL	.02237	.12662	.998	-.3043	.3490
	DEFAULT	-.03183	.12599	.994	-.3568	.2932
	FRAMING	.09808	.12422	.859	-.2224	.4185

**Homogeneous Subsets**

Average self evaluated Satisfaction and Improvement of mood through donation

Tukey HSD<sup>a,b</sup>

Correct Randomized Condition Exposure	N	Subset for alpha = 0.05
FRAMING	107	3.6869
CONTROL	99	3.7626
SOCIALNORM	100	3.7850
DEFAULT	101	3.8168
Sig.		.728

**Robust Tests of Equality of Means**

General Attitude towards Charities

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	1.964	3	224.258	.120
Brown-Forsythe	1.881	3	402.540	.132

a. Asymptotically F distributed.

**Post Hoc Tests**

**Multiple Comparisons**

Dependent Variable: General Attitude towards Charities  
 Tukey HSD

(i) Correct Randomized Condition Exposure	(j) Correct Randomized Condition Exposure	Mean Difference (i-j)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
CONTROL	DEFAULT	-.21136	.09008	.089	-.4438	.0210
	FRAMING	-.10707	.08863	.622	-.3357	.1216
	SOCIALNORM	-.08174	.09030	.802	-.3147	.1512
DEFAULT	CONTROL	.21136	.09008	.089	-.0210	.4438
	FRAMING	.10429	.08817	.638	-.1232	.3317
	SOCIALNORM	.12962	.08985	.474	-.1022	.3614
FRAMING	CONTROL	.10707	.08863	.622	-.1216	.3357
	DEFAULT	-.10429	.08817	.638	-.3317	.1232
	SOCIALNORM	.02533	.08839	.992	-.2027	.2534
SOCIALNORM	CONTROL	-.08174	.09030	.802	-.3147	.1512
	DEFAULT	-.12962	.08985	.474	-.3614	.1022
	FRAMING	-.02533	.08839	.992	-.2534	.2027

**Homogeneous Subsets**

General Attitude towards Charities

Tukey HSD<sup>a,b</sup>

Correct Randomized Condition Exposure	N	Subset for alpha = 0.05
CONTROL	99	3.8263
SOCIALNORM	100	3.9080
FRAMING	108	3.9333
DEFAULT	101	4.0376
Sig.		.085

linear regression

➔ Regression

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	General Attitude towards Charities <sup>b</sup>		Enter

a. Dependent Variable: Amount Donated  
b. All requested variables entered.

Model Summary									
Change Statistics									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.224 <sup>a</sup>	.050	.048	16.081	.050	21.526	1	406	<.001

a. Predictors: (Constant), General Attitude towards Charities

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5566.200	1	5566.200	21.526	<.001 <sup>b</sup>
	Residual	104985.761	406	258.586		
	Total	110551.961	407			

a. Dependent Variable: Amount Donated  
b. Predictors: (Constant), General Attitude towards Charities

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.930	4.963		1.396	.163
	General Attitude towards Charities	5.787	1.247	.224	4.640	<.001

a. Dependent Variable: Amount Donated

➔ Regression

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	Mood in the Moment <sup>b</sup>		Enter

a. Dependent Variable: Amount Donated  
b. All requested variables entered.

Model Summary									
Change Statistics									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.215 <sup>a</sup>	.046	.043	16.147	.046	14.940	1	309	<.001

a. Predictors: (Constant), Mood in the Moment

ANOVA <sup>a</sup>					
Model		Sum of Squares	df	Mean Square	Sig.
1	Regression	3895.226	1	3895.226	<.001 <sup>b</sup>
	Residual	80565.867	309	260.731	
	Total	84461.093	310		

a. Dependent Variable: Amount Donated  
b. Predictors: (Constant), Mood in the Moment

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.168	3.532		4.860	<.001
	Mood in the Moment	.947	.215	.386	3.865	<.001

a. Dependent Variable: Amount Donated

## logistic regression

➔ Logistic Regression

Case Processing Summary			
	Unweighted Cases <sup>a</sup>	N	Percent
Selected Cases	Included in Analysis	408	100.0
	Missing Cases	0	.0
	Total	408	100.0
Unselected Cases		0	.0
	Total	408	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
NO	0
YES	1

Block 0: Beginning Block

Classification Table <sup>a,b</sup>				
Observed	Donated - Yes or No	Predicted		Percentage Correct
		NO	YES	
Step 0 Donated - Yes or No	NO	0	22	.0
	YES	0	386	100.0
Overall Percentage				94.6

a. Constant is included in the model.  
b. The cut value is .500

Variables in the Equation						
Step 0	Constant	B	S.E.	Wald	df	Sig.
		2.865	.219	170.819	1	<.001
						17.545

Variables not in the Equation					
Step 0	Variables	Score	df	Sig.	
	General Attitude towards Charities	12.256	1	<.001	
	Overall Statistics	12.256	1	<.001	

Block 1: Method = Enter

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	10.340	1	.001
	Block	10.340	1	.001
	Model	10.340	1	.001

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	160.942 <sup>a</sup>	.025	.073

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table <sup>a</sup>				
Observed	Donated - Yes or No	Predicted		Percentage Correct
		NO	YES	
Step 1 Donated - Yes or No	NO	0	22	.0
	YES	0	386	100.0
Overall Percentage				94.6

a. The cut value is .500

Variables in the Equation						
Step 1 <sup>a</sup>	General Attitude towards Charities	B	S.E.	Wald	df	Sig.
		.952	.284	11.269	1	<.001
	Constant	-.690	1.025	.453	1	.501
						.501

a. Variable(s) entered on step 1: General Attitude towards Charities.

➔ **Logistic Regression**

**Case Processing Summary**

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	311	76.2
	Missing Cases	97	23.8
Total		408	100.0
Unselected Cases		0	.0
Total		408	100.0

a. If weight is in effect, see classification table for the total number of cases.

**Dependent Variable Encoding**

Original Value	Internal Value
NO	0
YES	1

**Block 0: Beginning Block**

**Classification Table<sup>a,b</sup>**

Observed		Predicted		Percentage Correct
		Donated - Yes or No NO	YES	
Step 0 Donated - Yes or No	NO	0	16	.0
	YES	0	295	100.0
Overall Percentage				94.9

a. Constant is included in the model.  
b. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	2.914	.257	128.907	1	<.001	18.437

**Variables not in the Equation**

	Score	df	Sig.	
Step 0 Variables	Mood in the Moment	2.228	1	.136
Overall Statistics		2.228	1	.136

**Block 1: Method = Enter**

**Omnibus Tests of Model Coefficients**

Step	Step	Chi-square	df	Sig.
Step 1	Step	2.084	1	.149
	Block	2.084	1	.149
	Model	2.084	1	.149

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	124.029 <sup>a</sup>	.007	.020

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

Observed		Predicted		Percentage Correct
		Donated - Yes or No NO	YES	
Step 1 Donated - Yes or No	NO	0	16	.0
	YES	0	295	100.0
Overall Percentage				94.9

a. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup> Mood in the Moment	.361	.245	2.174	1	.140	1.435	.888	2.319
Constant	1.672	.842	3.940	1	.047	5.322		

a. Variable(s) entered on step 1: Mood in the Moment.