Manage Your Money Wisely: How Consumers and Marketers Can Effectively Communicate Money Issues

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WASHINGTON UNIVERSITY IN ST. LOUIS

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Manage Your Money Wisely:
How Consumers and Marketers Can Effectively Communicate Money Issues
by
Alexander B. Park

A dissertation presented to
Olin Business School
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy in Business Administration

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Washington University in St. Louis

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ABSTRACT OF THE DISSERTATION

Manage Your Money Wisely:

How Consumers and Marketers Can Effectively Communicate Money Issues

by

Alexander Park

Doctor of Philosophy in Business Administration

Washington University in St. Louis, 2023

Professor Cynthia Cryder, Chair

Consumers and marketers find it challenging to communicate money matters. For example, consumers experience discomfort and uneasiness when discussing financial issues with their social relationships. Firms often receive backlash when sharing their good financial deeds (e.g., charitable efforts) with consumers. Because financial matters can be a sensitive topic, in my research, I explore the difficulties consumers and marketers experience when communicating money issues and how they can better navigate these problems.

In Chapter One, I investigate a particularly uneasy interaction that consumers often face with their friends and acquaintances: the need to ask for money back. Seven fully preregistered studies (N = 5,543) show that consumers’ approach to resolving peer debt varies based on their closeness with the requestee. Specifically, consumers prefer communication methods low in social richness (e.g., digital apps) when requesting money back from weak social connections such as distant acquaintances. However, they prefer communication methods high in social richness (e.g., in-person interactions) when requesting money back from strong social connections such as close friends. Process evidence shows that this pattern occurs because 1)
consumers anticipate discomfort when requesting money back from distant acquaintances in person, driving them away from in-person requests and toward digital apps, and 2) consumers are more averse to appearing impersonal with close friends, driving them away from digital apps and toward in-person requests. In sum, consumers adaptively approach financial interactions based on the relationship dynamics at hand.

In Chapter Two, I investigate a domain where firms and marketers encounter issues communicating their finances with consumers: sharing their corporate social responsibility (CSR) activities. CSR is essential for a firm’s brand image and financial success, but consumers often doubt whether these engagements are self-interested marketing strategies driven by profit. Then, how might firms effectively communicate their CSR activities? Across seven preregistered experiments (N = 147,996; two field experiments and five lab experiments), we find that donations presented as a series of periodic donations (e.g., $1000 donation per month for 12 months) improve company favorability more so than equivalent donation pledges presented in an aggregate frame (e.g., a donation of $12,000). We further show that the effectiveness of this temporal framing is driven by the perceived commitment towards the cause – when a company frames its donations periodically, consumers perceive the company to be more committed to supporting the cause, increasing company favorability.
Chapter 1: Fighting Fiscal Awkwardness: To Resolve Peer Indebtedness, Consumers Adapt Based on Relationship Strength

1.1 Introduction

Suppose that you recently went to lunch with a co-worker. Your co-worker forgot their wallet, so you covered their meal. Several days passed, and this co-worker still has not repaid you, so you decide to ask for the money back. Would you make this request in person? Or would you avoid the in-person confrontation and send a digital request instead?

Consumers often lend and borrow money from each other (Banerjee and Duflo 2007; Lee and Persson 2016; Morvinski and Shani 2022; Rona-Tas and Guseva 2018). Although such exchanges are frequent, navigating interpersonal debt can evoke unease because of money's social and psychological complexities (Belk and Wallendorf 1990; Sun and Slepian 2020; Zelizer 1989). Money can represent power (Zelizer 1989), status (Ivanic, Overbeck, and Nunes 2011), and achievement (Ridgeway 2014; Rose and Orr 2007). As such, thoughts about money can trigger anxiety (Fitch et al. 2011; Sweet et al. 2013), distrust (Yamauchi and Templer 1982), and even psychological pain (Prelec and Loewenstein 1998; Zellermayer 1996). Given the complex social dynamics surrounding money, how do consumers navigate financial matters in social contexts?

The current research investigates how consumers request owed money back from peers, finding that consumers strategically tailor their approach to fit the relationship in question.
Specifically, we propose and find that controlling for how frequently consumers see the requestee, the strength of consumers’ social connection with each other affects request behaviors. We show that because consumers anticipate substantial discomfort when requesting owed money from weak social connections, they request in ways that avoid face-to-face interactions (e.g., digitally). However, in the case of strong social connections, there is greater concern that a request for repayment could appear impersonal. Therefore, with strong social ties, consumers request via socially rich means (e.g., in-person) to avoid appearing impersonal to the requestee.

This research makes several contributions to the literature on financial decision-making, social relationships, and consumers’ decisions in an expanding digital landscape. We examine the important, yet understudied, domain of peer indebtedness. While informal loans are commonplace among peers and households (e.g., Banerjee and Duflo 2007), little is understood about how consumers navigate owing and recouping money from peers. Second, this research contributes to the literature examining the intersection of social relationships and personal finance. Despite the known perils of mixing money and relationships (Clark and Mills 1979, 2012; Fiske 1992), the two are frequently and inevitably intertwined (Corfman and Lehmann 1987; Ferber and Lee 1974; Simpson, Griskevicius, and Rothman 2012). This intersection of money and relationships has been studied most extensively within romantic relationships (Garbinsky and Gladstone 2019; Olson and Rick 2021; Rick, Small, and Finkel 2011); however, there is limited work outside the romantic realm. Finally, we contribute to the growing literature seeking to understand consumer finance in the digital world. Some recent work documents how digital payment apps affect consumption experiences (e.g., Huang et al. 2020). However, to our knowledge, we are the first to examine when and why digital payment apps are used for their primary purpose – resolving peer debt.
The following sections develop a theoretical basis for why and when peer indebtedness elicits discomfort. Relying on this theoretical foundation, we argue that request methods low in social richness, such as digital apps, can minimize discomfort for interactions among distant acquaintances in particular. By contrast, in the case of close personal relationships, the risk of appearing impersonal becomes a dominant consideration, driving consumers away from digital apps and toward options higher in social richness, including in-person requests. In short, we propose that consumers adjust financial interactions in social contexts based on the relationship priorities at hand.

1.2 Conceptual Background

1.2.1 The Socio-psychological Complexity of Money

Consumers associate money with status, achievement, security, and power (Furnham, Wilson, and Telford 2012; Rose and Orr 2007). Depending on how it is used, money can be so exalted that it is viewed as sacred (Baker and Jimmerson 1992; Belk and Wallendorf 1990; McGraw, Tetlock, and Kristel 2003; Zelizer 1989). Possessions acquired with money can become important reflections of consumers’ identities (Belk 1988), and accordingly, consumers often perceive a “rich self” to be a “happy self” (Aknin, Norton, and Dunn 2009; Kahneman and Deaton 2010; Luft 1957; Mogilner 2010; Mogilner and Norton 2016).

At the same time, money serves as a source of great insecurity and angst (Furnham 1984; Furnham, Wilson, and Telford 2012; Rose and Orr 2007). Consumers perceive money to be a signal of one’s competence and abilities (Furnham 1984), and therefore, indebtedness or a perceived lack of money is associated with lower psychological and even physiological well-being (Clayton et al. 2015; Fitch et al. 2011; Ong, Theseira, and Ng 2019; Rose and Orr 2007;
Sweet et al. 2013). Because money, or lack thereof, can trigger insecurities, discussing one’s finances with others may elicit an array of negative emotions, including discomfort and nervousness, ultimately making it one of the most avoided conversational topics in many cultures (Belk and Wallendorf 1990; Hart, VanEpps, and Schweitzer 2021; Krueger 1991; Sun and Slepian 2020; Trachtman 1999; Wherry, Seefeldt, and Alvarez 2019).

To explore this notion, we collected data on the discomfort of financial discussions relative to other sensitive topics. A pilot study (N = 544) measured the discomfort of discussing ten sensitive topics, including money issues, sex, relationship problems, and politics, with both close friends and distant acquaintances. We found that “money issues” was rated as the second most uncomfortable topic to discuss with these social connections (see Figure 1.1; for pilot study details, see Appendix A). These results are broadly consistent with those from Sun and Slepian (2020), showing that money and financial matters were the most commonly avoided discussion topics, and similarly, Hart, VanEpps, and Schweitzer (2021), finding that when individuals are asked to generate highly sensitive questions, they often produce questions about money. We further found that respondents consistently rated these topics as substantially more uncomfortable to discuss with distant acquaintances relative to close friends. Given these results and the prevalence of peer indebtedness, it is a high priority to understand how consumers can better manage their fiscal discomfort with their social networks.

FIGURE 1.1: PERCEIVED DISCOMFORT OF DISCUSSING SENSITIVE TOPICS WITH PEERS
NOTE. – Error bars represent 95% confidence intervals.

1.2.2 Social Connection Strength

We posit that social connection strength has an important influence on how consumers approach financial matters with peers. Greater emotional intimacy and feelings of connectedness between individuals dictate the strength of a social connection (Aron, Aron, Smollan 1992; Granovetter 1973). Relationships such as those with family members, close friends, and significant others tend to be characterized as strong social connections. Consumers have had numerous interactions, shared experiences, and feelings of affection with these strong social ties; thus, they tend to share a strong bond (Garcia-Rada et al. 2021; Krachardt, Nohria, and Eccles 2003). Conversely, relationships with acquaintances and distant others, defined as weak social ties, tend to be less developed. There is a relative lack of emotional closeness, feelings of connectedness, and importance attached to these relationships (Granovetter 1973; Lydon, Jamieson, and Holmes 1997). Within this conceptualization, it is important to note that weak
social ties are not strangers nor disliked individuals, nor even necessarily mere transactional connections (Clark and Mills 1993, 2012); rather, both strong and weak social ties generally refer to positive social relationships, differing primarily in psychological closeness (Fowler and Christakis 2008; Granovetter 1973).

Consumers’ peer networks consist of both strong (i.e., close friends) and weak social connections (i.e., acquaintances). We propose that consumers have distinct approaches to navigating financial interactions with each relationship type. Specifically, we argue that the relationship priorities determine how consumers approach financial interactions.

An important feature of weak social ties is a lack of a close personal connection (Lydon, Jamieson, and Holmes 1997). The lower levels of intimacy and emotional connection between individuals with weak social ties can elicit greater discomfort and awkwardness during in-person interactions, particularly when the topic is fraught. This is evident in the pilot study results, where participants consistently rated awkward topics to be considerably more uncomfortable to discuss with a distant acquaintance than a close friend (Figure 1.1). We predict that consumers anticipate greater levels of discomfort when requesting owed money in person from weak social ties (see Table 1.1, Hypothesis 2).

Although sensitive topics can evoke strong discomfort from weak social connections, consumers may be less concerned about discomfort arising in interactions with close social connections, consistent with our pilot study results (Figure 1.1). Consumers have a close personal bond with their strong social connections. At the same time, these stronger bonds also indicate that consumers value these relationships and might feel a need to signal care. Consumers are generally more concerned about how their strong social connections view them (Garcia-Rada
et al. 2021; Wilcox and Stephen 2014), and consequently, strong social ties exert an especially powerful influence on consumer behavior (Brown and Reingen 1987). For instance, consumers avoid getting impersonal gifts for their close friends, sometimes even prioritizing gifts that signal their personal relationship over prioritizing the recipient’s gift preferences (Ward and Broniarczyk 2016). Greater concern for maintaining close relationships suggests that consumers might be especially averse to appearing impersonal with this group in order to protect cherished connections (see Table 1.1, Hypothesis 3).

1.2.3 Selecting the Approach – Social Richness Matters

As outlined above, we predict that 1) consumers anticipate greater discomfort when interacting with weak social connections regarding financial matters, and 2) consumers are more averse to appearing impersonal with strong social connections. Due to these forces, we propose that consumers use approaches differing in social richness to resolve peer indebtedness with these two groups.

Social richness is defined as the degree to which a medium of communication varies in intimacy and immediacy (Daft and Lengel 1986; Short, Williams, and Christie, 1976). Under this theorization, face-to-face interactions are high in social richness because they are interpersonal and synchronous, allowing for various social cues, immediate feedback, and personal connection. On the other hand, digital interactions are low in social richness due to their indirect communication and asynchronous features, rendering limited social cues, a delayed response, and impersonality.

A second pilot test (N = 100) gauged the social richness of seven different approaches for communicating about financial matters with peers: 1) in person, 2) phone calls, 3) texts, 4)
emails, 5) Venmo, 6) PayPal, and 7) a standard bank app (for pilot study details, see Appendix A). Based on conceptualizations of social richness (Daft and Lengel 1986; Short, Williams, and Christie, 1976), participants answered three questions: 1) “To what extent is [communication method] a socially rich way to communicate with others?”, 2) “To what extent would you feel that you are in the presence of others when communicating [communication method]?”, and 3) “To what extent would you feel connected with others when communicating [communication method]” on a 11-point Likert scale (1 = Not at all, 11 = Extremely; α = .94). The order in which participants saw the seven communication methods was randomized. Consistent with prior theories of social richness, post-hoc comparisons showed that participants rated in-person interactions as the most socially rich, followed by phone calls, texts, emails, Venmo, PayPal, and then a standard bank app (see Appendix A). In the current research, we focus the bulk of our investigations on the communication media that are the highest on this social richness dimension (in-person requests) versus the lowest (digital payment apps). Moreover, we focus on how these communication media are used for financial discussions in particular.

Because digital apps are judged as low in social richness, they might allow consumers to minimize the awkwardness inherent in resolving peer indebtedness. Indeed, one proposed benefit of digital apps is that they can smooth some of the friction of indebtedness by allowing consumers to avoid direct fiscal confrontation when requesting money (PYMNTS 2017). Digital apps are often used to split bills, request or repay money among peers, and even pay vendors for purchases (Unger et al. 2020; Zhang et al. 2017). While consumers frequently use digital apps to request money because of convenience, we propose that this communication method can also minimize the social discomfort inherent in fiscal interactions. Thus, we hypothesize that consumers prefer less socially rich request methods when requesting owed money from weak
social ties because they expect substantial discomfort from discussing financial topics with distant social connections.

In contrast, we predict that consumers will rely more heavily on socially rich methods, such as in-person requests, to resolve peer indebtedness with close social connections. Digital communication, unlike face-to-face interactions, lacks social cues and reduces personalization (Kiesler, Siegel, and McGuire 1984; Sproull and Kiesler 1986; Walther 1995, 1996). The lack of social features in digital communication has potential negative downstream consequences, such as miscommunication (Kruger et al. 2005), the risk of appearing impersonal (Sproull and Kiesler 1986), or even dehumanizing the communicator (Schroeder, Kardas, and Epley 2017; Walther 1996). Drawing on these findings, we expect that for interpersonal contexts such as peer-to-peer indebtedness, the use of digital apps poses a concern that the requester might appear impersonal to the requestee, and this concern is greater for strong social ties. Thus, we hypothesize that consumers prefer socially rich options, such as in-person requests, when requesting owed money from strong social connections.

Based on the conceptualization outlined earlier regarding the key psychological dynamics at play in social-financial interactions and insights from our two pilot tests, we propose three main hypotheses for how consumers approach interpersonal indebtedness with strong and weak social ties (see Table 1.1).

**TABLE 1.1: HYPOTHESES**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>When consumers request owed money from weak social ties, they prefer media low in social richness (e.g., digital apps). When they request from strong social ties, they prefer media high in social richness (e.g., in-person)</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>Studies</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>H2 Consumers anticipate more discomfort when requesting money in person from weak versus strong social ties, which in turn increases requests low in social richness.</td>
<td>3 (mediation) &amp; 4A (moderation)</td>
</tr>
<tr>
<td>H3 Consumers are more averse to appearing impersonal with strong versus weak social ties, which in turn increases requests high in social richness.</td>
<td>3 (mediation) &amp; 4B (moderation)</td>
</tr>
</tbody>
</table>

### 1.2.4 Overview of Studies

We test these hypotheses across seven preregistered studies. Studies 1A and 1B use retrospective recall paradigms to provide behavioral evidence that consumers adjust the way they request owed money depending on the strength of their social connection with the requestee. Study 2 replicates these findings across a variety of social scenarios while relying on experimental manipulation of social connection strength, carefully controlling for potential confounds. Study 3 relies on mediation to measure and test the proposed mechanisms. Studies 4A and 4B directly manipulate discomfort and impersonality, respectively. Finally, Study 5 broadens the investigation to explore how consumers resolve indebtedness with non-friend or acquaintance relationships (i.e., a store vendor) and examines consumer choice when given the option not to request the money back at all.

We report all conditions, data exclusions (if any), and measures for each study (Simmons, Nelson, and Simonsohn 2012). Preregistrations for all studies as well as study materials, including complete stimuli, measures, data, and code can be found here: https://researchbox.org/144&PEER_REVIEW_passcode=TQPTF.
1.3 Study 1A: Housemate Retrospective Study

Study 1A tests H1 that consumers prefer requesting money via methods low in social richness with weak social connections and methods high in social richness with strong social connections. We used a retrospective paradigm with a large sample of consumers to study real monetary requests. Given that the frequency with which consumers see a requestee may influence how requests are made, Study 1A relied on a natural setting, house or apartment sharing, where consumers see the other person frequently. We expect that participants who report weaker social connections with their roommates would be more likely to request owed money via digital apps than those who report stronger connections, while participants who report stronger connections with their roommates would be more likely to request in person.

1.3.1 Methods

We recruited 1198 Amazon Mechanical Turk (MTurk) participants via CloudResearch between the ages of 18 and 40 (M_{Age} = 30.33, 48.16\% female). After excluding participants who failed our preregistered exclusion criteria (described below), a final sample of 803 participants remained. The preregistration for this study is here: https://aspredicted.org/SRV_FPX.

Participants first answered two “yes or no” questions about whether 1) within the past five years, they had a housemate or roommate who was not a family member, and 2) they had ever been in a situation where a roommate owed them money and they requested the money back. Participants who answered “yes” to both questions were eligible for the study and typed the first name or initials of the roommate from whom they had requested money back. Participants then answered our main dependent variable question – how they requested the owed funds from their roommates – among six choice options: 1) in-person (face-to-face), 2) over a
phone call, 3) via text message, 4) via a payment app such as Venmo, Zelle, PayPal, or Facebook Messenger, 5) email or 6) other. Next, participants answered how close they were with their roommates – our key independent variable. Participants were asked, “How close were you to your roommate, [name], at the time you requested the money?” on a 20-point Likert scale (1 = [name] was like a complete stranger to me, 20 = [name] was like a close family member to me). Lastly, participants answered whether they had the option to request the owed money via a payment app (yes or no), how much money their roommate owed, how long they waited until requesting their money back, and demographic variables such as age and gender. Following our preregistration, only participants who correctly answered the attention check question about whom they had to request back owed money and answered “yes” to having the option to request owed money via a payment app were included in the final analysis.

1.3.2 Results

On average, the roommates owed $284.62, and participants waited 24.88 days before requesting back the owed money. In-person requests were the most frequent (57.66%), followed by texts (22.54%), digital payment apps (17.68%), emails (.88%), other (.87%), and phone calls (.37%); see Appendix A for details).

Following our preregistration, we concentrated on the two request methods that most differ in social richness based on the previously mentioned social richness pilot test (Appendix A): digital payment apps versus in-person requests. To test our hypothesis, we created a combination of dummy variables by comparing the choice of request made via digital payment apps (coded as “1”) or in person (coded as “0”). With this combination of the dummy variables
(n = 605), we conducted a logistic regression predicting the choice of request method based on how close they were with their roommate.

As hypothesized, regression analyses (see Table 1.2) revealed that the closeness with one’s roommate is negatively associated with the choice of request made via digital apps ($\beta = -0.22, SE = .10, z = -2.35, p = .019$). This association persisted even after controlling for the amount of money that was owed ($\beta = -0.22, SE = .10, z = -2.25, p = .024$) and the number of days waited until requesting the money back ($\beta = -0.22, SE = .10, z = -2.19, p = .029$). These results are consistent with H1: consumers adapt their approach to resolving peer indebtedness based on the strength of their social connections with the requestee. Specifically, we found that, even when participants had the opportunity to interact with their roommates frequently, weaker social connections between participants and their roommates predicted a greater likelihood of requesting money using digital apps and a lower likelihood of requesting in person.

**TABLE 1.2: STUDY 1A RESULTS**

| Dependent variable: Choice of digital app (1) versus in-person (0) request |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|
| **Independent variable**    | **Model 1**     | **Model 2**     | **Model 3**     | **Model 4**     |
| Closeness                   | -$0.23^*$       | -$0.22^*$       | -$0.22^*$       | -$0.22^*$       |
|                             | (.10)           | (.10)           | (.10)           | (.10)           |
| Amount of Money Owed        | -$0.88^*$       |                 | -$0.46          |                 |
|                             | (.35)           |                 | (.36)           |                 |
| Number of days waited       | -$1.16^{***}$   | -$1.02^{**}$    |                 |                 |
|                             | (.34)           | (.36)           |                 |                 |

**NOTE.** – *p < .05, **p < .01, *** p < .001

1 Although non-preregistered, because text requests were common, comparisons between 1) digital payment app versus text and 2) text versus in-person requests can be found in Appendix A.
1.4 Study 1B: Retrospective Study Across Contexts and Connections

The goal of Study 1B was to replicate the patterns from Study 1A, but this time using a broader set of contexts. As in Study 1A, we expected consumers who requested money from weak versus strong social ties would prefer to use digital apps rather than ask in person.

1.4.1 Methods

We recruited 252 MTurk participants via CloudResearch between the ages of 18 and 35 (M_Age = 28.10, 53.17% female). After excluding participants who failed our preregistered exclusion criteria, a final sample of 192 participants remained. The preregistration for this study is here: https://aspredicted.org/blind.php?x=gu8v7x.

Participants first answered two questions about whether they had ever been in a situation where 1) a close friend and/or 2) a distant acquaintance owed them money, and they had to request the money back from that person. Participants who answered “yes” to either question were eligible for the study and typed the first name or initials of the close friend and/or distant acquaintance from whom they had requested money back. Participants next answered open-ended questions describing the situation (e.g., why they lent the money), how much money they lent, and how long they waited (in days) before requesting the money back. After describing each situation, participants answered our main dependent variable question – how they requested the owed funds from their close friend or distant acquaintance – from among five options: 1) in-person (face-to-face), 2) over a phone call, 3) via text message, 4) via a payment app such as Venmo, Zelle, PayPal, or Facebook Messenger, or 5) other.
1.4.2 Results

Out of 192 participants, 178 (92.71%) reported that they had been in a situation where a close friend owed them money, and they had to request it back, and 94 (48.96%) reported that they had been in a situation where a distant acquaintance owed them money and they had to request it back (see Appendix A for details).

Using an approach similar to Study 1, we created three combinations of dummy variables to code the choice of request method, following our preregistration: 1) digital payment apps versus in-person, 2) digital payment apps versus phone calls and texts, and 3) phone calls and texts versus in-person. While comparison 1 (digital apps versus in-person) is our primary interest, we also compared phone and text requests to explore how media that are moderate in social richness (Appendix A) differ from the media on both ends of the social richness scale.

We conducted three separate chi-square tests comparing the choice of request method by requestee relationship (strength of social tie) with each combination of the dummy variables. Table 1.3 displays the raw counts and percentages of the request methods for each combination.

<table>
<thead>
<tr>
<th>Requestee Relationship</th>
<th>Request Method</th>
<th>Chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digital Payment App</td>
<td>In-Person</td>
</tr>
<tr>
<td>Close Friend</td>
<td>18.87% (20/106)</td>
<td>81.13% (86/106)</td>
</tr>
<tr>
<td></td>
<td>$\chi^2(1, N = 170) = 8.36, p = .004$</td>
<td></td>
</tr>
<tr>
<td>Distant Acquaintance</td>
<td>39.06% (25/64)</td>
<td>60.94% (39/64)</td>
</tr>
</tbody>
</table>

Comparison 2
<table>
<thead>
<tr>
<th>Requestee Relationship</th>
<th>Request Method</th>
<th>Chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digital Payment App</td>
<td>Phone &amp; Text</td>
</tr>
<tr>
<td>Close Friend</td>
<td>22.47% (20/89)</td>
<td>77.53% (69/89)</td>
</tr>
<tr>
<td>Distant Acquaintance</td>
<td>49.02% (25/51)</td>
<td>50.98% (26/51)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comparison 3</th>
<th>Phone &amp; Text</th>
<th>In-person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close Friend</td>
<td>44.52% (69/155)</td>
<td>55.48% (86/155)</td>
</tr>
<tr>
<td>Distant Acquaintance</td>
<td>40% (26/65)</td>
<td>60% (39/65)</td>
</tr>
</tbody>
</table>

Our preregistered analyses showed a significant relationship between the request method choice and the requestee's relationship when comparing digital payment apps versus in-person requests. In support of H1, when looking only at participants who requested either via digital apps or in person (comparison 1), participants requested money using digital apps more frequently when requesting from distant acquaintances (39.06%) than when requesting from close friends (18.87%; \( \chi^2(1, N = 170) = 8.36, p = .004 \)). Correspondingly, more participants requested money in person (81.13%) from close friends than from distant acquaintances (60.94%). That is, participants were more likely to use digital apps and less likely to request in person when requesting money from weak versus strong social ties.

Further, we found a significant relationship when comparing digital payment app requests versus phone and text requests (comparison 2). When looking only at participants who requested either via digital apps or phone/text, participants once again more frequently requested money
via digital payment apps from distant acquaintances (49.02%) than from close friends (22.47%; \(\chi^2(1, N = 140) = 10.48, p = .001\)); correspondingly, more participants requested via phone or text with close friends (77.53%) than distant acquaintances (50.98%). This pattern eases any remaining concerns that patterns in Study 1A occurred because roommates who are socially closer to each other have more opportunities to request in-person. In this comparison, we focus only on phone-based options and still see that participants select socially rich approaches more often when requesting from close social connections. For the final comparison (comparison 3), no difference arose comparing phone and text versus in-person requests between close friends (44.52%) and distant acquaintances (40%; \(\chi^2(1, N = 220) = .38, p = .54\)).

1.4.3 Discussion

Study 1A and 1B both show support for H1 – consumers’ approach to resolving peer indebtedness depends on the strength of their social ties with the requestee when we look at reports of their actual requesting behavior. Consumers frequently request repayment using socially rich methods (i.e., in-person requests) from their peers. However, with weaker social ties such as distant acquaintances, consumers’ preference for less socially rich methods (e.g., digital app requests) increases.

One advantage of the methods in Studies 1A and 1B is that we examined participants’ recall of real instances of their financial request behaviors. Moreover, the roommate setting in Study 1A suggests that these patterns occur even in settings where consumers see the requestee frequently. However, these studies do not demonstrate causality. Various factors such as payment amount and loan circumstances may also vary across these relationship types, potentially contributing to the differences in their choice of request method. Thus, in the
following studies, we use experimental designs to investigate and isolate whether the strength of the social tie between the requester and requestee drives the choice of request method.

1.5 Study 2: Stimulus Sampling

Study 2 provides further support for $H_1$ by directly manipulating the strength of the social connection between the requester and requestee and otherwise holding the situation constant. In addition, we implemented stimulus sampling, systematically presenting nine different scenarios across participants to verify the generalizability of the phenomena under study and reduce the threat of idiosyncratic features within any individual scenario (Judd, Westfall, and Kenny 2012; Wells and Windschitl 1999). We expect that, across scenarios, individuals requesting from a distant acquaintance relative to a close friend would be more likely to request owed money via digital apps and, accordingly, would be less likely to request in person.

1.5.1 Methods

We recruited 1505 Amazon MTurk participants via CloudResearch ($M_{Age} = 39.58$, 49.97% female). Participants were randomly assigned to one of two experimental conditions in a 2-cell (requestee: close friend vs. distant acquaintance) between-subjects design. Each participant was then randomly assigned to view one of nine scenarios (amusement park, car troubles, concert ticket, food, gas money, happy hour, housing, movie ticket, Uber ride). The amount of money lent in each scenario varied from $10 to $100.

Participants imagined that either a close friend or a distant acquaintance named Charlie had borrowed money (see Appendix B for materials). We describe the concert ticket scenario below, but all scenarios follow a similar pattern. Participants in the concert ticket scenario imagined that Charlie had forgotten their wallet and asked the participant to cover the cost of
their concert ticket. Participants were told that it had now been a couple of weeks since Charlie had borrowed the money, and there were two ways to request the money back: either 1) request via Venmo or 2) request in person. Venmo was described as a digital payment service that allows users to request money through its phone app. Requesting in person was described as, “You can request the money from Charlie face to face (assume you see Charlie twice a week and the money will be paid through a digital payment method).” We specified these assumptions for the in-person request to hold constant other factors that could affect the choice of request method, such as how often the participant sees Charlie and the method by which they would receive payment due to convenience. Participants then answered the question, “How would you ask for the money Charlie, [one of your closest friends/one of your distant acquaintances], owed?” Participants could respond either “Ask via Venmo” or “Ask in person.”

1.5.2 Results

As outlined in our preregistration (https://aspredicted.org/K9M_Q6D), only participants who correctly answered the attention check questions such as who the requestee was and how often they see the requestee (N = 1140) were included in the final analysis. We conducted a logistic regression to regress participants’ choice of request method (1 = Ask via Venmo; 0 = Ask in person) on the requestee (1 = distant acquaintance, 0 = close friend), including fixed effects for scenarios. As predicted, participants in the distant acquaintance condition (45.49%; 237/521) were more likely to request owed money via a digital app than were participants in the close friend condition (27.30%; 169/619; z = 6.45, p < .001); correspondingly, participants in the close friend condition were more likely to request in person (72.70%; 450/619) than were participants in the distant acquaintance condition (54.51%; 284/521). That is, when participants requested owed money from a weak social tie (i.e., a distant acquaintance) compared to a strong
social tie (i.e., a close friend), they were more likely to request via a digital app and less likely to ask in person. The pattern of results was also directionally consistent when looking at each scenario separately (see Table 1.4).

### TABLE 1.4: STUDY 2 RESULTS

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Close friend</th>
<th>Distant acquaintance</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amusement Park</td>
<td>31.75%</td>
<td>54.90%</td>
<td>p = .013</td>
</tr>
<tr>
<td>Bar happy hour</td>
<td>22.86%</td>
<td>42.11%</td>
<td>p = .02</td>
</tr>
<tr>
<td>Car troubles</td>
<td>18.42%</td>
<td>32.20%</td>
<td>p = .06</td>
</tr>
<tr>
<td>Concert ticket</td>
<td>27.50%</td>
<td>49.15%</td>
<td>p = .009</td>
</tr>
<tr>
<td>Food</td>
<td>25.35%</td>
<td>35.82%</td>
<td>p = .18</td>
</tr>
<tr>
<td>Gas money</td>
<td>33.96%</td>
<td>46.00%</td>
<td>p = .21</td>
</tr>
<tr>
<td>Housing</td>
<td>23.73%</td>
<td>50.00%</td>
<td>p = .003</td>
</tr>
<tr>
<td>Movie ticket</td>
<td>24.64%</td>
<td>47.69%</td>
<td>p = .005</td>
</tr>
<tr>
<td>Uber ride</td>
<td>38.46%</td>
<td>54.72%</td>
<td>p = .07</td>
</tr>
<tr>
<td>Collapsed</td>
<td>27.30%</td>
<td>45.49%</td>
<td>p &lt; .001</td>
</tr>
</tbody>
</table>

### 1.5.3 Discussion

Study 2 provided additional evidence that, across multiple consumer contexts, individuals have different preferred methods for requesting owed money based on the strength of social connection with the requestee. When the requestee is an acquaintance relative to a close friend, consumers are more likely to request via a digital app and less likely to request in person.
1.6 Study 3: Mediating Role of In-Person Request Discomfort and Aversion to Appearing Impersonal

Our framework predicts that both the discomfort of requesting in person and the aversion to appearing impersonal mediate the relationship between one’s social tie strength with the requestee and their choice of request method. In Study 3, we expect to replicate the results of Studies 1A-2: people will be more likely to request owed money via digital apps with a distant acquaintance versus a close friend. Further, we predict that when requesting money from a distant acquaintance (vs. a close friend), individuals would feel more discomfort requesting in person, which in turn increases requests via digital apps (H2). We additionally predict that individuals would be less averse to appearing impersonal when requesting money from a distant acquaintance (vs. a close friend), further contributing to the preference for using digital apps with distant social connections to request funds (H3).

1.6.1 Methods

We recruited 401 Amazon MTurk participants via CloudResearch (M\text{Age} = 39.91, 46.13\% female). Participants were randomly assigned to one of two conditions (requestee: close friend vs. distant acquaintance) in a between-subjects design. Each participant was then randomly assigned to view one of three scenarios (concert ticket, food, Uber ride). Following our preregistration (https://aspredicted.org/blind.php?x=5un8ta), we planned to collapse analyses across all scenarios, focusing our analysis and interpretation on the two different requestee relationship conditions.
In Study 3, participants provided the first name of either a close friend or a distant acquaintance. Participants imagined requesting owed money from that individual following one of three scenarios (concert ticket, food, or Uber ride; see Appendix B) and were asked, “How would you request the money that [name of the close friend/distant acquaintance] owed?” We then measured our two proposed mechanisms: 1) the discomfort of requesting in person and 2) the aversion to appearing impersonal. We asked participants in all conditions to rate their discomfort of requesting the money in person using three items (adapted from Jiang, Hoegg, and Dahl 2013): a) “How uncomfortable…, b) “How awkward…, and c) “How confrontational would you feel when requesting money from [name of the requestee], your [close friend/distant acquaintance] in person?” (1 = Not at all, 7 = Very much; α = .89). To measure the aversion to appearing impersonal, we again used three items (adapted from Short, Williams, and Christie 1976): “How much of a problem would it be if [name of the requestee], your [close friend/distant acquaintance] saw you as a) a cold person, b) impersonal, and c) insincere?” (1 = Not much of a problem, 7 = Very much of a problem; α = .95). The order in which participants saw the two sets of items was randomized.

1.6.2 Results

Replicating previous results, we found that participants were more likely to request owed money via a digital app in the distant acquaintance condition (44.88%; 92/205) than in the close friend condition (31.63%; 62/196; $\chi^2(1, N = 401) = 7.43, p = .006$). That is, when requesting owed money from a weak (versus a strong) social tie, participants were more likely to request via a digital app and, consequently, less likely to request in person. The pattern of results was also consistent when looking at each scenario separately (see Appendix A).
As predicted, participants in the distant acquaintance condition \((M = 4.14, SD = 1.74)\) reported more discomfort requesting in person than those in the close friend condition \((M = 3.43, SD = 1.73; t(399) = 4.09, p < .001, d = .41, 95\% \text{ CI} [.21, .61])\). Also as predicted, participants were less averse to appearing impersonal in the distant acquaintance condition \((M = 3.16, SD = 1.66)\) compared to the close friend condition \((M = 4.57, SD = 1.74; t(399) = -8.30, p < .001, d = -.83, 95\% \text{ CI} [-1.03, -.63])\).

We tested whether the effect of the requestee relationship on the choice of request method was mediated by the 1) discomfort of requesting in person and 2) aversion to appearing impersonal (Hayes 2017, Model 4). Contrasting the close friend (0) and distant acquaintance (1) conditions, we simultaneously tested the significance of both measured mediators by calculating the standardized effects for 10,000 bootstrapped samples. We found a statistically significant indirect effect of the discomfort of requesting in person (indirect effect = .24; 95\% CI [.11, .41]), and the indirect effect of the aversion to appearing impersonal was marginally significant (indirect effect = .17; 95\% CI [-.02, .38]). As illustrated in Figure 1.2, including the two mediators in the model, the direct effect of requestee relationship on the choice of request method was no longer significant, indicating full mediation (direct effect = .20, \(p = .41, 95\% \text{ CI} [-.27, .67]\)). In sum, the proposed mechanisms jointly and fully mediated the effect of requestee relationship on the choice of request method. These results suggest that participants were more uncomfortable requesting in person and less averse to appearing impersonal with distant acquaintances versus close friends, thus increasing requests via digital apps for those weak social ties.

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2 When excluding participants who never used mobile payment apps, we found a significant indirect effect of aversion to appearing impersonal (indirect effect = .26, 95\% CI [.02, .52]).
1.6.3 Discussion

Study 3 provided evidence for the hypothesized mediators driving our effect. Consumers feel more discomfort requesting money in person from an acquaintance versus a close friend, which increases their likelihood to request through digital means instead. In addition, individuals are less averse to appearing impersonal when requesting money from an acquaintance versus a close friend, thus increasing their digital (vs. in-person) requests.

1.7 Study 4A: Moderation via Decreased Discomfort

Study 3 found initial evidence that the increased discomfort of requesting in person and the decreased aversion to appearing impersonal when interacting with distant acquaintances
increase consumers’ preference for requesting money using digital apps. Studies 4A and 4B sought additional evidence of our proposed mechanisms via moderation (Spencer, Zanna, and Fong 2005).

In Study 4A, we directly manipulated the discomfort of requesting in person by describing the requestee as someone who is approachable. If consumers feel discomfort when requesting owed money from distant acquaintances in person, then assuring minimal discomfort should influence their choice of approach. Accordingly, we expect a reduction in the preference for digital requests when a distant acquaintance is described as a person who is easy to talk to. However, given that discomfort is already low for close friends, we expect a more modest decrease in digital requests when this description is used for a close friend.

1.7.1 Methods

Amazon MTurk participants (N = 1201; MAge = 37.16, 50.12% female) were recruited via CloudResearch. Participants were randomly assigned to one of four conditions in a 2 (requestee: close friend vs. distant acquaintance) x 2 (discomfort: control vs. decreased) between-subjects design. Each participant was then randomly assigned to view one of three scenarios (concert ticket, food, Uber ride). In accordance with our preregistration (https://aspredicted.org/blind.php?x=7jf7ep), only participants that answered the attention check questions correctly (N = 1085) were included in the analysis.

As in Study 3, participants imagined either a close friend or a distant acquaintance named Charlie had borrowed money for a concert ticket, food, or an Uber ride and that they had to request the money that was owed. Half of the participants read that Charlie is very friendly and easy to talk to for the decreased discomfort manipulation, while the other half (control) did not
read this description. Then participants chose how they would prefer to request money from Charlie (either “using Venmo” or “Ask in person”).

1.7.2 Results

Following our preregistration, we collapsed across the three scenarios and conducted a logistic regression of the choice of request method on dummy variables representing close friend versus distant acquaintance, discomfort conditions, and the interaction between these terms. This analysis yielded a significant main effect of requestee relationship ($z = -5.34, p < .001$) and a main effect of the discomfort manipulation ($z = -3.80, p < .001$). Most important, we found a marginally significant interaction between requestee relationship and discomfort ($z = 1.75, p = .081$). Probing this interaction, we found that participants were more likely to request the money via a digital app from a distant acquaintance (58.36%; 157/269) than from a close friend (35.46%; 100/282; $\chi^2(1, N = 551) = 29.02, p < .001$) in the discomfort-control condition where no additional information about the requestee was provided. In the discomfort-decreased condition, however, when Charlie was described as “very friendly and easy to talk to,” the difference in digital app requests between a distant acquaintance (41.76%; 109/261) versus a close friend (30.4%; 83/273; $\chi^2(1, N = 534) = 7.48, p = .006$) was still significant, but smaller (see Figure 1.3). The pattern of results was also consistent when looking at each scenario separately (see Appendix A).

**FIGURE 1.3: STUDY 4A RESULTS**
1.7.3 Discussion

If individuals prefer using digital apps to request money from acquaintances to avoid the discomfort of fiscal confrontation, reducing discomfort should influence their preferred approach. Results from Study 4A are in line with this conjecture – informing participants that an acquaintance (versus a close friend) is approachable resulted in a greater decrease in the choice to request via a digital app and, consequently, increased the choice to request in person. Therefore, we found causal evidence that individuals choose to request via digital apps with acquaintances partly due to the discomfort they expect when requesting in person; this discomfort looms larger with acquaintances than with close friends.
1.8 Study 4B: Moderation via Impersonal Discomfort

Study 4B examines our other proposed mechanism: the aversion to appearing impersonal. We manipulated participants’ aversion to appearing impersonal by describing the requestee as someone who values warm interactions, thus making it important not to appear impersonal when requesting the money. We predict that consumers are typically highly averse to appearing impersonal when requesting owed money from close friends but less so when requesting money back from distant acquaintances. Therefore, emphasizing that participants should avoid appearing impersonal should have less of an effect on participants requesting from close friends, who already focus on this dimension, but a larger effect on participants requesting from distant acquaintances.

1.8.1 Methods

We recruited 1402 Prolific Academic participants (M_{Age} = 28.36, 44.01% female). Participants were randomly assigned to one of four conditions in a 2 (requestee: close friend vs. distant acquaintance) x 2 (impersonal: control vs. averse) between-subjects design. Each participant was then randomly assigned to view one of three scenarios (concert ticket, food, Uber ride). Per our preregistration (https://aspredicted.org/blind.php?x=a2nv23), only participants who correctly answered the attention check questions (N = 1291) were included in the analysis.

As in Study 4A, participants imagined either a close friend or a distant acquaintance named Charlie had borrowed money for a concert ticket, food, or an Uber ride and that they had to request the money that was owed. Participants in the *impersonal-averse* conditions read that Charlie is someone who values warm interactions, so it is critical in this situation for them to not appear impersonal when requesting the money. Participants in the *impersonal-control* conditions
did not have this information. Then participants chose how they would prefer to request money from Charlie (either “using PayPal” or “Ask in person”).

1.8.2 Results

We collapsed across the three scenarios, following our preregistration, and conducted a logistic regression of the choice of request method on dummy variables representing close friend versus distant acquaintance, impersonal conditions, and the interaction between these terms. This analysis yielded a non-significant main effect of requestee relationship ($z = -.83, p = .41$) and a main effect of the impersonal manipulation ($z = 7.90, p < .001$). Most important, we found a significant interaction between requestee and the impersonal manipulation ($z = -2.95, p = .003$).

In the impersonal-control conditions, participants were more likely to request the money using a digital app with distant acquaintances (41.74%; 134/321) than with close friends (18.60%; 64/344; $\chi^2(1, N = 665) = 42.52, p < .001$). However, when we highlighted an aversion to appearing impersonal (impersonal-averse conditions), this difference decreased and was no longer significant (distant acquaintance: 11.78%; 35/297; close friend: 9.73%; 32/329; $\chi^2(1, N = 626) = .69, p = .41$; see Figure 1.4). The pattern of results was consistent when looking at each scenario separately (see Appendix A).

**FIGURE 1.4: STUDY 4B RESULTS**
1.8.3 Discussion

Study 4B provided further evidence for the role of consumers’ aversion to appearing impersonal in their choice of repayment request method. When consumers request owed money from a distant acquaintance (vs. a close friend), they are more likely to use digital apps because they are less averse to appearing impersonal in these relationships. However, we find an attenuation of this effect when the distant acquaintance is described as someone with whom the consumer does not wish to appear impersonal.

1.9 Study 5: Requesting Money Back from a Vendor

In our final study, we sought to broaden our investigation in two ways. First, we wished to test a logical extension of our conceptualization: as consumers’ relationship with a requestee becomes increasingly distant, we predict that financial interactions will become less socially rich as well. We therefore added a third experimental condition in which participants requested
money back from a store vendor. We also included a new choice option, the least socially rich request method from our pilot test (i.e., a “standard bank app”), to extend the boundaries of our stimuli on social richness. While Venmo and a standard bank app are similar in that they are both primarily used for digital transactions, a standard bank app lacks some of the social communication features of Venmo (e.g., text and emoji features), leading to less socially rich evaluations, as verified by our second pilot study. We primarily expect to replicate the main pattern – consumers are more likely to request owed money from weak social connections (distant acquaintances and store vendors) using less socially rich media (Venmo and a standard bank app) than when requesting from strong social ties (close friends). Moreover, we predict that consumers would be more likely to request owed money via a standard bank app, the least social option, with the most distant relationship (a vendor) than when requesting from a close friend or a distant acquaintance.

Second, we wanted to explore how the strength of social connection affects consumers’ decision to opt out of requesting altogether. In practice, the potential discomfort and relationship threat consumers anticipate when requesting owed money may deter them from asking (e.g., Jaroszewicz 2020). We wished to test whether the previously observed differences in communication choice persist when consumers can opt out of requesting money back.

1.9.1 Methods

We recruited 652 Prolific Academic participants (MAge = 33.36, 51.84% female). Participants were randomly assigned to one of three conditions (close friend, distant acquaintance, vendor) in a between-subjects experimental design. Following our preregistration (https://aspredicted.org/blind.php?x=yd6rn7), only participants who correctly answered the
attention check question, such as how often they see the requestee (N = 631), were included in the final analysis.

Participants in the close friend and distant acquaintance conditions imagined that either their close friend or distant acquaintance named Charlie owed them money for breaking a set of their dishes. Participants in the vendor condition imagined that they had bought a set of dishes from a store vendor but discovered that the dishes were broken when they arrived home. The vendor’s policy is that if any of the dishes are broken, consumers can request a refund in person during their next visit or take a photo of the broken dishes and request the refund electronically (see Appendix B for scenario details).

Participants then answered the question, “How would you request the money from [name of close friend/name of distant acquaintance/the pottery vendor]?” Participants could respond “Use Venmo,” “Ask in person,” “Use a standard bank app,” or “Do not request the money back.” Venmo was described as a digital payment service that allows users to request money through its phone app. Requesting in person was described as, “You will request the money from [Charlie/the vendor] face-to-face. The standard bank app was described as, “another standard bank app on your phone that allows users to request money through a phone app.”

1.9.2 Results

Table 1.5 displays the raw counts and percentages of the request methods for each requestee relationship. A chi-square analysis revealed a significant relationship between requestee and the choice of request method ($\chi^2(6, N = 631) = 52.93, p < .001$).

### TABLE 1.5: STUDY 5 RESULTS

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Following our preregistration, we created three combinations of dummy variables to code the choice of request method: 1) Venmo and bank app (combined as “digital apps”) versus in-person, 2) bank app versus Venmo and in-person, and 3) Do not request the money back versus Venmo, in-person, and bank app. The first combination of dummy variables (Venmo and bank app versus in-person) tested our prediction that when participants choose to request owed money from weaker ties, such as a distant acquaintance or a vendor (relative to a close friend), they are more likely to request using less social rich methods such as digital apps. The second combination of dummy variables (bank app versus Venmo and in-person) tested our prediction that the least socially rich request method (bank app) will more likely be used with the least social relationship (vendor). The last combination of dummy variables (do not request the money back versus Venmo, in-person, and bank app) explores how the strength of social ties affects consumers’ decision to forgo owed money.

As predicted, pairwise comparisons showed that participants in the distant acquaintance condition (44.39%; 87/196) were more likely to request owed money via digital apps (Venmo and bank app) than participants in the close friend condition (29.56%; 47/159; \(\chi^2(1, N = 355) = 8.21, p = .004\)). That is, replicating previous findings, when consumers chose to request owed
money from a distant acquaintance compared to a close friend, they were more likely to request using digital apps and less likely to request in person. We found no difference in the choice to request using the bank app between the distant acquaintance (9.18%; 18/196) and close friend (6.29%; 10/159) conditions ($\chi^2(1, N = 355) = 1.01, p = .31$). Lastly, participants in the close friend condition (20.1%; 40/199) were marginally significantly more likely to forgo requesting owed money than those in the distant acquaintance condition (14.04%; 32/228; $\chi^2(1, N = 427) = 2.79, p = .095$).

Participants in the vendor condition (50.25%; 101/201) were also more likely to request owed money using digital apps than participants in the close friend condition (29.56%; 47/159; $\chi^2(1, N = 360) = 15.70, p < .001$). Furthermore, participants in the vendor condition (14.43%; 29/201) were more likely to request owed money via a standard bank app than were participants in the close friend condition (6.29%; 10/159; $\chi^2(1, N = 360) = 6.09, p = .014$). Lastly, participants in the close friend condition (20.1%; 40/199) were more likely to opt out of requesting back owed money compared to the vendor condition (1.47%; 3/204; $\chi^2(1, N = 303) = 36.68, p < .001$).

We found no difference in the choice to use digital apps with a distant acquaintance (44.39%; 87/196) and a vendor (44.39%; 87/196; $\chi^2(1, N = 397) = 1.37, p = .24$). Contrary to our prediction, we also found no difference in the request made between the vendor (14.43%; 29/201) and distant acquaintance (9.18%; 18/196) conditions via a standard bank app ($\chi^2(1, N = 397) = 2.61, p = .11$), though patterns are directionally consistent with the prediction. Lastly, participants in the distant acquaintance condition (14.04%; 32/228) were more likely to opt out of requesting back owed money compared to the vendor condition (1.47%; 3/204; $\chi^2(1, N = 303) = 22.83, p < .001$). The greater likelihood to forgo requesting money in the distant acquaintance
condition suggests that consumers do not view distant acquaintances as purely transactional relationships but likely do view vendors this way.

1.9.3 Discussion

The current findings provided further support for our framework, showing that consumers adaptively resolve indebtedness depending on the strength of their social connection. Replicating previous studies, we found that consumers were more likely to request owed money using digital apps with weak (versus strong) social ties. In addition, we found that more consumers requested using the least socially rich means (i.e., a standard bank app) when interacting with weaker social ties, such as a vendor, relative to stronger social ties, such as a close friend. This pattern indicates that as relationships become more distant, the preferred means of financial interactions become more distant as well. Moreover, we found evidence that consumers were more likely to forgo requesting owed money with close social ties than with weaker social ties. This suggests that opting out of settling financial scores with peers is relatively common, even if this means absorbing the financial cost; however, consumers are unwilling to forgo this financial loss with highly distant and potentially transaction-based social contacts, such as store vendors. Importantly, we also show that our main findings persist even when consumers are offered the option to opt out of requesting owed money back.

1.10 General Discussion

Requesting owed money from peers can be uncomfortable and potentially fraught with relationship hazards. In the present research, we study how consumers navigate this challenge. Across seven studies, we find that consumers tailor their approach to requesting owed money based on the strength of their social connection with the requestee. In both retrospective recall
paradigms (Studies 1A and 1B) and a stimulus-sampling experiment (Study 2), we document that consumers are more likely to request owed money using digital apps with weaker social connections, controlling for how frequently they see the requestee. We further find via mediation (Study 3) and moderation (Studies 4A and 4B) that the difference in request method based on social closeness arises because when interacting with weak social ties, consumers anticipate greater discomfort from requesting in person and are less averse to appearing impersonal, resulting in greater preference for digital request options.

One could wonder whether the current findings align with work on communal versus exchange relationship norms (Clark and Mills 1979, 1993, 2012). This influential body of research broadly conceptualizes friends versus acquaintances as communal versus exchange relationships, respectively (e.g., Ryu and Han 2009), due to the differing norms of reciprocity for each relationship type. However, the theory of communal and exchange relationships does not answer the key questions posed in the current research: 1) how do consumers resolve peer debt with each relationship, and 2) why is there a difference in request preferences? The theory does make clear predictions about whether consumers would try to resolve peer debt with friends versus acquaintances. The norms surrounding reciprocity are stronger for exchange relationships (acquaintances), so consumers should be more likely to request owed money from weaker social ties. We find a version of this pattern in Study 5, where consumers are more likely to opt out of requesting owed money from close friends relative to store vendors. However, we also find that request rates look largely the same between close friends and distant acquaintances. We do not rely on the communal versus exchange distinction in this work because it does not explain how consumers behave differently with friends versus acquaintances in this domain, and it does not clearly predict how consumers resolve indebtedness depending on relationship type. Instead, we
draw from research on social tie strength (Granovetter 1973) and social richness (Daft and Lengel 1986; Short, Williams, and Christie, 1976) to generate predictions ultimately supported by our findings.

If anything, communal and exchange relationship theory might predict the opposite of our proposition regarding anticipated discomfort if weak social ties are conceptualized as exchange relationships. Under their theorization, exchange relationships prioritize equity and the amount of benefit that is exchanged. Therefore, consumers could anticipate less discomfort requesting back owed money in person from weak (vs. strong) social ties, given the expectations of receiving back what is owed. However, our results suggest this is not the case.

Lastly, communal versus exchange relationship theory might predict that consumers actually have lower concerns about appearing impersonal with strong ties because close relationship members are more willing to forgive and accept each other’s behaviors. However, while it might be true that individuals in close relationships are more forgiving of each other’s behavior, our findings suggest that concern for the greater value of these relationships (e.g., Garcia-Rada et al. 2021) is a stronger driver of choices in this domain.

Interpersonal indebtedness evokes substantial unease. The current research shows that the strength of consumers’ social connections affects how they attempt to resolve such indebtedness. To fight the fiscal awkwardness of requesting money in person, consumers rely on media low in social richness to communicate with weak social connections about owed money. At the same time, consumers use more sociable means to communicate about money issues with strong social connections to avoid appearing impersonal. Thus, consumers selectively maneuver to resolve indebtedness based on the needs of the social relationship at hand.

2.1 Introduction

Corporate social responsibility (CSR), a company’s status and actions regarding its perceived societal obligations (Brown and Dacin 1997; Sen and Bhattacharya 2001), has gained significant attention from marketers and consumers over the past few decades. Partaking in socially responsible activities not only benefits the firm’s image through charitable credit but also the societal issue they support. With the idea that firms bring shared value to society and the company, CSR has become an essential marketing strategy for companies (Kramer and Porter 2011; Porter and Kramer 2006).

However, the critical challenge firms face when engaging in socially responsible activities is getting the consumers to believe the firm’s authentic prosocial motives and charitable commitment that go beyond financial obligations. Consumers doubt the authenticity of charitable activities, seeing them as self-interested marketing strategies driven by profit. As a result, they look for evidence of genuine prosocial motivation (Barasch et al. 2014; Newman and Cain 2014). Despite the shared values CSR brings, skepticism towards these actions can diminish or even harm the charitable reputation of companies (Berman et al. 2015; Yoon, Gurhan-Canli, and Schwarz 2006). Thus, marketers are highly motivated to share their socially responsible activities in ways that show their commitment to the prosocial cause.
The current research investigates how firms can mitigate consumers’ doubt of prosocial commitment when advertising their CSR activities. Specifically, we propose that firms can leverage a temporal framing strategy for their donations. Counter to the intuition that a larger aggregate amount (e.g., donate $120,000 this year) is perceived to be more charitable, we show that a smaller periodic amount (e.g., donate $10,000 each month this year) increases positive perceptions of the company and engagement with the firm. We further show that the effectiveness of periodic framing is driven by perceived commitment – breaking a donation into several instances helps to increase the goodwill consumers attribute to CSR because repeated donations reinforce that a company is authentically committed to a cause. Thus, when companies frame their donations periodically, consumers believe firms are more committed to the prosocial cause, increasing positive perceptions and engagement.

Our findings make contributions to several bodies of literature. First, we contribute to the literature on charitable credit and commitment. Previous research has largely emphasized the importance intentions, motives, and commitment have on charitable credit (Berman et al. 2015; Lin-Healy and Small 2013; Newman and Cain 2014; Small and Cryder 2016). The more genuine and committed prosocial actions are, the greater the charitable credit they receive. Moreover, prior findings have shown that consumers interpret repeated behaviors as more diagnostic of others’ characteristics and intentions (D’Souza and Rao 1995; Skowronski and Carlston 1987; Valsesia and Diehl 2022). Therefore, we extend this literature by showing how periodic framing of donations – a repeated action – can increase perceptions of charitable commitment.

Second, we document an important theoretical moderator of temporal framing on charitable credit. In contrast to the current findings, recent work showed that periodic donations could actually harm the perceptions of the donors (Basu 2021). Specifically, the author found
that donors who made periodic (vs. aggregate) donations were perceived to be less morally praiseworthy because the smaller donations under periodic framing were perceived to make less of a sacrifice. Reconciling Basu (2021) and our work, we extend the current literature by showing that total donation size matters when temporally framing donations. Specifically, we document that when the total donation size is relatively small (e.g., $120 this year), periodic framing of donations (e.g., $10 a month) decreases charitable credit, consistent with Basu (2021). However, in larger amounts (e.g., $120,000 this year), we find a reversal of the effect such that periodic donations (e.g., $10,000 a month) increase charitable credit because of the greater perceived commitment towards the prosocial cause.

Lastly, we contribute to the work on temporal framing by showing that the strategy's effectiveness goes beyond consumer-centric domains. Past findings examined how periodic pricing can impact consumers' donation and purchase intentions through the role of perceived costs and benefits of the contracts (e.g., Gourville 1998; Atlas and Bartels 2018). However, prior work has primarily focused on how temporal framing is utilized as a pricing strategy to induce consumption (e.g., subscription, donation intentions). The current work takes a novel perspective by focusing on the effectiveness of temporal framing on firm-centric domains, specifically CSR.

In the following sections, we review the literature on corporate social responsibility and charitable commitment. Then, drawing on the work on temporal framing, we describe the impact of periodic framing on perceived commitment, charitable credit, and firm engagement.
2.2 Conceptual Background

2.2.1 Corporate Social Responsibility: A Double-Edged Sword

Corporate social responsibility creates shared value: CSR activities yield positive benefits for society and enhance a firm’s image and reputation (Kramer and Porter 2011; Porter and Kramer 2006). Engaging in CSR can generate positive attitudes towards firms (Brown and Dacin 1997; Sen, Bhattacharya, and Korschun 2006), brands (Klein and Dawar 2004), retail stores (Lichtenstein, Drumwright, and Braig 2004), and company identification (Sen and Bhattacharya 2001), which impacts a firm’s revenue growth (Lev, Petrovits, and Radhakrishnan 2010; Mohr and Webb 2005). These multi-faceted effects of CSR have led firms to adopt CSR as a core marketing strategy.

Although consumers generally favor CSR activities, evidence suggests that CSR is ineffective and can lead to consumer backlash if done improperly. When a company's brand image contradicts its CSR information, disfluency between the two concepts arises, leading to a negative evaluation of the company (Torelli, Monga, and Kaikati 2012). Similarly, CSR initiatives backfire if brand concepts are at odds with a CSR campaign's message (Yoon, Gurhan-Canli, and Schwarz 2006). Hence, CSR is more complex than donating to a cause. A company should maximize the goodwill associated with CSR by understanding the factors that lead good deeds to favorable judgments.

Growing work suggests that a critical factor that sways consumer favorability of a firm’s CSR activities is the perception of a company’s motive. In charitable giving contexts, consumers look for signals of authentic prosocial motivation (Barasch et al. 2014). When a company’s financial motives are salient, CSR can appear at odds with the altruism it promotes, a domain in
which people believe empathy should be the primary driver of behavior (Batson et al. 1991). So, firms elicit selfish cognitions if consumers perceive CSR as driven primarily by self-centered and egoistic motives (Ellen, Webb, and Mohr 2006). Such findings are consistent with work in the social judgment literature, where actors sharing good deeds can create favorable inferences of generosity while simultaneously generating negative attributions of selfishness (Berman et al. 2015). Newman and Cain (2014) found that doing nothing at all was sometimes better than charitable actions that generated negative attributions of selfishness, likely due to consumers questioning the selfish versus selfless nature of good deeds (Critcher and Dunning 2014). Pure altruism involves sacrifice (Lin-Healy and Small 2014), and any donation must be weighed against the self-serving behavior of a brand. Given this tension between charitable giving and ulterior motives, CSR may fail to provide evidence that their behaviors are not self-serving. Said another way, without indicators of authentic prosocial motivation, companies that announce charitable contributions might actually risk consumer backlash. So, firms face the challenge of conveying authentic commitment when sharing their CSR activities.

2.2.2 Commitment and Charitable Credit

People generally attribute another’s behaviors to internal motivations if those behaviors are consistent over time (Kelley 1973). Consistent behavior is viewed positively (Suh 2002), as a signal of authenticity (English and Chen 2011; Kraus, Chen, and Keltner 2011), and as more diagnostic of one’s characteristics and intentions (Skowronski and Carlston 1987; Valsesia and Diehl 2022). Moreover, people believe that those who make small commitments are likely to follow through with larger commitments that are consistent with these values (Cialdini, Cacioppo, Bassett, and Miller 1978). These findings suggest that consistency within a firm’s CSR activities may convey authentic commitment as consumers perceive a firm’s frequent
charitable acts as a stronger cue of commitment. So, we propose that making such authentic commitment (dedication to a cause) salient through repetition should increase the effectiveness of CSR by generating goodwill toward the company. This conjecture is consistent with findings in the attribution theory literature, which suggest that increases in perceived company commitment should lead consumers to react more favorably to a company’s actions (Cui, Trent, Sullivan, and Matiru 2003; Dean 2003; Forehand and Grier 2003; Sparkman and Locander 1980).

An open question remains: How can firms highlight the repetition of charitable actions that signal commitment when communicating their CSR activities? An ideal solution would be to engage in CSR activities more frequently to show commitment. The more often firms act socially responsible, the more committed they are perceived to be in support of the prosocial cause. However, a practical limitation to this solution is that resources can be limited. Thus, firms must resolve the issue of highlighting commitment through frequency without increasing the donation size. We suggest that firms can leverage a temporal framing strategy for their donations. Specifically, we propose that firms framing their donations as a series of periodic donations can highlight the repetition of charitable actions, increasing charitable perceptions and firm engagement.

2.2.3 Periodic Donations on Commitment and Charitable Perceptions

The literature on temporal framing and periodic pricing offers a strategy whereby corporate donations can leverage perceived commitment. Just as higher payment frequencies lead consumers to believe they have more resources (De la Rosa and Tully 2022), a higher frequency of donations may increase the degree to which consumers believe a company is
dedicating to a cause. Related evidence supports that repeated behaviors can impact consumer attributions and engagement. For example, consumers read others’ characteristics and intentions from repeated behaviors (Gershon and Smith 2020; Skowronski and Carlston 1987; Valsesia and Diehl 2022) and make inferences about a company’s intentions when companies repeat advertisements (D’Souza & Rao 1995). So, in the case of repeated donations, consumers would infer that a firm’s series of periodic donations signal a greater commitment to charitable causes than a single aggregate donation.

Moreover, single aggregate donations need help signaling commitment, despite their larger numeric value. First, consumers are scope insensitive (Frederick and Fischhoff 1998; Kahneman and Knetsch 1990). Although a stronger signal of charitable intent can be synonymous with increasing the donation size for many companies, consumers’ valuations of the information are not multiplicative relative to the magnitude. So, larger amounts do not necessarily mean they will receive proportional charitable credit. Second, firms highlighting their largest donations can create a “goodwill ceiling.” This means that in the absence of authentic prosocial motivation cues (Barasch et al. 2014), the scope of a company’s perceived altruism is capped at a donation amount (Frederick and Fischhoff 1998; Kahneman and Knetsch 1990). Lastly, announcing a single large donation can backfire if consumers believe the donor has an ulterior motive (such as rehabilitating a company’s negative reputation) or does not do enough to address a cause. For example, people often believe companies donate to capitalize on the publicity of a current event and are cynical about a company’s likelihood of continuing to help the cause. Sometimes consumers are unaware of a company’s prior charitable commitments, or a company is wading into a new donation context. In these instances, companies risk attracting negative perceptions if consumers perceive them as opportunistic.
As such, consumers may use temporal cues to infer consistency and commitment. Indeed, consumers perceive a company as more authentically committed to a cause when it enhances the perceived consistency and commitment of its CSR activities. Thus, we hypothesize that when a company presents its donations as a series of periodic donations (e.g., $10,000 each month) instead of a single aggregate donation (e.g., $120,000 this year), consumers will likely recognize the greater authentic commitment, which in turn increases charitable perceptions and firm engagement.

2.2.4 Total Donation Size Matters

However, it is unclear whether the benefits of a periodic donation strategy always outweigh the magnitude and weight of a single aggregated donation. Because periodic donations sacrifice magnitude for frequency, consumers may view each firm’s periodic donation as too small, leading to inferences that the firm is not doing enough. For example, consumers believe disaggregated payments are smaller (compared to aggregated payments; Gourville 1998). Due to conversational norms, consumers see changes expressed in smaller units of measurement as smaller than an equivalent change expressed in larger units (Zhang and Schwarz 2012). If people experience smaller-unit quantities as smaller overall, periodic donations may lead consumers to judge companies as less authentically committed to a cause.

Moreover, donation size must be sufficiently large because research suggests that consumers vary in their focus on unit size and quantity when making judgments. Monga and Bagchi (2012) demonstrated evidence of a unitosity effect, whereby consumers evaluated changes based on the relative size of the units. Whereas past research supports that people rely on the numerosity heuristic and infer a greater overall size when there are greater units (Pelham,
Sumarta, and Myaskovsky 1994), Monga and Bagchi (2012) demonstrated that the reverse occurs when the unit type is salient. That is, when the type of unit is salient, people rely on the size of the unit itself (as opposed to the number of units) when inferring the scale of change (i.e., small units—like inches—equate to small changes and large units—like feet—equate to large changes).

In the context of donations, the unit is likely salient because it provides consumers with a sense of the scale of goodwill to which a company is committing. Said another way, if a donation unit is small, consumers are likely to react negatively to the perception that a company is committing so little to help people, regardless of the number of instances. In cases where the unit is less salient, such as the numerosity heuristic, people rely on the number of units to inform their judgments. For example, people believe delays framed in small (vs. large) units will be longer when they focus on the number of units displayed in the delay (Pelham, Sumarta, and Myaskovsky 1994). When consumers assessed a warranty and focused on the number of units (rather than the type of unit), they saw warranties as better when these warranties were broken into smaller (vs. larger) units (Pandelaere, Briers, and Lembregts 2011).

In fact, one paper consistent with this notion found that people perceive donors who disaggregate their contributions (e.g., donating $10 a month) as less moral than those who make aggregate contributions (e.g., donating $120 a year; Basu 2021). Although this finding challenges the merit of periodic donations as a useful strategy for improving perceived company commitment, Basu (2021) focused on charitable contributions that were relatively small compared to those typically made by companies. Therefore, we hypothesize that firms donating an earnest amount stand to benefit from the added temporal cues of periodic donations because each donation instance reinforces a company’s dedication to a cause. However, in contexts
where the donation quantity per instance is small, consumers may focus on the small size of the quantity rather than the benefits that come from each donation instance, harming charitable perceptions.

### 2.2.5 Overview of Studies

We test our hypotheses across seven preregistered studies. Across our studies, we examine how participants perceive and engage with periodic donations. We find that when companies frame their donations in periodic (vs. aggregate) terms, customers have more positive perceptions of the companies and are more likely to show interest and engage with them. We examine the robustness of our effect across donation type, donation amount, messaging, charitable cause, and company.

Studies 1A and 1B test the hypotheses via two preregistered field experiments. In Study 2, we use stimulus sampling to verify the effect's generalizability across various donation causes and donation amounts. Study 3 tests the proposed mechanism of perceived commitment and simultaneously rules out alternative mechanisms of perceived costs and benefits. Study 4 replicates the mechanism findings with a stronger three-item measure of commitment. Study 4, also explores the downstream consequences of commitment on social media engagement, controlling for consumer inferences. Study 5 examines the limits of the effect when another temporal donation marker (past commitment) is introduced. Finally, we test an important boundary condition of the effect – extremely small donations (Study 6). We report all conditions, data exclusions (if any), and measures for each study (Simmons, Nelson, and Simonsohn 2012). All studies are preregistered, and the study materials, including complete stimuli, measures, data,
and code can be found here:
https://researchbox.org/809&PEER_REVIEW_passcode=TQTQHA.

2.3 Study 1A: Field Experiment (Salt and Smoke)

In Study 1A, we partnered with a company called Salt and Smoke and conducted a field experiment. Salt and Smoke is a restaurant in St. Louis, Missouri, that often donates to local communities. We launched a marketing campaign that either promoted Salt and Smoke’s donation pledge in a periodic or aggregate format and tested which campaign would elicit more clicks to the company’s website. We predict that a periodic (vs. aggregate) framing of donations will produce greater interest in the company.

2.3.1 Methods

Salt and Smoke had 75,514 customer subscribers to their email newsletter. Customers were randomly assigned to one of two conditions in a 2-cell (donation framing: aggregate vs. periodic) between-subjects design. In the periodic condition, participants saw a marketing campaign that framed Salt and Smoke’s donation pledge in periodic terms, while participants in the aggregate condition read the donation pledge framed in aggregate terms (see Figure 2.1). Importantly, the total dollar amount was held constant across both conditions. Customers who were interested in learning more about Salt and Smoke had the option to click a link that redirected customers to the Salt and Smoke website. The number of customers that clicked on the Salt and Smoke website was the outcome measure of interest.
2.3.2 Results

Following our preregistration (https://aspredicted.org/Y91_Z38), we examined the click-through rate by donation framing. In support of our hypothesis, customers who have received the periodic framing of donation pledges (.69%; 278/40,272) were more likely to click on the Salt and Smoke website than customers who have received the aggregate framing of donations (.35%; 124/35,242); $\chi^2(1) = 40.66, p < .001.$

FIGURE 2.1: STUDY 1 STIMULI
2.4 Study 1B: Field Experiment (GiftAMeal)

In Study 1B, we aim to replicate and extend our findings by showing that the effect persists not only in monetary donations but also in goods donations. We partnered with a company called GiftAMeal and conducted a field experiment. GiftAMeal is a company that donates meals to food banks each time customers take photos of their meal and shares them on social media. We launched two Facebook advertisements that described GiftAMeal’s previous donations in a periodic or aggregate format and tested which advertisement would elicit the most link clicks to the company’s website. Again, we hypothesize that a periodic (vs. aggregate) framing of donations will produce greater interest in the company.

2.4.1 Methods

Using Facebook’s split testing platform, we experimentally tested the effectiveness of two advertisements (Orazi and Johnston 2020). We further specified that Facebook targets individuals 18 years or older who speak English and live in the cities/states where GiftAMeal has a presence. Following our preregistration (https://aspredicted.org/1Y2_WJL), the sample size was determined by a total budget limit of $600 over one month. This budget resulted in a total reach of 67,576 Facebook users.

We had three different ad designs (see Appendix D for materials). For each ad design, two advertisements were launched: periodic and aggregate framing (see Figure 2.2). In the periodic condition, participants saw ad designs that framed how many meals GiftAMeal donated last year in periodic terms. Specifically, the ads read, “GiftAMeal donated 25,000 meals every month to local communities last year.” In the aggregate condition, the donations were framed in aggregate terms such that the ads read, “GiftAMeal donated 300,000 meals to local communities
last year.” All participants had the option to click on the advertisement, which would redirect them to the GiftAMeal website. The number of participants that clicked on the GiftAMeal ad was the outcome measure of interest.

### 2.4.2 Results

As preregistered, we collapsed across the three different types of designs in each condition and examined the number of unique link clicks (i.e., the total number of users who clicked on the advertisement) out of the total reach (i.e., the number of unique users exposed to the advertisement). As predicted, Facebook users were more likely to click on the ads that showed the donations in periodic terms (1.48%; 489/32,968) than the ads that showed the donations in aggregate terms (1.22%; 421/34,608); $\chi^2(1) = 9.04, p = .003$ (see Table 2.1).

**FIGURE 2.2: STUDY 1B STIMULI**

![Study 1B Stimuli](image)

**TABLE 2.1: STUDY 1B RESULTS**
<table>
<thead>
<tr>
<th>Advertisement</th>
<th>Periodic Condition</th>
<th>Aggregate Condition</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smiling kid</td>
<td>1.36%</td>
<td>1.16%</td>
<td>.047</td>
</tr>
<tr>
<td></td>
<td>(318/23,328)</td>
<td>(292/25,136)</td>
<td></td>
</tr>
<tr>
<td>Join us</td>
<td>1.52%</td>
<td>1.15%</td>
<td>.053</td>
</tr>
<tr>
<td></td>
<td>(101/6,646)</td>
<td>(84/7,332)</td>
<td></td>
</tr>
<tr>
<td>Download app</td>
<td>1.19%</td>
<td>1.00%</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>(75/6,310)</td>
<td>(45/4,517)</td>
<td></td>
</tr>
<tr>
<td>Collapsed</td>
<td>1.48%</td>
<td>1.22%</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>(489/32,968)</td>
<td>(421/34,608)</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4.3 Discussion

The results from Studies 1A and 1B support the hypothesis that periodic framing of donations elicits greater customer engagement than aggregate donations. Moreover, it is interesting to note that the effect holds for both monetary donations (Study 1A) and goods donations (Study 1B). Next, we test how framing affects company perceptions across various donation scenarios and donation amounts.

### 2.5 Study 2: Stimulus Sampling

Study 2 implements stimulus sampling by presenting nine different scenarios across participants to verify the generalizability of the effect (Judd, Westfall, and Kenny 2012; Wells and Windschitl 1999). We expect that, across scenarios, periodic framing of donations would increase positive perceptions of the firm than aggregate donations.
2.5.1 Methods

We recruited 1,797 Prolific Academic participants ($M_{Age} = 36.17$, 47.86% female). Participants were randomly assigned to one of two conditions in a 2-cell (donation framing: aggregate vs. periodic) between-subjects design. Each participant was then randomly assigned to view one of nine scenarios (education, environmental, gender equality, health 1, health 2, hunger, poverty, refugee, social activism; see Appendix D). The donation amount and donation cause were different across the nine scenarios. Moreover, it is important to note that in all scenarios, the total donation amount is smaller in the periodic (vs. aggregate) condition. In accordance with our preregistration (https://aspredicted.org/5CS_9CG), only participants that answered the attention check questions correctly ($N = 1,665$) were included in the analysis.

Participants read that a fictional company pledged to donate to a certain prosocial cause. We describe the education scenario below, but all scenarios follow a similar pattern. Participants in the education scenario read that a company named ANY Corporation recently pledged to donate a portion of their earnings to support children’s education and public schools. The donation pledge read,

“ANY Corporation recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate a [aggregate condition: one-time donation of $1.2 million in 2023/periodic condition: $90,000 every month between January 2023 and December 2023] to non-profit organizations that support children’s education and public schools.

Participants then rated the key dependent variable of company perception using three items: 1) “How much do you admire [company name]?” 2) “How favorably do you view [company name]?” and 3) “How positively do you view [company name]?” (1 = Not at all, 7 =
Very much). The three items were averaged to create a “company perception” composite ($\alpha = .95$).

### 2.5.2 Results

Following our preregistered analysis, we regressed company perception on the framing of donation pledges, including a fixed effect of scenarios. As predicted, participants in the *periodic* condition ($M = 5.47, SD = 1.37$) had more positive perceptions of the company than the *aggregate* condition ($M = 5.18, SD = 1.27$), $\beta = .24$, $t(1655) = 4.87$, $p < .001$. The pattern of results is mostly consistent when looking at each scenario separately (see Table 2.2).

#### TABLE 2.2: STUDY 2 RESULTS

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Periodic Condition</th>
<th>Aggregate Condition</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education cause</td>
<td>5.61</td>
<td>4.70</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Environmental cause</td>
<td>5.63</td>
<td>5.40</td>
<td>.20</td>
</tr>
<tr>
<td>Gender equality cause</td>
<td>4.98</td>
<td>5.01</td>
<td>.88</td>
</tr>
<tr>
<td>Health 1 cause</td>
<td>5.82</td>
<td>5.44</td>
<td>.048</td>
</tr>
<tr>
<td>Health 2 cause</td>
<td>5.68</td>
<td>5.27</td>
<td>.018</td>
</tr>
<tr>
<td>Hunger cause</td>
<td>5.47</td>
<td>5.34</td>
<td>.47</td>
</tr>
<tr>
<td>Poverty cause</td>
<td>5.54</td>
<td>5.28</td>
<td>.18</td>
</tr>
<tr>
<td>Refugee cause</td>
<td>5.64</td>
<td>5.07</td>
<td>.006</td>
</tr>
<tr>
<td>Social activism cause</td>
<td>5.06</td>
<td>5.06</td>
<td>.99</td>
</tr>
</tbody>
</table>
2.5.3 Discussion

Across multiple donation contexts and amounts, we find that donations framed in periodic (vs. aggregate) terms increase charitable perceptions of the company. Moreover, we find the effect persists even when the total amount of donation is smaller in the periodic condition than the aggregate condition. Next, we test our proposed mechanism of perceived company commitment while controlling for participants’ inferences about the donation amount.

2.6 Study 3: Mechanisms

Study 3 examines perceived commitment as a mechanism while ruling out alternative mechanisms of perceived costs and benefits suggested by previous work on periodic pricing (Atlas and Bartels 2018; Gourville 1998). Past work has documented that periodic pricing (e.g., $1/day) leads to greater purchase intentions than aggregate pricing (e.g., $365 a year) because of either the lesser perceived costs (Gourville 1998) or greater perceived benefits of the purchase (Atlas and Bartels 2018). Therefore, it is possible that the favorability judgment of periodic donations is driven by these reasons. If true, we should expect to see a significant indirect(s) of perceived costs, benefit, or both. However, if our proposed mechanism is true, we should only see a significant indirect effect of perceived commitment.

2.6.1 Methods

We recruited 600 Prolific Academic participants ($M_{\text{Age}} = 34.53$, 47.50% female). As in Study 2, participants were randomly assigned to one of two conditions in a 2-cell (donation framing: aggregate vs. periodic) between-subjects design. Each participant was then randomly assigned to view one of three scenarios (environmental, hunger, refugee donations; see Appendix
D). In accordance with our preregistration (https://aspredicted.org/MCR_ZZR), only participants that answered the attention check questions correctly (N = 581) were included in the analysis.

The design mimics Study 2. Participants rated company perception (α = .94) after reading a company’s donation pledge that was either framed periodically or in aggregate. We then measured perceived commitment with the following item: “How committed is [company name] to [donation cause]?” (1 = Not at all committed, 7 = Very committed). Moreover, we measured the perceived costs (α = .82) and benefits (α = .64) of the donation using two sets of three seven-point Likert questions (adapted from Atlas and Bartels 2018; see Appendix D). The order in which participants saw the items of perceived commitment, costs, and benefits was randomized.

### 2.6.2 Results

Following our preregistered analysis, we regressed company perception on the framing of donation pledges, including a fixed effect of scenarios. Replicating previous studies, participants in the periodic condition (M = 5.27, SD = 1.22) had greater positive perceptions of the company than the aggregate condition (M = 4.88, SD = 1.29), β = .29, t(577) = 3.58, p < .001. The pattern of results is directionally consistent when looking at each scenario separately (see Appendix C).

Similarly, we found that participants in the periodic condition (M = 5.00, SD = 1.46) had greater positive perceptions of the company than the aggregate condition (M = 4.49, SD = 1.52), β = .32, t(577) = 3.99, p < .001. The pattern of results is directionally consistent when looking at each scenario separately (see Appendix C).

Unlike previous work on periodic pricing (Atlas and Bartels 2018; Gourville 1998), we found no significant differences of perceived costs, β = .09, t(577) = 1.16, p = .25, or benefits, β
=.07, t(577) = .82, p = .41, between participants in the periodic and aggregate conditions (see Appendix C).

As shown in Figure 2.3, we conducted a parallel mediation model (Hayes 2017, Model 4) with our donation framing as the independent variable (aggregate condition = 0, periodic condition = 1); perceived commitment, costs, and benefits as parallel mediators; and company perception as the dependent variable. As predicted, perceived commitment significantly mediated the relationship between donation framing (indirect effect = .27; 95% CI [.14, .41]), while perceived costs (indirect effect = .01; 95% CI [-.01, .03]) and benefits (indirect effect = .02; 95% CI [-.02, .06]) did not.

FIGURE 2.3: STUDY 3 MEDIATION MODEL

NOTE. – *p < .05, **p < .01, *** p < .001
2.6.3 Discussion

Study 3 provides evidence for the hypothesized mechanism of perceived commitment while ruling out alternative explanations of perceived costs and benefits. When donations are framed in periodic (vs. aggregate) terms, consumers believe the company is more committed to the prosocial cause, increasing positive perceptions of the company. Study 4 seeks additional evidence of our proposed mechanism.

2.7 Study 4: Perceived Commitment

Study 4 tests our mechanism of perceived commitment using another measure of commitment, while controlling for consumers’ inferences about the total donation. More specifically, we test whether periodic donations signal greater charitable commitment and elicit greater consumer engagement than aggregate donations, even when an observer knows the total donation. We hypothesize that consumers who see a periodic donation (whether in the presence or absence of the total donation amount) will perceive the company as more committed to a charitable cause than those who see an aggregate donation, increasing consumer engagement with the company that donates periodically.

2.7.1 Methods

We recruited 748 Amazon Mechanical Turk participants ($M_{Age} = 39.90$, 61.10% female). Participants were randomly assigned to one of three conditions in a 3-cell (donation framing: aggregate vs. periodic vs. periodic-sum) between-subjects design. Following our preregistration (https://aspredicted.org/blind.php?x=J6C_XXN), we excluded participants who either failed an attention check or a manipulation check, leaving a total sample of 681 in the analysis.
Participants were asked to read a social media post. The post was a tweet by a materials company touting its recent donation to child hunger charities. The tweet described the company’s donation and a link to an article with more information (see Appendix D for materials). Participants in the periodic condition saw the following text: “Today we are committing to addressing child hunger by donating $10K a month for a year to multiple local charities. Click the link to find out more.” Participants in the aggregate condition saw the following text: “Today we are committing to child hunger by donating $120K to multiple local charities. Click the link to find out more.” We also introduced a periodic-sum condition, where participants saw a tweet with the following text, “Today we are committing to addressing child hunger by donating $10K a month for a year (totaling $120K) to multiple local charities. Click the link to find out more.”

After seeing the tweet, all participants were instructed to briefly summarize the social media post. We then measured our proposed mechanism of perceived commitment. Participants rated the company’s commitment, dedication, and devotion by responding to the following prompt: “Regarding child hunger efforts, how much do this company’s actions show genuine ________?” (1 = Not at all, 7 = Extremely). These items showed strong reliability ($\alpha = .97$). Following our preregistration, we averaged the items to create a perceived commitment composite. Then, participants responded to a series of items to assess their degree of engagement with the company. More specifically, we asked, “If Barksdale Materials were to include the following website links in their tweet, how likely would you be to click each:”, 1) “A link to their website”, 2) “A link to a charity”, and 3) “The story linked in the tweet” (0 = Not at all, 10 = Definitely). These items showed high reliability ($\alpha = .90$), so we created an engagement composite using the average of these items. We additionally measured two exploratory dependent variables (see Appendix C for results).
2.7.2 Results

We examined the effects of our periodic manipulations on the commitment composite and found a significant difference between the conditions, $F(2, 678) = 7.63, p < .001, \eta^2_p = .022$. We then conducted a series of t-tests to examine differences across conditions. We first examined whether the effect replicated. As predicted, participants believed a company was more committed to a cause when announcing a periodic donation ($M = 5.44, SD = 1.52$) than when announcing an aggregated donation ($M = 5.01, SD = 1.51$), $t(464) = 3.05, p = .002, d = .28$.

We next examined whether the periodic donation effect held when including the total donation amount. As predicted, participants in the periodic-sum condition thought a company was more committed to a cause ($M = 5.50, SD = 1.37$) than those in the aggregate condition, $t(453) = 3.60, p < .001, d = .34$. There were no differences between the two periodic conditions, $t(439) = .44, p = .66$.

We examined the effects of our periodic donation manipulations on our engagement composite. Participants differed across conditions in the degree to which they were likely to engage with the post, $F(2, 678) = 3.33, p = .036, \eta^2_p = .010$. Participants in the periodic condition were more likely to engage ($M = 6.02, SD = 3.04$) than those in the aggregate condition ($M = 5.40, SD = 2.96$), $t(464) = 2.22, p = .027, d = .21$. Participants in the periodic-sum condition ($M = 6.00, SD = 2.85$) were also more likely to donate than those in the aggregate condition, $t(453) = 2.22, p = .027, d = .21$. There was no difference between the two periodic conditions, $t(439) = .04, p = .97$.

We tested whether the effect of donation framing on consumer engagement was mediated by perceived commitment through a 3-cell multicategorical mediation (Hayes 2017, Model 4).
Contrasting the aggregate (0) and periodic (1) conditions, we tested the significance of the measured mediator by calculating the standardized effects for 10,000 bootstrapped samples. We found a statistically significant indirect effect of perceived commitment on engagement (indirect effect = .43; 95% CI [.14, .73]; see Figure 2.4). Controlling for commitment, the direct effect was non-significant (direct effect = .19, p = .43, 95% CI [-.28, .66]).

Contrasting the aggregate (0) and periodic-sum (1) conditions, we tested the significance of the measured mediator by calculating the standardized effects for 10,000 bootstrapped samples. Similarly, we found a statistically significant indirect effect of perceived commitment on engagement (indirect effect = .49; 95% CI [.22, .77]; see Figure 2.4). Controlling for commitment, the direct effect was non-significant (direct effect = .12, p = .63, 95% CI [-.36, .59]).

**FIGURE 2.4: STUDY 4 MEDIATION MODELS**

![Diagram](image)

NOTE. – *p < .05, **p < .01, *** p < .001

### 2.7.3 Discussion

Study 4 provides initial evidence for the mechanism of perceived commitment. We find that participants are more likely to engage with companies framing their donations in periodic
(vs. aggregate) terms because they perceive those companies to be more committed to the charitable cause. Moreover, we find that even when participants are aware of the total donation amount with periodic donations (periodic-sum condition), participants perceive the companies as more committed to the charitable cause and are more likely to engage with the company.

### 2.8 Study 5: Perceived Commitment Moderation

In Study 5, we directly manipulate the perceived commitment towards the prosocial cause. We examine whether an additional cue of commitment (i.e., longer donation span) attenuates the effect of periodic donations on perceived commitment and social media engagement. If consumers infer that the periodic donations are an indicator of broader charitable commitment (and by contrast, that an aggregate donation is an indicator that companies are less committed to a cause), expanding the timeframe of donations should increase perceived commitment for companies donating in aggregate. To that effect, we ask participants to judge periodic (quarterly) and aggregate (annual) donations for a single-year or four-year span. Varying a second indicator of temporal commitment (years donating) should lead participants to infer a company is committed to a cause, whether the company’s donations are in aggregate or periodic.

In this study participants assess a company’s donation behavior by viewing part of a company’s financial report. The report indicates donations per year and fiscal quarter. Presenting donations in this way allows us to address concerns that companies announce aggregated donations to manage impressions instead of from a place of genuine commitment to a cause.
2.8.1 Methods

We recruited 1,001 participants ($M_{\text{Age}} = 39.99, 42.86\%$ female) on Amazon MTurk. We randomly assigned participants to one of four conditions in a 2 (donation framing: aggregate vs. periodic) X 2 (donation span: one year vs. four years) between-subjects design. Following our preregistration (https://aspredicted.org/F8R_HRJ), we excluded participants who failed either of the two attention checks, leaving a sample of 798 for our final.

All participants saw part of a company’s expense report that indicates the company’s donation schedule. Participants read about a company named Bell Electrek. More specifically, we told participants, “Below is part of an expense report highlighting a company's charitable contributions toward child hunger relief efforts. The expense report shows the donation schedule by fiscal year (see Appendix D for materials). Participants in the periodic conditions saw that Bell Electrek donated $25K per quarter (four times per fiscal year) while participants in the aggregate conditions saw an annual donation of $100K (once at the end of the fiscal year). Additionally, participants in the one-year conditions saw how much Bell Electrek donated over the last year, while participants in the four-year conditions saw donations over the last four years.

Then, similar to Study 3, participants rated the company’ commitment ($\alpha = .97$). Moreover, we measured participants’ degree of engagement with the company by asking, “After learning about Bell Electrek’s donation behaviors, are you more or less likely to:” 1) “Visit their website”, 2) “Visit their social media pages”, and 3) “Visit the website of their partner charities” (-5 = Much less likely, 5 = Much more likely). These items showed high reliability ($\alpha = .92$), so we created an engagement composite using the average of these items. We additionally measured two exploratory dependent variables (see Appendix C for results).
2.8.2 Results

A 2 (donation framing: aggregate vs. periodic) x 2 (donation span: one year vs. four years) ANOVA yielded a significant main effect of donation framing, $F(1, 794) = 28.41, p < .001, \eta^2_p = .03$, and a significant main effect of donation span, $F(1, 794) = 123.48, p < .001, \eta^2_p = .13$. Most importantly, we found a significant interaction, $F(1, 794) = 41.75, p < .001, \eta^2_p = .05$, such that over a one year span, the company donating periodically ($M = 5.59, SD = 1.14$) was perceived to be more committed than donating in aggregate ($M = 3.62, SD = 1.61$), $t(794) = 14.44, p < .001, d = 1.45$. We observed the same pattern when the company donated over a four-year span, but the difference between conditions diminished significantly. Participants saw the company that made periodic donations over a four-year period ($M = 5.85, SD = 1.15$) as more committed than those that made donations in aggregate ($M = 5.13, SD = 1.46$) over the same span, $t(794) = 5.33, p < .001, d = .53$ (see Figure 2.5).

A 2 (donation framing: aggregate vs. periodic) x 2 (donation span: one year vs. four years) ANOVA yielded a non-significant main effect of donation framing, $F(1, 794) = 2.58, p = .11, \eta^2_p = .003$, and a significant main effect of donation span, $F(1, 794) = 20.29, p < .001, \eta^2_p = .02$. Most importantly, we found a significant interaction between the two variables, $F(1, 794) = 7.32, p = .007, \eta^2_p = .01$. Over a one-year period, participants were more likely to engage with the company that donated periodically ($M = 1.27, SD = 1.89$) than in aggregate ($M = .18, SD = 2.19$), $t(794) = 5.42, p < .001, d = .54$. However, when the company donated across four years, there was no difference in engagement between the periodic ($M = 1.40, SD = 1.85$) and aggregate conditions ($M = 1.08, SD = 2.06$), $t(794) = 1.61, p = .11$ (see Figure 2.5).
We conducted a moderated mediation (Hayes 2017, Model 8) to test that perceived commitment mediated the relationship of donation framing and donation span on consumer engagement. We tested the significance of the mediator by calculating the standardized indirect effect for 10,000 bootstrap samples. Consistent with our hypothesis, we found that commitment mediated the interaction between donation framing and donation span on engagement (index = - .70; 95% CI [-.97, -.47]). As hypothesized, perceived commitment mediated the effect of donation framing on engagement when the donation was made for one year (indirect effect = 1.12; 95% CI [.86, 1.39]), however, the indirect effect is smaller for participants in the four-year conditions (indirect effect = .41; 95% CI [.25, .60]).

**FIGURE 2.5: STUDY 5 RESULTS**

![Graph showing perceived commitment and engagement across one and four years](image)

**NOTE.** – Error bars represent 95% confidence intervals.

### 2.8.3 Discussion

If consumers perceive a company that make periodic (vs. aggregate) donations to be more committed to a cause, then expanding the timeframe of donations from one year to four years should increase this perceived commitment. Results from Study 5 are in line with this conjecture – showing participants a company’s donation in a four-year span increases commitment and engagement likelihood. Therefore, we find causal evidence that consumers are more likely to
engage with a company with periodic donations due to the company’s perceived commitment to a cause.

2.9 Study 6: Boundary Condition

In our final study, we examine an important boundary condition of our periodic donation effect – extremely small donations. Contrary to our findings, recent work shows that periodic donations can *harm* perceptions of the donors (Basu 2021). Specifically, the author finds that donors who make periodic (vs. aggregate) donations are perceived to be less morally praiseworthy because people perceive donors donating periodically as making less of a sacrifice. Reconciling the opposing effects, we identify a key difference between the materials used in Basu (2021) and our studies. In the previous work, the author compares framing of donations that total in small amounts (e.g., $250 donation, 400 cans, 35 boxes of toys). However, company charitable donations typically happen on a much larger scale, which is largely why we observe the periodic donation effect in our studies. Here, we extend the current literature by showing that periodic effects are interpreted differently when the amount occurs at different scales. We predict that when the total donation amounts are large, consumers will perceive a company more positively with periodic framing. However, with smaller total donation amounts, we expect a reversal such that people will perceive a company more positively with aggregate framing.

2.9.1 Methods

We recruited 1201 Prolific Academic participants ($M_{\text{Age}} = 36.24$, 48.29% female). Participants were randomly assigned to one of four conditions in a 2 (donation framing: aggregate vs. periodic) x 2 (donation amount: large vs. small) between-subjects design. Per our preregistration, only participants that correctly answered the attention check questions (N =
1,181) were included in the final analysis. The preregistration for this study can be found here: https://aspredicted.org/SWP_H43.

Participants read that a fictional company named Alpha Manufacturing donated to a charity focused on international disaster relief. Participants in the periodic-large condition read that Alpha Manufacturing donated $10,000 every week, while the aggregate-large condition donated $520,000. Participants in the periodic-small condition read that Alpha Manufacturing donated $2 every week, while the aggregate-small condition donated $100.

Similar to Study 2, participants then rated the key dependent variable of company perception ($\alpha = .95$) and moral praiseworthiness (adapted from Basu 2021): “How morally praiseworthy do you think the action of Alpha Manufacturing is?” (1 = Not at all, 7 = Extremely).

### 2.9.2 Results

A 2 (donation framing: aggregate vs. periodic) x 2 (donation amount: large vs. small) ANOVA yielded a significant main effect of donation framing, $F(1, 1177) = 5.82, p = .016, \eta_p^2 = .004$, and a significant main effect of donation amount, $F(1, 1177) = 19.76, p < .001, \eta_p^2 = .02$. Importantly, we found a significant interaction $F(1, 1177) = 9.27, p = .002, \eta_p^2 = .008$, such that when donation amounts were large, the periodic donation ($M = 5.55, SD = 1.31$) had greater positive perceptions of the company than the aggregate donation ($M = 5.29, SD = 1.30$), $t(1177) = 2.41, p = .016, d = .20$. However, when donation amounts were large, periodic framing ($M = 4.58, SD = 1.43$) had marginally less positive perceptions of the company than the aggregate framing ($M = 4.79, SD = 1.29$), $t(1177) = 1.89, p = .059, d = .15$ (see Figure 2.6).
A 2 (donation framing: aggregate vs. periodic) x 2 (donation amount: large vs. small) ANOVA yielded a significant main effect of donation framing, $F(1, 1177) = 5.74, p = .017, \eta_p^2 = .005$, and a significant main effect of donation amount $F(1, 1177) = 29.87, p < .001, \eta_p^2 = .02$. Importantly, we found a significant interaction, $F(1, 1177) = 14.79, p < .001, \eta_p^2 = .01$. When donation amounts were large, the periodic donation ($M = 5.68, SD = 1.36$) had greater positive perceptions of the company than the aggregate donation ($M = 5.38, SD = 1.43$), $t(1177) = 2.40, p = .017, d = .20$. However, replicating Basu (2021), when donation amounts were small, periodic framing ($M = 4.35, SD = 1.61$) had lesser positive perceptions of the company than the aggregate framing ($M = 4.72, SD = 1.43$), $t(1177) = 3.05, p = .002, d = .25$ (see Figure 2.6).

**FIGURE 2.6: STUDY 6 RESULTS**

![Graph showing company perceptions for different donation amounts and framings](image)

NOTE. – Error bars represent 95% confidence intervals.

### 2.9.3 Discussion

Study 6 demonstrates that periodic donations do not always impact company perceptions positively. We find that when donation amounts are significantly smaller, periodic donations negatively impact company perceptions, consistent with findings from Basu (2021).
2.10 General Discussion

Across seven studies, we find evidence that a periodic donation strategy (compared to an aggregate donation strategy) increases positive impressions of companies and increases consumer engagement. Periodic donations accomplish this by increasing the degree to which consumers see companies as authentically committed to a cause. Studies 1A and 1B examined the effect of periodic donation framing using two preregistered field experiments. Both studies found that consumers were more likely to engage with online campaigns that were framed as providing periodic donations. Study 2 supported the generalizability of the effect by employing a stimulus sampling approach. Across donation causes, amounts, and phrasings, we found support that periodic donation framing increased the degree to which consumers judged a company positively. Study 3 tested our perceived commitment mechanism and found that it mediated the relationship between periodic donation framing and company perceptions. Study 3 also ruled out alternative mechanisms. In Study 4, we replicated the mechanism findings using a stronger three-item measure of commitment and provided evidence of the robustness of periodic donations when consumers knew about the total donation sum. Study 4 also replicated the findings of our field studies by showing that consumers were more likely engage on social media with authentically committed companies. In Study 5, we demonstrated that other temporal donation cues moderated our effect. Finally, in Study 6 we provided evidence of an important boundary condition. Namely, a donation must be sufficiently large to benefit from periodic framing.
Appendix

3.1.1 Chapter 1: Appendix A

This appendix reports additional findings that were not reported in the main document.

Methods and Results from Figure 1.1

We recruited 544 undergraduates from a private university (M_{Age} = 22.75, 54.6% female). Participants were asked, “To what extent would you feel 1) uncomfortable, 2) awkward, and 3) uneasy talking about the following topics with your [close friends/distant acquaintances]?” (1 = Not at all, 7 = Very much; adapted from Jiang, Hoegg, and Dahl 2013). The three items were averaged to create a “discomfort” composite (α = .96). The topics were money issues, politics, religion, sex, death, gossip, offensive jokes, relationship problems, health problems, and race.

The perceived discomfort was tested using a 2 (relationship type: close friends vs. distant acquaintances) x 10 (list of topics) repeated measures analysis of variance (ANOVA). We found significant main effects of relationship type (F(1, 10,317) = 5,695.23, p < .001), list of topics (F(9, 10,317) = 102.15, p < .001), and interaction (F(9, 10,317) = 6.92, p < .001).

Overall, we found that people have varying levels of discomfort talking about sensitive topics with close friends and distant acquaintances. First, people feel more uncomfortable talking about sensitive topics with distant acquaintances than close friends. Second, people feel more uncomfortable talking about offensive jokes, followed by money issues, sex, relationship problems, health problems, politics, race, death, religion, and gossip.
Methods and Results of Social Richness

We recruited 100 Amazon MTurk participants via CloudResearch ($M_{Age} = 37.11$, 35% female). We used three items (adapted from Oh, Bailenson, and Welch 2018) to measure perceived social richness of communicating 1) in person, 2) over a phone call, 3) via text, 4) via email, 5) via Venmo, 6) via PayPal, and 7) via a standard bank app: “To what extent is [communication method] a socially rich way to communicate with others?”, “To what extent would you feel that you are in the presence of others when communicating [communication method]?” and “To what extent would you feel connected with others when communicating [communication method]” (1 = Not at all, 11 = Extremely; $\alpha = .94$). The order in which participants answered the social richness of each communication method was randomized. The preregistration for this pilot test can be found here: https://aspredicted.org/ZXV_F8B

The perceived social richness was tested using a 7-cell (communication method: in-person, phone call, text, email, Venmo, PayPal, bank app) repeated measures ANOVA. As shown below, we found significant differences between the communication methods ($F(6, 594) = 239.50$, $p < .001$). The table below displays the Bonferroni post-hoc analyses of the perceived social richness of each communication method.

In summary, we found that each request method had different social richness levels that are consistent with theories of social richness (Daft and Lengel 1986; Short, Williams, and Christie, 1976). Specifically, in-person interactions were perceived to be most socially rich, followed by phone calls, texts, email, Venmo and PayPal, and a standard bank app.
PERCEIVED SOCIAL RICHNESS BY COMMUNICATION METHODS

NOTE. – Error bars represent 95% confidence intervals.
### BONFERRONI POST-HOC ANALYSES OF PERCEIVED SOCIAL RICHNESS

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<td>PayPal (M = 3.42)</td>
<td>-</td>
<td>Bank app (M = 2.46)</td>
<td>.96</td>
<td>.26</td>
<td>594</td>
<td>3.74</td>
</tr>
</tbody>
</table>
Additional Results from Study 1A

The tables below display background descriptive statistics and logistic regression models comparing 1) digital app versus text and 2) text versus in-person requests, respectively. Despite the difference in perceived social richness between digital payment apps and text requests, we found no significant association between relationship closeness and the choice of request method when comparing digital app and text requests ($p > .05$). However, we found a significant negative association between relationship closeness and the choice of request method when comparing text and in-person requests ($\beta = -.27, \text{SE} = .08, z = -3.18, p = .001$). This association remained strong even after controlling for the amount of money that was owed ($\beta = -.28, \text{SE} = .09, z = -3.19, p = .001$) and the number of days waited until requesting the money back ($\beta = -.27, \text{SE} = .08, z = -3.16, p = .002$).

These patterns are consistent with $H_1$, such that with weaker social connections, consumers chose to request through relatively less socially rich means, such as digital payment apps and texts. However, they were more likely to request using more socially rich means such as in person with stronger social ties.

**DESCRIPTIVE STATISTICS (STUDY 1A)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$N = 803$</td>
<td></td>
</tr>
<tr>
<td>Mean Amount ($)</td>
<td>$284.62</td>
</tr>
<tr>
<td>Median Amount ($)</td>
<td>$100</td>
</tr>
<tr>
<td>Mean Days Until Request</td>
<td>24.88 days</td>
</tr>
<tr>
<td>Median Days Until Request</td>
<td>14 days</td>
</tr>
<tr>
<td>Choice of Request Method</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td>Response</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------</td>
</tr>
<tr>
<td>In-person</td>
<td>57.66%</td>
</tr>
<tr>
<td>Phone Call</td>
<td>.37%</td>
</tr>
<tr>
<td>Text</td>
<td>22.54%</td>
</tr>
<tr>
<td>Digital Payment App</td>
<td>17.68%</td>
</tr>
<tr>
<td>Email</td>
<td>.88%</td>
</tr>
<tr>
<td>Other</td>
<td>.87%</td>
</tr>
</tbody>
</table>

---

LOGISTIC REGRESSION MODELS COMPARING DIGITAL APP VERSUS TEXT REQUESTS (STUDY 1A)

*Dependent variable:* Choice of digital app (1) versus text (0) request  
*n = 323*

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness</td>
<td>.06</td>
<td>.07</td>
<td>.06</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>(.11)</td>
<td>(.11)</td>
<td>(.11)</td>
<td>(.11)</td>
</tr>
<tr>
<td>Amount of Money Owed</td>
<td>-.82*</td>
<td></td>
<td>-.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.38)</td>
<td></td>
<td>(.40)</td>
<td></td>
</tr>
<tr>
<td>Number of days waited</td>
<td>-.91*</td>
<td></td>
<td>-.73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.36)</td>
<td></td>
<td>(.38)</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE.** – *p < .05, **p < .01, *** p < .001**
LOGISTIC REGRESSION MODELS COMPARING TEXTS VERSUS IN PERSON REQUESTS (STUDY 1A)

Dependent variable: Choice of text (1) versus in-person (0) request
n = 644

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness</td>
<td>-.27**</td>
<td>-.28**</td>
<td>-.27**</td>
<td>-.27**</td>
</tr>
<tr>
<td></td>
<td>(.08)</td>
<td>(.09)</td>
<td>(.08)</td>
<td>(.09)</td>
</tr>
<tr>
<td>Amount of Money Owed</td>
<td>.02</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.08)</td>
<td>(.08)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of days waited</td>
<td>-.03</td>
<td>-.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.14)</td>
<td>(.15)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE. – *p < .05, **p < .01, ***p < .001

Additional Results from Study 1B

This has the descriptive statistics from Study 1B of how much money was owed, how long they waited until requesting back owed money, and their choice of request method by requestee relationship. Because of extreme outliers in the variables of the number of days participants waited before requesting the money and how much their close friend or distant acquaintance owed, we winsorized the top 10% of responses for those variables in the descriptive statistics.

DESCRIPTIVE STATISTICS (STUDY 1B)

<table>
<thead>
<tr>
<th></th>
<th>Close Friend</th>
<th>Distant Acquaintance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 192</td>
<td>178 (92.71%)</td>
<td>94 (48.96%)</td>
</tr>
<tr>
<td>Amount ($)</td>
<td>$168</td>
<td>$89.27</td>
</tr>
</tbody>
</table>
### Days Until Request

<table>
<thead>
<tr>
<th></th>
<th>Close Friend</th>
<th>Distant Acquaintance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27.73</td>
<td>21.97</td>
</tr>
</tbody>
</table>

### Choice of Request Method

<table>
<thead>
<tr>
<th>Method</th>
<th>Close Friend</th>
<th>Distant Acquaintance</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-person</td>
<td>48.31%</td>
<td>41.49%</td>
</tr>
<tr>
<td></td>
<td>(86/178)</td>
<td>(39/94)</td>
</tr>
<tr>
<td>Phone Call</td>
<td>5.06%</td>
<td>6.38%</td>
</tr>
<tr>
<td></td>
<td>(9/178)</td>
<td>(6/94)</td>
</tr>
<tr>
<td>Text</td>
<td>33.70%</td>
<td>21.28%</td>
</tr>
<tr>
<td></td>
<td>(60/178)</td>
<td>(20/94)</td>
</tr>
<tr>
<td>Digital Payment App</td>
<td>11.24%</td>
<td>26.60%</td>
</tr>
<tr>
<td></td>
<td>(20/178)</td>
<td>(25/94)</td>
</tr>
<tr>
<td>Other</td>
<td>1.69%</td>
<td>4.25%</td>
</tr>
<tr>
<td></td>
<td>(3/178)</td>
<td>(4/94)</td>
</tr>
</tbody>
</table>

### Additional Results from Studies 3, 4A, and 4B

**PERCENTAGE OF DIGITAL APP REQUESTS BY REQUESTEE RELATIONSHIP AND SCENARIOS (STUDIES 3, 4A, AND 4B)**

<table>
<thead>
<tr>
<th>Study</th>
<th>Close friend</th>
<th>Distant acquaintance</th>
<th>p-value</th>
<th>Close friend</th>
<th>Distant acquaintance</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 3 (N = 401)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concert ticket</td>
<td>35.94%</td>
<td>41.18%</td>
<td><em>p</em> = .54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>27.59%</td>
<td>47.06%</td>
<td><em>p</em> = .02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uber ride</td>
<td>31.08%</td>
<td>46.38%</td>
<td><em>p</em> = .06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collapsed</td>
<td>31.63%</td>
<td>44.88%</td>
<td><em>p</em> = .006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 4A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[77]
<table>
<thead>
<tr>
<th>Study</th>
<th>Close friend</th>
<th>Distant acquaintance</th>
<th>p-value</th>
<th>Close friend</th>
<th>Distant acquaintance</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 1085)</td>
<td>Discomfort-Control</td>
<td>Discomfort-Decreased</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concert ticket</td>
<td>38.26%</td>
<td>57.61%</td>
<td>(p = .006)</td>
<td>27.38%</td>
<td>36.90%</td>
<td>(p = .19)</td>
</tr>
<tr>
<td>Food</td>
<td>32.93%</td>
<td>49.38%</td>
<td>(p = .03)</td>
<td>32%</td>
<td>48.84%</td>
<td>(p = .02)</td>
</tr>
<tr>
<td>Uber ride</td>
<td>34.12%</td>
<td>66.67%</td>
<td>(p &lt; .001)</td>
<td>31.46%</td>
<td>39.56%</td>
<td>(p = .26)</td>
</tr>
<tr>
<td>Collapsed</td>
<td>35.46%</td>
<td>58.36%</td>
<td>(p &lt; .001)</td>
<td>30.40%</td>
<td>41.76%</td>
<td>(p = .006)</td>
</tr>
<tr>
<td>Study 4B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N = 1291)</td>
<td>Impersonal-Control</td>
<td>Impersonal-Averse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concert ticket</td>
<td>18.87%</td>
<td>29.91%</td>
<td>(p = .06)</td>
<td>7.38%</td>
<td>7.48%</td>
<td>(p = .98)</td>
</tr>
<tr>
<td>Food</td>
<td>16.53%</td>
<td>42.27%</td>
<td>(p &lt; .001)</td>
<td>13.51%</td>
<td>16.46%</td>
<td>(p = .57)</td>
</tr>
<tr>
<td>Uber ride</td>
<td>20.51%</td>
<td>54.21%</td>
<td>(p &lt; .001)</td>
<td>8.33%</td>
<td>12.61%</td>
<td>(p = .32)</td>
</tr>
<tr>
<td>Collapsed</td>
<td>18.60%</td>
<td>41.74%</td>
<td>(p &lt; .001)</td>
<td>9.73%</td>
<td>11.78%</td>
<td>(p = .41)</td>
</tr>
</tbody>
</table>

### 3.1.2 Chapter 1: Appendix B

This appendix has all the study stimuli.

**STUDY SCENARIOS (STUDY 2)**

**Scenario**

**Amusement park**

Imagine you and a group of people including Charlie, [one of your closest friends/one of your distant acquaintances], have decided to go to an amusement park.

Because you bought everyone’s tickets, you paid the full price and everyone else will pay you back their share which is $100 per person.
Scenario

Other than Charlie, everyone else paid you back the $100 they owed for the amusement park tickets.

It has been a few days since Charlie borrowed the $100. However, Charlie still has not paid you back the money.

Bar happy hour

Imagine you are attending a happy hour at a bar with a group of people including Charlie, [one of your closest friends/one of your distant acquaintances].

As you are about to purchase your drink, Charlie informs you that they forgot their credit card at home, and asks if you can pay for a few of their drinks which costs $20.

Charlie promises to pay you back as soon as possible.

It has been a couple of weeks since Charlie borrowed the $20. However, Charlie still has not paid you back the money.

Car troubles

Imagine Charlie, [one of your closest friends/one of your distant acquaintances], is experiencing some car troubles and they need to replace one of their tires.

Moreover, Charlie informs you that they don’t have enough money at the moment and asks if they can borrow $80 to fix their car.

Charlie promises to pay you back as soon as they get paid in a few days.

It has been a week since Charlie borrowed the $80. However, Charlie still has not paid you back the money.

Concert ticket

Imagine you are attending a concert with a group of people including Charlie, [one of your closest friends/one of your distant acquaintances].

As you are about to purchase your ticket, Charlie informs you that they forgot their wallet in the car, and asks if you can pay for their ticket which costs $50.

Charlie promises to pay you back as soon as possible.
Scenario
It has been a couple of weeks since Charlie borrowed the $50. However, Charlie still has not paid you back the money.

**Food**

Imagine you are attending a dinner party with a group of people including Charlie, [one of your closest friends/one of your distant acquaintances]. The group decides to order a couple of appetizers and entrees to share.

After the meal, the group decides to evenly split the bill which comes out to $30 per person. However, Charlie tells you that they forgot their wallet, and asks if you can cover their portion of the bill.

Charlie promises to pay you back as soon as possible.

It has been a week since Charlie borrowed the $30. However, Charlie still has not paid you back the money.

**Gas money**

Imagine you and a group of people including Charlie, [one of your closest friends/one of your distant acquaintances], recently went on a road trip for a few days.

Because you drove your car, you ask everyone if they can pitch in for gas which is $25 per person.

While everyone pitched in, Charlie has not given you the $25 they owed for gas.

It has been a few days since Charlie borrowed the $25. However, Charlie still has not paid you back the money.

**Housing**

Imagine you and a group of people including Charlie, [one of your closest friends/one of your distant acquaintances], have rented an Airbnb for a cabin trip in the mountains.

Because you were in charge of booking the cabin, you paid the full price and everyone else will pay you back their share which is $75 per person.

Other than Charlie, everyone else paid you back the $75 they owed for the Airbnb.
Scenario

It has been a couple of weeks since Charlie borrowed the $75. However, Charlie still has not paid you back the money.

**Movie ticket**

Imagine you are going to the theaters with a group of people including Charlie, [one of your closest friends/one of your distant acquaintances].

As you are about to purchase your ticket, Charlie informs you that they forgot their wallet at home and asks if you can pay for their ticket which costs $15.

Charlie promises to pay you back as soon as possible.

It has been a couple of days since Charlie borrowed the $15 for their ticket. However, Charlie still has not paid you back the money.

**Uber ride**

Imagine you and a group of people including Charlie, [one of your closest friends/one of your distant acquaintances], are planning to visit someone’s house. You decide to call an Uber for everyone to share.

Because you called the Uber, paid the full price and everyone else will pay you back their share, which is $10 per person.

Other than Charlie, everyone else paid you back the $10 they owed for the Uber ride.

It has been a couple of days since Charlie borrowed the $10. However, Charlie still has not paid you back the money.

---

**STUDY SCENARIO (STUDY 5)**

<table>
<thead>
<tr>
<th>Close friend/Distant acquaintance</th>
<th>Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imagine that there is a local farmers’ market that you go to once a week on your way home.</td>
<td>Imagine that there is a local farmers’ market that you go to once a week on your way home.</td>
</tr>
<tr>
<td>During one visit, you find out that a pottery vendor is selling a set of dishes that you really like for $100. You decide to buy them to take</td>
<td>During one visit, you find out that a pottery vendor is selling a set of dishes for sale for $100 that you really like. You decide to</td>
</tr>
<tr>
<td><strong>Close friend/Distant acquaintance</strong></td>
<td><strong>Vendor</strong></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>On your way home, you run into Charlie, [one of your closest friends/one of your distant acquaintances]. You and Charlie start talking about the new set of dishes you just purchased.</td>
<td>However, when you arrive home you discover that some of the dishes are broken.</td>
</tr>
<tr>
<td>While showing Charlie the set of dishes, they accidentally drop the set breaking all the dishes.</td>
<td>The vendor has a policy that if any of the dishes are broken in the box when you get home, you can either bring them back the next time you come and request a refund in person, or you can take a photo of the broken dishes and request the refund electronically.</td>
</tr>
<tr>
<td>Charlie apologizes and promises to pay back the cost of the dishes as soon as possible.</td>
<td>It has been a week since you purchased the broken set of dishes from the pottery vendor.</td>
</tr>
<tr>
<td>It has been a week, however, Charlie still has not paid you back for the broken set of dishes.</td>
<td>There are three ways to request the money from the vendor: using Venmo, requesting in person, or using a standard bank app.</td>
</tr>
<tr>
<td>There are three ways to request the money from Charlie: using Venmo, requesting in person, or using a standard bank app.</td>
<td>Venmo: Venmo is a digital payment service that allows users to request money through its phone app.</td>
</tr>
<tr>
<td>Venmo: Venmo is a digital payment service that allows users to request money through its phone app.</td>
<td>In person: You can request the money from the vendor face to face (assume you go to this farmers market once a week and the money will be paid through a digital payment method).</td>
</tr>
<tr>
<td>In person: You can request the money from Charlie face to face (assume you see Charlie once a week and the money will be paid through a digital payment method).</td>
<td>A standard bank app: You can use another standard bank app on your phone that allows users to request money through a phone app.</td>
</tr>
<tr>
<td>A standard bank app: You can use another standard bank app on your phone that allows users to request money through a phone app.</td>
<td>How would you request the $100 from the pottery vendor?</td>
</tr>
</tbody>
</table>
| How would you request the $100 from Charlie, [one of your closest friends/one of your distant acquaintances]?

[82]
3.2.1 Chapter 2: Appendix C

This appendix reports additional findings that were not reported in the main document.

Results from Study 3

MEANS OF DEPENDENT VARIABLES BY SCENARIO AND CONDITIONS

(STUDY 3)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Dependent Variable</th>
<th>Periodic Condition</th>
<th>Aggregate Condition</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Donation</td>
<td>Company Perception</td>
<td>5.53</td>
<td>5.18</td>
<td>.040</td>
</tr>
<tr>
<td></td>
<td>Perceived Commitment</td>
<td>5.49</td>
<td>4.88</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Perceived Costs</td>
<td>4.39</td>
<td>3.98</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>Perceived Benefits</td>
<td>5.56</td>
<td>5.25</td>
<td>.031</td>
</tr>
<tr>
<td>Hunger Donation</td>
<td>Company Perception</td>
<td>5.39</td>
<td>4.89</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Perceived Commitment</td>
<td>4.91</td>
<td>4.28</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Perceived Costs</td>
<td>3.91</td>
<td>3.72</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>Perceived Benefits</td>
<td>5.35</td>
<td>5.22</td>
<td>.39</td>
</tr>
<tr>
<td>Refugee Donation</td>
<td>Company Perception</td>
<td>4.81</td>
<td>4.57</td>
<td>.23</td>
</tr>
</tbody>
</table>
### Results from Study 4

In Study 4, we measured exploratory variables of perceived impact and donation likelihood. Perceived impact was measured by the following item: “How impactful will this company's involvement be in addressing child hunger?” (1 = Not at all, 5 = Extremely). Donation likelihood was measured the following item: “If Barksdale Materials shared a link to donate directly to one of the charities they are partnering with, how likely would you be to donate?” (0 = Not at all, 10 = Extremely likely). The table below displays the series of t-tests for each variable.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Dependent Variable</th>
<th>Periodic Condition</th>
<th>Aggregate Condition</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perceived Commitment</td>
<td>4.49</td>
<td>4.31</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Perceived Costs</td>
<td>2.99</td>
<td>3.23</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Perceived Benefits</td>
<td>4.66</td>
<td>4.91</td>
<td>.15</td>
</tr>
<tr>
<td>Collapsed</td>
<td>Company Perception</td>
<td>5.27</td>
<td>4.88</td>
<td>&lt; .001</td>
</tr>
<tr>
<td></td>
<td>Perceived Commitment</td>
<td>5.00</td>
<td>4.49</td>
<td>&lt; .001</td>
</tr>
<tr>
<td></td>
<td>Perceived Costs</td>
<td>3.81</td>
<td>3.64</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Perceived Benefits</td>
<td>5.23</td>
<td>5.13</td>
<td>.33</td>
</tr>
</tbody>
</table>
### Results from Study 5

In Study 5, we measured exploratory variables of perceived impact and donation likelihood. Perceived impact was measured by averaging the following items: “This company’s donation behavior will: 1) feed many people, 2) have a noticeable impact in their community, and 3) significantly reduce child hunger (1 = Strongly disagree, 7 = Strongly agree) ($\alpha = .93$). Donation likelihood was measured averaging the following items: 1) “If Bell Electrek shared a
link to donate directly to one of the charities they are partnering with, how likely would you be to donate?” (0 = Not at all, 10 = Extremely likely), 2) If Bell Electrek offered donation matching (in which they donate a dollar for every dollar you donate) for donating to one of their partnering charities, how likely would you be to donate?” (0 = Not at all, 10 = Extremely likely), and 3) If you decided to donate to a child hunger relief organization, would you be more likely to donate once to a charity or sign up for a monthly donation?” (-5 = I would definitely only donate once, 5 = I would definitely sign up for monthly donations). The last item was recoded so that the values of the anchors matched the first two items. The table below displays the post hoc analyses for each variable.

**POST HOC ANALYSES OF EXPLORATORY VARIABLES BY CONDITIONS**

(STUDY 5)

<table>
<thead>
<tr>
<th>Exploratory Variable</th>
<th>Donation Framing-Donation Span</th>
<th>Donation Framing-Donation Span</th>
<th>Mean difference</th>
<th>SE</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Impact</td>
<td>Periodic-One</td>
<td>- Aggregate-One</td>
<td>.54</td>
<td>.13</td>
<td>794</td>
<td>4.08</td>
<td>&lt; .001</td>
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<tr>
<td></td>
<td>Periodic-Four</td>
<td>- Aggregate-Four</td>
<td>.16</td>
<td>.13</td>
<td>794</td>
<td>1.19</td>
<td>.24</td>
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<tr>
<td>Donation Likelihood</td>
<td>Periodic-One</td>
<td>- Aggregate-One</td>
<td>.13</td>
<td>.24</td>
<td>794</td>
<td>.57</td>
<td>.57</td>
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<tr>
<td></td>
<td>Periodic-Four</td>
<td>- Aggregate-Four</td>
<td>-.08</td>
<td>.24</td>
<td>794</td>
<td>-.33</td>
<td>.74</td>
</tr>
</tbody>
</table>
Methods and Results of Additional Study

We recruited 602 Prolific Academic participants ($M_{age} = 34.61$, 49.17% female). Participants were randomly assigned to one of two conditions in a 2-cell (donation framing: aggregate vs. periodic) between-subjects design. Each participant was then randomly assigned to view one of three scenarios (environmental, hunger, social activism donations; see Appendix D). The donation amount and donation cause were different across the three scenarios. In accordance with our preregistration (https://aspredicted.org/9NN_6QN), only participants that answered the attention check questions correctly ($N = 579$) were included in the analysis.

Participants read that a fictional company pledged to donate to a certain prosocial cause. We describe the environment scenario below, but all scenarios follow a similar pattern. Participants in the environment scenario read that a company named Smith Enterprise recently pledged to donate a portion of their earnings to protect the environment. The donation pledge read,

“Smith Enterprise recognizes that we can use part of our earnings to do a significant amount of good for the environment. We pledge to donate a [aggregate condition: one-time donation of $1.2$ million in 2023/periodic condition: $100,000$ each month between January 2023 and December 2023] to non-profit environmental organizations protecting the environment and wildlife.”

Participants then rated the key dependent variable of company perception using three items: 1) “How much do you admire [company name]?”, 2) “How favorably do you view [company name]?”, and 3) “How positively do you view [company name]?” (1 = Not at all, 7 = Very much). The three items were averaged to create a “company perception” composite ($\alpha = .97$). We also measured an exploratory variable of perceived authenticity using three items: 1)
“How authentic is [company name]’s support for the cause?”, 2) “How sincere is [company name]’s donation?”, and 3) “How genuine is [company name]’s donation?” (1 = Not at all, 7 = Very)

Following our preregistered analysis, we regressed company perception on the framing of donation pledges, including a fixed effect of scenarios. As predicted, participants in the periodic condition ($M = 5.17$, $SD = 1.42$) had greater positive perceptions of the company than the aggregate condition ($M = 4.50$, $SD = 1.64$), $t(575) = 5.24$, $p < .001$. The pattern of results is consistent when looking at each scenario separately (see table below).

Similar to our key dependent variable, we regressed perceived authenticity on the framing of donation pledges, including a fixed effect of scenarios. Consistent with previous results, participants in the periodic condition ($M = 5.28$, $SD = 1.31$) had greater positive perceptions of the company than the aggregate condition ($M = 4.75$, $SD = 1.44$), $t(575) = 4.48$, $p < .001$. The pattern of results is consistent when looking at each scenario separately (see table below).

### MEANS OF DEPENDENT VARIABLES BY SCENARIO AND CONDITIONS

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Dependent Variable</th>
<th>Periodic Condition</th>
<th>Aggregate Condition</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Donation Company Perception</td>
<td>5.29</td>
<td>4.77</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td>Environment Donation Perceived Authenticity</td>
<td>5.38</td>
<td>4.82</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td>Scenario</td>
<td>Dependent Variable</td>
<td>Periodic Condition</td>
<td>Aggregate Condition</td>
<td>p-value</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Hunger Donation</td>
<td>Company Perception</td>
<td>5.45</td>
<td>4.98</td>
<td>.026</td>
</tr>
<tr>
<td></td>
<td>Perceived Authenticity</td>
<td>5.50</td>
<td>5.04</td>
<td>.013</td>
</tr>
<tr>
<td>Social Activism Donation</td>
<td>Company Perception</td>
<td>4.79</td>
<td>3.86</td>
<td>&lt; .001</td>
</tr>
<tr>
<td></td>
<td>Perceived Authenticity</td>
<td>4.96</td>
<td>4.45</td>
<td>.017</td>
</tr>
</tbody>
</table>

### 3.2.2 Chapter 2: Appendix D

This appendix has all the study stimuli.

GIFTAMEAL FIELD EXPERIMENT ADVERTISEMENTS (STUDY 1B)
ANY Corporation is an American company that designs and sells children's apparel, with over 800 stores across North America, Europe, and Asia.

Imagine that ANY Corporation recently pledged to donate a portion of their earnings to support children’s education and public schools. This was their pledging statement:

“ANY Corporation recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a one-time donation of $1.2 million/periodic condition: $90,000 every month between January 2023 and December 2023] to non-profit organizations that support children’s education and public schools.”

Smith Enterprise is an American company that sells various equipment for outdoor excursions such as travel equipment, camping gear, clothing, and sports equipment.

Imagine that Smith Enterprise recently pledged to donate a portion of their earnings to support wildlife and environmental conservation. This was their pledging statement:

“Smith Enterprise recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: $2.5 million in 2023/periodic condition: $200,000 every month between January 2023 and December 2023] to non-profit organizations that support wildlife and environmental conservation.”
SCENARIOS

Gender equality cause

FYA Jewelry is an American retailer and producer of jewelry that is known for their customizable bracelets, designer rings, earrings, and necklaces. The company markets its products in more than 50 countries on six continents.

Imagine that FYA Jewelry recently pledged to donate a portion of their earnings to support gender equality. This was their pledging statement:

“FYA Jewelry recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a one-time donation of $300,000 in 2023/periodic condition: $24,000 every month between January 2023 and December 2023] to non-profit organizations that support gender equality.”

Health 1 cause

Alpha Manufacturing is an American company that manufactures various parts for automobiles, home appliances, and textiles.

Imagine that Alpha Manufacturing recently pledged to donate a portion of their earnings to support individuals, families, and caregivers affected by Alzheimer’s disease. This was their pledging statement:

Alpha Manufacturing recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a one-time donation of $600,000 in 2023/periodic condition: $45,000 every month between January 2023 and December 2023] to non-profit organizations that support individuals, families, and caregivers affected by Alzheimer’s disease.”

Health 2 cause

Zeta LLC is a multinational investment bank and financial services company that provides various financial services to different clients.
SCENARIOS

Imagine that Zeta LLC recently pledged to donate a portion of their earnings to support individuals, families, and caregivers affected by Parkinson’s disease. This was their pledging statement:

“Zeta LLC recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a total donation of $2 million in 2023/periodic condition: $150,000 every month between January 2023 and December 2023] to non-profit organizations that support individuals, families, and caregivers affected by Parkinson’s disease.”

Hunger cause

YNA Corporation is an American fashion retailer company that sells accessories, beauty products, and clothing for people of all ages, with over 700 stores across North America, Europe, and Asia.

Imagine that YNA Corp recently pledged to donate a portion of their earnings to support the ending of world hunger. This was their pledging statement:

“YNA Corp recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a total donation of $750,000 in 2023/periodic condition: $60,000 every month between January 2023 and December 2023] to non-profit organizations that support the ending of world hunger.”

Poverty cause

Beta Tech is an American technology company that focuses on online advertising, cloud computing, e-commerce, and consumer electronics.

Imagine that Beta Tech recently pledged to donate a portion of their earnings to support the ending of global poverty. This was their pledging statement:

“Beta Tech recognizes that we can use part of our earnings to do a significant amount of good.
SCENARIOS

We pledge to donate [aggregate condition: $1 million in 2023/periodic condition: $80,000 every month between January 2023 and December 2023] to non-profit organizations that support the ending of global poverty.”

Refugee cause

Johnson & Williams is an American electronics company that sells various office supplies such as computers, printers, and laptops to firms across the globe.

Imagine that Johnson & Williams recently pledged to donate a portion of their earnings to support war refugees and provide relief. This was their pledging statement:

“Johnson & Williams recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: a total donation of $1.5 million in 2023/periodic condition: $120,000 every month between January 2023 and December 2023] to non-profit organizations that support war refugees and provide relief.”

Social activism cause

J&L is an American food company that is one of the biggest food suppliers to restaurants and groceries across the globe.

Imagine that J&L recently pledged to donate a portion of their earnings to support and protect human rights. This was their pledging statement:

“J&L recognizes that we can use part of our earnings to do a significant amount of good. We pledge to donate [aggregate condition: $200,000 in 2023/periodic condition: $16,000 every month between January 2023 and December 2023] to non-profit organizations that support and protect human rights.”

STUDY 3

Environmental cause
Smith Enterprise is an American company that sells various equipment for outdoor excursions such as travel equipment, camping gear, clothing, and sports equipment.

Imagine that Smith Enterprise recently pledged to donate a portion of their earnings to protect the environment. This was their pledging statement:

“Smith Enterprise recognizes that we can use part of our earnings to do a significant amount of good for the environment. We pledge to donate [aggregate condition: a one-time donation of $1.2 million in 2023/periodic condition: $100,000 every month between January 2023 and December 2023] to non-profit environmental organizations protecting the environment and wildlife.”

**Hunger cause**

YNA Corporation is an American fashion retailer company that sells accessories, beauty products, and clothing for people of all ages, with over 700 stores across North America, Europe, and Asia.

Imagine that YNA Corporation recently pledged to donate a portion of their earnings to support the ending of World Hunger. This was their pledging statement:

“YNA Corporation recognizes that we can use part of our earnings to do a significant amount of good to end world hunger. We pledge to donate [aggregate condition: a one-time donation of $720,000 in 2023/periodic condition: $60,000 every month between January 2023 and December 2023] to international non-profit organizations that aim to create a hunger-free world.”

**Refugee cause**

Johnson & Williams is an American electronics company that sells various office supplies
Imagine that Johnson & Williams recently pledged to donate a portion of their earnings to aid war and refugee relief. This was their pledging statement:

“Johnson & Williams recognizes that we can use part of our earnings to do a significant amount of good for aid refugees across the globe. We pledge to donate [aggregate condition: a one-time donation of $60,000 in 2023/periodic condition: $5,000 every month between January 2023 and December 2023] to non-profit organizations helping and protecting war refugees.”

Environmental cause

Smith Enterprise is an American company that sells various equipment for outdoor excursions such as travel equipment, camping gear, clothing, and sports equipment.

Imagine that Smith Enterprise recently pledged to donate a portion of their earnings to protect the environment. This was their pledging statement:

“Smith Enterprise recognizes that we can use part of our earnings to do a significant amount of good for the environment. We pledge to donate [aggregate condition: a one-time donation of $1.2 million in 2023/periodic condition: $100,000 each month between January 2023 and December 2023] to non-profit environmental organizations protecting the environment and wildlife.”

Hunger cause

Greater Goods is an American chain store of bakery-café fast-casual restaurants with over 2,000 locations across the United States and Canada.

Imagine that Greater Goods recently pledged to donate a portion of their earnings to support
SCENARIOS

the ending of World Hunger. This was their pledging statement:

“Greater Goods recognizes that we can use part of our earnings to do a significant amount of good to end world hunger. We pledge to donate \[aggregate\] condition: a one-time donation of $600,000 this year/\[periodic\] condition: $50,000 per month from June 2022 to May 2023] to international non-profit organizations that aim to create a hunger-free world.

Social activism cause

YNA Corporation is an American fashion retailer company that sells accessories, beauty products, and clothing for people of all ages, with over 700 stores across North America, Europe, and Asia.

Imagine that YNA Corporation recently pledged to donate a portion of their earnings to the Black Lives Matter social movement. This was their pledging statement:

“YNA Corporation recognizes that we can use part of our earnings to do a significant amount of good for the Black Lives Matter social movement. We pledge to donate \[aggregate\] condition: a one-time donation of $720,000 in 2023/\[periodic\] condition: $60,000 every month starting in January 2023 and going until December 2023] to non-profit organizations helping and advocating for various policy changes and anti-racism.

PERCEIVED COST AND BENEFITS MEASURES (STUDY 3)

Perceived costs measures (7-point Likert Scale; 1 = strongly disagree; 7 = strongly agree)

1. <r> The cost of this donation is trivial to [company name]
2. The cost this donation is a lot of money
3. <r> [company name] would barely notice the cost of this donation.

[97]
Perceived benefits measures (7-point Likert Scale; 1 = strongly disagree; 7 = strongly agree)

1. Non-profit organizations would miss out on many benefits if [company name] did not donate.
2. Non-profit organizations would benefit a lot from the donation.
3. <r> The donation would not be beneficial to non-profit organizations.

STUDY STIMULI: PERIODIC CONDITION (LEFT), PERIODIC-SUM CONDITION (CENTER), AND AGGREGATE CONDITION (RIGHT) (STUDY 4)

STUDY STIMULI: PERIODIC-ONE YEAR CONDITION (FIRST), AGGREGATE-ONE YEAR CONDITION (SECOND), PERIODIC-FOUR YEAR CONDITION (THIRD), AGGREGATE-FOUR YEAR CONDITION (FOURTH) (STUDY 5)

Periodic-One Year
### Aggregate - One Year

<table>
<thead>
<tr>
<th></th>
<th>2021 Q4</th>
<th>2021 Q3</th>
<th>2021 Q2</th>
<th>2021 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donations</strong></td>
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<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Periodic - Four Year

<table>
<thead>
<tr>
<th></th>
<th>2021 Q4</th>
<th>2021 Q3</th>
<th>2021 Q2</th>
<th>2021 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donations</strong></td>
<td>25k</td>
<td>25k</td>
<td>25k</td>
<td>25k</td>
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</table>

### Aggregate - Four Year

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<tr>
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<th>2021 Q4</th>
<th>2021 Q3</th>
<th>2021 Q2</th>
<th>2021 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Donations</strong></td>
<td>100k</td>
<td>0</td>
<td>0</td>
<td>0</td>
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[99]
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