

Improving the Efficiency of Online Philanthropy: The Interactive Role of Temporal Distance and Goal Frame

Zhicong Zhang¹, Chenlan Xie²

¹Department of Educational Psychology, Faculty of Education, East China Normal University, Shanghai, China

²School of Psychology, Fujian Normal University, Fuzhou, China

Email: 52204118004@stu.ecnu.edu.cn

How to cite this paper: Zhang, Z. C., & Xie, C. L. (2022). Improving the Efficiency of Online Philanthropy: The Interactive Role of Temporal Distance and Goal Frame. *Open Journal of Social Sciences*, 10, 154-174. <https://doi.org/10.4236/jss.2022.107014>

Received: June 16, 2022

Accepted: July 11, 2022

Published: July 14, 2022

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Abstract

How can charitable initiatives be developed to stimulate individuals' desire to donate, increase the likelihood that they will donate? The context of the research was fundraising by nonprofit organizations (NPOs) in China. We conducted two experiments with fundraising advertisements with different content in terms of temporal distances and information frames to investigate the effects on college students' donation behavior. Study 1 used a temporal distance single-factor design; Study 2 used a two-factor (temporal distance: near, distant \times goal frame: gain, loss) mixed design. In both studies, donation amount and donation possibility were used as measures of donation behavior. The results show that individuals' willingness to donate is higher in the near distance condition than in the distant temporal condition. Also, both the amount and possibility of donations from individuals are higher under the gain frame than the loss frame. However, although the gain frame can improve an individual's willingness to donate more than the loss frame in the distant temporal condition, there is no significant difference in the near temporal distance condition. The results suggest that by including goal-frame information about the project start time in their advertising, NPOs can increase the effectiveness and efficiency of their internet-based fundraising.

Keywords

Online Philanthropy, Temporal Distance, Goal Framework, Nonprofit Organizations, Donation

1. Introduction

The philanthropic participation of ordinary people is an important indicator for

measuring the development level of a country's philanthropic undertakings; individual donations are also an important guarantee for the development of philanthropy (Simpson et al., 2018). With the development of network technology, various online public welfare platforms, such as the Tencent Charitable Foundation, Alibaba Foundation, and Shuidichou (Chinese online public welfare platforms), have become available, making it more convenient for people to access the publicity information of charities and participate in charitable undertakings. According to the Annual Report on China's Philanthropy Development, individual donations account for less than 40% of the total charitable donations in China, and enterprises (businesses and outside organizations) still comprise the main source of charitable donations (Wang, 2020), indicating that there is more room to explore the potential of individual donation. On the other hand, it may also be due to the lack of specialization and refinement of management in non-profit organizations (NPOs), which makes it difficult for them to develop reasonable and effective publicity strategies and results in ineffective fundraising efforts that do not appeal to donors. Thus, the NPOs face funding shortages and are forced to cut or suspend services (Cao, 2016). This situation has seriously affected the normal operation of charitable organizations, making them unable to provide timely help to people in need, thus causing considerable losses to economic development as well as threatening social security and stability (Yang, 2004). Therefore, the need for charitable organizations to create attractive and efficient publicity initiatives, persuade different individuals to donate more, and improve the efficiency of charity publicity and donation has become an important topic of academic and industry research.

Recently, several published studies have examined the factors that influence charitable giving and revealed the importance of both intra-individual and external factors (Bhati & Hansen, 2020). Intra-individual factors include the helper's demographic variables (e.g., gender, age, income level, education level, social status, and religious affiliation) (Andreoni et al., 2016; Jamal et al., 2019; Lee & Chang, 2007; Mesch et al., 2011; Sargeant & Woodliffe, 2007; Snipes & Oswald, 2010; Whillans & Dunn, 2018; Ye et al., 2015), as well as prosociality-related traits, such as self-interest, altruism, and responsibility (Dannenberg & Martinsson, 2021; Schlosser & Levy, 2016; White & Peloza, 2009). External factors include fundraising nudging strategies and techniques associated with charitable organizations and charitable messages that lead to behavioral changes among potential donors (Ruehle et al., 2020; Schulz et al., 2018; Wu & Jin, 2020; Wymer et al., 2021). Charities acting as intermediaries need to release various types of donation information to spread the needs of helpers. People's views and judgments of public events are obviously affected by the way information is presented (Levin et al., 1998). Therefore, designing an effective funding strategy and a compelling philanthropic message should be the main goals of NPOs (Small & Verrochi, 2009).

Previous researchers have studied these intra-individual factors as well as external factors. Relatively speaking, we rarely change the internal factors of indi-

viduals in actual donation programs, while external factors such as charitable information can be more often manipulated. Therefore, this study focuses on the perspective of donation messages and explores the influence of donation messages with different descriptions of time and consequences on individuals' donation behaviors. In what follows, we first review the current literature on the influence of temporal distance, framing, and culture on charitable donation behavior to inform our research hypotheses for the current study.

2. Literature Review

Temporal distance and charitable donations

Previous studies have investigated the influence of temporal distance on donation behavior. A type of psychological distance, temporal distance refers to people's psychological representation of the distance of an event in terms of time (for example, whether the event will occur in one year vs. one month in the future), and it has been shown to affect individuals' mental constructions and judgments about an event (Liberman & Trope, 1998). Specifically, construal level theory (CLT) has proposed that people's thoughts and reactions to social events depend on their mental representation of the temporal distance of the events. With an increase in temporal distance (e.g., thinking about an event in a year vs. a month), people's interpretation of events tends to be more abstract, generalized, and non-situational; as temporal distances shorten, interpretations tend to be more specific, unstructured, and situational.

Researchers have reported contradictory and mixed evidence regarding the effects of temporal distance on individual donation behavior. On the one hand, some studies have shown that an increase in temporal distance can improve judgment, intention, and actual donation behaviors (Eyal et al., 2008; Breman, 2011). Some researchers argue that one potential reason for this effect is that an increase in temporal distance can activate high-level motivation, specifically, the social desirability of donation behaviors (Choi et al., 2012). Another explanation is that when temporal distance increases, there was less emphasis on the amount one must donate, which increases people's willingness to help others (Aknin et al., 2015). However, short-term events are interpreted at a more specific level, emphasizing specific and short-term details, highlighting the personal cost of an individual's intention to help others, and decreasing people's willingness to help (Aknin et al., 2015).

However, there was also evidence suggesting that decreasing the temporal distance may promote donation behaviors. Some researchers believe that with the shortening of temporal distance, short-term behavior consequences are highlighted, and information emphasizing short-term results is timelier and more influential (Zhong et al., 2009). People generally expect that their behaviors will have a bigger impact on proximate cause goals; therefore, short-term behavioral consequences are also of greater concern to individuals (Chapman et al., 2005). This expectation leads to individuals being more willing to increase their prosocial be-

havior in close proximity because people may think that if their donation will be used the next day, it is timelier and more influential than if it were used a month later (Touré-Tillery & Fishbach, 2017). Then again, some studies have found that the length of the deadline for charitable fundraising activities does not affect an individual's tendency to donate (Damgaard & Gravert, 2017; Kölle & Wenner, 2021).

There are also some variations in the influence of temporal distance on the persuasion effect that are related to other factors. When the goal is temporally distant, strong persuasive arguments (compared with weak persuasive arguments) will receive more attention and impact attitudes toward donation (Fujita et al., 2008). Ein-Gar and Levontin (2013) found that when people donate to others in need at a temporal distance, they are more willing to donate to charitable organizations; when people donate to something temporally close, they are more willing to donate to specific recipients. When temporal distances are long, people prefer to—and are more likely to—donate based on values associated with high-level option construction (e.g., time) rather than values associated with low-level option construction (e.g., money) (Song & Kim, 2020). This evidence suggests that a systematic approach may be required to study further the effects of temporal distance and its interaction with other factors on donation behavior.

Framing effect and its interaction with temporal distance on charitable donations

The fundraising effect of charitable organizations is influenced by the persuasion strategy of fundraising information (Jang & Irwin, 2021), in which it is convenient and feasible to apply the information framing effect. The framing effect refers to the semantically different ways of presenting logically equivalent information that can influence or change the information receiver's decisions and preferences regarding the described object (Gosling et al., 2020; Kahneman & Tversky, 1979). In the present study, we focused on goal framing. The goal-framing effect emphasizes that the outcome of a gain or loss resulting from taking a given action affects an individual's eventual willingness to act. The gain frame is the positive outcome of doing something, such as donating, which could help people in need. The loss frame emphasizes the negative consequences of *not* doing something; for example, refusing to donate may mean that a person with a disease will have to go without treatment.

There was some debate about the impacts of framing on charitable behavior. On the one hand, some researchers have found the loss framework to be superior to the gain framework regarding donation because negative information can attract attention and be more convincing; therefore, the psychological loss can be greater than that for a gain of the same value (Chang & Lee, 2010). The loss framework makes individuals more sensitive to the negative effects of their own actions (Cao, 2016; Chang & Lee, 2009). While we may feel more favorably disposed towards positive charitable appeals than negative ones, in practice, the

negative appeals attract more—or at least as many—actual donations (Erlandsson et al., 2018).

Additionally, some researchers believe the loss frame to be superior to the gain frame in some cases because losing the frame information during information processing can better trigger the attention of the individual, consequently leading them to process the presented negative information more objectively (Slater et al., 2002). However, the study by Latimer et al. (2007) showed that fear of negative information and attentional bias effect can only be triggered when the donor information is highly relevant to the donor. However, in most philanthropic giving programs, the likelihood of a high correlation between the donor and the person seeking help is low, so the propaganda effect of the loss frame is not superior to that of the gain frame.

There was also evidence of the advantages of the gain frame. In a study involving organ and tissue donation, Reinhart et al. found that the gain framework increased the willingness to donate organs more than the loss framework (Reinhart et al., 2007). Furthermore, Kim (2020) reported that a positive information framework can positively impact the amount of online funding. A meta-analysis conducted by Xu and Huang (2020) also revealed that there was no significant difference in persuasion and appeal between the gain frame and the loss frame in charity advertising.

With the deepening of research, an increasing number of researchers are no longer simply discussing the propaganda effect when the information frame is applied alone; framing is observed in combination with other factors that affect individual donation to explore the propaganda effect (Das et al., 2008; Li et al., 2018; Song & Lee, 2019; Yilmaz & Blackburn, 2020). Likewise, the framing effect has also been found to interact with temporal distance in influencing people's perceptions and behaviors. The CLT asserts that there is a certain connection between the framing effect and temporal distance (Bar-Anan et al., 2006; Liberman & Förster, 2009). Specifically, when the temporal distance of an event is relatively close, people tend to pay more attention to specific and complex information and prefer to use analytical processing, and the influence of the framing effect is weakened. In contrast, when the temporal distance of the event is relatively distant, people tend to pay more attention to the abstract and essential information and prefer to use the integral processing method. In this case, the influence of the framing effect is enhanced (McElroy & Mascari, 2007). In the field of philanthropy, researchers have found that short-term time frames facilitate the charitable appeal effect presented by the combination of negatively framed messages and negative images (Chang & Lee, 2009). Participants were more willing to donate in the distant future after reading abstract and high construal level charity messages as opposed to concrete and low construal level messages (Czeizler & Garbarino, 2017; Tugrul & Lee, 2018).

Culture and charitable donations

Previous experimental designs have mainly focused on giving in the United

Kingdom and the United States (Bhati & Hansen, 2020; Ma & Konrath, 2018), and few studies have considered cultural context. In the existing studies, researchers mainly compare the differences between collectivist and individualistic cultures and between male and female cultures regarding the effectiveness of charitable appeals (Laufer et al., 2010; Nelson et al., 2006). Culture has been shown to influence individual intentions. Ye et al. shows that the formulation methods of different donation outcome frameworks impact individual donation willingness and have cultural differences (Ye et al., 2015). In a collectivist culture, it is more effective to structure donation outcomes based on benefits to others, while in an individualist culture, it is more effective to structure giving outcomes based on benefits to oneself (Ye et al., 2015).

More importantly, culture influences the perception of time (Boroditsky et al., 2011); thus, there may also be cultural differences in the perception of temporal distance between Easterners and Westerners (Messervey, 2008). In a cross-cultural (Korea and the United States) study based on the context of advertising, researchers found that individuals' cultural orientation can influence their level of information construction and perceived temporal distance (Kim et al., 2018). Therefore, it is necessary to consider the time orientation of individuals in different cultures when considering the differences in the results of the impact of temporal distance on donation decisions.

In the field of philanthropy research, there have been a few studies in China on the impact of time distance and frame effect on giving behavior. Therefore, in the context of Chinese culture, it is necessary to further clarify the impact of temporal distance and goal frame on individual charitable donation behavior and whether there are cultural differences through experimental research. The results of the study have implications for NPOs, which could help them develop more effective fundraising messages to encourage more potential donors to donate.

The present study

Based on the review of the literature mentioned above, we find that there are few studies on the influence of temporal distance on charitable behavior in the context of Chinese culture. The interaction between temporal distance and goal frame on philanthropic behavior was unclear. In the present study, we used online experiments to collect data and explored how temporal distance and frame effect influence individuals' donation behaviors in online fundraising of charitable organizations by conducting two independent studies.

In Study 1, we explored the impact of temporal distance on donation behavior. In Study 2, we further examined the potential interactions of temporal distance and framing effect on donation behavior. The experimental materials all involved fundraising for children with hemophilia. We set up a different start time (1 day/1 year) of fundraising projects to test whether donations are made under different temporal distance conditions (donation amount and possibilities). We believe that in China, as a society inclined to collectivism, when faced with donations that are beneficial to others, the near-term charitable appeal will

lead to a stronger willingness to donate. Therefore, we put forward the following hypotheses 1: Individuals are more willing to donate in the condition of near-term temporal distance compared with distant temporal distance.

In Study 2, we adopted a mixed experimental design. The experimental materials were accompanied by promotional posters that described different goal frames. We put forward hypothesis 2: The interaction between temporal distance and goal-framing effect is significant. Under the condition of near temporal distance, individuals are more willing to donate to read the loss frame information than to read the gain-frame information. In the distant temporal condition, individuals were more willing to donate to read the gain-frame information than to read the loss frame information.

3. Study 1

In Study 1, we separately examined the effect of temporal distance on individuals' willingness to donate. We set different questions in the survey questions to manipulate different temporal distances.

Method

Participants

We used G*Power (Faul et al., 2007) to perform an a priori power analysis for difference between two dependent means (matched pairs). After setting the relevant parameters (Tails= two, Effect size $d_z = 0.5$, $\alpha = 0.05$, $1 - \beta = 0.9$), the calculations showed that 44 people per group was an appropriate sample size (actual power = 0.90).

A total of 50 university students participated in the experiment by randomly releasing survey experiment materials on the campus in Fujian, China. Then, four participants were deemed ineligible and were eliminated, including those whose experiment filling time was shorter than or longer than three standard deviations and those who answered the attention options incorrectly in the materials. Finally, 46 eligible participants (mean age = 22.20 ± 1.87 years) were obtained. Demographic information on domicile place and grade level was also collected¹ (see Table 1). None of the participants had any similar experimental experience.

Design and procedure

To exclude individual differences, the study adopted a single factor design within subjects with temporal distance. The dependent variables were the individual donation amount and donation possibility score. The donation amount was set from 0 to 100 yuan. Eleven options were provided, each 10 yuan apart. The higher the score, the more money is donated. In terms of donation possibility, the study of Grant and Gino (2010) was used as a reference to understand the individual donation possibility by asking, "How likely are you to donate to this project?" Responses were scored with a possible total of seven points; the

¹The demographic information of participants did not moderate the prime effects found in this research. In Study 1, temporal distance did not interact with gender, domicile place and grade level ($p = 0.461$, $p = 0.201$, $p = 0.354$).

Table 1. Demographic information of Study 1.

	Type	Number
Gender	Male	22
	Female	24
Domicile place	Urban	25
	Country	21
Grade	Freshmen	5
	Sophomore	4
	Junior	9
	Senior	28

higher the number, the more likely the person would donate.

The experimental materials were adapted based on the research of Ein-Gar and Levontin (2013) and combined with the actual incidence of hemophilia in China. The charity organization's fundraising was reportedly for the launch of a relief project for children with hemophilia. Unlike the studies of Damgaard and Gravert (2017) which set different deadlines for the end of the donation program, our study set different start dates for the program. The temporal distance was manipulated by describing in the material that "there is still one year/one day until the start the donation project". The description of temporal distance was written clearly in a large bold font. To balance the order of occurrence of far and near temporal distance, half of the participants first answered the questions in the near temporal distance situation, while the other half first answered the questions in the distant temporal distance situation.

The experiment adopted the online experiment method of a non-real name system. After entering the experiment interface, the participants were asked to read a paragraph of instructions and make independent judgments according to their own situation. First, the participants were asked to read the details of the relief project that would be supported by the raised funds. Next, they completed the attention test items and indicated the amount of donation and the possibility of donation (i.e., how much they would donate and how likely they were to donate). Second, the participants were required to complete the manipulation test items and judge the perceived temporal distance (a 7-point scale was adopted; the higher the score, the further the perceived temporal distance). Finally, the participants were asked to fill in the basic personal information (see the appendix for specific materials).

Results

The validity of the manipulation of temporal distance was tested using a paired sample *t*-test. The distant temporal distance group scores (5.61 ± 1.42) were significantly more distant than the near temporal distance group scores (1.43 ± 0.75), $t(45) = 19.12$, $p < 0.001$, indicating that temporal distance manipulation was effective.

The paired-sample *t*-test was used to analyze the differences in the participants' willingness to donate to charity (**Table 2**).

As can be seen from **Table 2**, in terms of donation amount, there was a significant difference between the distant- and near-distance conditions. Specifically, the distant temporal-distance condition amount was significantly lower than that for the *near* temporal-distance condition ($p < 0.001$). The distant temporal distance condition score was also significantly lower than the near distance condition ($p < 0.001$) for the donation possibility. This result shows that when individuals perceive a closer temporal distance, they generate more donations more willingly than for the same fundraising project if the project commences further in the future.

4. Study 2

In Study 1, we found that individuals differ in their willingness to donate to charitable projects with different start-up times. In Study 2, we explored the matching effect of different goal frames and temporal distance of charity information on donation intention and further investigated the influence of temporal distance on individual donation intention.

Method

Participants

We used G*Power (Faul et al., 2007) to perform an a priori power analysis for repeated measures, within-between interaction. Based on the previous studies (Tugrul & Lee, 2018), we calculated the appropriate subject size as 84 based on the relevant parameters (Effect size $f = 0.2$, $\alpha = 0.05$, $1 - \beta = 0.95$, group = 2).

A total of 90 university students participated in the experiment by randomly releasing survey experiment materials on the campus in Fujian, China. Six invalid participants were eliminated and rejection criteria are the same as in Study 1. Finally, 84 eligible participants (42 males, mean age = 21.88 ± 1.06 years) were obtained. Demographic information on domicile place, grade level and whether they have participated in charitable activities was also collected² (see **Table 3**). None of the participants had previously participated in similar experiments.

Table 2. Differences in individual charitable giving behavior in various temporal distance conditions ($N = 46$).

Dependent variables	Independent variables	$M \pm SD$	t	d
Donation amount	Distant temporal	5.70 ± 3.27	-4.34***	0.64
	Near temporal	7.11 ± 3.11		
Donation possibility	Distant temporal	4.63 ± 1.51	-4.37***	0.64
	Near temporal	5.70 ± 1.40		

*** $p < 0.001$.

²The demographic information of participants did not moderate the prime effects found in this research. In Study 2, temporal distance did not interact with gender, domicile place, grade level and participated in charitable activities ($p = 0.32$, $p = 0.437$, $p = 0.138$, $p = 0.506$).

Design and procedure

A two-factor mixed experimental design 2 (temporal distance: distant, near) \times 2 (goal frame: gain, loss) was adopted. Among them, temporal distance was the within-subject variable, the goal-framing effect was the between-subject variable, and the dependent variable was the donation amount and donation possibility score of the subjects.

The experimental materials added expressions of different goal frames based on Study 1. To reflect charity fundraising and publicity more directly, Study 2 was presented in the form of text and a poster (see **Figure 1**) to increase the practical significance and universality of the study. The description of the frame of gains and losses was presented in a bold black font in the poster to attract the attention of the participants. The size of the poster was 800 \times 800 pixels. The content and research process of the written materials were the same as in Study 1.

Table 3. Demographic information of Study 2.

	Type	Number
Gender	Male	42
	Female	42
Domicile place	Urban	41
	Country	43
	Freshmen	9
Grade	Sophomore	7
	Junior	11
	Senior	57



With your help, hemophiliac children here receive effective treatment and get rid of their pain and suffering!



Please join us in guarding the little glass angels!

Organizer: China Charities Aid Foundation for Children (CCAFC)



Without your help, hemophiliac children here would not be able to get effective treatment and continue to suffer from pain!



Please join us in guarding the little glass angels!

Organizer: China Charities Aid Foundation for Children (CCAFC)

Figure 1. Gain frame charity advertisement (left), loss frame charity advertisement (right).

Results

The validity of the manipulation of temporal distance was tested using a paired-sample *t*-test. The distant temporal distance group (5.31 ± 1.20) was significantly more distant than the near temporal distance group (1.68 ± 1.12 , $t(83) = 22.26$, $p < 0.001$), proving that temporal distance manipulation is effective.

Repeated measures ANOVA was performed with temporal distance and goal framing effect as independent variables and donation amount and donation possibility score as dependent variables (see **Table 4**). The results show that the temporal distance ($F(1, 82) = 19.3$, $p < 0.001$, $\eta_p^2 = 0.19$) and goal frame ($F(1, 82) = 4.77$, $p = 0.032$, $\eta_p^2 = 0.06$) had significant main effects on the donation amount. The interaction between temporal distance and the goal-framing effect was also significant ($F(1, 82) = 19.35$, $p < 0.001$, $\eta_p^2 = 0.19$). Further simple effect analysis showed that there was no significant difference in the amounts of donations after reading the gain-frame information and the loss frame information under the condition of near temporal distance ($F(1, 82) = 0.12$, $p = 0.73$). Under the condition of distant temporal distance, the donation amount was significantly higher after participants read the gain-frame information than after they read the loss frame information ($F(1, 82) = 15.24$, $p < 0.001$, $\eta_p^2 = 0.16$). The interactions are shown in **Figure 2**.

The results show that the temporal distance ($F(1, 82) = 33.01$, $p < 0.001$, $\eta_p^2 = 0.29$) and goal frame ($F(1, 82) = 4.88$, $p = 0.03$, $\eta_p^2 = 0.06$) had significant main effects in terms of donation possibility. The interaction between temporal distance and goal-framing effect was also significant ($F(1, 82) = 11.23$, $p = 0.001$, $\eta_p^2 = 0.12$). Further simple effect analysis showed no significant differences in the possibility of donations after reading the gain-frame information and the loss frame information under the condition of near temporal distance ($F(1, 82) = 0.03$, $p = 0.86$). Under the condition of distant temporal distance, the participants' reported donation possibility after reading the gain-frame information was significantly higher than after reading the loss frame information ($F(1, 82) = 15.90$, $p < 0.001$, $\eta_p^2 = 0.16$). This interaction is shown in **Figure 3**.

5. General Discussion

In this study, we examined the effects of temporal distance and goal-frame information about charitable appeals on individuals' willingness to donate. The

Table 4. Interactive effects of temporal distance and goal framework on donation intention ($N = 84$).

Temporal distance	Goal frame	Donation amount $M \pm SD$	Donation possibility $M \pm SD$
Near	Gain ($n = 42$)	6.69 ± 3.30	5.48 ± 1.23
	Loss ($n = 42$)	6.45 ± 2.30	5.52 ± 1.22
Distant	Gain ($n = 42$)	6.69 ± 3.31	5.12 ± 0.83
	Loss ($n = 42$)	4.29 ± 2.23	4.17 ± 1.31

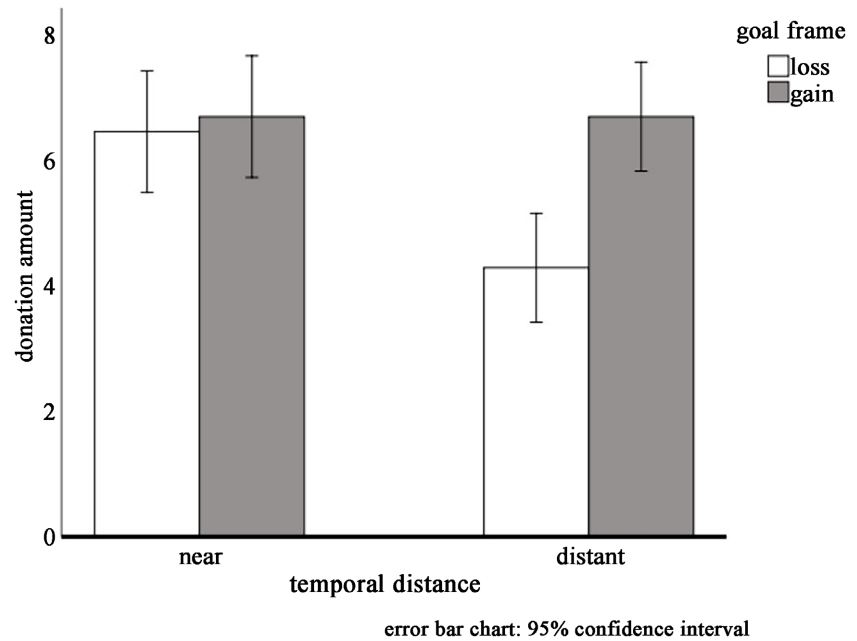


Figure 2. Interaction between temporal distance and goal framing effect on donation amount.

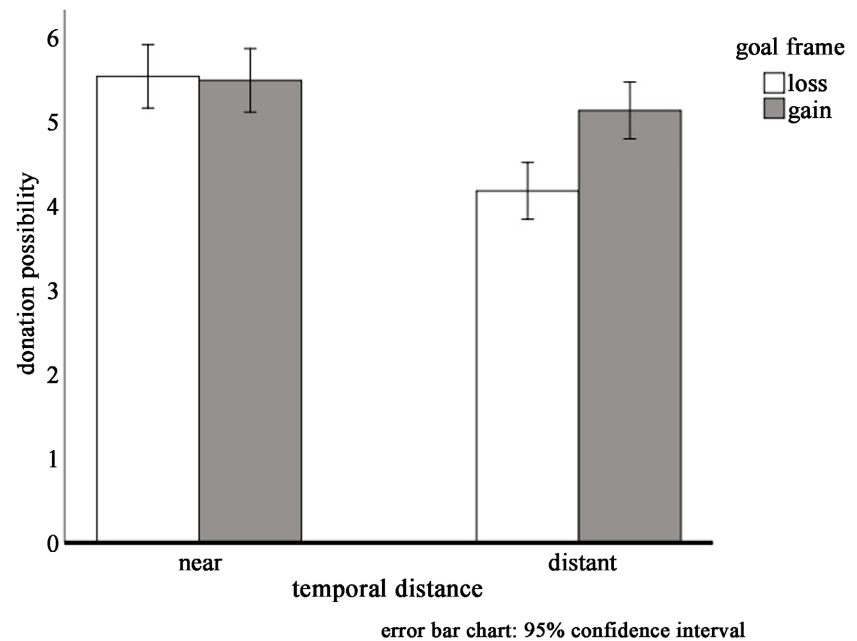


Figure 3. Interaction between temporal distance and goal framing effect on donation possibility.

results of Study 1 and Study 2 both indicate that temporal distance can impact the charitable donation behavior of individuals. Both the possibility of donating and the donation amount were higher under the close temporal distance condition than the distant temporal distance condition. The results of Study 2 show that the goal-framing effect has a significant impact on individuals' charitable donation behavior. We also found that the amount of charitable donations and

the possibility of donations under gain-framing are significantly higher than those under loss framing. Moreover, there is an interaction between the temporal distance and goal frames on the intention to donate. Specifically, only in the distant future were individuals more likely to donate after reading the gain frame than after reading the loss frame.

Our findings are consistent with those of [Song and Kim \(2020\)](#). The donation items in this study are set up as money, which is usually constructed concretely and at a low level ([Okada et al., 2004](#); [Song & Kim, 2020](#)). Thus, when money, at a low level of construction, is matched with a close time distance, the charitable persuasion effect is enhanced ([Ein-Gar & Levontin, 2013](#); [Macdonnell & White, 2015](#)). As suggested by [Zhong et al. \(2009\)](#) individual perceptions of the relevance of events are closely related to temporal distance. They reported that the nearer in time (sooner) the donation project, the more people perceive the relevance between the donation and themselves, the more they attach importance to the donation activities. Therefore, near temporal distance makes people more likely to donate. When an event is described as being close in terms of temporal distance, it is more likely to be associated with short-term consequences, and people are more likely to overestimate the consequences of their actions in the nearer future ([Green & Myerson, 2004](#)). Individuals also tend to have higher behavioral motivation when they perceive the consequences of the event behavior are closer in terms of psychological distance ([Trope et al., 2007](#)).

According to the temporal discounting theory (TDT), if an event occurs in the distant future, the uncertainty will increase, and the value of the event will decrease accordingly, leading to the weakening of people's valuation of the event ([Malkoc & Zauberman, 2006](#); [Zauberman et al., 2009](#)). Temporal distance plays a fundamental role in forward-looking decision-making, and, across cultures, those who picture the future as more distant tend to discount future returns more strongly ([Croote et al., 2020](#)). China is a past time-oriented society ([Kaynak et al., 2011](#)), and greater uncertainty about the future may lead to a tendency to be conservative in intertemporal decisions ([Makri & Schlegelmilch, 2017](#)). The more distant the time when the fundraising project will start, the greater the uncertainty of people's donation; consequently, a weak valuation of their charitable donation will lead an individual to decrease their charitable donation behavior.

Donating behavior is based on the processing of donation information. The framing effect is a psychological effect that exists when people interpret information. Our results were similar to those reported in previous studies ([Liu et al., 2020](#); [O'Keefe & Jensen, 2008](#); [Samartkijkul & Yoo, 2019](#)) suggesting that in the Chinese cultural environment, individuals may be more inclined to be motivated to donate if charitable messages are within the gain frame.

The frame affects an individual's attention, processing, and evaluation of information and leads to different persuasion effects ([Nan et al., 2018](#)). Individuals have limited motivation to process information when reading charity appeals, making the surface cues of the information the primary factor in making beha-

vioral judgments. Motivation and cognitive reasons for people to donate to charitable donations are often personal preference issues based on emotional appeal (Caviola et al., 2021). In this case, gain-framing information has a more persuasive advantage than loss-framing information because it relates to positive cues and tends to induce positive emotional effects and results (Nan et al., 2018). According to psychological resistance theory (PRT), loss-framed information focuses on the negative consequences of inaction, which trigger greater psychological resistance because of the perceived threats to individuals' freedom and manipulation (Quick & Stephenson, 2008). In contrast, because the gain framework reduces the psychological resistance in the donation process, it improves the positive response of individuals to donation information (Reinhart et al., 2007).

This study reveals the interaction between temporal distance and goal-framing effect, not only in the field of economic marketing but also in typical altruistic giving behavior. It may be true that under conditions of different psychological distances, individuals will use different methods to process the framing information, which could affect the strength of the framing effect (Nan, 2007). When the temporal distance of the event is relatively close, people pay more attention to specific and complex fundraising information and prefer to use the analytical processing method. Under such conditions, the influence of the goal frame effect is weakened, so there is no significant difference between the gain-frame information and the loss frame information on the persuasion effect on individuals under the condition of near temporal distance. When the temporal distance between events is relatively distant, people pay more attention to abstract and simple information, which increases the role of gain-frame information to some extent (McElroy & Mascari, 2007). At the same time, the persuasion effect is stronger when the gain-frame information is combined with information of a high interpretation level (Tugrul & Lee, 2018; White et al., 2011). Therefore, under the condition of distant temporal distance, the amount and possibility of donation after reading the gain-frame information were significantly higher than those after reading the loss frame.

6. Limitation and Further Research

Although the study has yielded some valuable findings, some limitations and suggestions for future research need to be addressed. First, this study only sets two indexes of temporal distance: distant and near. However, in reality, people have a more flexible perception of time. In future research, more hierarchical classification can be carried out, such as by increasing the manipulation of moderate temporal distance and clarifying the defining conditions of distant and near temporal intervals to further strengthen the practical guiding significance of the study.

Second, in terms of participant selection, we only included college students as participants in this study. However, different age groups may have different reactions to the donation information. For example, various participant characteristics may affect their willingness to donate in ways we have not considered. Hence, a

different donor group, such as participants of various age groups and with more diverse demographics, should be involved in future research on the topic.

Third, this study was carried out through an online survey without using field experiments, and it did not consider that the environment may impact the actual donation behavior of individuals. In the future, we plan to combine laboratory experiments with field experiments to further verify the research results.

Finally, the results are obtained in a specific campaign and in a different context they may change depending on sensitivities, awareness of participants etc. The factors affecting charitable donation behavior also involve internal factors, such as the individual's familiarity with the donation project, the perceived importance of the project, the attitude toward the charity organization, the individual's current mood, the ability to empathize, the level of interpretation of the donation information. Future research can explore the role of these individual factors while discussing the effects of temporal distance and information frame on individual charitable donation behavior.

7. Conclusion

We proposed that individuals' participation in online public giving may be influenced by the timing of the start of the charitable program and the information frame. We conducted two experimental investigations to test this hypothesis. In the experiments, we manipulated differences in the timing and information descriptions of information about charitable giving. The results are consistent with our hypothesis: they indicate that individuals' willingness to give differs depending on the differences in the temporal distances and goal frames of the information they are given. Our findings also have implications for the fundraising activities of NPOs, as the evidence suggests that charity outreach may be more effective if it matches the content of the target frame to the timing of the campaign launch. For example, when far in advance a charity program is to be launched, a gain frame should be used in the promotional advertisement to emphasize the benefits that the charitable activity brings. Our experiment is a further validation of the differential impact of temporal distance on giving behavior in the Chinese cultural context and interacts with the charity message frame.

Acknowledgments

We are grateful to the participating students who voluntarily participated in the study. Thanks to Jiang Yi, Zhao Xin and Ren Lixin for their valuable comments on paper revision. We also thank the editor and reviewers for their hard work in reviewing and comments. We would like to thank Editage (<https://www.editage.cn>) for English language editing.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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