Payment or Donation? Leveraging Reciprocity when Nonprofits Give Back to their Donors

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Abstract

Reciprocity is a powerful driver of generosity, yet it can also introduce pressure that undermines intrinsic motivation. This research examines how framing charitable contributions as reciprocal exchanges ("Pay What You Want") versus traditional donations ("Donate What You Want") affects giving in nonprofit contexts where donors receive tangible benefits. Across three large-scale field experiments (N = 1,570,126) with a U.S. edtech nonprofit serving over 13.5 million educators and students, payment framing increased contribution rates without lowering average amounts—boosting total revenue. To assess how these frames are interpreted by relevant stakeholders, we collected forecasts from K–12 teachers—the nonprofit's primary user base. In two studies (N = 830), teachers predicted the donation frame would be more effective, particularly in side-by-side comparison. Although they recognized the payment frame as more transactional and pressuring, they failed to anticipate its positive impact on giving. This disconnect reveals how lay intuitions can misjudge persuasive messaging. Our findings offer practical guidance for nonprofits and highlight the nuanced effects of reciprocity cues in motivating contributions.

Keywords*: charitable giving, reciprocity, framing, pay-what-you-want, donation, forecasting, nonprofit fundraising*

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U.S. Americans are generous, as evidenced by the $374.4 billion annual contributions to over 1.8 million charitable and nonprofit organizations (Giving USA Limited Data Tableau Visualization n.d., Internal Revenue Service 2023). These contributions have a far-reaching impact, benefiting millions of people each year through initiatives that address food insecurity, provide medical aid, and support educational programs. Beyond helping others, U.S. donors may also directly benefit from nonprofits, including gaining access to cultural institutions, community programs, and advancements in research and public health. This reciprocal relationship underscores the vital role that nonprofits play in meeting societal needs while simultaneously enriching the lives of contributors. However, individual giving has been on decline, with a 2.4% decrease in inflation-adjusted donations since 2022 (Meyer 2024) and only 45.9% of U.S. households donating in 2020, down from 66% in 2000 (Osili 2025). As the donor base continues to shrink, it is increasingly important for nonprofits to strengthen and innovate their fundraising strategies.

Nonprofit organizations pursue a wide range of missions, each designed to address distinct societal needs. Some nonprofits are *pure* charities, focusing on humanitarian efforts that help others in need. These organizations often tackle urgent global challenges, such as disaster relief, poverty alleviation, or supporting children with critical illnesses. For example, Save the Children seeks to improve the lives of vulnerable children worldwide by providing food, education, and healthcare, often responding to emergencies and advocating for children's rights. Similarly, Doctors Without Borders provides life-saving medical care in conflict zones and disaster-stricken areas, addressing critical health crises for populations in dire need.

Other nonprofit organizations focus on providing public goods or services that benefit the public at large. These organizations often aim to enhance knowledge, culture, and community

engagement. For instance, National Public Radio (NPR) offers free, high-quality programming and journalism, enriching public discourse and providing educational content to millions. Similarly, museums such as the Metropolitan Museum of Art in New York provide access to art and history, creating opportunities for cultural enrichment and learning. Despite their varying missions, all nonprofits face the common challenge of sustaining funding and engaging donors in innovative ways.

This research explores how reciprocity-based appeals influence charitable giving when donors benefit from the organizations they patronize. Organizations that provide public goods or valuable services often appeal to donors' sense of reciprocity to encourage generosity. For example, NPR emphasizes the tangible value of donor contributions with messages like, “Your dollars will be transformed into facts, stories, shows, and more” (Support Public Radio: Donate to NPR, n.d.) reminding donors of the benefits they receive from NPR’s programming. Similarly, nonprofits often express gratitude through small tokens of appreciation, creating a sense of reciprocity in the exchange. For instance, the New York Public Library offers monthly donors exclusive perks such as tickets to member events, reinforcing the reciprocal relationship between donor and organization (Make Your Monthly Membership Gift: Become a Friends Guardian, n.d.).

A further extension of this strategy involves allowing beneficiaries to "pay what they want" for products or services provided by the nonprofit. This approach directly engages reciprocal norms by giving donors the freedom to decide their contribution based on perceived value (Chen et al. 2017, Gneezy et al. 2010, 2012, Jung et al. 2017). Many museums across the U.S. use Pay What You Want pricing for admission, subtly invoking reciprocity by emphasizing the cultural access provided to visitors. By framing contributions as an exchange rather than a pure altruistic act, nonprofits tap into donors’ existing reciprocity motives and their desire to give back (Sargeant

and Shang 2017). This strategic use of reciprocity highlights how nonprofits sustain and innovate their funding while reinforcing the value they deliver to their communities.

Many nonprofits appeal to donors' reciprocity motives by emphasizing the value they provide in return for contributions. However, there is limited understanding of how framing these contributions as payments versus donations influences donor behavior, particularly in nonprofits that offer tangible benefits. This research examines how framing contributions as payments reinforces reciprocity norms by highlighting the exchange-like nature of the relationship, where donors benefit directly or indirectly from the nonprofit's activities. We compare this "pay what you want" framing to the more traditional "donate what you want" framing, investigating how each approach affects donors' decisions and overall contribution behavior.

Theoretical Background

Giving decisions often involve a tension between self-interest and concern for others' welfare. People tend to value both, making the decision to give complex and challenging. Prior research offers abundant evidence suggesting that giving decisions are self-serving. For instance, individuals may experience emotional rewards, such as feelings of warmth and satisfaction, when being kind to others. This "warm glow" highlights that giving offers donors emotional rewards (Andreoni 1990, Crumpler and Grossman 2008). Additionally, people give to reinforce their self-image as compassionate and generous or to be publicly recognized for their kindness (Bénabou and Tirole 2006, DellaVigna et al. 2012). Economic incentives, such as tax credits, further motivate charitable contributions by providing tangible benefits (Bekkers and Wiepking 2011, Feldstein and Taylor 1976). However, motives for giving are not always purely selfish; people also give out of a sense of fairness even when their actions come at economic costs to themselves (Charness and Rabin 2002, Fehr and Schmidt 2001, Small and Cryder 2016).

People's concerns for fairness are well reflected in their strong adherence to the norms of reciprocity in their daily life. They tend to consistently respond to the positive or negative actions of others with corresponding actions (Axelrod and Hamilton 1981, Fehr and Gächter 1998, 2000, Rabin 1993, Sobel 2005, Wedekind and Milinski 2000), pursuing balance and fairness in their social and economic relationships (Berg et al. 1995, Cameron 1999, Cialdini et al. 1992, Sprecher et al. 2013). This tendency to reciprocate is so ingrained that it extends beyond direct interactions, often leading people to pay forward even to strangers (Gray et al. 2014, Jung et al. 2014). Therefore, reciprocity is one of the guiding principles in maintaining trust, cooperation, and fairness across diverse aspects of life (Falk and Fischbacher 2006, Fehr and Fischbacher 2003, Malmendier et al. 2014).

Charities often leverage the force of reciprocity to promote giving. For instance, nonprofits often give small tokens such as personalized address labels or calendars along with donation requests to motivate giving (Alpizar et al. 2008, Chao 2017, Falk 2007, Newman and Shen 2012). As mentioned earlier, many nonprofit organizations encourage reciprocal contributions by implementing Pay What You Want models for their goods and services, a pricing mechanism that is also employed in for-profit markets (Kim et al. 2009, 2014, Schmidt et al. 2015, Yang et al. 2020). For example, many community theaters and performance spaces adopt this approach, allowing attendees to pay what they wish for entry to certain events. Despite the option to pay nothing in Pay What You Want models, people frequently contribute non-zero amounts, reflecting a sense of reciprocity and appreciation for the experience or product provided (Chen et al. 2017, Johnson and Cui 2013, Jung et al. 2016, Regner 2015, Regner and Barria 2009, Riener and Traxler 2012).

While reciprocity is a well-documented driver of prosocial behavior, the pressure to reciprocate can impose psychological costs, leading to feelings of guilt, stress, and anxiety (Buunk and Schaufeli 1999, Cotterell et al. 1992, Dahl et al. 2005, Flynn and Yu 2021). When individuals feel coerced to give, they are often more likely to avoid such situations altogether (Dana et al. 2007, DellaVigna et al. 2012). For instance, people tend to be less inclined to purchase products under Pay What You Want pricing compared to fixed pricing (Gneezy et al. 2010, 2012). This avoidance is further amplified when a portion of their voluntary payments is explicitly tied to supporting charitable initiatives (Gneezy et al. 2010, Jung et al. 2017).

A door-to-door fundraising experiment underscores this dynamic: individuals who felt pressured to donate often contributed the minimum amount necessary to disengage from the solicitor (DellaVigna et al. 2012). Additionally, when potential donors were notified in advance of the solicitor's visit, many opted to be absent from home entirely. Such behavior suggests that when people act out of reciprocal obligation, their kindness may be perceived as less authentic (Gouldner 1960). Over time, this externally imposed pressure can erode intrinsic motivation for generosity, as individuals' actions are driven by obligation rather than self-determined choice (Deci and Ryan 1985). Hence, while reciprocity can foster prosocial behavior, excessive pressure to reciprocate may impose psychological costs, leading to avoidance or diminished intrinsic motivation.

Interestingly, though excessive pressure can deter contributions, people's decisions around giving and payment are also highly responsive to more subtle influences (e.g., Su et al. 2024, Sussman et al. 2015, Wang et al. 2023). Prior research demonstrates that even minor changes in how payment requests are framed can significantly impact decision-making across various contexts (Jung et al. 2014, Saccardo et al. 2021). For example, people are often more willing to contribute when asked to "pay what they can" rather than "pay what they want" (Saccardo et al.

2021). Additionally, framing a payment as a "gift" (i.e., pay-it-forward) rather than as a transaction for personal benefit has been shown to increase contributions (Jung et al. 2014). These findings highlight the substantial impact that framing can have on voluntary payment decisions, providing a foundation for exploring framing effects in charitable giving.

To our knowledge, only one experiment directly compared decisions under the "Pay What You Want" and "Donate What You Want" frameworks (Saccardo et al. 2021). In this study, passersby on a college campus encountered a doughnut stand with signage offering doughnuts under one of two conditions: either "Pay What You Want" or "Donate What You Want". Both conditions clearly stated that all proceeds would go to a charitable organization (i.e., Special Olympics). The results showed that passersby were both more likely to contribute and paid higher amounts under the "Donate What You Want" condition compared to the "Pay What You Want" condition. The authors suggest that the "payment" frame likely evoked norms of economic exchange, whereas the "donation" frame triggered norms of social exchange, thereby encouraging greater kindness (Clark and Mills 2012, Heyman and Ariely 2004, Johnson and Grimm 2010). While these results are highly relevant to this research, it is unlikely that the passersby directly benefited from the charity in question, which may limit the generalizability of the findings to situations wherein donors receive tangible benefits.

Taken together, prior literature offers mixed predictions regarding the efficacy of reciprocity framing when donors receive tangible benefits from the target nonprofit organization. On one hand, emphasizing reciprocal norms in soliciting charitable giving may increase kindness and contribution likelihood among those who benefit directly or indirectly from the nonprofit's services. On the other hand, the pressure to reciprocate could deter potential donors from contributing altogether, as feelings of obligation may undermine intrinsic motivation. This tension

makes it challenging to predict which framing—"Pay What You Want" or "Donate What You Want"—will prove more effective in fundraising.

One possibility is that donors may be more likely to opt out of giving altogether when faced with reciprocity framing, but those who do choose to give may contribute more, as they are likely to represent a particularly generous subset of donors (Gneezy et al. 2010, 2012, Kim et al. 2009, Regner 2015, Regner and Barria 2009). Alternatively, "pay-what-you-want" framing may increase donation likelihood by triggering reciprocal norms and obligating donors to contribute. However, because contributions under this frame may stem from obligation rather than intrinsic generosity, the amounts given might be lower than under the "Donate What You Want" frame. A third possibility, suggested by the results of Saccardo et al. (2021), is that "Donate What You Want" framing could outperform "Pay What You Want" in both contribution likelihood and amount, indicating that the power of reciprocity may fail to motivate giving even when nonprofits offer tangible benefits.

Given the presence of competing theoretical predictions and the absence of a clear directional hypothesis in prior literature, we incorporated a forecasting study into our investigation. Recent work in behavioral science increasingly leverages forecasts to anticipate treatment effects, especially when effects may be small, null, or counterintuitive (DellaVigna and Pope 2018; DellaVigna, Pope and Vivalt 2019; DellaVigna and Linos 2022; Milkman et al. 2021). Forecasts offer a valuable benchmark against which to interpret actual behavioral responses, and they provide insight into lay intuitions about message effectiveness—namely, whether and how people expect framing to influence giving. Moreover, in field contexts where it is difficult to isolate psychological mechanisms, forecasts can offer indirect evidence regarding the mental models and levers activated by a message.

To elicit these forecasts, we recruited K-12 teachers—the primary users of our partner nonprofit and those most directly affected by the intervention in our field experiment. This forecasting exercise served several purposes. First, by comparing predicted to actual giving behavior, we could distinguish framing elements that genuinely influenced contributions from those that only appeared persuasive. Second, any divergence between forecasted and observed behavior offers a diagnostic tool for refining theory about message-based fundraising strategies. Embedding our framing manipulation in a forecast-comparison design thus bridges expectations and behavior, yielding both theoretical insight and practical guidance for nonprofit communication strategies.

The Current Research

In six studies, we investigate how activating donors' reciprocity motives influences charitable giving. Our key manipulation frames the solicitation as either a voluntary payment ("Pay What You Want") or a donation ("Donate What You Want"). While both frames may elicit prosocial behavior—and thus tap into similar underlying motives—they differ in the extent to which they cue reciprocity. In Study 1, we empirically establish this distinction by demonstrating that the payment frame more strongly evokes reciprocity than the donation frame.

In Studies 2 and 3, we examine whether this heightened reciprocity cue affects donor behavior in the field. We conducted three large-scale field experiments (N = 1,570,126 prospective donors) in collaboration with ReadWorks, a leading U.S. edtech nonprofit. In these studies, we solicited contributions from both direct and indirect beneficiaries of the organization's free resources, using either a payment or donation frame. Study 2A involved an email solicitation sent to existing users of ReadWorks. Study 2B preregistered and replicated this design with a new

sample. To test generalizability, Study 3 targeted new users with no prior engagement, prompting them to contribute during the sign-up process.

In our final studies, we elicited predictions about the effects of our framing manipulation from K-12 teachers—ReadWorks' primary user base. Across Studies 4A and 4B (N = 830), teachers forecasted the relative effectiveness of the two messages in driving donation likelihood and amount. In Study 4A, participants viewed both frames side-by-side and predicted which would be more persuasive. In Study 4B, participants evaluated only one frame and predicted its impact. We also probed their underlying beliefs about potential mechanisms in each frame. Together, these studies provide insight into both actual behavioral responses and lay intuitions about what drives giving.

For all studies, we report how we determined sample size, all data exclusions, all manipulations, and all measures in the study. For studies 1, 2B, 3, 4A and 4B we preregistered our plan for conducting this research prior to collecting any data. Given the NDA agreement with the organization, we are not allowed to post the field data to the public, but we post Studies 1, 4A and 4B data, preregistrations, and analysis codes for all studies here: https://researchbox.org/3664&PEER_REVIEW_passcode=ZDRLET[1].

Study 1 – Pay What You Want Appeals More Strongly to Reciprocity

Although "Pay What You Want" and "Donate What You Want" are not conceptually orthogonal—both can activate prosocial motivations such as generosity and reciprocity—they differ in the strength and type of the motivational cues they convey. In this study, our goal is to establish this distinction and clarify the psychological signals embedded in each frame. Specifically, we examine whether the payment language more strongly cues reciprocity by

[1] While we are not allowed to post the field data, we welcome any inquiries in person. Please contact the first author for inquires related to our field data.

invoking norms of economic exchange, while the donation language emphasizes communal concern and intrinsic generosity.

This distinction draws on the well-established difference between exchange and communal relationships (Clark & Mills, 1979). Exchange relationships are characterized by reciprocity and equivalence, where individuals give with the expectation of return. Communal relationships, by contrast, center on care for others' welfare, where giving is not contingent on receiving. We hypothesized that the payment frame would more strongly activate economic exchange norms, reinforcing the idea that recipients are getting something of value and thus ought to reciprocate. This perspective aligns with findings from Saccardo et al. (2021), who showed that donation language was perceived as more socially oriented, whereas payment language felt more like an economic transaction.

Importantly, we do not treat generosity and reciprocity as mutually exclusive constructs—donation framing may still evoke reciprocity, just as payment framing can signal generosity. Rather, we aim to assess whether the strength of the reciprocity cue differs systematically across the two frames. By measuring people's perceptions of reciprocity and generosity, we identify the motivational signatures each message carries—offering insight into how subtle differences in framing may shape behavior in the context of charitable giving.

Method (Participants & Procedure)

We recruited 200 participants from Prolific (M_{age} = 36.87, SD_{age} = 12.46; 62% women) to evaluate the relative generosity and reciprocity appeal of two messages: Pay What You Want and Donate What You Want. These were presented on a single screen side-by-side, in a pop-up format (see Appendix C). Participants read the same definitions of generosity and reciprocity: i) *Generosity is about giving without expecting anything in return; it is the selfless act of providing*

for others out of kindness or compassion; ii) *Reciprocity is about exchanging for mutual benefit; it involves a give-and-take dynamic where both parties provide something of value to each other*. Participants compared the two messages on the extent to which their wording appealed to each of the two motives, using two 7-point bipolar scales anchored at mid- and endpoints (1 = Message 1 appeals more to it; 4 = Message 1 and Message 2 appeal equally to it; 7 = Message 2 appeals more to it)[2]. In addition to relative ratings of generosity and reciprocity, we measured the extent to which the wording of each message resembled an economic or a social transaction (1 = An economic transaction; 7 = A social transaction).

Results and Discussion

The payment frame was perceived as a stronger reciprocity appeal than the donation frame ($M = 3.00$, $SD = 1.92$, $t(199) = -7.36$, $p < .001$, 95% CI [2.73 3.27], $d = 0.52$), whereas the donation message was perceived as a stronger generosity appeal than the payment message ($M = 6.12$, $SD = 1.58$, $t(199) = 18.94$, $p < .001$, 95% CI [5.89 6.34], $d = 1.34$). Replicating the insights of Saccardo et al. (2021), participants rated the payment frame as more strongly resembling an economic transaction (vs. social transaction) than the donation frame ($M_{pay} = 1.90$, $SD_{pay} = 1.48$, $M_{donate} = 5.96$, $SD_{donate} = 1.52$, $t(199) = 20.20$, $p < .001$, 95% CI [4.45 3.66], $d = 2.70$).

These results indicate that participants interpret the two frames as invoking different motivational cues. The voluntary payment language appeals more strongly to reciprocity and to an economic transaction, while the donation language signals generosity and social connection more strongly. This distinction supports our theorizing and suggests that the subtle framing of

[2] Both message presentation order (i.e., donate and pay) and item presentation order (i.e., generosity and reciprocity) were counterbalanced. Results were recoded such that higher scores in each item indicate that the donate message is perceived to appeal more strongly to each specific social motive (i.e., Message 1 = Pay and Message 2 = Donte).

contribution can meaningfully shape the relationship with the organization. We next test whether these subtle distinctions convert into behavior.

Studies 2-3 – The Framing Manipulation in the Field

We conducted three natural field experiments (N = 1,570,126) in collaboration with ReadWorks to test the effects of reciprocity framing. Reading proficiency among American students has declined in recent years, with only 22% of 4th and 8th graders scoring "proficient" or higher, while many fall into the "basic" or "below basic" range, highlighting widespread challenges with reading and comprehension (National Center for Education Statistics, n.d.). ReadWorks addresses this issue by providing free, research-based resources designed to improve literacy. Their platform offers over 5,600 high-quality educational materials annually to more than 13.5 million educators, guardians, and K-12 students across the U.S. These resources include diverse texts, vocabulary-building activities, and question sets that develop critical reading skills. Teachers benefit from digital tools to assign materials, track progress, and engage students, while free access ensures equity, particularly in low-income schools. By incorporating evidence-based strategies and professional development, ReadWorks enhances literacy outcomes and reduces achievement gaps nationwide, particularly in lower-income schools[3].

All three studies reported in this investigation employed the same framing manipulation, Pay What You Want vs. Donate What You Want, using between-subjects design. In Study 2A, subscribers in our field partners' mailing list were randomly assigned to receive an email containing a message with each frame. Study 2B is a preregistered replication of Study 2A, with a larger sample size. In Study 3, we tested our framing manipulation with new users of their online

[3] More precisely, 86% of all U.S. schools where more than 75% of the students qualify for free or reduced lunch according to NCES use ReadWorks.

platform, who were signing up for an account. This allows us to assess the robustness of our findings amongst those less experienced with the nonprofit and its resources.

Studies 2A and 2B – The Efficacy of Reciprocity Language in an Email Campaign

In Studies 2A and 2B, we emailed a contribution solicitation through the organization's mailing list. This mailing list includes users of the nonprofit's resources such as teachers, previous donors, interested readers and other affiliates, such as students' parents. Most of these subscribers are current or potential beneficiaries of the organizations' educational resources.

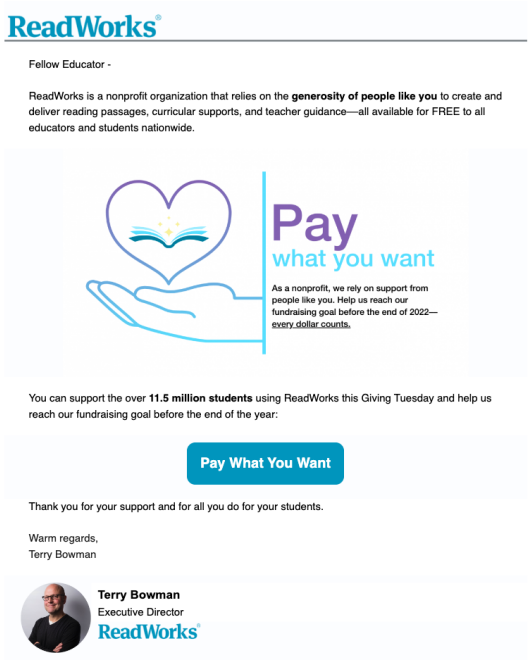
Method (Participants and Procedure)

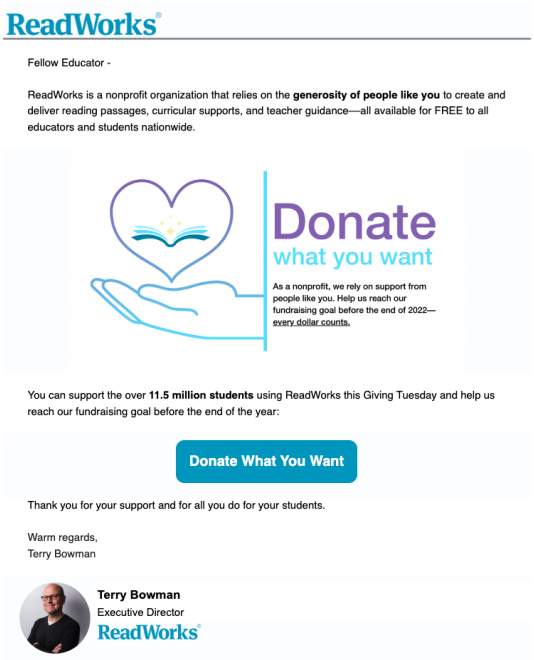
Subscribers ($N = 1{,}528{,}042$; $N_{2A} = 750{,}818$; $N_{2B} = 777{,}224$) in our nonprofit partner's mailing list were randomly assigned to receive one of two emails soliciting a voluntary monetary contribution: Pay What You Want or Donate What You Want. All subscribers received an identical message, differing only in the key manipulation. This manipulation was featured in the subject line of the email (Study 2A: This Giving Tuesday, donate/pay what you want; Study 2B: Donate/Pay what you want to support reading comprehension). In the body of the email, they saw a large button with "Donate/Pay What You Want" written on it (see the email message in Figure 1).

Upon clicking the button, subscribers were directed to a different webpage where they could decide how much to contribute. The payment feature on the website included options to contribute—$5, $10, $15, $25—and an open text box where they could type in their desired contribution amount (See Figure 2). Against our best efforts, Study 2B participants were also targeted in Study 2A. That is, there was an overlap between the two samples. Due to the aggregate nature of the data, we cannot precisely identify which subscribers received duplicate or conflicting messages. However, we can confirm that the experiments were conducted four months apart

(Study 2A: November 2022; Study 2B: March 2023) and that the organization routinely sends donation requests via email, meaning that these emails were part of a regular communication cycle.

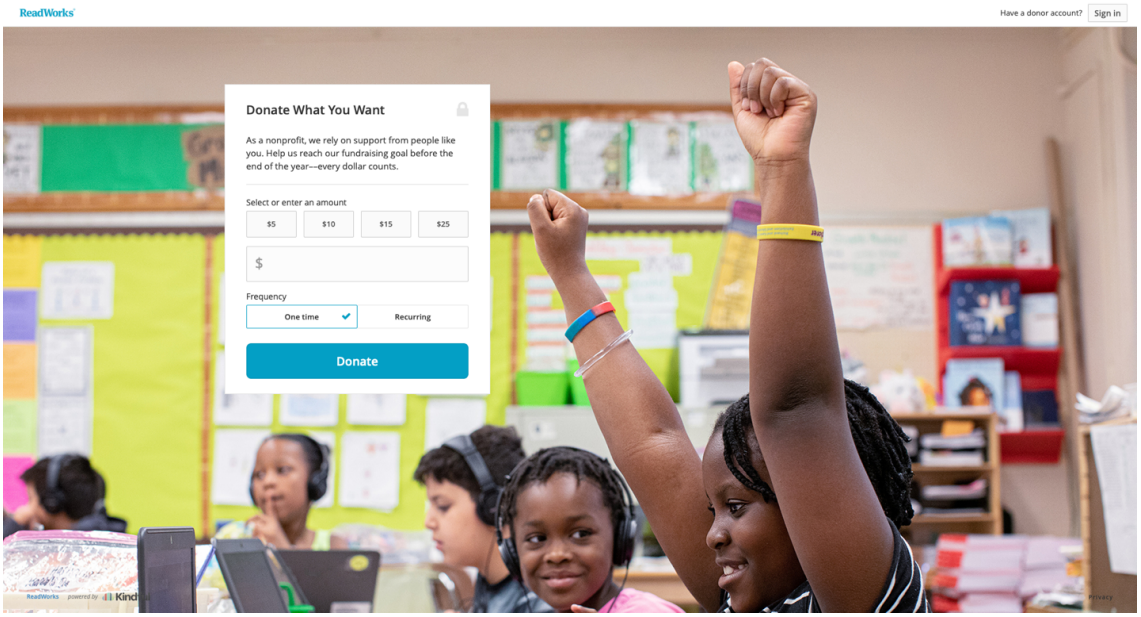
Figure 1. Body of email in Studies 2A and 2B

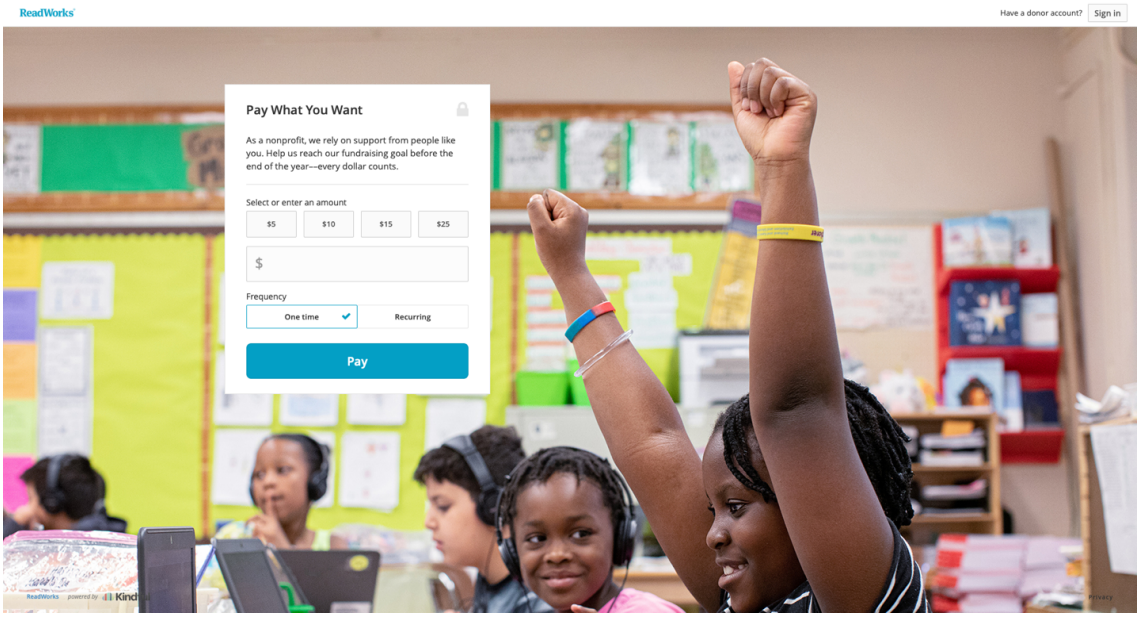




Note. Email subject lines: Study 2A: This Giving Tuesday, donate/pay what you want; Study 2B: Donate/Pay what you want to support reading comprehension.

Figure 2. Landing page in Study 2A and 2B





Results and Discussion

We measured the number of emails sent and opened, button clickthroughs, and contributions (see Table 1). Across all field studies, when contributing, participants provided their email address. If this email matched an email associated with an account, we were able to identify their account and their previous engagement with ReadWorks, such as usage, location, and role (that we further categorized into whether they were teachers, parents/guardians, or affiliates). See Table 1 in Supplement for the details on these variables. Hence, we were only able to observe disaggregate data and demographics for those individuals that contributed.

Subscribers (N_{2A} = 750,818, N_{2B} = 777,224) were more likely to open the email in the payment than in the donation condition in Study 2A (37.37% vs. 37.09%, $\chi^2(1, N = 750{,}818) = 6.49$, $p = .011$, Cramer's V = 0.003), while in Study 2B they were more likely to open the donation email than the payment email (48.88% vs. 33.89%; $\chi^2(1, N = 777{,}224) = 18011.8$, $p < .001$, Cramer's V = 0.15). Conditional on opening the email, we did not find a difference in clickthrough rates between the two conditions in Study 2A (22.50% vs. 22.59%, $\chi^2(1, N = 279{,}530) = 0.30$, $p = .582$, Cramer's V = 0.001), but in Study 2B those who received the payment framed email were more likely to clickthrough than those who received the donation frame (17.37% vs. 11.90%; $\chi^2(1, N = 321{,}641) = 1913.83$, $p < .001$, Cramer's V = 0.08).

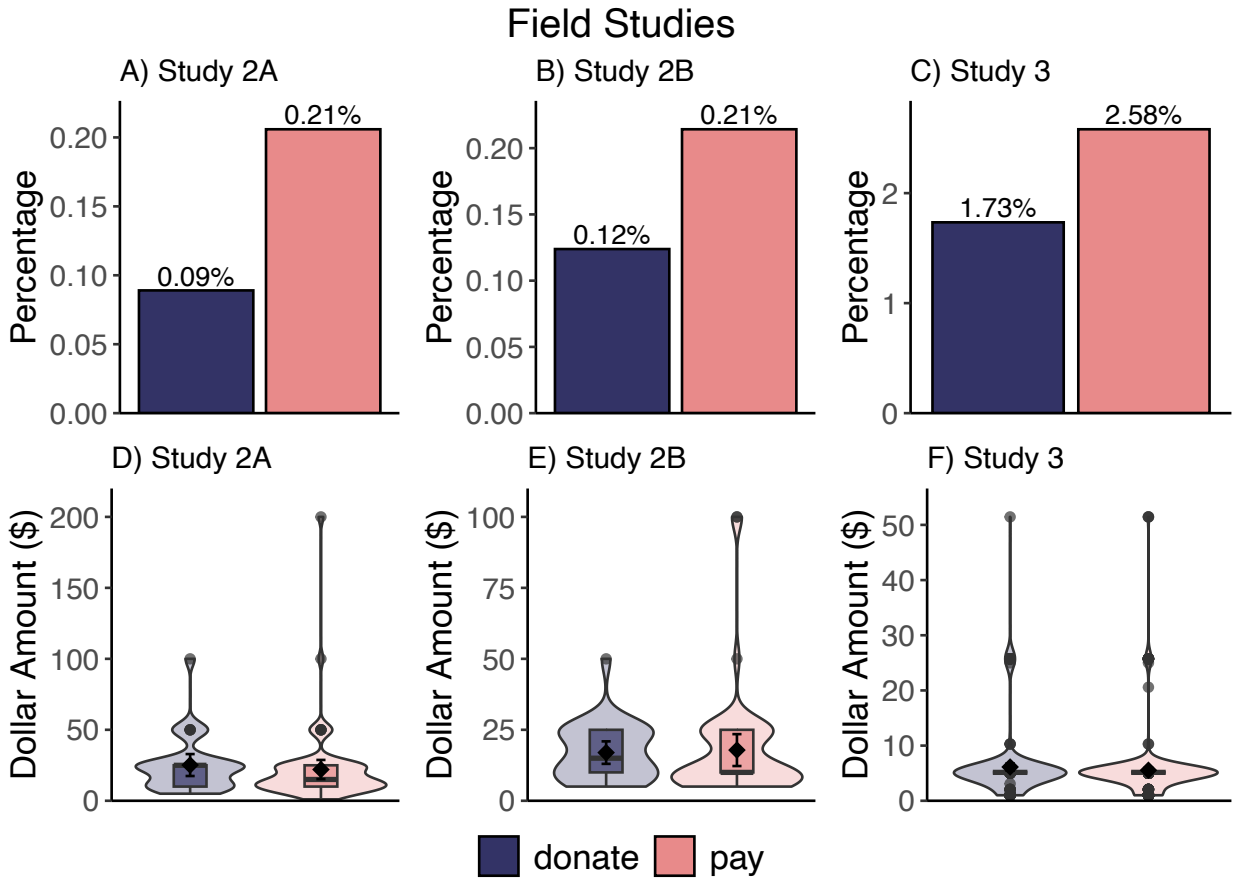
Importantly, among those who clicked the link, the contribution rate was significantly higher in the payment (vs. donation) frame in both Study 2A (0.21% vs. 0.09%, $\chi^2(1, N = 63{,}014) = 13.82$, $p = .0002$, Cramer's V = 0.015) and Study 2B (0.21% vs. 0.12%, $\chi^2(1, N = 228{,}70) = 4.97$, $p = .033$, Cramer's V = 0.01; Figure 3). Conditional on contributing, their average contribution amount did not significantly differ between the two frames in both Study 2A (N_{donate} = 28, M_{donate} = 25.18, SD_{donate} = 27.24; N_{pay} = 65, M_{pay} = 22.02, SD_{pay} = 19.93; $t(91) = 0.55$, p =

.581, 95% CI [-8.19 14.52], $d = 0.13$) and Study 2B ($N_{donate} = 28$, $M_{donate} = 16.96$, $SD_{donate} = 10.21$; $N_{pay} = 49$, $M_{pay} = 17.86$, $SD_{pay} = 19.55$; $t(75) = -0.22$, $p = .823$, 95% CI [-8.82 7.04], $d = 0.05$; Figure 3). Overall, the payment frame resulted in higher revenue for the organization than the donation frame in both Study 2A ($1431 vs. $705) and Study 2B ($875 vs. $475; Table 1 and Figure 4).

Table 1. Descriptives in field Studies 2A, 2B, and 3

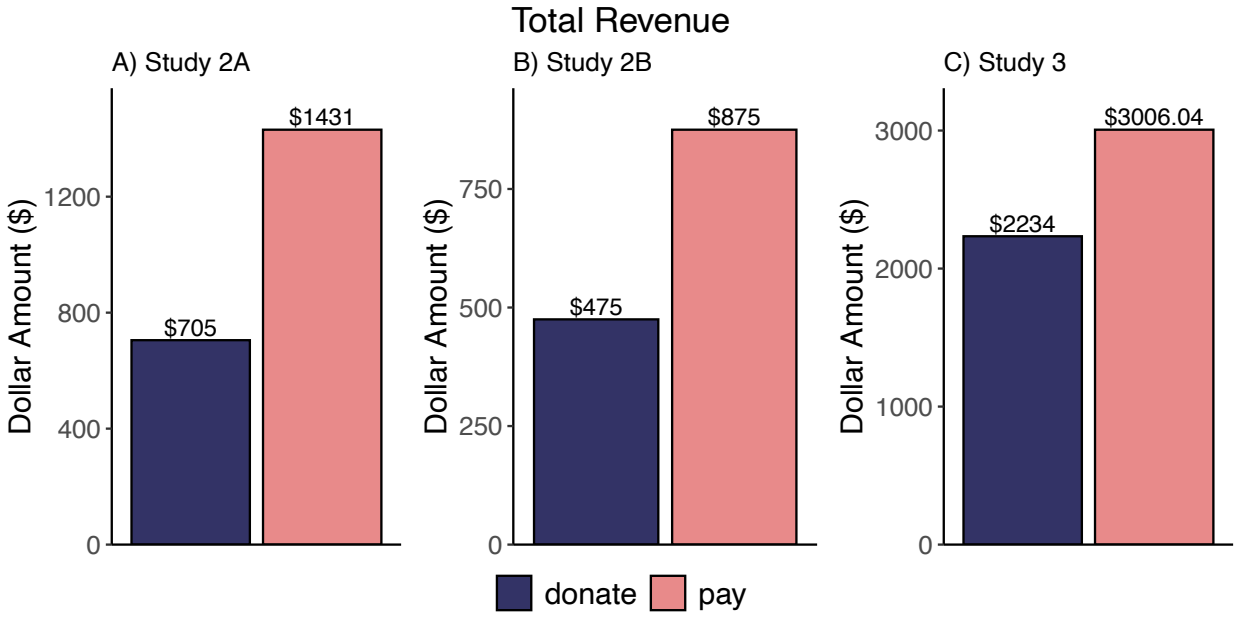
	Study 2A		Study 2B		Study 3	
	Donate	Pay	Donate	Pay	Donate	Pay
# Open	139231	140299	189,958	131,683		
Open Rate (%)	37.09	37.37	48.88	33.89		
# Clickthrough	31448	31566	22,607	22,870		
Clickthrough Rate (%)	22.59	22.50	11.90	17.37		
# Contribution	28	65	28	49	365	543
Contribution Rate (%)	0.09	0.21	0.12	0.21	1.73	2.58
Average Contribution (SD)	25.18 (19.93)	22.02 (27.24)	16.96 (10.21)	17.86 (19.55)	6.12 (6.05)	5.54 (5.44)
Contribution Total ($)	705	1431	475	875	2243	3006
# Total	375,409	375,409	388,612	388,612	21,042	21,042

Figure 3. Behavior in field Studies 2A, 2B, and 3



Note. A-C: Contribution rates across field studies, by message. D-F: Contribution amounts across field studies, by message, along with violin plots and boxplots. Diamonds represent the mean, and error bars represent confidence intervals of the mean.

Figure 4. Total revenue raised across field studies



Study 3 – The Efficacy of Reciprocity Language in a Sign-up Campaign

Studies 2A and 2B reveal that the payment language produces higher contribution rates, and largely equal average contribution amounts. Ultimately, appealing to donors' reciprocity motives through the payment frame resulted in higher total revenue for the organization. It is possible that the results of Studies 2A and 2B were driven primarily by subscribers who had prior experience with the nonprofit partner or had a long history of loyalty and commitment to it. Unfortunately, we are unable to empirically test this, as the nonprofit did not track usage amongst those who did not contribute, and even among those who did there was a substantial amount of missing data. Given this data limitation, we conducted Study 3 to assess whether the observed results in Studies 2A and 2B were mainly driven by existing users or whether they generalize to new users, who presumably have less exposure to ReadWorks's work yet have a clear intention to use or explore their resources.

Given that ReadWorks requires all users to sign-up for an account to access their resources, we were able to target new users who have no previous experience with the organization yet intend to engage with it. Sign-up users saw a pop-up immediately after they opened their account on ReadWorks's online platform, while filling out their information. Note that unlike Studies 2A and 2B, Study 3 measures contribution rates directly. Furthermore, given that the new users tend to be more engaged with the nonprofit compared to the average low engagement typically seen among email subscribers (e.g., Sudhir et al. 2016), we expect to obtain a bigger sample in Study 3, compared to Studies 2A and 2B.

Method (Participants and Procedure)

Over a three-week period, new users (N = 42,084) who entered ReadWorks's website and chose to sign-up for an account saw one of two frames in a pop-up soliciting a voluntary monetary contribution: Pay What You Want or Donate What You Want. The pop-up included the message with the manipulation (see Figure 5; the pop-ups in Study 3 did not include the yellow highlight) along with options to contribute—$5, $25, $50, and other—and a default amount, $5, pre-selected[4].

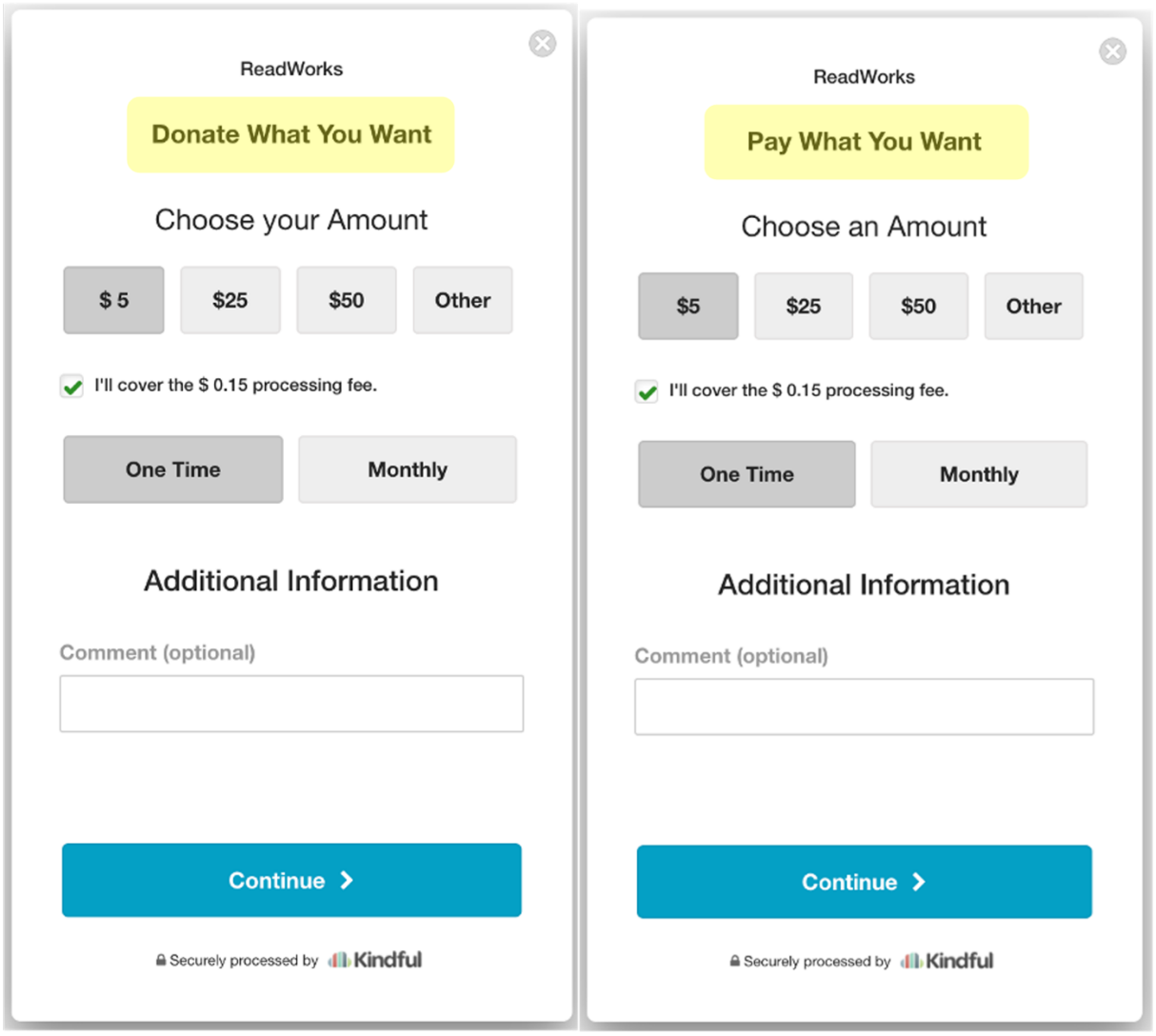
Results and Discussion

As expected, although the total sample size was substantially smaller in Study 3 than in Studies 2A and 2B (approximately 17 times less), the new users were substantially more responsive in terms of their contribution rate (10.79 times more compared to subscribers in Study 2B and 8.76 times more compared to those in Study 2A). Replicating the results from Studies 2A and 2B, contribution rates were significantly higher in the payment (vs. donation) frame (2.58% vs. 1.73%; $\chi^2(1, N = 42{,}084) = 35.26$, $p < .001$, Cramer's V = 0.03; Figure 3). Conditional on

[4] Participants were asked whether they wanted to add the processing fee to their donation ($0.15), therefore amounts might include it. This was standard across conditions.

contributing, the average contribution again did not significantly differ between the two frames (N_{donate} = 365, M_{donate} = 6.12, SD_{donate} = 6.05; N_{pay} = 543, M_{pay} = 5.54, SD_{pay} = 5.44; $t(906) = 1.52$, $p = .129$, 95% CI [-0.17 1.34], $d = 0.10$; Figure 3). Overall, the payment frame resulted in higher total revenue for the organization ($3,006.04 vs. $2,234; see Table 1 and Figure 4).

Figure 5. Pop-up messages in field Study 3 and forecasting Studies 4A and 4B



Note. Pop-ups in Study 3 (without the highlight), as well as forecasting studies 4A and 4B. In Study 4A these pop-ups were presented side-by-side and the highlight was included. Study 4B did not include the highlight, as participants only saw one of the messages.

Finally, as preregistered, we regressed contribution amounts on message, role and their interaction, controlling for location. Among those who contributed (N = 908) and whose data could be identified (N = 332), we found that the donation frame was associated with increased contribution amounts (b = -1.57, SE = 0.60, $t(279)$ =-2.64, p = .01; Table 2 in Supplement). Moreover, we found that parents/guardians were marginally more likely to give under the payment frame than teachers (b = 6.21, SE = 3.54, $t(279)$ = 1.76, p = .086; Table 2 in Supplement).

The results of Study 3 replicate the insights from Studies 2A and 2B, suggesting that the efficacy of the payment frame over the donation frame persists regardless of prior experience with the nonprofit. Study 3 also provides preliminary evidence that, conditional on contributing, the donation frame may lead to higher contribution amounts – an effect that appears more pronounced among teachers than parents. However, given the substantial proportion of missing demographic in the data, caution is warranted in interpreting this framing effect on contribution amounts.

Discussion of Studies 2A, 2B, and 3

Taken together, the results of our three field studies strongly point to an advantage of using reciprocity appeals in soliciting contributions from people with different levels of experience with an organization. The increased efficacy of reciprocity language identified stemmed from increased contribution rates rather than increased contribution amounts. Importantly, this advantage was identified in a context in which donors were also potential beneficiaries of the organization.

Challenges in testing mechanism in the lab and field

Though not formally reported in the present report, we have attempted several replications of our field findings in both a controlled laboratory setting and online setting, including an incentivized study. These replications yielded notably flat effects of the framing manipulation—participants gave equally under Pay What You Want and Donate What You Want. Such failures

to reproduce field results in the lab are well documented: heightened experimenter scrutiny and demand characteristics can inflate baseline giving and mask framing nuances; low-stakes, artificial contexts dull the psychological weight of real charitable choices; and self-selected subject pools, acutely aware they are being observed, become less sensitive to subtle contextual cues (Levitt & List 2007; Gneezy & Imas 2017). Because the effect itself vanishes under these conditions, we cannot isolate or validate the underlying mechanism—be it reciprocity, market-norm activation, or perceived obligation—in the laboratory.

Yet probing mechanisms in the field presents its own obstacles. Authentic giving behavior emerges in naturalistic settings, but field experiments sacrifice the internal control required to manipulate psychological mediators without disrupting real users or violating ethical standards. Logistical constraints—overlapping campaigns, aggregate outcome data, and the large samples needed to detect mediating effects—further obscure causal pathways, making it infeasible to observe or tweak subtle drivers like felt pressure or norm salience at scale (Harrison & List 2004). In practice, we are at an impasse: without a lab-replicable framing effect, mechanism tests lack relevance; without precise manipulation in the field, mechanism tests lack rigor.

Given these challenges in directly testing the underlying mechanisms, we took an alternative approach to better understand the key phenomenon we observe in the field. While lay forecasts cannot directly identify psychological mediators, they can shed light on how people believe these frames operate. By comparing those intuitions against actual giving behavior, we can better understand not only whether the effect is surprising, but what people believe is driving it—a useful step toward unpacking mechanism when conventional tests fall short. By mapping where lay intuitions diverge from actual giving and identifying which framing elements truly drive

prosocial behavior, we offer nonprofits actionable guidance for crafting messages that reliably boost giving.

Study 4 – Forecasting the Efficacy of the Framing Manipulation

Across three large-scale field experiments, we found that framing contributions as a "payment" (Pay What You Want) increased contribution rates compared to framing them as a "donation" (Donate What You Want), with little difference in average contribution amounts. These findings suggest that activating reciprocity norms through payment language can effectively motivate giving, particularly in contexts where donors also benefit from the nonprofit's services. However, the underlying mechanisms remain difficult to isolate in the field, and our findings stand in contrast to the only prior study that directly compared Pay What You Want and Donate What You Want framing.

To the best of our knowledge, the only existing comparison comes from Saccardo et al. (2021), who found that donation language elicited greater giving than payment language in a setting where donors did not directly benefit from the recipient charity. This key contextual difference—whether or not the donor receives tangible benefits—may explain the discrepancy. Yet the theoretical literature offers competing predictions: while reciprocity cues can motivate giving, they can also impose psychological pressure or evoke market norms that suppress generosity. Given the mixed evidence and the difficulty of testing mechanisms in lab settings, we turned to an alternative approach: forecasting.

Forecasting allows us to examine how people intuitively interpret the persuasive power of different messages, offering indirect insight into the psychological levers that each frame activates. Recent work in behavioral science has embraced forecasting as a meta-scientific tool to benchmark treatment effects, especially when findings are small, null, or counterintuitive (DellaVigna & Pope

2018; DellaVigna & Linos 2022; Milkman et al. 2021; 2024). Comparing lay predictions to actual behavior helps identify when and why behavioral effects are surprising—and which beliefs about message persuasiveness are misaligned with reality. Forecasts also provide a unique diagnostic lens when conventional mediation tests are infeasible, as is often the case in large-scale field studies.

We recruited K-12 teachers to provide these predictions, as they are the primary users of ReadWorks and directly implicated in the context of our field experiments. Their intuitions thus serve as a relevant and meaningful benchmark. Moreover, any systematic gap between what these teachers *expect* will drive giving and what *actually* does can help refine theoretical models of motivation and inform more effective messaging strategies for nonprofits.

In Studies 4A and 4B, we elicited teachers' forecasts of the relative effectiveness of the two message frames. In Study 4A (joint evaluation), participants saw both messages side-by-side and predicted which would be more effective. In Study 4B (separate evaluation), participants saw only one message and made predictions without direct comparison. This distinction builds on work in judgment and decision-making showing that joint versus separate evaluation modes yield different predictions, with joint evaluation often exaggerating perceived differences between options (Hsee 1996; Hsee et al. 1999; Hsee & Zhang 2004, 2010). Importantly, the separate evaluation mode more closely mirrors our field design, where users were exposed to only one message. As such, it may offer a more ecologically valid benchmark for predicting real-world behavior (Imas et al. 2022; Jung et al. 2023).

Together, these forecasting studies allow us to assess whether the effects observed in the field were anticipated by a relevant lay population, and to explore the intuitions people hold about what drives generosity in response to payment versus donation language.

Method (Participants & Procedure)

To closely match the field sample, we specifically recruited U.S. K-12 teachers (Study 4A: N = 420, M_{age} = 45.27, SD_{age} = 11.77; 78.33% women; Study 4B: N= 410, M_{age} = 43.19, SD_{age} = 10.58; 71.22% women) from Centiment, an online data collection platform that allows businesses and academics to reach specific audiences, to participate in our study in exchange for a nominal payment. Participants read a short description of our field partner, ReadWorks, and of our framing manipulation in one of the fundraising campaigns (reported here as Study 3).

Then, participants saw the pop-up solicitations for contributions (see Figure 5): either framed as a payment (i.e., "Pay What You Want") or framed as a donation (i.e., "Donate What You Want"). In Study 1A, these pop-ups were presented side-by-side and participants' task was to predict which of the two frames resulted in the highest contribution rate and, among those who decided to give a non-zero amount, which of the two resulted in the larger average contribution amount. In Study 4B, participants saw only one the two pop-ups and were tasked to predict the contribution rate associated with the message (bounded between 0 and 100) and, among those who decided to give a non-zero amount, the average contribution amount.

Study 4B also included measures designed to probe the underlying reciprocal motives shaping participants' forecasts of campaign effectiveness and language persuasiveness. Participants responded on 7-point scales to the following items: i) Market norms: *To what extent does Pay What You Want / Donate What You Want invoke the usual market norm: that people should contribute with an amount corresponding to the value they get?*; ii) Pressure to give: *To what extent does the Pay What You Want / Donate What You Want language make people feel obligated to give?;* iii) Familiarity with the language: *To what extent is the Pay What You Want / Donate What You Want language common or familiar in nonprofits' campaigns?*; iv) Fluency: *To*

what extent does the Pay What You Want / Donate What You Want language feel natural and easy to understand?

Finally, we measured participants' familiarity with ReadWorks (1 = Not familiar at all; 7 = Very familiar). In Study 4A, we also measured how often they used or directly benefitted from ReadWorks, if ever. Finally, we collected demographics (age, gender) and several measures of teaching experience, such as current teaching location, grades currently taught, subjects currently taught, and years of teaching experience. In Study 4A, we also collected household income, and asked teachers about different supplementary educational materials they used. See Appendix C for a full description of the questions asked in each study.

Results

Teachers in our sample taught from multiple locations, and across multiple grades (from kindergarten to 12th grade) and subjects (e.g., English, Math, Social Studies). In Study 4A, around 57% of them taught 40 students or less (47% in Study 4B), and around 61% had more than 10 years of experience (63% in Study 4B). Participants were somewhat unfamiliar with ReadWorks (Study 4A: $M = 2.96$, $SD = 2.27$; Study 4B: $M = 3.14$, $SD = 2.36$). In Study 4A, 29% of teachers reported using ReadWorks regularly (at least monthly) and reported using a variety of supplemental educational materials (e.g., online videos, online learning platforms), highlighting the appeal of a platform such as ReadWorks to our selected sample. See Table 3 and 6 in Supplement for a comprehensive description of the samples.

In Study 4A, where teachers' forecasts were elicited in joint evaluation mode, a substantially higher proportion of K-12 teachers predicted that the donation (vs. payment) frame would produce a higher contribution rate (68.33% vs. 24.52%, $\chi^2(1, N = 390) = 86.81$, $p < .001$, Cramer's V = 0.47; Figure 6) as well as higher average contribution amount (71.19% vs. 20.48%, $\chi^2(1, N = 385)$

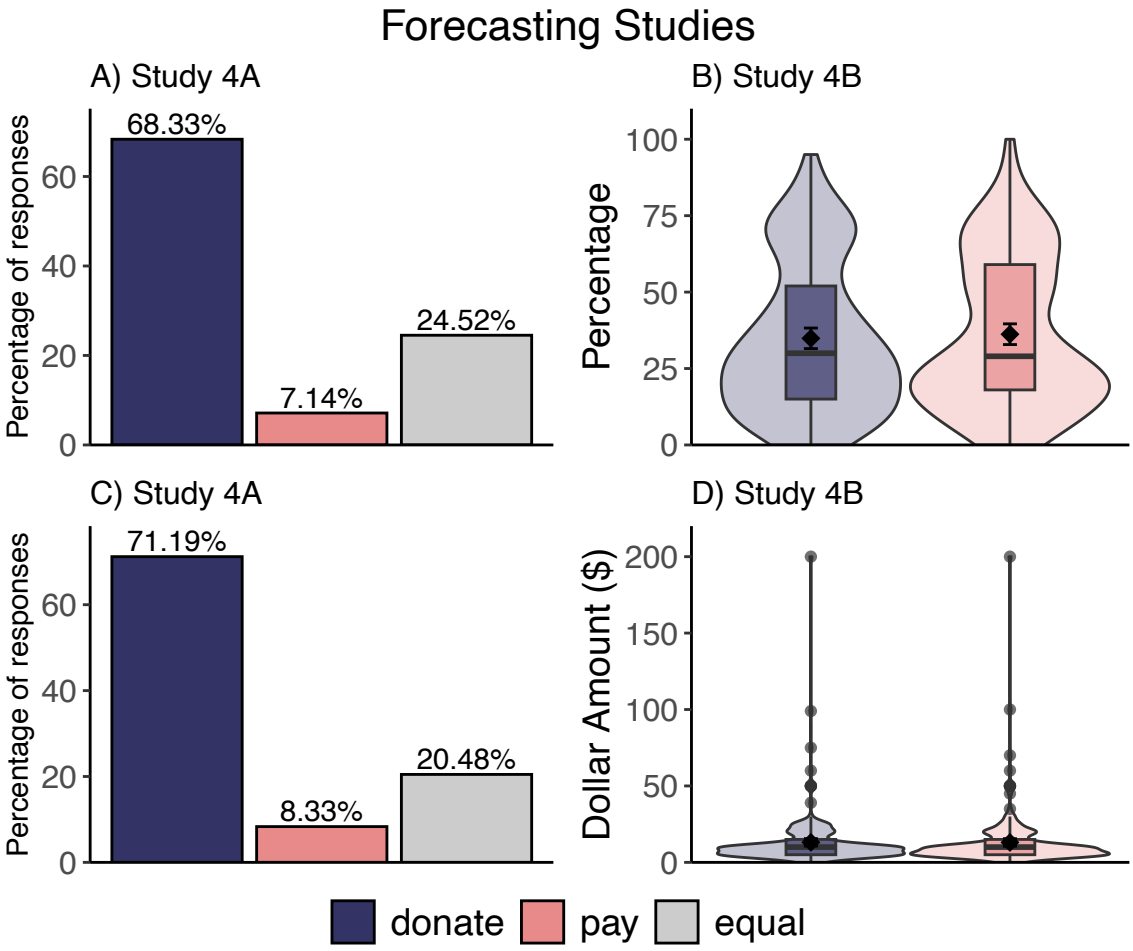
= 117.84, $p < .001$, Cramer's V = 0.55; Figure 6). Number of teaching years further exacerbated the tendency to predict that the donation frame would result in higher contribution rates ($b = -0.13$, $SE = .062$, $p = .037$; Table 5 in Supplement). This suggests that older, more experienced teachers expect the donation frame to be particularly persuasive, when compared to their less experienced teachers.

In Study 4B, where teachers' forecasts were elicited in separate evaluation mode, we did not observe significant differences in their predictions for either contribution rates or average contribution amounts. Predicted contribution rates were similar across the two messages ($M_{donate} = 34.88$, $SD_{donate} = 24.39$, $M_{pay} = 36.21$, $SD_{pay} = 24.61$, $t(408) = -0.55$, $p = .581$, 95% CI [-6.09 3.42], $d = 0.05$)[5]. Likewise, average contribution amounts were also comparable between the two messages ($M_{donate} = 13.10$, $SD_{donate} = 17.75$, $M_{pay} = 13.03$, $SD_{pay} = 17.86$, $t(408) = 0.04$, $p = .967$, 95% CI [-3.38 3.53], $d = 0.00$)[6]. Despite these similarities in predicted behavior, we found that the pay message evoked stronger market norms ($M_{donate} = 4.25$, $SD_{donate} = 1.90$, $M_{pay} = 4.61$, $SD_{pay} = 1.71$; $t(408) = 1.99$, $p = .047$, 95% CI [-0.71 -0.01], $d = 0.20$). It was also seen as exerting more pressure to give ($M_{donate} = 2.79$, $SD_{donate} = 1.83$, $M_{pay} = 3.47$, $SD_{pay} = 1.99$, $t(408) = 3.62$, $p < .001$, 95% CI [-1.05 -0.31], $d = 0.36$).

[5] Nonparametric tests yield consistent results.

[6] We report results winsorized at $200, which we did not preregister. We chose to report winsorized results given one extreme forecast in the Donate condition ($34000). We chose $200 because this was the maximum donation observed in the field, and the second to largest forecast in the dataset. Results are robust to other specifications. Nonparametric tests yield consistent results.

Figure 6. Contribution rates in forecasting Studies 4A and 4B



Note. A: Percentage of participants in Study 4A who predict each message to result in higher contribution rates or predict equal efficacy; B: Forecasted contribution rates in Study 4B, by message, along with violin plots and boxplots; C: Percentage of participants in Study 4A who predict each message to result in larger average contribution rates or predict equal efficacy; D: Forecasted average contribution amounts in Study 4B (winsorized at $200), by message, along with violin plots and boxplots. Diamonds represent the mean, and error bars represent confidence intervals of the mean.

Discussion

Taken together, the two forecasting studies reveal a nuanced pattern in teachers' intuitions about message persuasiveness. When evaluated separately, teachers did not anticipate significant differences in the behavioral impact of the messages, since forecasts of both contribution rates and amounts were comparable. Yet they did perceive meaningful differences between the messages. Specifically, the payment message was seen as evoking stronger market norms and exerting greater pressure to give. In contrast, when the two messages were presented side-by-side in joint evaluation—in which their key differences are highlighted—teachers exhibited a clear preference for the donation language. That is, they forecasted that the donation message would yield both higher contribution rates and larger average contributions compared to the payment message. We replicated these results with a general sample from MTurk, suggesting that this intuition is robust (N = 399; see Appendix B for forecasts by this general sample).

The sharp diverge between evaluation modes highlights how our intuitions overstate framing effects when options are compared side-by-side and remain blind to subtler motive cues in standalone contexts (Imas et al. 2022; Jung et al. 2023). In joint evaluation, where the contrast between the messages was salient, teachers clearly expected the donation language to be more effective than the payment language, perhaps due to its stronger appeal to a social, communal relationship. However, when considered separately, people failed to anticipate any differences as behaviorally significant. This suggests that while people intuitively recognize stronger market norms and pressure under the payment frame—an insight that is further supported by the results of Study 1—, but they do not consistently expect those differences to shape behavior in meaningful ways. In other words, the messages are not seen as psychologically equivalent, but they are not expected to be behaviorally consequential unless contrasted directly.

Critically, predictions in both joint and separate evaluation modes diverged sharply from actual giving behavior. In Study 4A, forecasters predicted a donation language advantage, yet the payment frame outperformed the donation frame by increasing contribution rates in the field. In Study 4B, forecasters anticipated contribution rates of 34.88% and 36.21%, but actual rates were an order of magnitude lower—1.73% and 2.58%—, reflecting a substantial overestimation of generosity. Moreover, despite accurately identifying that the payment message would feel more transactional and pressuring, forecasters failed to anticipate that this added pressure might actually increase giving. This disconnect again highlights our key insight: people can detect the psychological cues embedded in the language without accurately predicting their behavioral consequences.

By juxtaposing lay intuitions with real-world behavior, our findings offer both theoretical and practical contributions. Theoretically, they suggest that subtle reciprocity—here, the payment language—can increase pressure to give and enhance giving, rather than suppressing it. Practically, the results encourage nonprofit organizations to test messages empirically rather than relying on intuition alone. Language that feels less warm or altruistic may, in practice, be more effective at eliciting giving. More broadly, the forecasting–behavior gap highlights the need to refine existing models of prosocial motivation to better account for how framing influences both judgement and behavior.

Discussion

Across three field studies in collaboration with an edtech nonprofit organization, we explored how framing voluntary monetary contributions as payments (Pay What You Want) versus donations (Donate What You Want) influenced giving. We tested this framing intervention with two distinct samples: i) subscribers of the nonprofit's mailing list (Studies 2A and 2B) and ii) new

users of the nonprofit's platform (Study 3). Across all three field experiments, we consistently saw that the payment frame increased contribution rates, thus attesting to the efficacy of reciprocity appeals in eliciting giving. However, we saw very limited effects of the framing manipulation on the amounts given. In Studies 2A and 2B, the low contribution rates may have reduced statistical power to detect any significant effects on the amounts given; in Study 3, we observed a positive effect of the donation language on contribution amounts, though it is hard to draw inferences from this result given data limitations.

These findings contrast with those of Saccardo et al. (2021), who reported that framing contributions as donations increased both contribution rates and amounts, compared to the payment frame. We speculate that this difference may be due to a key contextual factor in the fundraising campaigns. In our studies, the nonprofit organization was the provider of an online educational platform, such that donors were also potential users of their product. In Saccardo et al. (2021), the charity and the seller were distinct entities. In these cases, where donors do not directly benefit from the charity's work, appeals to reciprocity may be less effective, as donors are less likely to feel that there is an expectation to reciprocate.

While the email campaigns (Study 2A and 2B) led to lower contribution rates than the sign-up campaign (Study 3), the contribution amounts from the email subscribers were substantially higher. This result could be explained in two ways. First, although each study provided a suggested range of contribution amounts, these varied by sample (Study 2A and 2B: $5, $10, $15, $25; Study 3: $5, $25, $50, Other). Most importantly, Study 3 included a default contribution amount, which concentrated contributions around $5.15 ($5 default plus a $0.15 processing fee). The lower average contribution amounts in Study 3 aligns with findings that small defaults can decrease contribution amounts (Goswami and Urminsky 2016). Second, the two samples may differ in their

engagement and loyalty to the organization. Subscribers who respond to email solicitations may be more committed to the organization or more familiar with their offerings compared to those that ignore the email, resulting in higher contribution amounts. Alternatively, they may simply be more generous.

Interestingly, we observed differential effects of the framing manipulation on the two key giving decisions, that is, whether to give and how much to give (Fajardo et al. 2018, Kim et al. 2021). Different mechanisms may indeed drive these two stages of decision-making (Dickert et al. 2011), and aspects of the framing or the donor-organization relationship could influence each stage uniquely (Fajardo et al. 2018). Appealing to reciprocity through the payment language may have increased participants' willingness to reciprocate the benefits they received from the organization, without increasing how *generous* they were in their contribution amounts. In fact, our findings support the notion that the donation language, which may appeal to more aspirational and intrinsic generous motives, may lead to larger contribution amounts.

The observed results stand in sharp contrast with the predictions made by naïve K-12 teachers, a sample selected for their relevance to our field population (Studies 4A and 4B). We collected teachers' forecasts for two key reasons. First, we sought to capture lay intuitions about the persuasiveness of the different messages, given the limited understanding of how people anticipate the impact of payment versus donation frames. These intuitions may also provide indirect evidence about the psychological mechanisms underlying our effects—a particularly valuable contribution given the challenges of isolating mechanisms in the field setting. Second, because prior literature offers no clear prediction as to how these two frames might influence giving behavior, the forecasts serve as a useful benchmark for interpreting the field results. While we found that the payment frame significantly increased nonprofit revenue due to increased

contribution rates—yielding an additional $1997.04 across all three field studies (Study 2A: $726; Study 2B: $400; Study 3: $772.04)—, teachers' forecasts did not reflect this pattern. When evaluating the two messages separately, they expected no differences between them; when evaluating them jointly, they overwhelmingly believed that the donation frame would be more persuasive.

Two key observations emerge from this result. First, different evaluation modes appear to elicit different intuitions about the effectiveness of pay and donate language in giving. Although prior work suggests that forecasts made in an evaluation mode congruent with the study design tend to me more accurate (Imas et al. 2022), our forecasters still failed to anticipate the persuasiveness of payment language. Second, these findings underscore how limited people's intuitions about their motivations can be: individuals often lack introspective access of what drives their behavior (Nisbett and Wilson 1977). It is possible that forecasters found the donation message more pleasant or less coercive in tone, leading them to overestimate its effectiveness. More broadly, the mismatch between predicted and observed effectiveness highlights how intuitive judgements about persuasiveness can diverge from what actually drives behavior. This underscores the value of empirical testing and invites further questioning into how people understand prosocial motives.

Beyond the impact on contribution rates, our framing manipulation also affected open and clickthrough rates in the email campaigns. In Study 2B, the donation frame was associated with increased open rates, but decreased clickthrough rates. However, this framing effect is inconsistent with the results of Study 2A, which show the opposite trend. One possible explanation is that the subject lines of the emails, though minimally different, may have influenced open rates in unexpected ways (Study 2A: This Giving Tuesday, donate/pay what you want; Study 2B:

Donate/Pay what you want to support reading comprehension). Importantly, we observed a consistent framing effect on contribution likelihood, regardless of whether open and clickthrough rates were controlled for. This effect was further replicated in Study 3, where participants were directly exposed to the intervention and could choose whether to contribute, attesting to the robustness of the effect.

Limitations and Future Directions

Across three field studies, we identified a robust benefit of the payment frame in raising revenue for the nonprofit organization, when compared to the donation frame. Albeit robust, this effect was detected with a single nonprofit organization, which limits the generalizability of our findings. Future work should replicate this result with other organizations working in different domains (e.g., cultural spaces and events). A conceptual replication of this work should also validate the benefits of reciprocity messaging by detecting alternative ways to appeal to reciprocal motives beyond the payment language. In parallel, it would be valuable to assess how this form of intervention would play out for organizations that typically do not offer tangible benefits to their donor base, that is, that function as “pure charities”. The results of Saccardo et al. (2021) suggest that, in such contexts, appeals to individual’s sense of community and generosity may be more effective, but a more direct test should explore this possibility. This would further support the notion that reciprocity drives our observed effect, as reciprocity appeals should be less sensible and appealing in contexts wherein people do not benefit directly from the organization.

While we theorize that our framing manipulation affected the giving decision by appealing to norms of reciprocity, the observed effects are consistent with the activation of market norm beliefs through the payment language. These are not mutually exclusive explanations: the payment language may invoke a sense of obligation rooted in social norms while signaling the expectations

typically associated with market transactions. This interpretation is consistent with our findings in Study 4B, in which teachers rated the payment language as invoking market norms more strongly than the donation language, and as exerting greater pressure to give. Thus, the framing may have increased contribution rates by cueing a *tit-for-tat* norm (i.e., reciprocity), and thus increasing pressure to give. In this way, the payment frame might also have further simplified the giving decision by clarifying what is expected from the contributor, thereby increasing contribution rates (Ein-Gar et al. 2021, Moon and VanEpps 2023).

Future work should investigate how the two solicitation frames influence attitudes towards the organization and the product. For instance, it is possible that the donation language is judged more positively than the payment language, portraying the organization as more communal and less greedy, but perhaps less competent. An intriguing question is whether perceptions of the product itself are influenced by the solicitation. For instance, people may infer higher quality from product that they were prompted to "pay" for and may enjoy it. Finally, future research should examine the longevity of the effect. Specifically, how will repeated exposure to these two messages impact long-term giving behavior? The pressure and behavioral response elicited by reciprocity may decay over time (Chuan et al. 2018), hence a strategy focusing solely on reciprocity appeals could prove less advantageous to nonprofits in the long run.

Conclusion

In conclusion, the present research examined the how framing a contribution to a nonprofit as a reciprocal exchange—versus the more traditional donation language affects giving. We found that framing contributions as a payment significantly increased contribution rates, but we found limited effects of framing on contribution amounts. These results underscore how a simple framing

intervention can meaningfully increase nonprofits' revenue, particularly those that offer tangential benefits to their patrons.

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Supplemental Information for "Payment or Donation? Leveraging Reciprocity when Nonprofits Give Back to their Donors"

Table of Contents

Appendix A – Supplemental Data and Statistical Results

Study 1

We opened 200 slots on Prolific for participants to complete our study in exchange for nominal payment. We received a total of 201 submissions, but one was screened out for mobile use and did not complete the survey. As such, final sample size after exclusions consists of 200 observations (M_{age} = 36.87, SD_{age} = 12.46; 62% women).

Study 2A

Out of the 93 donations, 67 could be attached to an account. 58 were first time donors. Among the 35 who had previously donated, previous (i.e., last) donation amount was identified (N = 35, *M* = 22.48, *SD* = 18.83). Previous donation amount was associated with current donation (*r* = 0.71, $p < .001$).

Role, grades taught, and subjects taught could only be identified for those subjects who had an account attached (N = 67). See Table 1 for distribution. There were 28 respondents categorized as teachers, 11 as affiliates, and 28 missing responses.16 respondents answered what grades they teach, and 37 answered what subjects they teach.

Study 2B

Out of the 77 donations, 53 were attached to a RW account. We have no record of previous donations of 45 subjects, while there is record of 32 previous donations (*M* = 19.09, *SD* = 18.31). This past donation does not seem to be associated with current donation (*r* = 0.23, *p* = .20).

Role, grades taught, and subjects taught could only be identified for those subjects who had an account attached (N = 53). See Table 1 for distribution. There were 30 respondents

categorized as teachers, 9 as affiliates, and 14 missing responses. 14 respondents answered what grades they teach, and 29 answered what subjects they teach.

Study 3

Of the 908 donations, 697 were attached to a RW account. We have no record of previous donations from 904 subjects, while there is a record of 4 previous donations ($M = 6.5$, $SD = 2.68$).

Role, grades taught, and subjects taught could only be identified for those subjects who had an account attached (N = 697). See Table 1 for distribution. There were 342 respondents categorized as teachers, 107 as parent/guardian, 125 as affiliates, and 123 missing responses. 12 respondents answered what grades they teach, and 27 answered what subjects they teach.

Table 1. Sample characteristics and descriptives in Studies 2A, 2B and 3

	Study 2A	Study 2B	Study 3
Attached to RW account	67	53	697
Role			
After-School Educator	0	1	26
Assistant Principal/Instructional Leader	0	0	5
District Administrator	0	0	4
EEL Teacher	4	5	16
Homeschooler	0	0	16
Instructional Coach	0	0	10
Librarian/Media Specialist	0	0	2
Paraprofessional	0	1	16
Parent/Guardian	2	0	110
Principal	0	0	7
Reading/Literacy Specialist	2	3	18
Special Education Teacher	1	5	73
Speech Language Pathologist	0	2	29
Student Teacher	0	0	10
Teacher	23	20	251
Tutor	5	3	10
Other	2	0	7
NA	54	37	294
Grades			

PK	2	1	
K	5	5	2
1	7	6	4
2	7	5	2
3	6	5	5
4	8	6	3
5	6	6	3
6	3	5	3
7	0	3	3
8	1	3	2
9	1	2	0
Post-secondary/Adult-learner (A)	1	3	0
Subjects			
English Language Arts	27	17	15
Math	15	14	9
Science	19	12	8
Social Science	21	12	11
Special Needs	10	11	11
English Language Learning	14	9	12
Speaking, Reading, Writing	3	4	0
Adult Educator	5	2	2
After-School Educator			1
Other (e.g., teaching in prison)	3	2	8
NA	56	48	881
Usage			
Mean (SD)			
Total			
Digital Classes	2.05	1.89	1.34
	(1.58)	(1.45)	(0.87)
	39	34	389
Article-A-Day assignments	6.93	4.41	3.49
	(7.98)	(5.53)	(3.59)
	97	75	464
RMS assignments	1.25	1 (-)	1.19
	(0.5)	1	(0.40)
	5		10
Digital assignments	15.26	27.48	7.13
	(12.82)	(22.37)	(9.21)
	290	632	1027
Prints	11.77	14.81	5.39
	(15.23)	(17.18)	(5.22)
	412	474	1563
Projects	2.73	10.85	2.29
	(2.72)	(20.78)	(3.31)
	30	141	142

Total	9.39	16.19	3.01
	(16.73)	(26.26)	(6.13)
	873	1247	2732
At least one assignment	43	42	397
State			
AL			5
AR			1
AZ			1
CA		1	8
CT			1
FL			8
GA			7
IA			1
ID			1
IL		1	4
IN			1
KY			1
LA			3
MA		1	3
MD			1
ME			1
MI			1
MO			3
MS			2
MN			
MT			2
NC			5
NJ			5
NY		2	12
OH		1	5
OK			2
OR			2
PA		2	5
RI			1
SD			1
TN			7
TX			8
UT			2
VA			5
WA			4
WI			3
NA		69	781
School State			
AK			2
AL			3
AR			3

AZ		6
CA	3	34
CO		2
CT		2
FL		15
GA		15
HI	1	2
IA		3
ID		1
IL	1	10
IN		11
KS		3
KY		6
LA		10
MA		9
MD	1	5
MI	2	16
MN		5
MO		4
MS		8
MT		2
NC		12
ND	1	1
NE		2
NH	1	2
NJ	1	11
NM		1
NV		4
NY	2	29
OH	1	14
OK	1	6
OR		1
PA	2	12
RI		1
SC	1	5
TN	1	7
TX	3	25
UT		6
VA	2	10
VT		1
WA		8
WI		3
WV		1
WY		1
NA	54	568

Note. Usage is about academic year 2022-2023. The interpretation of usage in Study 2 is ambiguous, most of it is due to usage between sign-up and date data was pulled.

Table 2. Regressions on contribution amount in Studies 2A, 2B and 3

	Contribution Amount		
	1	2	3
(Intercept)	22.07^	15.72 **	
	(11.97)	(4.81)	
Pay	-5.03	-0.41	-1.57 *
	(13.69)	(6.20)	(0.60)
Parent/Guardian Role			-1.24
			(1.45)
Affiliate Role	-4.45	2.97	-1.10
	(20.15)	(9.85)	(1.69)
Usage	0.20	1.49	
	(4.76)	(2.74)	
Pay × Parent/Guardian Role			6.21^
			(3.54)
Pay × Affiliate Role	31.76	-2.41	1.64
	(23.94)	(13.45)	(1.60)
State FE	No	No	Yes
N	39	39	332
R^2	0.11	0.02	0.13

Note: Pay takes value 1 for PWYW message and 0 for DWYW message; Role is dummy coded (Teacher is baseline); Usage is mean-centered. Regressions 2-3 were preregistered.
*** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.10.

Study 4A

We recruited 400 participants through Centiment to participate in this experiment. We received a total of 526 complete submissions, and excluded 126 participants that failed an attention check and did not finish the study. As such, final sample size after exclusions consists of 420 observations (M_{age} = 45.27, SD_{age} = 11.77; 78.33% women).

Table 3. Sample characteristics and descriptives in Study 4A

	Choice			Amount			Total
	Pay	Donate	Equal	Pay	Donate	Equal	
Familiarity							
1 Not familiar at all	49	138	15	47	140	15	202
2	4	23	3	6	19	5	30
3	8	24	2	6	26	2	34
4	10	18	4	8	20	4	32
5	12	22	2	4	29	3	36
6	9	22	1	8	24	0	32
7 Very familiar	11	40	3	7	41	6	54
Mean (SD)	3.03 (2.25)	2.96 (2.30)	2.67 (2.11)	2.63 (2.14)	3.05 (2.31)	2.97 (2.28)	2.96 (2.27)
Previous Usage							
Never	46	142	15	46	145	12	203
Once	12	20	4	9	22	5	36
Yearly	16	39	3	10	40	8	58
Monthly	15	56	5	12	59	5	76
Weekly	12	25	2	9	26	4	39
Daily	2	5	1	0	7	1	8
Grades Taught							
Kindergarten	20	59	10	16	68	5	89
1st Grade	14	58	5	14	59	4	77
2nd Grade	17	60	1	12	63	3	78
3rd Grade	12	62	5	14	58	7	79
4th Grade	14	53	3	12	53	5	70
5th Grade	12	54	2	12	54	2	68
6th Grade	18	51	1	11	55	4	70
7th Grade	14	40	1	10	40	5	55
8th Grade	16	48	3	11	48	8	67
9th Grade	25	55	3	19	58	6	83
10th Grade	22	57	3	17	60	5	82
11th Grade	24	59	4	19	61	7	87
12th Grade	24	56	3	22	56	5	83
Subjects Taught							
English	47	149	14	43	153	14	210
Mathematics	37	125	17	35	128	16	179
Science	32	99	13	30	101	13	144
Social Studies	35	109	10	34	108	12	154
History	17	42	5	17	40	7	64
Physical Education	7	20	1	6	22	0	28
Foreign Language	5	11	1	3	14	0	17

Art	7	20	3	11	16	3	30
Music	4	19	0	6	16	1	23
Technology / Computer Science	5	14	0	5	14	0	19
Special Ed	23	44	4	19	47	5	71
Other	10	25	3	8	28	2	38
Students Taught							
Less than 20	23	68	12	26	67	10	103
21-40	36	97	12	28	104	13	145
41-60	5	22	2	6	21	2	29
61-80	6	17	1	2	20	2	24
81-100	6	22	2	3	23	4	30
More than 100	27	61	1	21	64	4	89
Teaching Experience							
Less than 1 year	0	1	0	0	1	0	1
1-2 years	7	15	1	2	21	0	23
3-5 years	21	38	4	18	41	4	63
6-10 years	20	50	6	8	58	10	76
11-15 years	16	47	3	12	53	1	66
16-20 years	17	45	6	17	46	5	68
21-25 years	7	33	7	11	28	8	47
More than 25 years	15	58	3	18	51	7	76
Supplementary Materials							
Educational apps / software	79	216	25	66	227	27	320
Online learning platforms	73	201	19	56	210	27	293
Interactive whiteboard	50	166	18	48	164	22	234
Virtual Reality (AR) tools	7	20	3	5	22	3	30
Online videos or tutorials	76	185	19	61	194	25	280
Supplemental workbooks or printed materials	69	198	22	59	203	27	289
Other	3	5	0	4	4	0	8
None	0	5	1	1	5	0	6

Note: Grades taught, subjects taught, and supplemental materials used allowed for selection of multiple answers.

Table 4. Regressions in Study 4A		
	Choice	Amount
(Intercept)	-1.03 ***	-1.26 ***
	(0.11)	(0.12)
Familiarity	0.00	-0.07
	(0.07)	(0.07)
Usage	0.03	-0.03
	(0.10)	(0.11)
N	390	385
AIC	456.16	412.55
BIC	468.06	424.41
Pseudo R2	0.00	0.01

Note. Familiarity with ReadWorks and Usage are mean-centered.
*** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.10.

Table 5. Regressions in Study 4A				
	Choice	Amount	Choice	Amount
(Intercept)	-1.03 ***	-1.25 ***	-1.04 ***	-1.25 ***
	(0.12)	(0.12)	(0.12)	(0.12)
N Students Taught	0.00	-0.00		
	(0.00)	(0.00)		
N Teaching Years			-0.03 *	0.02
			(0.01)	(0.01)
N	390	385	390	385
AIC	453.87	412.66	449.82	410.90
BIC	461.81	420.57	457.75	418.81
Pseudo R2	0.00	0.00	0.02	0.01

Note. Number of Students Taught and Number of Teaching Years were converted from intervals to a numerical variable based on interval midpoint, and are mean-centered.
*** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.10.

Study 4B

We recruited 400 participants through Centiment to participate in this experiment. We received a total of 546 complete submissions, and excluded 136 participants that failed an attention check and did not finish the study. As such, final sample size after exclusions consists of 410 observations (N= 410, M_{age} = 43.19, SD_{age} = 10.58; 71.22% women).

Table 6. Sample characteristics and descriptives in Study 4B

Familiarity	
1 Not familiar at all	188
2	28
3	33
4	25
5	37
6	35
7 Very familiar	64
Mean (SD)	3.14 (2.36)
Grades Taught	
Kindergarten	56
1st Grade	71
2nd Grade	67
3rd Grade	77
4th Grade	77
5th Grade	67
6th Grade	73
7th Grade	64
8th Grade	65
9th Grade	85
10th Grade	95
11th Grade	89
12th Grade	98
Subjects Taught	
English	203
Mathematics	187
Science	135
Social Studies	134
History	66
Physical Education	24
Foreign Language	14
Art	18

Music	10
Technology / Computer Science	18
Special Ed	60
Other	19
Students Taught	
Less than 20	62
21-40	130
41-60	35
61-80	45
81-100	41
More than 100	97
Teaching Experience	
Less than 1 year	4
1-2 years	22
3-5 years	63
6-10 years	63
11-15 years	51
16-20 years	70
21-25 years	84
More than 25 years	53

Table 7. Descriptive statistics and key comparisons in Study 4B

	Donate		Pay						
	M	SD	M	SD	*df*	*t*	*p*	95% CI	*d*
No exclusions, no transformation (preregistered)	177.98	2373.84	13.03	17.86	408	0.99	.320	[-160.98 490.88]	0.10
Excluding extreme obs ($34000)	12.19	11.99	13.03	17.86	407	-0.56	.576	[-3.80 2.12]	0.06
Winsorized at $200	13.10	17.75	13.03	17.86	408	0.04	.967	[-3.38 3.53]	0.00

Note: M = Mean; SD = Standard Deviation.
Two-tailed t-tests reported.

Table 8. Descriptive statistics and key comparisons in Study 4B for additional measures

	Donate		Pay					
	M	SD	M	SD	*t*(408)	*p*	95% CI	*d*
Market norms	4.25	1.90	4.61	1.71	-1.99	.047	[-0.71 -0.01]	0.20
Pressure to give	2.79	1.83	3.47	1.99	-3.62	< .001	[-1.05 -0.31]	0.36
Familiarity with language	4.79	1.74	4.52	1.77	1.52	.130	[-0.08 0.60]	0.15
Fluency	5.73	1.53	5.77	1.37	-0.27	.786	[-0.32 0.24]	0.03

Note: M = Mean; SD = Standard Deviation.
Two-tailed t-tests reported.

Table 9. Regressions in Study 4B

	Choice	Amount
(Intercept)	35.54 ***	13.08 ***
	(1.20)	(0.88)
Familiarity with ReadWorks	1.27 *	0.46
	(0.51)	(0.37)
Pay	1.40	-0.05
	(2.41)	(1.76)
Familiarity with ReadWorks × Pay	-0.21	0.83
	(1.02)	(0.75)
N	410	410
R2	0.02	0.01

Note. Pay takes value 0.5 for PWYW message and -0.5 for DWYW message. Familiarity with ReadWorks is mean-centered.
Regression on amount excludes extreme observation.
*** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.10.

Table 10. Regressions in Study 4B

	Choice	Amount	Choice	Amount
(Intercept)	35.55 ***	13.04 ***	35.46 ***	13.04 ***
	(1.21)	(0.88)	(1.22)	(0.88)
N Students Taught	-0.07 *	-0.00		
	(0.03)	(0.02)		
N Teaching Years	1.48	-0.06	1.45	0.10
	(2.41)	(1.76)	(2.43)	(1.77)
Pay Message	-0.01	0.05		
	(0.06)	(0.04)		
N Students Taught × Pay Message			-0.07	-0.12
			(0.14)	(0.10)
N Teaching Years × Pay Message			0.25	0.08
			(0.27)	(0.20)
N	410	410	410	410
R2	0.01	0.00	0.00	0.00

Note. Pay takes value 0.5 for PWYW message and -0.5 for DWYW message. Number of Students Taught and Number of Teaching Years were converted from intervals to a numerical variable based on interval midpoint, and are mean-centered.
Regression on amount excludes extreme observation.
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; ^ $p < 0.10$.

Appendix B: Supplemental Study

Method (Participants & Procedure)

We opened 200 slots on Prolific for participants to complete our study in exchange for nominal payment. We received a total of 442 submissions, but 24 were incomplete, 14 were screened out for mobile use and another five failed an initial attention check. Final sample consists of 399 participants (M_{age} = 43.98, SD_{age} = 13.00; 46.37% women).

Participants read a short description of ReadWorks, along with a brief explanation of the campaign and the intervention. Then they saw both email solicitations for contributions: one that framed contribution as payment (i.e., "Pay What You Want") and another that framed contribution as donation (i.e., "Donate What You Want"). They then answered to the following two forecasting questions: 1) Which of these two messages do you think resulted in a higher contribution rate, if any at all?) and 2) Among those who decided to give a non-zero amount, which of these messages do you think resulted in the larger average contribution amount? Participants responded by selecting among the following three options: 1) pay-what-you-want message performed better than donate-what-you-want, 2) donate-what-you-want message performed better than pay-what-you-want, and 3) the two frames performed equally. We then measured participants' familiarity with ReadWorks (1 = Not familiar at all; 7 = Very familiar) and how often they used or directly benefitted from ReadWorks, if ever. Finally, we collected several exploratory measures assessing participants' previous experience with voluntary pricing systems, namely whether they have previously participated or heard of either PWYW, DWYW, or neither. If participants had participated or heard of it, we asked them to elaborate on their experience (either direct, as a consumer, or indirect, from hearsay), through a series of open-ended questions (e.g., Which organization(s) have you heard offer a voluntary pricing system (e.g., museum, venue, platform)?)

We also measured their familiarity with the specific pricing system. See Table 11 for a summary of these variables. Finally, we collected some demographics (age and gender).

Results and Discussion

A high proportion of participants predicted that the generosity (vs. reciprocity) framing would produce higher contribution likelihood (N_{donate} = 285, 71.43%; N_{pay} = 84, 21.05%, X^2(1, N = 369) = 109.49, $p < .001$, Cramer's V = 0.54) and higher average contribution amounts (N_{donate} = 277, 69.42%; N_{pay} = 82, 20.55%, X^2(1, N = 369) = 105.92, $p < .001$, Cramer's V = 0.54). Familiarity with ReadWorks attenuated the tendency to predict that the donate message would result in higher average contribution amounts (b = 0.47, SE = 0.12, $p < .001$; see Table 12).

Table 11. Descriptives in Supplemental Study

	Choice			Amount			Total
	Pay	Donate	Equal	Pay	Donate	Equal	
Familiarity							
1 Not familiar at all	68	242	25	58	251	26	335
2	5	8	0	6	6	1	13
3	1	9	1	0	8	3	11
4	3	8	2	4	5	4	13
5	3	7	2	5	3	4	12
6	2	5	0	5	2	0	7
7 Very familiar	2	6	0	4	2	2	8
Mean (SD)	1.60 (1.46)	1.49 (1.33)	1.53 (1.25)	2.06 (1.92)	1.26 (0.92)	2.17 (1.82)	1.51 (1.35)
Previous Usage							
Never	73	244	27	62	251	31	344
Once	6	12	2	10	7	3	20
Yearly	1	14	0	3	9	3	15
Monthly	4	9	0	6	5	2	13
Weekly	0	3	1	1	2	1	4
Daily	0	3	0	0	3	0	3
Previous Experience							
Have heard of/participated in PWYW	46	105	8	37	109	13	159

Have heard of/participated in DWYW	29	118	13	28	114	18	160
None	22	111	13	27	104	15	146
Participated in PWYW as consumer	32	68	4	26	68	10	159
Familiarity M (SD)	5.34 (1.26)	5.28 (1.21)	4.75 (0.96)	5.65 (1.16)	5.19 (1.22)	4.90 (1.10)	5.28 (1.21)
Have heard of PWYW	14	37	4	11	41	3	55
Familiarity M (SD)	3.57 (1.40)	3.81 (1.37)	3.50 (1.91)	4.18 (1.17)	3.68 (1.42)	2.67 (1.53)	3.73 (1.39)
Participated in DWYW as consumer	19	92	9	17	92	11	120
Familiarity M (SD)	5.47 (1.12)	5.53 (1.35)	5.33 (1.22)	5.59 (1.12)	5.55 (1.35)	5.00 (1.00)	5.51 (1.30)
Have heard of DWYW	10	26	4	11	22	7	40
Familiarity M (SD)	3.40 (1.58)	4.23 (1.07)	4.00 (1.83)	3.64 (1.43)	4.27 (1.28)	3.71 (1.11)	4.00 (1.30)

Note: M = Mean; SD = Standard Deviation

Table 12. Regressions in Supplemental Study

	Pay has higher contribution rates	Pay has higher contribution amounts
(Intercept)	-0.79 *	-1.02 ***
	(0.31)	(0.29)
Familiarity	0.18	0.47 ***
	(0.12)	(0.12)
Usage	-0.34	-0.17
	(0.23)	(0.20)
N	369	359
AIC	398.77	369.68
BIC	410.50	381.33
Pseudo R2	0.01	0.09

Note. Familiarity with ReadWorks is mean-centered.
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Appendix C – Additional Study Details and Stimuli

Study 1

[Consent form]

{PAGE BREAK}

[ReCAPTCHA]

{PAGE BREAK}

[Attention check]

{PAGE BREAK}

Thank you for agreeing to participate in this study.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

We will ask you your opinion about a fundraiser campaign from a nonprofit organization.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

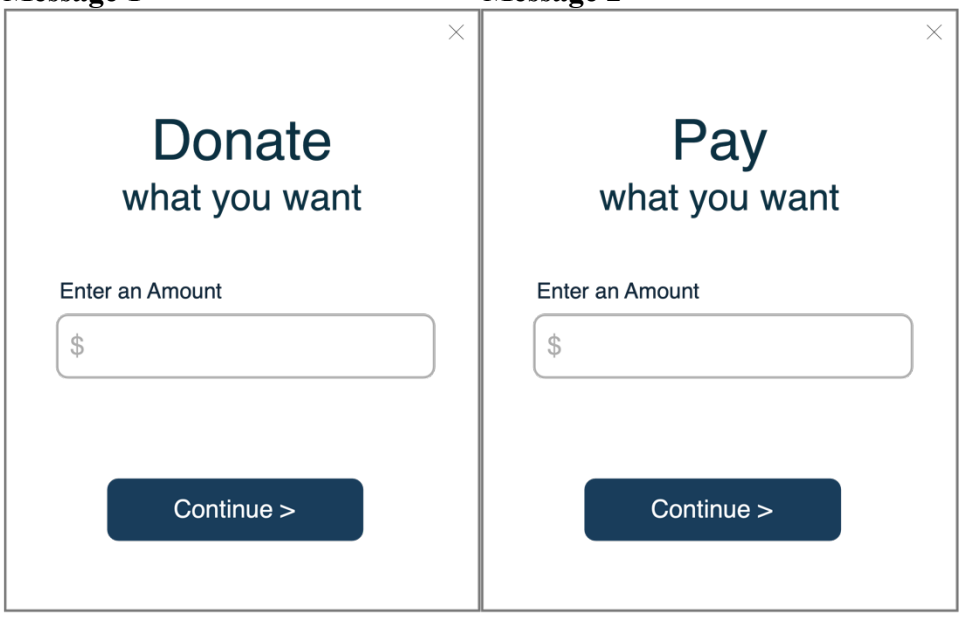
We will ask you your opinion about a fundraiser campaign from a nonprofit organization.

There are no right or wrong answers, so please answer open and honestly.

{PAGE BREAK}

Please read the following two pop-ups carefully. In the next screens, we will you some questions about your perceptions of these messages.

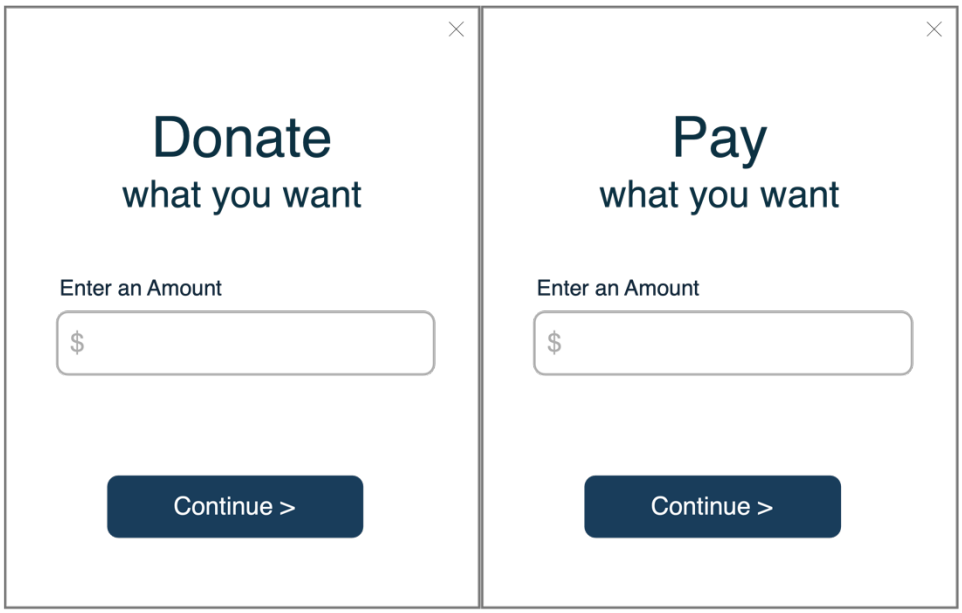
Message 1 **Message 2**



{Message presentation order counterbalanced, consistent across the survey}

{PAGE BREAK}

Message 1 **Message 2**



{Message presentation order counterbalanced, consistent across the survey}

Consider the following definition of reciprocity and generosity:

- **Reciprocity** is about exchanging for mutual benefit; it involves a give-and-take dynamic where both parties provide something of value to each other
- **Generosity** is about giving without expecting anything in return; it is the selfless act of providing for others out of kindness or compassion

{Definition presentation order counterbalanced}

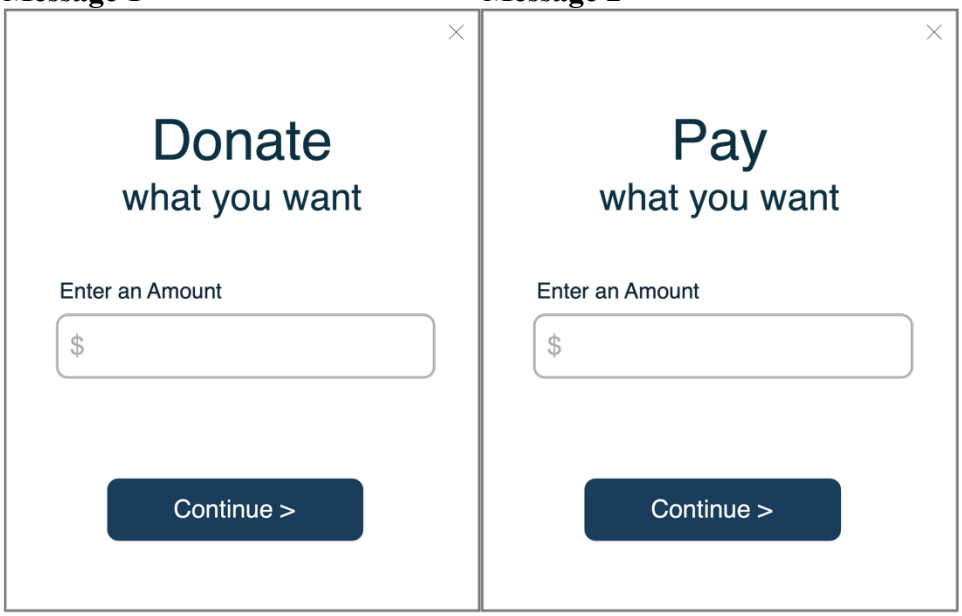
Please compare Message 1 (Donate What You Want) and Message 2 (Pay What You Want) on the extent to which the wording of the message appeals to...

- Reciprocity
    - Message 1 appeals more to it
    -
    -
    - Message 1 and Message 2 equally appeal to it
    -
    -
    - Message 2 appeals more to it
- Generosity
    - Message 1 appeals more to it
    -
    -
    - Message 1 and Message 2 equally appeal to it
    -
    -
    - Message 2 appeals more to it

{Item presentation order matches definition presentation order}

{PAGE BREAK}

Message 1 **Message 2**



{Message presentation order counterbalanced, consistent across the survey}

Please indicate the extent to which the wording of Message 1 (Donate What You Want) resembles...

- An economic transaction . . . . . A social transaction

Please indicate the extent to which the wording of Message 2 (Pay What You Want) resembles...

- An economic transaction . . . . . A social transaction

{PAGE BREAK}

We have some final questions about yourself.

Please indicate your age (in years): *{dropdown menu}*

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe

- Prefer not to say

Study 4A

[Consent form]

{PAGE BREAK}

Thank you for agreeing to participate in this study.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, we will ask you to make two predictions about a fundraiser campaign from a nonprofit organization. Next, we will ask you a few questions about your experience with this organization.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, we will ask you to make two predictions about a fundraiser campaign from a nonprofit organization. Next, we will ask you a few questions about your experience with this organization.

Please read the information carefully and answer openly and honestly.

{PAGE BREAK}

Read below a short description of the nonprofit organization.

LEVERAGING RECIPROCITY WHEN NONPROFITS GIVE BACK TO THEIR DONORS

ReadWorks is a nonprofit organization in the education sector. They are an online platform that offers free reading comprehension materials in the K12 sector with the mission of solving America's reading comprehension crisis and student achievement gap. Anyone who signs-up for an account can access their high-quality content and integrated tools.

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

However, **there were two versions of this pop-up**, and each user saw only one of them. These two pop-up versions were **identical**, except that one of them read ["**Donate What You Want**" at the top where the other read "**Pay What You Want**" / "**Pay What You Want**" at the top where the other read "**Donate What You Want**"]. *{Order of presentation randomized}*
In the following screens, where you will see these pop-ups, **this difference is highlighted in yellow for your comparison**. **The original pop-ups** that the sign-up users saw **were not highlighted.**

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

However, **there were two versions of this pop-up**, and each user saw only one of them. These two pop-up versions were **identical**, except that one of them read ["**Donate What You Want**" at the top where the other read "**Pay What You Want**" / "**Pay What You Want**" at the top where

the other read "**Donate What You Want**"]. *{Order of presentation randomized}*
In the following screens, where you will see these pop-ups, **this difference is highlighted in yellow for your comparison**. **The original pop-ups** that the sign-up users saw **were not highlighted.**

We want to know your opinion about the relative effectiveness of these two messages.

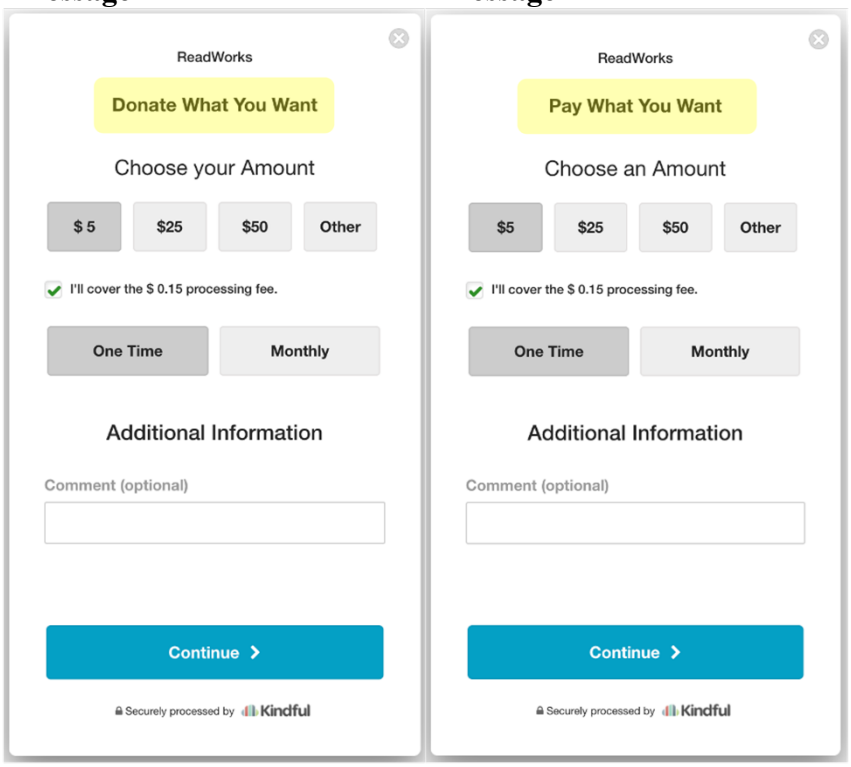
In the question below, please select "strongly disagree".

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

{PAGE BREAK}

Please read the following two pop-ups carefully. Afterward, we will ask you to evaluate their relative effectiveness.

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

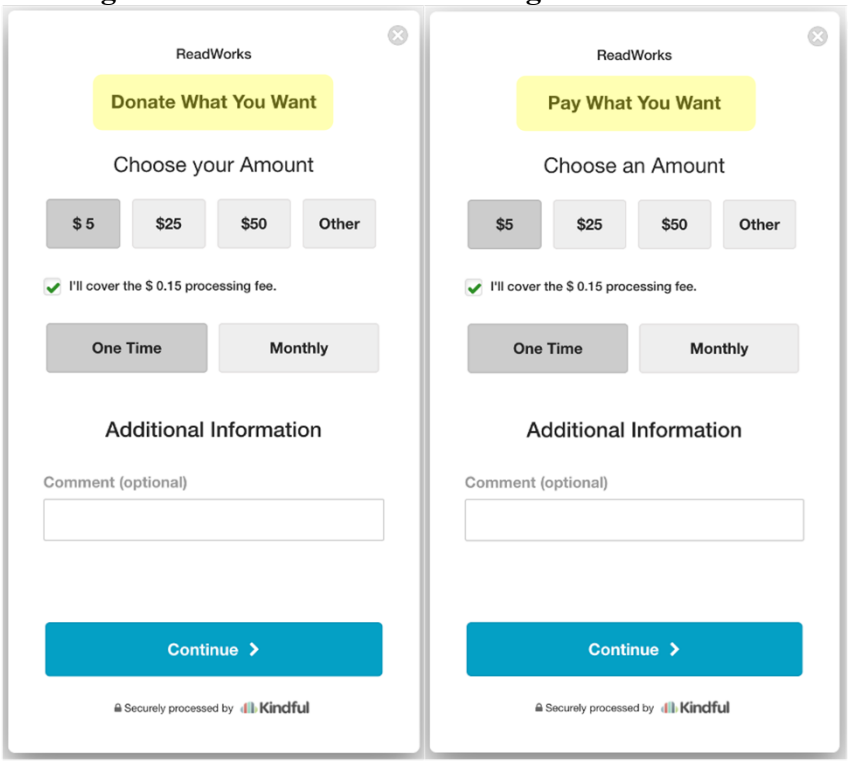
{PAGE BREAK}

We will now ask you to make two predictions about the relative effectiveness of these two messages.

Click the arrow below when you are ready to proceed.

{PAGE BREAK}

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

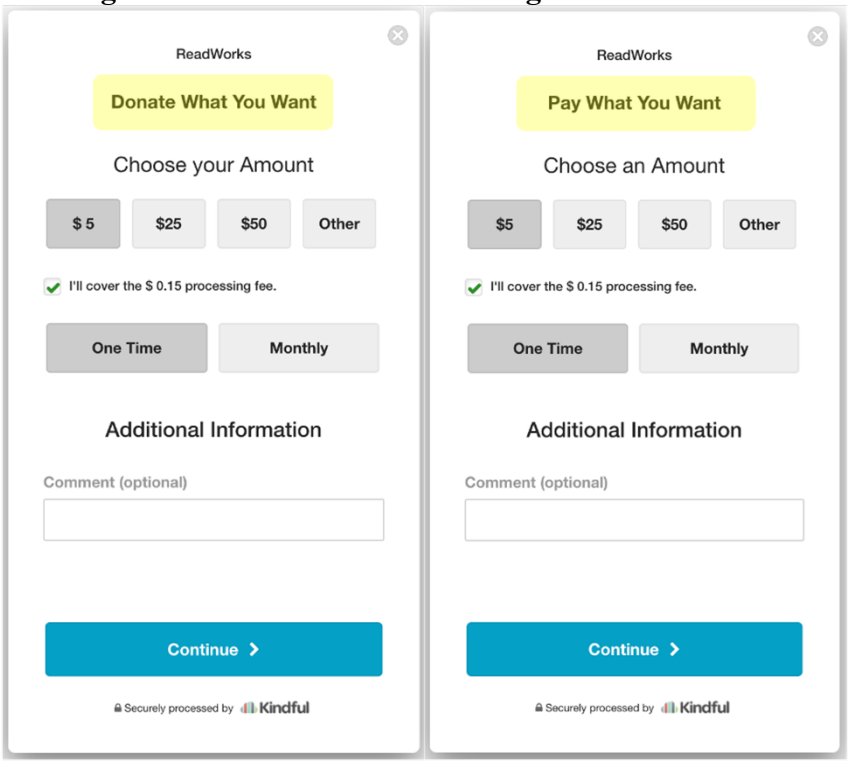
Which of these two messages do you think resulted in a <u>higher contribution rate</u>, if any at all?

- Message 1 (Donate What You Want) resulted in higher contribution rate than Message 2 (Donate What you Want)
- Message 2 (Pay What You Want) resulted in higher contribution rate than Message 1 (Pay What You Want)
- Message 1 (Donate What You Want) resulted in higher contribution rate than Message 2 (Donate What You Want)

{Order of presentation counterbalanced, matching the introduction and stimuli presentation}

{PAGE BREAK}

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

Among those who decided to give a non-zero amount, which of these messages do you think resulted in the <u>larger average contribution amount</u>?

- Message 1 (Donate What You Want) resulted in higher average contribution amount than Message 2 (Donate What you Want)
- Message 2 (Pay What You Want) resulted in higher average contribution amount than Message 1 (Pay What You Want)
- Message 1 (Donate What You Want) resulted in higher average contribution amount than Message 2 (Donate What You Want)

{Order of presentation counterbalanced, matching the introduction and stimuli presentation}

{PAGE BREAK}

Thank you for your answers. **We now have a few questions about your experience with this organization.**
Click the arrow below when you are ready to proceed.

{PAGE BREAK}

Before today, how familiar were you with ReadWorks and their work?

- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

If you had to make an estimate, how often would you say you use or directly benefit from ReadWorks?

- Never
- Once
- Yearly
- Monthly
- Weekly
- Daily

{PAGE BREAK}

Thank you for your answers. We have some final questions about yourself.

Please indicate your age (in years): *{Dropdown menu}*

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe
- Prefer not to say

What was your total household income before taxes during the past 12 months?

- Less than $25,000
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999

- $100,000-$149,999
- $150,000 or more
- Prefer not to say

Where do you currently teach? {dropdown menu}

Which grades do you currently teach?

- Kindergarten
- 1st Grade
- 2nd Grade
- 3rd Grande
- 4th Grade
- 5th Grade
- 6th Grade
- 7th Grade
- 8th Grade
- 9th Grade
- 10th Grade
- 11th Grade
- 12th Grade

Which subjects do you currently teach?

- English
- Mathematics
- Science
- Social Studies
- History
- Physical Education
- Foreign Language
- Art
- Music
- Technology/Computer Science
- Special Education
- Other (please specify)

Approximately how many students do you currently teach?

- Less than 20
- 21-40
- 41-60
- 61-80
- 81-100
- More than 100

How many years of teaching experience do you have?

- Less than 1 year
- 1-2 years

- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years

Which types of educational supplementary materials have you used in your classroom? Please specify

- Educational apps/softwares
- Online learning platforms
- Interactive whiteboard
- Virtual Reality (VR) tools
- Online videos or tutorials
- Supplemental workbooks or printed materials
- Other (specify)
- None

Study 4B

[Consent form]

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, you will read about a **recent fundraising campaign from a nonprofit organization**. Then, you will be asked to make two **predictions about the effectiveness** of this campaign.

We will then ask you a few follow-up questions about your **impressions of the campaign.**

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, you will read about a **recent fundraising campaign from a nonprofit organization**. Then, you will be asked to make two **predictions about the effectiveness** of this campaign.

We will then ask you a few follow-up questions about your **impressions of the campaign**.

Please read the information carefully and answer openly and honestly.

{PAGE BREAK}

Read below a short description of the nonprofit organization.

ReadWorks is a **nonprofit organization in the education sector.** They offer free, **high-quality online reading comprehension materials** for **students** and **teachers** in grades K-12 through their **online platform**. Their mission is to address the reading comprehension crisis and help close the student achievement gap in the U.S.

LEVERAGING RECIPROCITY WHEN NONPROFITS GIVE BACK TO THEIR DONORS

{PAGE BREAK}

Read below a short description of the nonprofit organization.

ReadWorks is a **nonprofit organization in the education sector.** They offer free, **high-quality online reading comprehension materials** for **students** and **teachers** in grades K-12 through their **online platform**. Their mission is to address the reading comprehension crisis and help close the student achievement gap in the U.S.

The platform is primarily used by teachers and other education professionals, who use ReadWorks to support student learning. Anyone can create an account on their website for free, which **gives access to ReadWorks' educational content and integrated tools**.

{PAGE BREAK}

Recently, ReadWorks launched a fundraising campaign. In this campaign, they **sent an email to subscribers of their mailing list** – consisting of **users** and other **patrons** – prompting them to make a voluntary monetary contribution to support the organization.

{PAGE BREAK}

Recently, ReadWorks launched a fundraising campaign. In this campaign, they **sent an email to subscribers of their mailing list** – consisting of **users** and other **patrons** – prompting them to make a voluntary monetary contribution to support the organization.

In this study, we are interested in your predictions about the effectiveness of the message in this prompt in motivating people to give.

{PAGE BREAK}

Recently, ReadWorks launched a fundraising campaign. In this campaign, they **sent an email to subscribers of their mailing list** – consisting of **users** and other **patrons** – prompting them to make a voluntary monetary contribution to support the organization.

In this study, we are interested in your predictions about the effectiveness of the message in this prompt in motivating people to give.

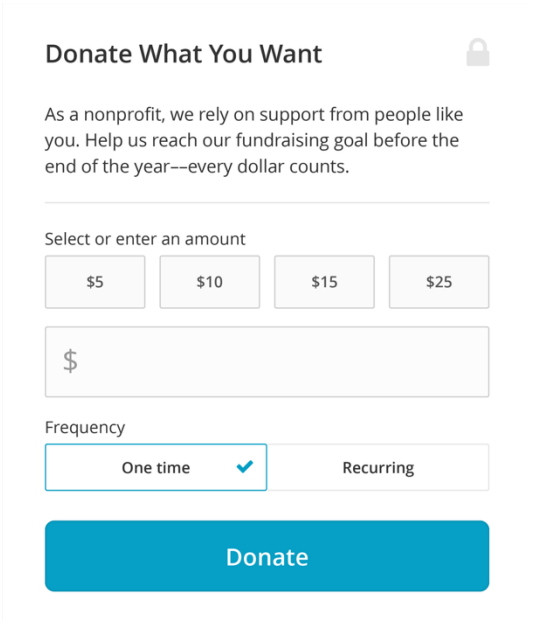
When answering the next questions and predicting the effectiveness of the message,

please **imagine yourself in the shoes of a subscriber seeing this message**. Your task is to **predict what they did**, not what you would personally do.

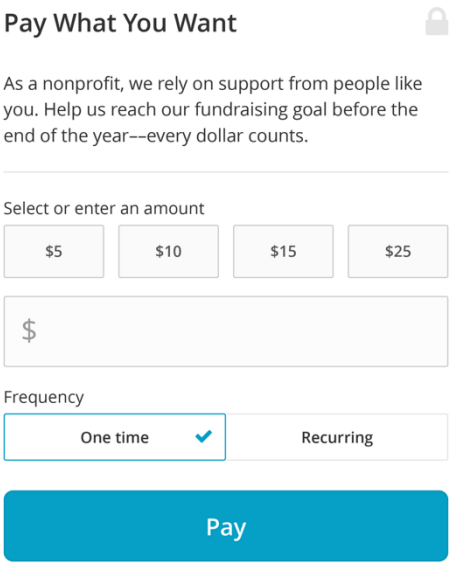
{PAGE BREAK}

Please carefully read the following message that subscribers of ReadWorks' mailing list received. Afterward, we will ask you to evaluate its effectiveness.

[Donate What You Want condition]

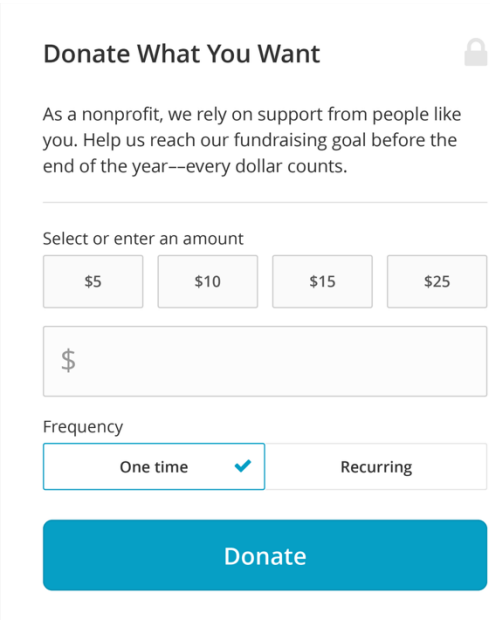


[Pay What You Want condition]

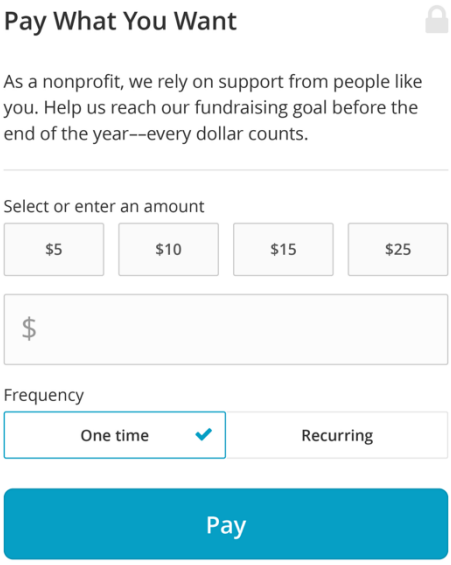


{PAGE BREAK}

[Donate What You Want condition]



[Pay What You Want condition]



Consider the subscribers of ReadWorks' mailing list who saw this message.

Out of 100 of the subscribers who saw this [Donate What You Want/Pay What You Want] message, how many do you think chose to make a [donation/payment] (i.e., contribute a non-zero amount)? (0-100 slider scale)

Among those who gave a non-zero amount, what do you think was the average [donation/payment] amount? (in $ amount) (open text box, Number content type forced, minimum 0)

{PAGE BREAK}

Thank you for your answers. We now have a few more questions about the Readworks' campaign.

{PAGE BREAK}

When answering the following questions, please continue to put yourself in the shoes of those subscribers who saw the [Donate What You Want/Pay What You Want] message.

Does the **[Donate What You Want/Pay What You Want]** message **convey a sense of market norms—that people ought to give an amount that matches the value of what they receive from ReadWorks**?

- 1 Not at all
- 2
- 3
- 4
- 5
- 6
- 7 A great deal

Does the **[Donate What You Want/Pay What You Want]** language **make people feel obligated to contribute to ReadWorks**?

- 1 Not at all
- 2
- 3
- 4
- 5
- 6
- 7 A great deal

{PAGE BREAK}

Consider nonprofit solicitations or campaigns you receive and the <u>language</u> non-profits use in those solicitations and campaigns.

How **common or familiar** does the **[Donate What You Want/Pay What You Want]** wording feel **compared to what you typically see from nonprofits' fundraising campaigns**?

- 1 Not at all common
- 2
- 3
- 4
- 5
- 6
- 7 Very common

How **natural and easy to understand** does the **[Donate What You Want/Pay What You Want]** wording sound to you?

- 1 Not at all natural
- 2
- 3
- 4
- 5
- 6
- 7 Very natural

This question is included to make sure you're paying attention. If you've read it carefully, please select the option that says strongly disagree (1) as your answer.

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

{PAGE BREAK}

Thank you for your answers. We have some final questions about yourself.

Before today, how familiar were you with ReadWorks and their work?

- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

Please indicate your age (in years): *{Dropdown menu}*

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe
- Prefer not to say

Where do you currently teach? {dropdown menu}

Which grades do you currently teach?

- ☐ Kindergarten
- ☐ 1st Grade
- ☐ 2nd Grade
- ☐ 3rd Grande
- ☐ 4th Grade
- ☐ 5th Grade
- ☐ 6th Grade
- ☐ 7th Grade

- 8th Grade
- 9th Grade
- 10th Grade
- 11th Grade
- 12th Grade

Which subjects do you currently teach?

- English
- Mathematics
- Science
- Social Studies
- History
- Physical Education
- Foreign Language
- Art
- Music
- Technology/Computer Science
- Special Education
- Other (please specify)

Approximately how many students do you currently teach?

- Less than 20
- 21-40
- 41-60
- 61-80
- 81-100
- More than 100

How many years of teaching experience do you have?

- Less than 1 year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years

Supplemental Study

[Consent form]

{PAGE BREAK}

[ReCAPTCHA]

[Attention check]

{PAGE BREAK}

Thank you for agreeing to participate in this study.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, we will ask you to make two predictions about a fundraiser campaign from a nonprofit organization. Next, we will ask you a few questions about some of your past experiences.

{PAGE BREAK}

In this study, we are interested in understanding how people make decisions.

First, we will ask you to make two predictions about a fundraiser campaign from a nonprofit organization. Next, we will ask you a few questions about some of your past experiences.

Please read the information carefully and answer openly and honestly.

{PAGE BREAK}

Read below a short description of the nonprofit organization.

ReadWorks is a nonprofit organization in the education sector. They are an online platform that offers free reading comprehension materials in the K12 sector with the mission of solving America's reading comprehension crisis and student achievement gap. Anyone who signs-up for an account can access their high-quality content and integrated tools.

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

However, **there were two versions of this pop-up**, and each user saw only one of them. These two pop-up versions were **identical**, except that one of them read ["**Donate What You Want**" at the top where the other read "**Pay What You Want**" / "**Pay What You Want**" at the top where the other read "**Donate What You Want**"]. *{Order of presentation randomized}*
In the following screens, where you will see these pop-ups, **this difference is highlighted in yellow for your comparison**. **The original pop-ups** that the sign-up users saw **were not highlighted.**

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling

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We want to know your opinion about the relative effectiveness of these two messages.

{PAGE BREAK}

One year ago, ReadWorks launched a campaign to raise funds from individual donors. For three weeks, anyone who signed-up for an account on their website saw a pop-up as they were filling out the sign-up form. This pop-up prompted them to make a monetary contribution to ReadWorks.

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In the following screens, where you will see these pop-ups, **this difference is highlighted in yellow for your comparison**. **The original pop-ups** that the sign-up users saw **were not highlighted.**

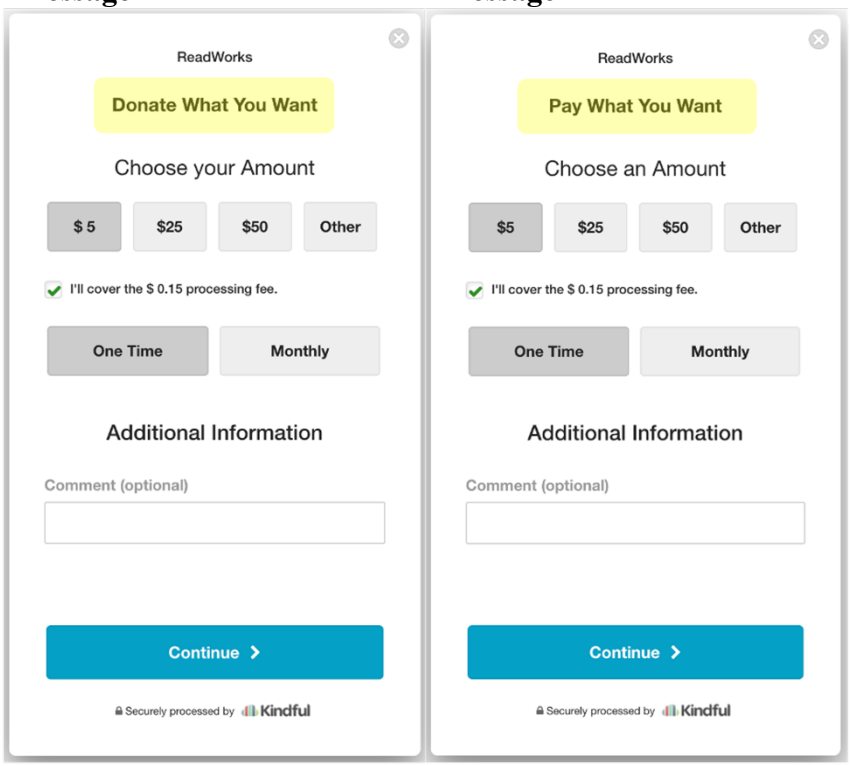
We want to know your opinion about the relative effectiveness of these two messages.

Please read the following two pop-ups carefully. Afterward, we will ask you to evaluate their relative effectiveness.

{PAGE BREAK}

Please read the following two pop-ups carefully. Afterward, we will ask you to evaluate their relative effectiveness.

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

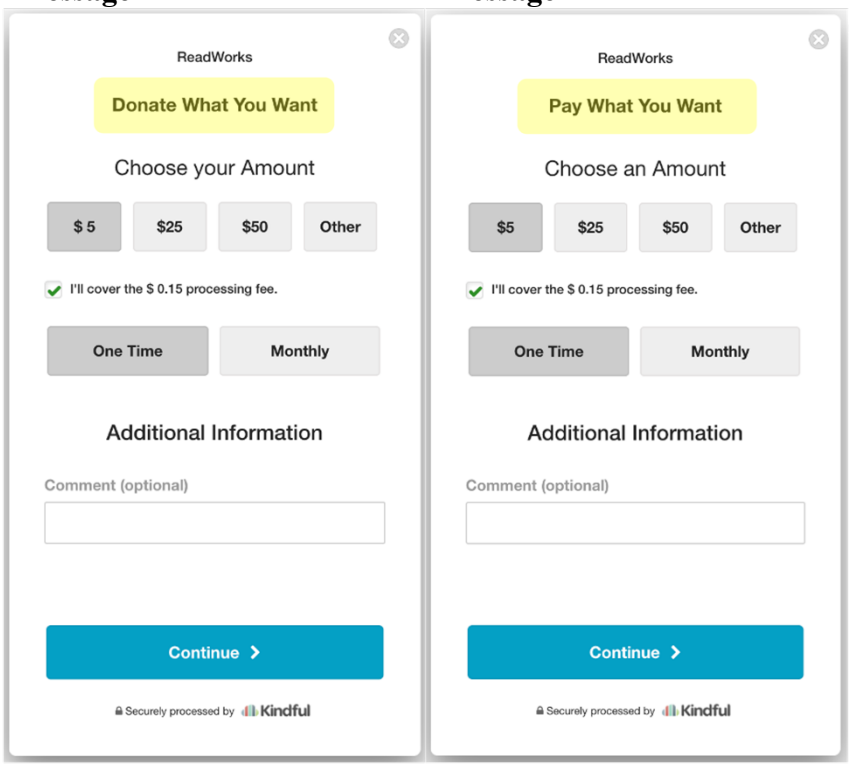
{PAGE BREAK}

We will now ask you to make two predictions about the relative effectiveness of these two messages.

Click the arrow below when you are ready to proceed.

{PAGE BREAK}

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

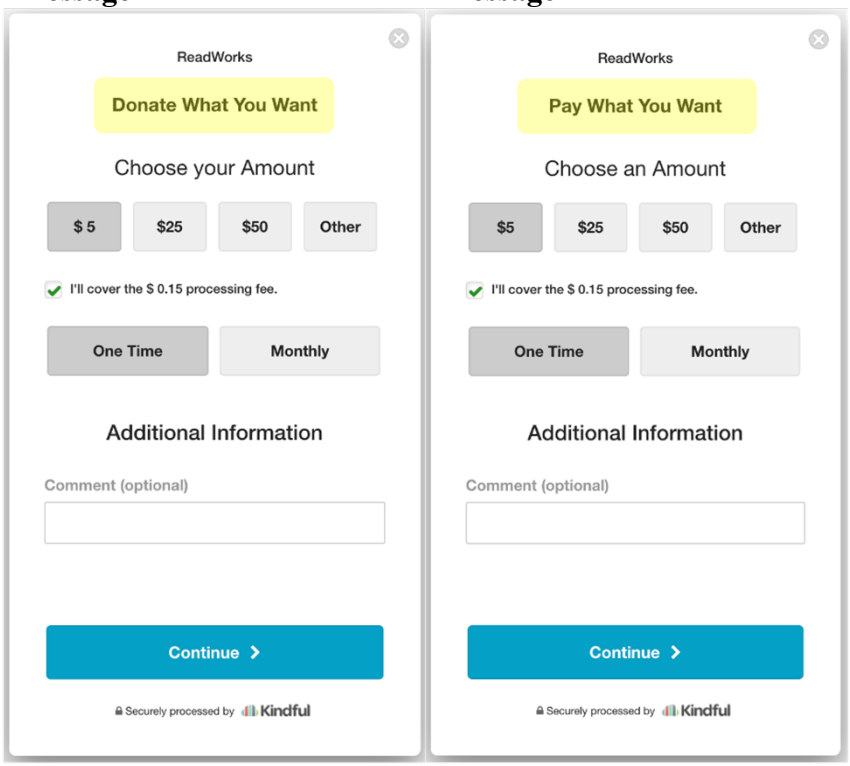
Which of these two messages do you think resulted in a higher contribution rate, if any at all?

- Message 1 (Donate What You Want) resulted in higher contribution rate than Message 2 (Donate What you Want)
- Message 2 (Pay What You Want) resulted in higher contribution rate than Message 1 (Pay What You Want)
- Message 1 (Donate What You Want) resulted in higher contribution rate than Message 2 (Donate What You Want)

{Order of presentation counterbalanced, matching the introduction and stimuli presentation}

{PAGE BREAK}

Message 1 **Message 2**



{Order of presentation counterbalanced, matching the introduction}

Among those who decided to give a non-zero amount, which of these messages do you think resulted in the larger average contribution amount?

- Message 1 (Donate What You Want) resulted in higher average contribution amount than Message 2 (Donate What you Want)
- Message 2 (Pay What You Want) resulted in higher average contribution amount than Message 1 (Pay What You Want)
- Message 1 (Donate What You Want) resulted in higher average contribution amount than Message 2 (Donate What You Want)

{Order of presentation counterbalanced, matching the introduction and stimuli presentation}

{PAGE BREAK}

Thank you for your answers. **We now have a few questions about your experience with this organization and with voluntary payment systems.**
Click the arrow below when you are ready to proceed.

{PAGE BREAK}

Before today, how familiar were you with ReadWorks and their work?

- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

If you had to make an estimate, how often would you say you use or directly benefit from ReadWorks?

- Never
- Once
- Yearly
- Monthly
- Weekly
- Daily

{PAGE BREAK}

A voluntary payment system refers to instances where individuals decide how much to pay for a product or a service.

Some for-profit and non-profit organizations operate on a pay-what-you-want or donate-what-you-want model, where customers have the freedom to pay or donate any amount they choose for a product or service.
For example, a local yoga studio migh tell its clients that they could choose to pay an amount that they want to pay. Or a roadside farm stand might allow people to choose their own produce and leave their donation in a sealed box.

Have you ever <u>participated as a consumer</u> or <u>heard about</u> a voluntary system like pay-what-you-want or donate-what-you-want? Select all that apply.
Please note that being a consumer does not necessarily entail buying a product.

- Yes, I have participated as a consumer or heard about **pay-what-you-want**
- Yes, I have participated as a consumer or heard about **donate-what-you-want**
- No, I have neither participated as a consumer nor heard about voluntary systems

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{PAGE BREAK}

{Shown participants answered that they have participated in PWYW}

What is your experience with pay-what-you-want?

- I have participated as a consumer
- I have heard about it but did not participate

{PAGE BREAK}

{Shown if participants answered that they have participated in DWYW}

What is your experience with donate-what-you-want?
- I have participated as a consumer
- I have heard about it but did not participate

{PAGE BREAK}

{Shown if participants indicated they participated in PWYW as a consumer}

Please briefly describe your experience with **voluntary payments** below. *{Open text box}*

Where were you exposed to a voluntary payment system (e.g., museum, venue, platform)? *{Open text box}*

What products/services were provided? *{Open text box}*

Based on your experience and the products/services provided, please describe how the **voluntary payment pricing** was explained to you at that time as accurately as you can remember. {Open text box}

In general, how familiar are you with **voluntary payment systems** (like pay-what-you-want)?
- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

{PAGE BREAK}

{Shown if participants indicated they have heard about PWYW}

Please describe your awareness of **voluntary payments** below. *{Open text box}*

Which organization(s) have you heard offer a **voluntary payment system** (e.g., museum, venue, platform)? *{Open text box}*

What products/services were provided? *{Open text box}*

Please describe how the **voluntary payment pricing** for the product/service was explained based on what you've heard, as accurately as you can remember. *{Open text box}*

In general, how familiar are you with **voluntary payment systems** (like pay-what-you-want)?

- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

{PAGE BREAK}

{Shown if participants indicated they participated in DWYW as a consumer}

Please briefly describe your experience with **voluntary donations** below. *{Open text box}*

Where were you exposed to a voluntary payment system (e.g., museum, venue, platform)? *{Open text box}*

What products/services were provided? *{Open text box}*

Based on your experience and the products/services provided, please describe how the **voluntary donation pricing** was explained to you at that time as accurately as you can remember. {Open text box}

In general, how familiar are you with **voluntary donation systems** (like pay-what-you-want)?

- 1 Not familiar at all
- 2
- 3
- 4
- 5

- 6
- 7 Very familiar

{PAGE BREAK}

{Shown if participants indicated they have heard about DWYW}

Please describe your awareness of **voluntary donations** below. *{Open text box}*

Which organization(s) have you heard offer a **voluntary donation system** (e.g., museum, venue, platform)? *{Open text box}*

What products/services were provided? *{Open text box}*

Please describe how the **voluntary donation pricing** for the product/service was explained based on what you've heard, as accurately as you can remember. *{Open text box}*

In general, how familiar are you with **voluntary donation systems** (like pay-what-you-want)?

- 1 Not familiar at all
- 2
- 3
- 4
- 5
- 6
- 7 Very familiar

{PAGE BREAK}

Thank you for your answers. We have some final questions about yourself.

Please indicate your age (in years): *{Dropdown menu}*

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe