

# Quantitative Measurements of the Effect of Framing and Social Closeness on Decision Making

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## Abstract

According to prospect theory of framing, people's decisions are influenced not only by the potential outcomes themselves but also by how those outcomes are framed. This theory suggests that individuals tend to respond differently depending on whether a situation is presented as a gain or loss. Building on this idea, our study investigated whether social closeness influences individuals' decision-making in a similar way and whether its impact is increased when combined with the framing effect. In our study, we examined the context of liver donation, where participants, as potential donors, were asked to decide whether they were willing to donate their liver to another person. We hypothesized that potential donors would be more willing to donate if the donation message was framed in terms of gains, and that donors would show a higher willingness to donate if they had a close relationship with the recipient. Additionally, we hypothesized an interaction effect between message framing and social closeness on the willingness to donate. Participants (N = 1539) were randomly assigned to two different types of surveys, one with a gain frame and the other with a loss frame. Social closeness was manipulated into two levels: close family member and close friend. Participants were further randomly assigned to one of two groups, one asking for the name of their close friend and the other for the name of their close family member. While both framing and social closeness independently influenced participants' decision-making, they did not show the interaction effect we had hypothesized. Our results suggest that individuals may process information about framing and social relationships separately when making donation decisions, indicating that these cognitive processes may function independently.

## Introduction

In everyday life, people encounter many situations where they have to make decisions or choices. These decision problems often include choosing among options with different possible consequences of the actions taken<sup>1</sup>. Message framing, which refers to how these decision problems or information are presented, can influence how individuals perceive and interpret the information, eliciting different behaviors and reactions<sup>2</sup>. Information can be framed in several different ways. For example, the outcomes of the actions can be framed positively as gains (e.g., 40% chance of survival) or negatively as losses (e.g., 60% chance of survival), even though both frames describe the same consequence<sup>2</sup>. This indicates that framing can impact individuals' decision-making processes by highlighting certain aspects of a situation while downplaying others. The way information is framed can affect how individuals perceive the risks and benefits associated with a particular decision or course of action. This, in turn, can influence their willingness to take risks or adopt certain behaviors. Overall, framing is important because it influences perception, decision-making, and behavior across various domains of life, including politics, healthcare, economics, and social issues. Many previous studies have explored the effect of framing in the context of public health campaigns designed to encourage healthy behaviors. In this context, messages can be framed to emphasize the benefits of adopting a pro-social behavior (gain-framed) or the negative consequences of not adopting it (loss-framed).

The prospect theory of framing, developed by psychologists Tversky and Kahneman<sup>1</sup> explains how individuals evaluate potential outcomes in decision-making situations. According to this theory, people's decisions are influenced not only by the potential outcomes themselves but also by the way these outcomes are framed or presented. It suggests that individuals are more likely to take a decision when potential gains are presented rather than potential losses<sup>1</sup>. A gain frame highlights the benefits or positive outcomes associated with a particular action or decision, focusing on what one stands to gain by taking a certain course of action. Conversely, a loss frame emphasizes the potential losses or negative consequences associated with the same action for decision.

McGregor et al. investigated how message framing influences the willingness to donate within the context of living organ donation<sup>2</sup>. They found out that people exposed to a gain-framed message (e.g., 2999 will survive) were more willing to donate their organs, whereas those presented with a loss-framed message (e.g., 1 will die as a result) were less willing to donate. As there were 3000 people in total, the outcomes were the same regardless of how the message was framed. This result demonstrates that the way information is framed can significantly influence decision-making behaviors. Based on this previous study, our current research examined the main effect of message framing on decision-making behavior in the context of liver donation, addressing one of our research questions.

Based on studies examining the effects of message framing on people's decisions or preferences, the type of frame used in the message (gain vs. loss) could potentially predict the willingness to donate a liver. While previous research has primarily focused on framing effects, it has not considered the potential impact of social closeness between the donor and recipient on the willingness to donate. However, Sung et al. examined the impact of the severity of health condition (e.g., shocking imagery of severe wounds and deformities) and social closeness to potential donation recipient (e.g., family vs. strangers) on charitable behavior in a medical context<sup>3</sup>. They found out that

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<sup>1</sup> Tversky and Kahneman, *The framing of decisions and the psychology of choice*

<sup>2</sup> McGregor et al., *Living organ donation: The effect of message frames on altruistic behavior*

<sup>3</sup> Sung et al., *The effect of severe imagery in advertising on charitable behavior and the moderating role of social closeness*

there is a significant effect of social closeness on the donation intentions. In the low social closeness condition (e.g., strangers), participants exposed to severe medical condition images reported lower allocation of money for donations compared to those shown non-severe images. In contrast, in the high social closeness condition (e.g., family), participants viewing the images of severe health conditions, such as severe skin cancer, allocated more money for donations than those who viewed non-severe images because they felt greater empathy when seeing the severe images<sup>3</sup>. This study explored the relationship between helping behaviors (donation) and social closeness (family vs. strangers) and the result demonstrated that the donation behavior is influenced by the perceived social closeness of the recipient. This finding suggests that prosocial actions are more likely to be elicited by severe health condition images when the recipient is perceived as socially close. Given these findings, it is expected that both message framing and the social closeness between the donor and recipient can impact the willingness to donate. Therefore, in the current study, we examined the main effect of social closeness on decision-making in addition to the effect of framing.

According to Jago and Deery, social closeness significantly influences decision-making processes by leveraging inherent biases, such as in-group bias and familiarity bias<sup>4</sup>. When individuals feel socially close to others, they are more inclined to favor decisions that align with the interests and perspectives of their close associates. Social closeness can amplify the impact of emotional factors on decision-making, as individuals may prioritize maintaining positive relationships over objective analysis. This indicates that the social closeness between donor and the recipient could potentially have an impact on the willingness to donate.

Jago and Deery suggested that familiarity can be established by pairing or grouping people with common experiences<sup>4</sup>. For example, a way to ensure common experiences is to find common traits such as gender (e.g., two women). Pairing the two women, who may face similar experiences in society, provides a common ground for conversation and connection. This approach can be applied to other minority groups as well. Based on this study, we can explore how demographic and identity-related factors interact with social closeness to affect participants' willingness to donate. Shared identities and experiences may lead individuals with similar backgrounds to form close social bonds more frequently, thereby influencing decision-making processes through shared perspectives and mutual understanding. Having similar experiences and close relationships can lead to biases in decision-making, as individuals may unconsciously favor the interests of those, they are close to. In addition, strong emotional connections in close relationships can heighten empathy, which can foster compassion and understanding, potentially leading to decisions driven by emotions rather than a rational evaluation of pros and cons. Given these ideas, it is expected that social closeness will have a significant impact on decision-making.

In addition to exploring each main effect of message framing and social closeness on the likelihood of donation, it is important to consider the potential interaction effect between these variables. Balbo et al. examined the interplay between the message framing (gains vs. losses) and social distance (proximal vs. distal) on the intention for blood and organ donation<sup>5</sup>. In the proximal social distance condition (e.g., someone of similar age to the respondent), participants with the loss-framed message reported a greater intention to donate their blood and organs than those with the gain-framed message, which is inconsistent with the previous findings by Tversky and Kahneman, which suggested that if participants are exposed to loss-framed messages, they would show less donation behaviors<sup>1</sup>. In contrast, in the distal condition (e.g., someone older than the respondent), participants with the gain-framed message reported a higher intention to donate than those with the loss-framed

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<sup>4</sup> Jago and Deery, *Relationships and factors influencing convention decision-making*

<sup>5</sup> Balbo et al., *Combining message framing and social distance to promote prosocial health behaviors*

message, which aligns with previous findings. These findings represent that investigating the interaction effect between the message framing and the social closeness can yield different outcomes compared to solely examining each main effect independently.

Additionally, Bartels et al. examined the impact of message framing on participants' decision-making on scheduling a screening exam for a fictitious enzyme called Thiamine Acetate (TAA)<sup>6</sup>. They found that when TAA was represented as providing health benefits (i.e., it made them more resistant to pancreatic disorders), gain-framed messages were more effective in having people to schedule the test compared to loss-framed messages. However, when TAA was framed as posing a health problem (i.e., it made them more susceptible to pancreatic disorders), participants were more willing to be tested when they were in loss-framed messages than gain-framed. This finding shows how the features of health behavior can influence the effect of message framing and suggests that loss-framed messages are more persuasive and effective in the health context where the test is related to a potential health problem, which is inconsistent with the previous study by Tversky and Kahneman<sup>1</sup>. This indicates that examining only the main effect of framing is not sufficient and there may be significant interaction effects with other variables on decision-making behaviors. Given these conflicting results, it is important to investigate the interaction effect between message framing and social closeness, in addition to examining their individual effects. To address this gap, in our study, we examined the interaction effect on the willingness to donate.

The present study utilized an online survey to measure participants' willingness to donate their liver after reading either gain-framed or loss-framed messages in the situation that recipient being either their close friend or close family member. The primary goal of the current study is to investigate the main effects of framing (gain vs. loss) and social closeness (close family member vs. friend), as well as the interaction between these two factors, on the willingness to donate the liver. For the main effects, it is hypothesized that the potential donors will be more willing to donate when exposed to gain-framed messages, and that the donors will tend to show higher willingness to donate if they have a close relationship with the recipient. Furthermore, consistent with the main effects, it is hypothesized that there would be an interaction effect that if the message is shown with a gain-frame, the potential donors will be more willing to donate the liver when the recipient is their close family member. However, contrary to the main effects, it is expected that potential donors will also show higher willingness to donate their livers even in a loss-frame condition, when they have a close relationship with the recipient, such as close family member. This may be due to strong feelings of empathy or a greater inclination to reciprocate acts of kindness and support towards someone close. This means that the strength of social closeness with the recipient can serve as a powerful motivator that overrides the effect of message framing. Previous studies demonstrated that people with loss-framed messages were more likely to show the risk-seeking behaviors and prefer not to donate, but the addition of the social closeness showed conflicting results. Therefore, examining the interaction effect between message framing and social closeness on willingness to donate is crucial.

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<sup>1</sup> Tversky and Kahneman, *The framing of decisions and the psychology of choice*

<sup>6</sup> Bartels et al., *Moving beyond the function of the health behavior: The effect of message frame on behavioral decision-making*

## Methods

### Participants

A total number of 1539 participants were recruited for the study. Of these participants, 210 were later excluded due to incompleteness of the study ( $n = 203$ ), being under age 18 ( $n = 3$ ), or not following the study instructions ( $n = 4$ ). As a result, 1329 participants above the age of 18, with a mean age of 26.7 years, who completed the study properly by following the instructions, were included in the analytical sample. The participants identified as female ( $n=900$ ), male ( $n=398$ ), and other genders ( $n=30$ ). The participants identified as White ( $n=830$ ), Black ( $n=72$ ), Asian ( $n=260$ ), Middle Eastern or North African ( $n=9$ ), Native ( $n=1$ ), Mixed ( $n=59$ ), or some other identity ( $n=17$ ). The participants did not receive any form of compensation for their participation in the study.

### Design

This study used a 2 (frame: gain vs. loss)  $\times$  2 (social closeness: family vs. friend) between-subjects factorial design. The first independent variable, message framing, was operationalized into two levels: gain frame and loss frame. Participants were randomly assigned to two different types of surveys, one in a gain frame and the other one in a loss frame. The second independent variable, social closeness, was also operationalized into two levels: close family member and close friend. Participants were further randomly assigned into two different types of survey, with one asking the participant to give the name of their close friend, and the other one asking to give the name of their close family member. This resulted in four versions of the survey with participants randomly assigned to one of the following conditions: (Gain-frame, Family), (Gain-frame, Friend), (Loss-frame, Family), (Loss frame, Friend). The number of participants in each condition is displayed in Table 1.

Participants' willingness to donate was assessed by asking them to rate their likelihood of donating a portion of their liver to the name of individual they mentioned on the previous page. This was measured on a 7-point Likert scale, ranging from 0 (*Not at all likely*) to 7 (*Definitely likely*).

The demographic information collected included participants' gender, race, education level, and socioeconomic status. For gender, participants were asked to identify their gender from choices such as male, female, and other nonbinary categories, with an additional option to write in another answer if none of the provided choices fit. For race, participants were asked to select all applicable options, including White, Black, Asian, Hispanic, Native, Middle Eastern, and were also given a space to write in another answer if they felt none of the options suited them. For education level, participants were asked to indicate the highest degree or level of education they had completed (i.e., Less than High school, High school diploma, Some college or no degree, Associate's, Bachelor's, Master's, Professional, Doctorate). Finally, for socioeconomic status, participants were shown an image of a ladder, where the top indicated those who are the best off and the bottom represented those who are the worst off. They were then asked to place themselves on this ladder by typing the number between 1 and 10.

### Materials

Participants were given an online survey link through Qualtrics, which had a total of 9 questions. The survey began by asking participants to confirm that they were 18 years old or older. Next, it asked participants to write in the name of either a close friend or a family member. This was followed by a passage describing the organ donation situation and a short paragraph emphasizing either a gain or loss frame. Then there were two ranking questions, one short answer question about the perceived closeness to the named individual, and five demographic questions, three being multiple choice and two being write-in responses. There were four different versions of the survey to account for both independent variables, the gain frame-family version, loss frame-family version, gain frame-friends version, and loss frame-friends version. The version was determined by the first question,

which asked the participant to write in the name of either a close friend or a close family member. The framing variable was accounted for in the passage following this question, where the organ donation was framed either emphasizing the gains or losses. The surveys were delivered in a blind manner. Each version was created by a separate party, and researchers were instructed to send out the links without previewing the specific questions in each version.

### Procedure

All instructions in the survey were presented in English. Participants were first asked to identify the name of either a close friend or close family member. They then read a message informing that their friend or family member had been diagnosed with end-stage liver disease and needed a liver transplant, which is the only treatment for their disease. They were presented with two options: living donor liver transplantation or deceased donation. The last part of the message varied depending on how the message was framed. Participants in the gain-frame condition read that for every 200 liver donations, 199 will survive, while participants in the loss-frame condition read that 1 will die as a result of the donation.

After reading gain-framed or loss-framed message, participants answered a question about their likelihood of donating their liver to the named friend or family member on a 7-point Likert scale ranging from “Not at all likely” to “Definitely likely.” They also rated how close their relationship is with that person on a scale from 1 to 100, with 1 being little closeness and 100 being the closest. Additionally, they indicated how long they have been close to the person by entering the number of years. Lastly, participants answered several demographic questions about their gender, race, socio-economic status (SES), age, and their education level. They answered the question about what gender they identify with and were given choices such as male, female, many other options that fall under the greater nonbinary category and were given a space to write in another answer if they felt none of the options given fit them. They answered what race they identify with and were given choices such as White, Black, Asian, Hispanic, Native, Middle Eastern, and were given a space to write in another answer if they felt none of the options given fit them. For SES, they were shown a picture of a ladder. At the top (10) of the ladder were the people who are the best off and at the bottom (1) were the people who are the worst off. They are asked to place themselves on the ladder by typing the number between 1 to 10. Then, they typed their age in years. Lastly, participants were asked for their highest degree or level of education they have completed within the choices of Less than High school, High school diploma, Some college, no degree, Associate’s, Bachelor’s, Master’s, Professional, and Doctorate.

### Results

A total of 1539 participants were recruited, but 210 were excluded from the analysis due to 203 participants for not fully completing the survey, 3 participants for being under age 18, and 4 participants for not following the instructions, for example, giving an unintelligible name or multiple names. Therefore, data from 1329 participants were analyzed.

We assessed the main effects of framing and social closeness on donation scores, as well as the interaction effect between framing and social closeness. The statistical analysis employed ANOVA with framing (gain vs. loss) and social closeness (close family member vs. close friend) as independent variables, and donation scores as the dependent variable. Donation scores, initially measured on a 7-point Likert scale ranging from “Not at all likely” to “Definitely likely,” were averaged to compare across conditions.

Results of a 2 (gain vs. loss) x 2 (close family member vs. close friend) between-subjects ANOVA showed a significant main effect for the framing,  $F(1,1325) = 5.658, p < .05$ . Gain framing ( $M = 6.33, SD = 1.120$ ) had a higher amount of willingness to donate on average when compared to

loss framing ( $M = 6.18$ ,  $SD = 1.311$ ). Results also indicated a main effect for social closeness, such that close family member group had a higher level of willingness to donate ( $M = 6.51$ ,  $SD = 1.031$ ) when compared to the close friend group ( $M = 6.01$ ,  $SD = 1.337$ ),  $F(1,1325) = 58.100$ ,  $p < .001$ . There was not a significant interaction effect,  $F(1,1325) = 0.366$ ,  $p = 0.426$ .

Figure 1 shows the effect of framing on participants' willingness to donate. Participants who read the paragraph of gain-framed message were, on average, 15% more likely to donate than participants exposed to the loss-framed message.

The results of the main effects of framing and social closeness on donations were consistent with our hypothesis as participants in the gain frame and those with closer relationships with the recipient had higher donation scores. However, the interaction effect between framing and social closeness on donation scores did not align with our expectations, as there was no significant interaction effect.

## Discussion

The aim of the current study was to investigate the main effects of message framing and social closeness on the willingness to donate, and the interaction effect between these two variables on the likelihood of donation. In terms of the framing effect, participants who were in gain-framed message condition demonstrated a higher willingness to donate compared to those who were in loss-framed message condition. As predicted, there was a significant effect of framing on the willingness to donate. As previously mentioned, current study had two conditions for social closeness: family members and friends. The results indicated a main effect of social closeness on willingness to donate. When the recipient was a family member, participants showed a higher willingness to donate compared to when the recipient was a friend, which is consistent with our predictions. However, contrary to our expectations, there was no significant interaction effect between message framing and social closeness.

Our results regarding the individual main effects of framing and social relations on decision-making were consistent with our hypothesis. However, the interaction effect was not significant, which was inconsistent with our hypothesis. Svenson & Benson investigated the effects of framing and time pressure on decision-making processes and found a significant main effect of message framing<sup>7</sup>. Consistent with previous work, we also observed a framing effect in our study that individuals were more motivated to donate when the message was presented in a gain frame and less willing to donate when shown a loss-framed message. This finding confirms the robustness of the framing effect in influencing decision-making, including charitable giving. Similarly, the findings of Balbo et al. align with our results regarding the main effect of framing on decision-making. Balbo et al. found that people were more willing to donate their blood and organs when the message was gain-framed, indicating the importance of considering the effects of message framing on people's decision-making behaviors, especially in the health-related contexts<sup>5</sup>. In addition, Balbo et al. investigated the main effect of social closeness on decision-making and found a significant effect that people were more willing to donate blood or organs when they had a proximal relationship with the recipients<sup>5</sup>.

However, unlike our study, Svenson & Benson and Balbo et al. suggested that the interaction effect between message framing and social distance on decision-making is significant<sup>5,7</sup>. Svenson & Benson found a significant interaction effect between framing and time pressure as independent variables<sup>7</sup>. While the results are not directly comparable due to the differing second independent variables in these studies, when considered together with our findings, the combined results suggest

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<sup>5</sup> Balbo et al., *Combining message framing and social distance to promote prosocial health behaviors*

<sup>7</sup> Svenson & Benson, *Framing and time pressure in decision making*

that other independent variables can have a significant interaction effect with framing. Balbo et al. found a significant interaction effect, indicating that people showed a greater willingness to donate when they had a proximal distance with the recipient, even in the loss-frame condition<sup>5</sup>. In contrast, our study found that the effects of message framing and social closeness operate independently in influencing donation behavior, and therefore do not have an interaction effect. This discrepancy may be attributed to differences in the specific contexts or the varying operational levels of social distance across studies, underscoring the need for further research by specifying the extent and nature of social closeness.

Our findings on the effect of message framing on the willingness to donate represent that the way message is presented and conveyed can influence people's decisions. As Tversky & Kahneman proposed in their prospect theory, whether information is framed in terms of gains or losses can lead to different decisions and preferences<sup>1</sup>. This highlights the subjective nature of decision-making and the manipulability of choices. Based on our findings, while it is suggested that the impact of framing on decision-making might not necessarily be amplified by the presence of social closeness in the context of donation decisions, the significance of the framing effect remains evident. The way information is framed continues to play a crucial role in shaping individuals' decisions, reinforcing the need to consider framing effects in any persuasive communication strategy.

The absence of a significant interaction effect between message framing and social closeness suggests that these two factors may operate independently when influencing decisions. This means that message framing and social closeness may involve separate cognitive processes in decision-making. According to the elaboration likelihood model (ELM), which is widely used to explain the individuals' persuasion processes and how information is processed, people's behaviors are influenced through two alternative processing routes: the central route and the peripheral route. The central route is activated when individuals engage in processing and identifying information within the message itself, whereas the peripheral route relates to the context in which decision-making takes place, potentially impacting attitudes without requiring in-depth processing of message content<sup>8</sup>. Based on the ELM, message framing may activate the central route as it primarily relates to how information is perceived and evaluated, while social closeness may activate peripheral route as it relates to the context such as emotional connection and relationship, and furthermore, perceived obligation to the recipient. These two different cognitive pathways may operate independently, potentially explaining why they do not necessarily interact in influencing decision-making. Additionally, individual differences might lead people to prioritize one factor over the other based on personal values, beliefs, or situational factors. For example, some individuals may prioritize helping a family member regardless of the way the information is framed or presented, while others may be more influenced by the framing of the message irrespective of their closeness to the recipient. Although both framing and social closeness play important roles in decision-making, their lack of interaction suggests that their effects may be mediated by different cognitive processes, emphasizing the multifaceted nature of decision-making.

The first limitation of our study is that the sampling relied on a convenience sample, specifically involving friends and family members. Our study did not include various types of social relationships in our sample, such as strangers, colleagues, and acquaintances. Participants may have

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<sup>1</sup> Tversky and Kahneman, *The framing of decisions and the psychology of choice*

<sup>5</sup> Balbo et al., *Combining message framing and social distance to promote prosocial health behaviors*

<sup>7</sup> Svenson & Benson, *Framing and time pressure in decision making*

<sup>8</sup> SanJosé-Cabezudo et al., *The combined influence of central and peripheral routes in the online persuasion process*



been influenced by their pre-existing relationships with their friends or family members they selected in the survey, which could potentially impact our results. Furthermore, participants may have been more inclined to provide socially desirable responses or may have felt pressured to appear generous when considering donations to friends and family members. This response bias could lead to inflated reports of willingness to donate. In addition, this limitation may pose challenges for the interpretation and generalizability of the study results.

Future studies can implement more representative sampling methods, by including multiple levels of social closeness, such as colleagues, acquaintances, and strangers. By employing sampling techniques that capture a broader range of relationships, researchers can improve the applicability of their findings. This approach may also allow novel insights into how decision-making varies according to different levels of social intimacy. For example, in marketing, companies do not sell their products solely to family or friends. They have to convince people they do not know. Therefore, extending the samples to include a wider range of social relationships can make the findings more broadly applicable. The inclusion of strangers and acquaintances as potential donation recipients may allow researchers to examine more specific impact of social distance on donation decisions and can provide new insights into the interaction between message framing and social closeness. We can expect that participants may be influenced differently based on social closeness, with donations to strangers being more affected by message framing, whereas donations to close relationships be driven more by emotional connections. Moreover, by comparing different levels of social closeness, researchers can explore the underlying motivations or mechanisms driving the decisions they made, such as altruistic motives, reputation management, and social norms.

A second limitation of our study is there was additional demographic information that we could have collected. For example, many participants in our study were white, which may introduce cultural bias. Social norms, values, and attitudes can vary across different racial and ethnic groups, potentially influencing people's donation decisions. Consequently, our study results may not be generalizable to more diverse populations with different cultural backgrounds.

Additionally, when studying the impact of framing, it is important to record and control for variables such as initial health status, as decision making can be influenced by a person's baseline health. Another facet of the framing effect is that individuals are more likely to take risks when they have more to lose, and they tend to avoid risks<sup>9</sup> when they are in worse conditions. Participants in our study who were in poorer initial health might have been less likely to donate, aligning with this aspect. In future studies, researchers should aim to include more diverse samples regarding race, initial health status, and other factors that may influence decision making. This would help enhance the generalizability of the findings and allow for a more nuanced understanding of how different demographic and health-related factors interact with message framing to impact decision-making behaviors in donation.

Based on Tversky & Kahneman's framing theory<sup>1</sup>, we examined the main effects of message framing and social closeness on decision-making, as well as their interaction effect. Along with previous studies, our study supports the impact of framing on decision making, showing that how message is presented significantly influences individual's willingness to donate. However, our findings did not reveal a interaction effect between framing and social closeness, which contrasts with some previous research that reported significant interactions.

From our results, we know that the framing of information can alter individuals' perceptions of the importance or relevance of particular aspects of a decision. This has practical implications for marketers, policymakers, and communicators aiming to influence decisions. For instance, in our daily lives, highlighting and framing certain features of a product or policy can lead individuals to prioritize those aspects in their decision-making process, even if they are not objectively the most important. In addition, framing can serve as a powerful tool for persuasion. By framing information in a certain way,

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<sup>1</sup> Tversky and Kahneman, *The framing of decisions and the psychology of choice*

it can shape individuals' perceptions and preferences, potentially guiding decisions in a desired direction.

Ultimately, our study highlights the significant impact of message framing on decision outcomes, emphasizing the importance of carefully considering how information is presented, particularly in contexts where decision outcomes have significant consequences, such as health decisions. The findings also indicate that while framing plays a crucial role in shaping decision-making, further research is needed for the interaction effect between framing and social closeness in order to fully understand its effects. Future studies could provide deeper insights into how different factors interplay and affect individuals' decisions.

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**Table 1***The Number of Participants in Each Condition*

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	The Number of Participants
Gain	665
Close Family Member	327
Close Friend	338
Loss	664
Close Family Member	329
Close Friend	335
Total	1329

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### Figure 1

*Average Donation Score of Each Framing Condition*

