

The Effectiveness of Reciprocity Appeals in Economic Booms and Busts

by

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ABSTRACT

Reciprocity is considered one of the most potent weapons of social influence. Yet, little is known about when reciprocity appeals are more or less effective. A functional evolutionary approach suggests that reciprocity helps people survive in resource-scarce environments: When resources are limited, a person may not be able to obtain enough resources on their own, and reciprocal relationships can increase the odds of survival. If true, people concerned about resource scarcity may increasingly engage in reciprocal relationships and feel more compelled to reciprocate the favors done for them by others. In a series of experiments, I test this hypothesis and demonstrate that: (1) chronic concerns about resource scarcity (low socioeconomic status) predict increased reciprocity, (2) experimentally activating resource scarcity enhances the effectiveness of reciprocity appeals, (3) this effect is moderated by cues of persuasive intent, and (4) this relationship is mediated by increased gratitude.

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INTRODUCTION

In 1985, Ethiopia was one of the poorest countries in the world—it's economy had recently collapsed, and years of drought had decimated the nation's food supply. Near financial ruin, it would not be surprising to find that countries around the world sent relief aid to Ethiopia. What might be unexpected, however, is that during these dire economic times, Ethiopia actually sent a \$5000 aid package to Mexico, to help the latter country recover from a series of deadly earthquakes.

Why would a country so close to the brink of financial ruin donate its limited financial resources to assist people on the other side of the world? As described by Ethiopian officials, the donation was simply reciprocation. Half a century before, during the Second World War, Mexico had provided aid to Ethiopia, and it was time to return the favor.

For many, Ethiopia's donation seems to defy rational logic: An impoverished nation went against its own self-interest and sacrificed scarce resources to help strangers around the world. In the current investigation, I adopt a functional evolutionary framework to suggest that Ethiopia's donation might not be as irrational as it initially appears. In fact, I contend that this donation may be deeply rational, and that it might be *because* Ethiopia faced such extreme resource scarcity, that officials there felt compelled to reciprocate.

Ethiopia's 'returning the favor' provides a fascinating and powerful example of *reciprocity*—a norm that obliges us to repay others for what we have received from them. Reciprocity has been observed in every human society and is one of the strongest and most pervasive social forces (Gouldner 1960; Hobhouse 1906; Thurnwald 1932). It is no

surprise, then, that reciprocity has been implicated in a wide range of psychological processes, from the development and maintenance of social relationships (Kelln & Ellard 1999) and large-scale group cooperation (Axelrod, 1984), to interpersonal influence and consumer behavior (Cialdini, 1993; Henderson 2011; Morales, 2005). But why is reciprocity so prevalent, and so powerful?

A functional approach suggests that reciprocity may be linked to ecological conditions of resource scarcity. According to anthropological studies of food sharing, one of the primary functions of reciprocity is to help people survive in resource scarce conditions. When resources are limited, an individual or family may not be able to obtain enough resources to survive on their own, and pooling resources can be an effective means of reducing the risk of running out of food. Integrating streams of research from psychology, consumer behavior, and anthropology, I posit that under resource-scarce conditions, much like those experienced in Ethiopia, people increasingly engage in and rely upon reciprocal relationships. As such, I hypothesize that those concerned with resource scarcity should be more compelled to reciprocate the benefits given to them by others, and comply more in response to reciprocity appeals.

In a series experiments, I investigate the relationship between resource scarcity and reciprocity appeals using both chronic measures of resource scarcity and by temporarily activating concerns about resource scarcity. In five field and lab-studies, I show that: (1) people chronically concerned with resource scarcity (low socioeconomic status) reciprocate more than those without such concerns, (2) experimentally activating concerns about resource scarcity enhances the effectiveness of reciprocity appeals, (3) the relationship between resource scarcity and reciprocity is moderated by the type of

relationship that exists between potential exchange partners, and (4) this relationship is mediated by shifts in gratitude. In this dissertation, I propose a new study to determine if reciprocity is uniquely tied to resource-based threats, or whether reciprocity is also modulated by other types of threats (e.g., self-protection or disease threats).

Reciprocity and Interpersonal Relationships

Reciprocity norms are ubiquitous, have been observed across a wide range of circumstances, and are rarely violated (e.g., Brehm & Cole, 1966; Goranson & Berkowitz, 1966; Pruitt, 1968; Regan, 1971; Wilke & Lanzetta, 1970). Indeed, people respond to reciprocity appeals in both public and private contexts (Whatly, Webster, Smith, & Rhodes, 1999), when they do not like their exchange partner (Regan, 1971), and even when the benefit conferred upon them was unwanted or forced upon them (Cialdini, 2001; Paese & Gilin, 2000; Regan, 1971). Despite the apparent prevalence and stability of reciprocity norms, researchers have uncovered several factors that influence the extent to which one is willing to reciprocate.

One of the most fundamental factors affecting reciprocity is the type of relationship that exists between exchange partners. According to Clark and Mills (1979; 1982), most social relationships can be described as being either communal or exchange-based. In communal relationships, members have a general obligation to be concerned about the other's welfare and give benefits in response to needs (e.g., friendships, romantic relationships, and family relationships). In exchange relationships, members do not have an obligation to be concerned about the other's welfare and give benefits with the expectation of receiving comparable benefits in return (e.g., relationships between acquaintances or between people who do business with one another). In line with these

definitions, researchers have found that reciprocation is moderated by the type of relationship that exists between people (Clark, Mills, & Powell, 1986): In exchange relationships, people are willing to help their relationship partner when the partner has the opportunity to reciprocate in the future, but are less inclined to help when the partner does not have such an opportunity. For those in communal relationships, people are willing to help their partner regardless of whether or not the partner has the ability to reciprocate.

In addition to the type of relationship that exists between exchange partners, researchers have revealed that reciprocity is affected by the perceived motivation of the person granting the benefit. For example, willingness to reciprocate is lower when help is seen as being accidental, rather than deliberate (Greenberg & Frisch, 1973) and when the initial benefit was perceived as having been given through coercion, rather than one's free will (Schopler & Thompson, 1968). In another series of studies, people were less willing to reciprocate when they thought the person granting the favor was manipulative, and had only given them the benefit because of what the recipient could offer in the future (Ames et al., 2004; Insei, Gruenfeld, & Galinsky, 2012). Overall, this research demonstrates reciprocity norms are pervasive and generally tough to violate, but that a number of factors can affect reciprocation.

Reciprocity, Consumer Behavior, and Social Influence

In addition to being important for interpersonal relationships, researchers have also posited that reciprocity norms are “at the core of marketing relationships” (Bagozzi, 1995; Nevin 1995) because they can turn negotiated transactions into meaningful, exchange relationships (Gassenheimer, 1987). Negotiated exchanges are governed by

contracts or formal agreements that describe the exchange of benefits and payments (Cannon, Achrol, & Gundlach, 2000; Homans, 1958). Reciprocal exchanges are governed by more relational norms (e.g., reciprocity, mutuality, solidarity, flexibility) and mimic the type of interpersonal relationships that exist between individuals. Because of these differences, marketers have proposed that transitioning from a negotiated relationship to a more socially-based, reciprocal relationship is a foundational means of creating stronger, more meaningful, and trusting relationships between retailers and consumers (Palmatier, Dant, Grewal, & Evans, 2006).

Following this thinking, retailers have used a variety of methods to activate a sense of reciprocal exchange with consumers. For example, using direct appeals to reciprocity, a retailer might offer a free sample of their product or free trial period of their service (Howard, 1992; Walker, 2009). After receiving such a benefit, the consumer is more likely to “return the favor” by purchasing something from the retailer. In addition to material goods, reciprocity norms can also be activated by other factors, such as enhanced effort or customer personalization, on the part of the retailer. Salespeople that spend more time with a customer engender a sense of indebtedness and, as a result, people are more likely to reciprocate by buying a product (Dhal, 2005; Morales, 2005). Likewise, retailers that spend more time creating and maintaining their store displays signal that they are making an effort to provide a positive experience for the customer, and engender feelings of gratitude and indebtedness in consumers.

Retailers may also signal effort by increased personalization. Nordstrom stores build strong customer relationships by linking a specific salesperson to a customer for personal shopping assistance (King, 2010). Indeed, personalized rewards programs are

generally more effective than other types of programs at creating positive relationships between a retailer and consumer (Palmatier et al., 2009; Wirtz, 2007).

Though the research reviewed above suggests that reciprocity appeals are an effective tactic for marketers, retailers must be careful in how they use them. As described earlier, reciprocity is affected by the perceived motivation of the person providing the benefit, and people are less likely to reciprocate when a benefit is perceived as being provided to serve a manipulative goal. In consumer contexts, people are increasingly likely to attribute the actions of the retailer to underlying persuasion tactics and profit motives (Belmi 2013; Campbell & Kirmani 2000; Friestad & Wright, 1994). And when consumers become aware of attempts to persuade, a phenomenon known as persuasion knowledge, they are less likely to reciprocate (Budowski, 2010; Campbell, 1995; Campbell, Simpson, Boldry, & Rubin, 2010; Marcoux, 2009; Morales, 2005).

Reciprocal Relationships and Food Sharing

As a whole, extant research demonstrates that reciprocity pervades interpersonal relationships and consumer behavior. Throughout this literature, researchers have noted the universal occurrence of reciprocity and suggested that reciprocity norms may be evolutionarily advantageous. Despite this acknowledgement, empirical investigations have not explicitly used a functional, evolutionary logic to more systematically consider reciprocity. In the present investigation, I integrate current research on reciprocity from the psychology and consumer behavior literatures with anthropological research on food sharing and exchange relationships. In doing so, I generate a set of novel hypotheses relating reciprocity to ecological cues of resource scarcity.

Adopting an evolutionary framework, anthropologists have proposed that reciprocal relationships initially arose to help people survive in resource-scarce environments (Trivers, 1971). Humans perennially faced periods of resource scarcity and early human groups likely lived in ecologies where acquiring sufficient food was a significant adaptive problem. Because it would have been difficult for any given individual or family to obtain sufficient food each day, food sharing likely provided a means of reducing the risk of starving (Sahlins, 1972; Kaplan & Hill, 1985; Alexander, 1987; Smith, 1988). In an ethnographic investigation of the Ache hunter-gatherer group, Kaplan and Hill (1985) demonstrated that hunting failure rates were a significant problem in achieving caloric sufficiency, and that pooling resources solved this problem. In line with this analysis, other studies have shown that reciprocal exchange tends to be more common for more variable food sources, indicating that reciprocity is likely to be an effective means of risk reduction (Gurven, 2004). Further, cross-cultural analyses indicate that reduction of the risk of starvation, relative to other potential explanations for food sharing (e.g., to gain status), is the primary predictor of food sharing across a diverse set of hunter-gatherer groups (Brosnan, 2001; Hames, 2007). Together, this research suggests that reciprocity functions to help people survive in resource-scarce environments: When resources are scarce, reciprocal exchanges are an effective means of creating a social safety net that reduces the risk of starvation.

Resource Scarcity

Although it may initially seem that the type of resource-scarcity facing hunter-gatherer groups is far-removed from modern contexts, this is not necessarily the case. Resource scarcity remains a common threat for many people today and recent reports

find that around the world, one in eight people in undernourished or starving (worldhunger.org, 2013). Moreover, for those not facing direct food shortages, resource-based threats can still occur through macro-level economic recessions. For instance, during the most recent economic downturn in the United States, the average household's wealth declined more than 20% (Pew, 2010).

In addition to the objective loss of resources, according to several recent empirical studies, merely activating subjective perceptions of resource scarcity is sufficient to produce changes in a range of phenomena. White, Kenrick, Neel and Neuberg (2013) found that reminding people of tough economic times influenced prosocial behavior, concerns about economic fairness, and attitudes toward government redistribution programs in functionally sensible ways. Relatedly, Griskevicius et al., (2013) showed that cues of resource scarcity affect risk-taking, time orientation, and approach-avoidance tendencies. Finally, Hill and colleagues (2012) documented that threats of resource scarcity can alter mating preferences, shift female mating tactics, and influence the types of mating-related consumer goods that women purchase. Collectively, these findings provide evidence that mere perceptions of resource scarcity can affect a variety of psychological and behavioral outcomes.

Overview

Building on this research, I propose that resource scarcity will influence reciprocity. Following the anthropological research outlined above, I predict that people concerned with resource scarcity will increasingly engage in and rely upon reciprocal relationships, and will feel more compelled to reciprocate the benefits given to them by another. As such, I hypothesize that when resources are scarce, reciprocity appeals will

be *more* effective. Further, I predict that this relationship will hold both for people who are chronically concerned about resource scarcity, such as those from poor backgrounds, and also for those in whom perceptions of resource scarcity have been temporarily aroused, such as those thinking about economic downturns.

In a series of six experiments, I test this relationship and explore the psychological processes that moderate and mediate it. Experiment 1 examined the relationship between chronic concerns about resource scarcity, as measured by socioeconomic status, and reciprocity. Experiment 2 was a field study exploring how manipulations of resource scarcity and reciprocity affect volunteerism. Experiments 3 and 4 tested whether the relationship between resource scarcity and reciprocity is moderated by the perceived persuasive intent of one's exchange partner. Experiment 5 explored the role of gratitude in the link between resource scarcity and reciprocity. Finally, Experiment 6 investigated whether the resource scarcity—reciprocity effect is domain-specific, or whether other threats affect reciprocity in the same way (e.g., self-protection, disease avoidance).

EXPERIMENT 1

Experiment 1 sought to establish the basic relationship between resource scarcity and reciprocity. To do so, it examined the effect of chronic concerns about resource scarcity (operationalized by socioeconomic status) on a behavioral measure of reciprocity (volunteering to fill out survey questions).

Method

Participants. Two hundred sixteen participants (96 male, 120 female; $M_{\text{age}} = 36.28$) were recruited from the Amazon Mechanical Turk website and paid a small monetary compensation to complete the study.

Procedure. Participants completed a brief, unrelated study and were then randomly assigned to a reciprocity or no reciprocity condition. Participants in the *reciprocity* condition were informed that, based on their high-quality responses, they qualified to be enrolled in a “Valued Worker” program. They were told that being a Valued Worker entitled them to a \$0.30 bonus in addition to the payment they were expecting. After getting the bonus, participants were asked if they would be willing to complete extra survey questions, “Though you are finished with all that is required to receive compensation, we have an additional 10 questions that I am asking people to volunteer to complete. These questions are not a necessary part of the study, but it would be extremely valuable for our research if you could answer as many of them as possible. Each question takes about 1 minute to answer. Below, please indicate how many extra questions, from 0-10, you would be willing to answer.” Participants indicated a number between 0 and 10 and then actually filled out the number of extra questions that they selected.

In the *no reciprocity* condition, participants were first asked if they would be willing to complete extra questions—using the same wording described above. After completing the number of questions they selected, they were told that they would receive a \$0.30 bonus.

Socioeconomic Status. Before the reciprocity manipulation and request to fill out extra questions, participants were asked to indicate their family income on a scale ranging from 1 = “less than \$20,000” to 8 = “\$140,000 or more.”

Results and Discussion

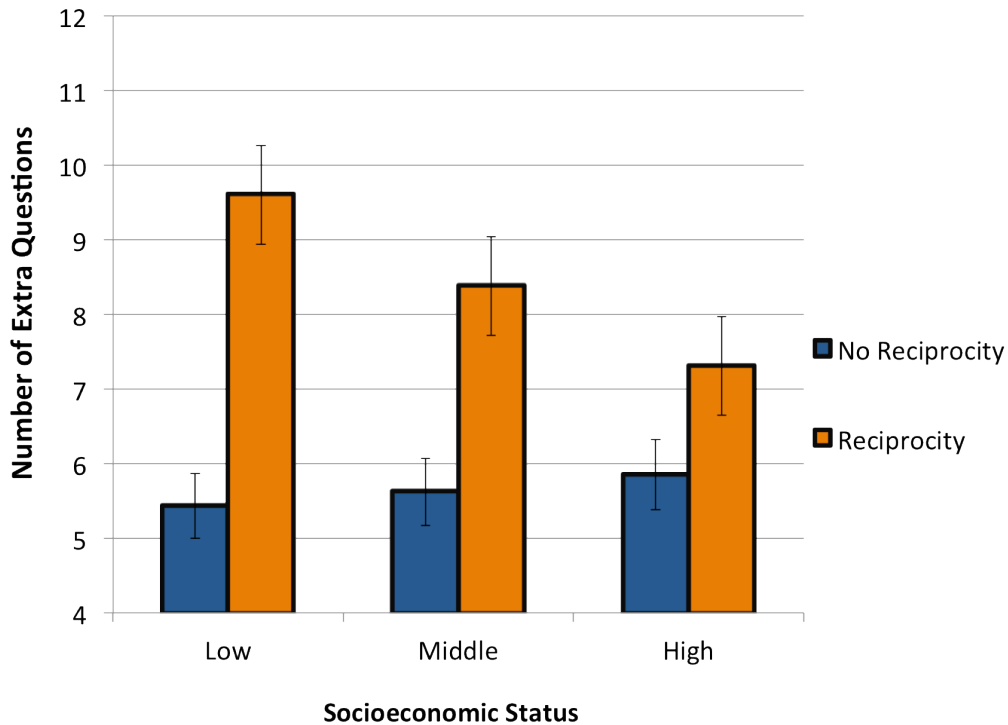


Figure 1. In Experiment 1, effect of reciprocity condition and socioeconomic status on number of extra survey questions.

Results showed a significant main effect of the reciprocity condition, $F(1, 215) = 5.03, p < .001, \eta^2 = .11$. Participants in the reciprocity condition indicated that they would complete more survey questions ($M = 8.38$) than those in the no reciprocity condition ($M = 5.62$). This main effect was qualified by a reciprocity condition X SES interaction, $t(214) = 2.49, p = .013, \eta^2 = .029$, such that the effect of the reciprocity condition was stronger for low-SES participants (see Figure 1). Spotlight analyses

showed that low-SES participants (1 standard deviation below the mean) were willing to complete significantly more questions in the reciprocity condition ($M = 9.60$) than in no reciprocity condition ($M = 5.43$), $p < .001$, $\eta^2 = .12$. However, for high-SES participants (1 standard deviation above the mean), the difference between the reciprocity ($M = 7.31$) and no reciprocity conditions ($M = 5.85$) was smaller and only marginally significant, $p = .061$, $\eta^2 = .017$. Overall, Experiment 1 provides initial support for the link between resource scarcity and reciprocity using a behavioral outcome measure.

EXPERIMENT 2

Experiment 1 established a relationship between chronic concerns about resource scarcity and reciprocity. Experiment 2 built on this finding by experimentally manipulating concerns about resource scarcity. Additionally, Experiment 2 tested the link between resource scarcity and reciprocity outside of the lab—in a field setting.

Method

Participants. Eight thousand students recently admitted to a large southwestern university (demographics unknown) were emailed a request to complete a voluntary survey about the university's admission process.

Procedure. Experiment 2 had a 2 (resource scarcity vs. control) X 2 (reciprocity vs. no reciprocity) between-subjects design. All participants were emailed a request to complete a voluntary survey. The content of the email message served as the experimental manipulation; participants were randomly assigned to one of four conditions. The *control, no reciprocity* message stated, “We want to make sure you are getting the most out of your college experience...” and described how the university was seeking to make its application process more efficient and user-friendly. To facilitate this

goal, the message asked students to complete a survey about their experience with the application process. The *resource scarcity, no reciprocity* message was the same of the *control, no reciprocity* message with the addition of a half sentence referencing poor economic conditions. Specifically, it said, “In today’s tough economic times, we want to make sure you are getting the most out of your college experience...”. The *control, reciprocity* message was similar to the *control, no reciprocity* message, but it emphasized (1) the relationship between the university and the student, (2) that students had already benefitted from the university’s previous efforts to improve the application process, and (3) that students would continue to benefit from the university’s efforts to improve communications with students. The *resource scarcity, reciprocity* message was identical to the *control, reciprocity* message, with addition of the same half sentence referencing poor economic conditions, “In today’s tough economic times...”

Each email ended with a link to complete a survey about the university’s application process. To maintain the anonymity of the students, completion rates for each of the four email messages were collected in aggregate—individual information, including demographics, were not maintained in the dataset with the experimental condition. As a manipulation check, in the main survey students were asked whether they were concerned about the affordability of college, on a scale ranging from 1= strongly disagree to 7 = strongly agree. Students in the resource scarcity conditions reported being more concerned about affordability than those in the control conditions—indicating that the resource scarcity manipulation was effective ($M_{\text{resource scarcity}} = 5.17$; $M_{\text{control}} = 5.01$, $p = .097$).

Results and Discussion

A two-way ANOVA showed a main effect of reciprocity condition, $F(1, 7997) = 34.64, p < .001, \eta^2 = .004$. There was a higher response rate in the reciprocity condition ($n = 1,125; 28.1\%$) than in the no reciprocity condition ($n = 897; 22.4\%$). This main effect was qualified by a marginally significant resource scarcity X reciprocity interaction, $F(1, 7997) = 2.88, p = .090, \eta^2 = .001$, see Figure 2. In the control condition, there was a main effect of reciprocity on the survey completion rate ($n_{\text{reciprocity}} = 532, 26.6\%$ vs. $n_{\text{no reciprocity}} = 450, 22.5\%$, $p < .003, \eta^2 = .002$). This effect was exacerbated in the resource scarcity condition ($n_{\text{reciprocity}} = 594, 29.7\%$ vs. $n_{\text{no reciprocity}} = 448, 22.4\%$, $p < .001, \eta^2 = .005$). Stated another way, for those who received the reciprocity-based message, participants in the resource scarcity condition complied more than those in the control condition ($n_{\text{resource scarcity}} = 594$ vs. $n_{\text{control}} = 532, p = .022, \eta^2 = .001$). For those who received the no reciprocity message, there was no difference between the resource scarcity and control conditions, $p > .90$.

Together, these findings provide experimental evidence for the link between resource scarcity and reciprocity. Moreover, they do so using a subtle, real-world manipulation of resource scarcity and a behavioral measure of reciprocity.

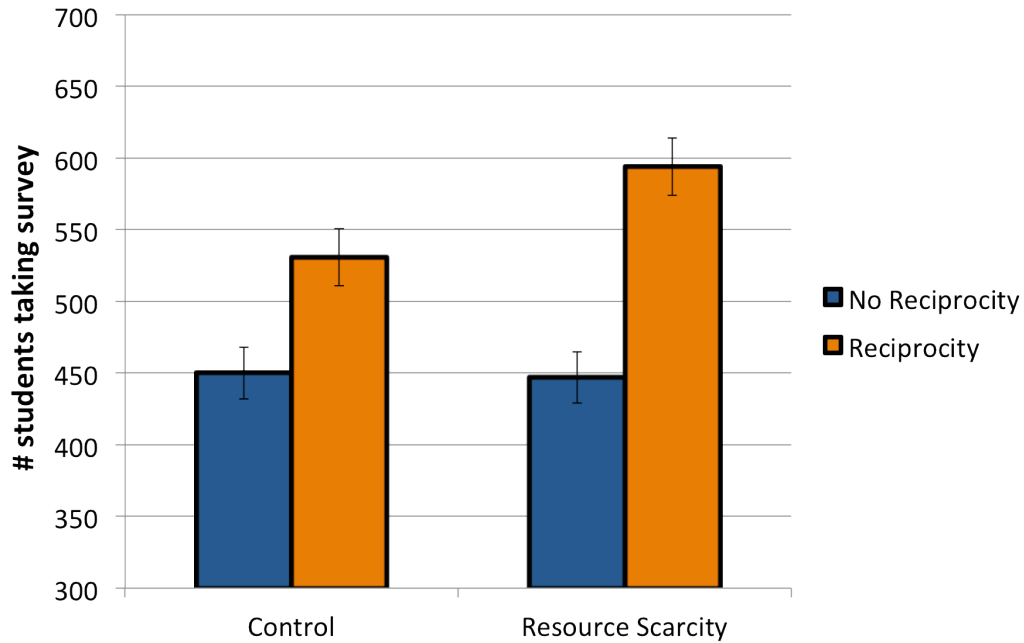


Figure 2. In Experiment 2, effect of resource scarcity and reciprocity conditions on volunteering to complete the survey.

EXPERIMENT 3

Although the functional evolutionary approach predicts a link between resource scarcity and reciprocity, it also suggests important boundary conditions on this relationship. Reciprocity is useful during tough economic times to the extent that it can help to establish or maintain a social safety net of exchange relationships. To foster such relationships, however, a person must have reliable and trusted exchange partners. In the absence of such relationships, reciprocity may be dangerous: When resources are scarce, it can be especially costly to form a reciprocal relationship with the wrong exchange partner because the costs of losing resources to an inconsistent, manipulative, untrustworthy partner are much greater. Given this thinking, one possibility is that

people concerned with resource scarcity are particularly vigilant of the motives of their potential exchange partners—seeking to build relationships with those they can trust, and being especially like to shun relationships with those they cannot.

As described earlier, people reciprocate less when they believe their exchange partner is trying to manipulate or persuade them (Budowski, 2010; Campbell, 1995; Campbell, Simpson, Boldry, & Rubin 2010; Marcoux, 2009). Further people reciprocate less when persuasion knowledge is explicitly activated (Morales, 2005). Integrating this work with the functional logic outlined above, I propose that people concerned about resource scarcity should be *especially* wary of, and sensitive to, cues of persuasive intent, and reciprocate less when detecting possible persuasive intent in an exchange partner.

In a consumer setting, one cue to persuasive intent may be the familiarity of a retailer. On the one hand, if a person receives a benefit from a retailer they have bought products from before, there is no real need to question the intent of receiving the benefit—there is already an established history of successful exchange of goods. On the other hand, if a person receives a benefit from an unfamiliar retailer, there is no history of successful exchange, and the intention behind the benefit is less clear. Under these circumstances, concerns about persuasion tactics may be raised—especially if resources are scarce and people are more wary of influence tactics. Following from this thinking, I predict that the link between resource scarcity and reciprocity will be moderated by the familiarity of a retailer: The relationship should hold for familiar retailers, but not *unfamiliar* retailers. In fact, to the extent that conditions of resource scarcity lead people to interpret benefits from unfamiliar retailers as a persuasion tactic, reciprocity may be significantly reduced. To test this prediction, Experiment 3 had a 2 (resource scarcity vs.

control) X 2 (reciprocity vs. no reciprocity) X 2 (familiar vs. unfamiliar retailer) between-subjects design.

Method

Participants. Two hundred fifty-eight participants (122 male, 122 female, 14 not reported; $M_{\text{age}} = 31.50$) were recruited from the Amazon Mechanical Turk website and paid a small monetary compensation to complete the study.

Procedure. Participants were randomly assigned to view one of two slideshows. One was entitled, “Nine signs the economy is getting worse” and showed nine pictures relating to job loss, struggling companies, the poor housing market, increasing inflation, and negative consumer sentiment about the future. The other was entitled, “A day at home: Organizing your desk” and displayed nine pictures of organized office supplies. These slideshows have been used in past research on the psychological effects of resource scarcity (White et al., 2013a).

Afterwards, participants were randomly assigned to read one of four scenarios. The *familiar, reciprocity* scenario described a person receiving a large poster in the mail from a familiar art and photography store, where the person had shopped previously. The poster displayed one of the person’s favorite landscapes and came with a note describing it as “a gift for being a valued customer.” The scenario went on to say that a week later the same store sent the person an invitation to attend a special sales event. The *unfamiliar, reciprocity* scenario described a person receiving a large poster in the mail from an unknown art and photography store that the person had never heard of before. The poster came with a note describing it as “a gift.” The scenario went on to say that a week later the same store sent the person an invitation to attend a special sales event. The

familiar, no reciprocity condition described a person receiving an invitation to attend a special sales event from a familiar art and photography store, where the person had shopped previously. The *unfamiliar, no reciprocity* condition described a person receiving an invitation to attend a special sales event from an unknown art and photography store that the person had never heard of before.

Dependent Variable. After reading one of the four scenarios described above, participants answered two questions about how they would respond to the invitation to the sales event. One asked, “How likely would you be to go to the sales event?” The other asked, “How likely would you be to buy something from the sales event?” Participants responded to both questions on seven-point scales ranging from 1 = very unlikely to 7 = very likely. The two questions were highly correlated ($r = .73$) and were aggregated into a single measure of compliance.

Results and Discussion

As predicted, results revealed a significant 3-way resource scarcity X reciprocity X familiarity interaction, $F(1, 250) = 11.48, p = .001, \eta^2 = .044$, see Figure 3. For the *familiar* retailer, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 4.87$ vs. $M_{\text{no reciprocity}} = 4.17, p = .040, \eta^2 = .12$), and this effect was exacerbated in the resource scarcity condition ($M_{\text{reciprocity}} = 5.80$ vs. $M_{\text{no reciprocity}} = 4.06, p < .001, \eta^2 = .35$). Stated another way, for those who received a gift from a familiar retailer, participants in the resource scarcity condition complied more than those in the control condition ($M_{\text{resource scarcity}} = 5.80$ vs. $M_{\text{control}} = 4.87, p = .014, \eta^2 = .18$). For those in the no reciprocity condition, there was no difference between the resource scarcity and control conditions, $p > .80$.

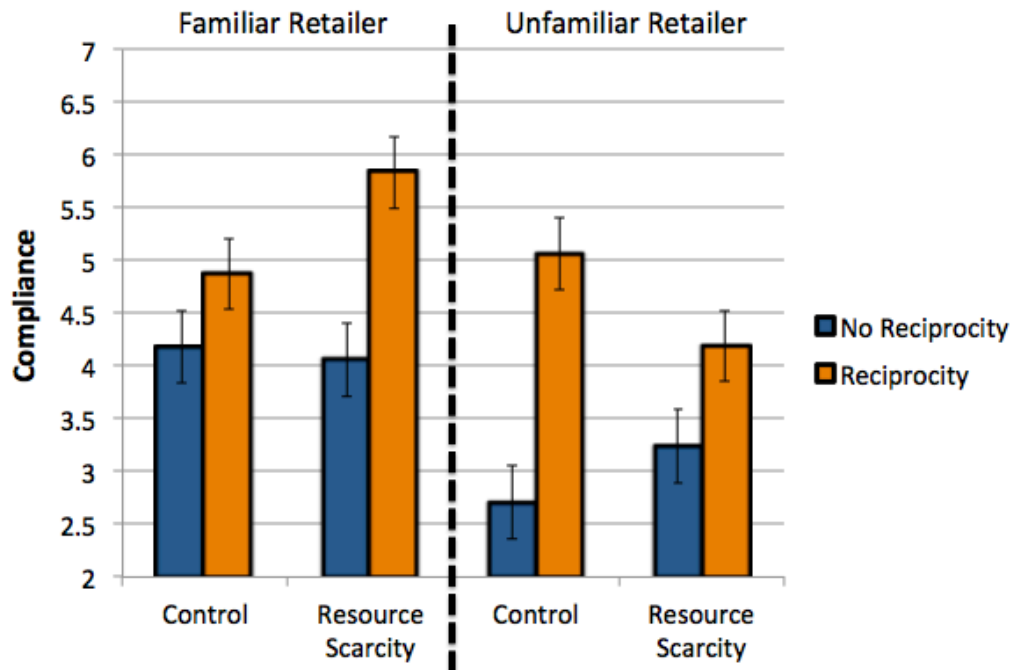


Figure 3. In Experiment 3, effect of resource scarcity, reciprocity, and familiarity conditions on compliance.

For the *unfamiliar* store, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 5.06$ vs. $M_{\text{no reciprocity}} = 2.71$, $p < .001$, $\eta^2 = .44$). However this effect was significantly reduced in the resource scarcity condition ($M_{\text{reciprocity}} = 4.19$ vs. $M_{\text{no reciprocity}} = 3.24$, $p = .009$, $\eta^2 = .14$). Stated another way, for those who received a gift from an unfamiliar retailer, participants in resource scarcity condition reciprocated less than those in the control ($M_{\text{resource scarcity}} = 4.19$ vs. $M_{\text{control}} = 5.06$, $p = .014$, $\eta^2 = .15$).

EXPERIMENT 4

The results from Experiment 3 suggest that perceived persuasive intent may affect the relationship between resource scarcity and reciprocity. Experiment 4 sought to more

directly test this prediction by explicitly activating persuasion knowledge. Experiment 4 used the same manipulation of resource scarcity, the same familiar retailer scenario, and the same dependent variable from Experiment 3. To manipulate persuasion knowledge, half of the participants read a story about manipulative marketing tactics (used in previous research to arouse persuasion knowledge; Morales, 2005).

Overall, Experiment 4 had a 2 (resource scarcity versus control) X 2 (reciprocity versus no reciprocity) X 2 (persuasion knowledge activated versus not) between-subjects design. When persuasion knowledge is *not* active, I predict that the resource scarcity manipulation will exacerbate the effectiveness of the reciprocity appeal (replicating the findings for the familiar company in Experiment 3). Conversely, when persuasion knowledge *is active*, I predict that the resource scarcity manipulation will reduce the effectiveness of the reciprocity appeal (conceptually replicating the findings for the unfamiliar company in Experiment 3).

Method

Participants. Two hundred sixty-two participants (108 male, 141 female, 13 not reported; $M_{age} = 35.04$) were recruited from the Amazon Mechanical Turk website and paid a small monetary compensation to complete the study.

Procedure. Participants were randomly assigned to view one of the two slideshows from Experiment 3. Then, they read a short story that served as the experimental manipulation of persuasion knowledge. Those in the persuasion knowledge condition read about manipulative marketing tactics, including price gouging and price inflation (taken from Morales, 2005). Those in the *no* persuasion knowledge condition read more general information the history of a brand. After the persuasion knowledge

manipulation, participants read one of the two familiar retailer scenarios from Experiment 3 (reciprocity vs. no reciprocity). Finally, participants completed the same two questions from Experiment 3—willingness to go to the retailer’s sales event and willingness to buy something at the event.

Results and Discussion

Results revealed a significant 3-way resource scarcity X reciprocity X persuasion knowledge interaction, $F(1, 254) = 8.17, p = .005, \eta^2 = .031$, see Figure 4. When persuasion knowledge was *not* active, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 4.90$ vs. $M_{\text{no reciprocity}} = 4.37, p = .13, \eta^2 = .079$) and this effect was exacerbated in the resource scarcity condition ($M_{\text{reciprocity}} = 5.72$ vs. $M_{\text{no reciprocity}} = 3.95, p < .001, \eta^2 = .35$). Stated another way, for those who received a gift from a familiar store, participants in resource scarcity condition complied with the invitation request more than those in the control condition ($M_{\text{resource scarcity}} = 5.72$ vs. $M_{\text{control}} = 4.90, p = .030, \eta^2 = .17$).

When persuasion knowledge *was* active, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 4.97$ vs. $M_{\text{no reciprocity}} = 3.86, p = .001, \eta^2 = .13$), but this effect was significantly *reduced* in the resource scarcity condition ($M_{\text{reciprocity}} = 4.23$ vs. $M_{\text{no reciprocity}} = 3.93, p = .38, \eta^2 = .05$). In fact, when persuasion knowledge was active and concerns about resource scarcity were raised, there was no difference between the reciprocity and no reciprocity conditions. Looking at the data another way, for those in the reciprocity and persuasion knowledge conditions, participants in resource scarcity condition complied less than those in the control condition ($M_{\text{resource scarcity}} = 4.23$ vs. $M_{\text{control}} = 4.97, p = .031, \eta^2 = .08$). Overall, these

findings indicate that even for a familiar retailer, when concerns about resource scarcity are aroused, persuasion knowledge can negatively affect consumer's willingness to buy from the retailer.

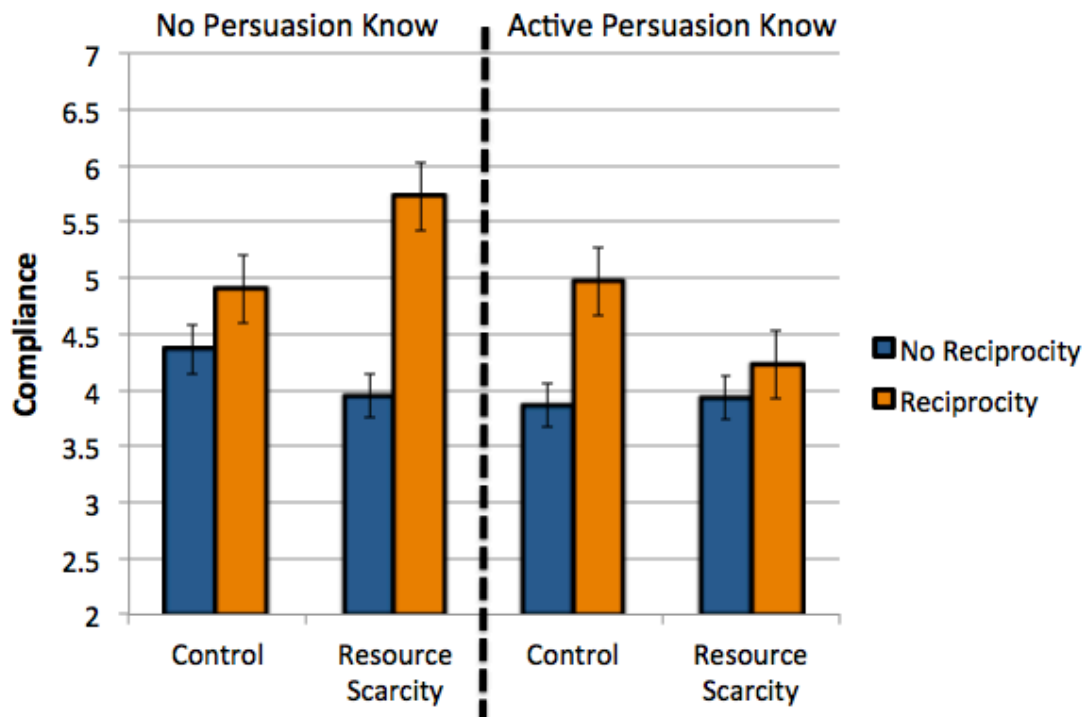


Figure 4. In Experiment 4, effect of resource scarcity condition, reciprocity condition, and persuasion knowledge condition on compliance.

EXPERIMENT 5

Experiment 5 sought to understand the mechanism by which resource scarcity affects reciprocity. Examining the extant literature, converging evidence from consumer behavior, psychology, and anthropology seems to point to the role of gratitude in this process. Taking a functional perspective, McCullough (2008) suggested that the emotion

of gratitude is adapted to “motivate beneficiaries to repay their benefactors” and reviewed evidence pointing to the role of gratitude in reciprocal behaviors. For instance, participants made to feel grateful, relative to nongrateful participants, exerted more effort to help a benefactor (Bartlett & DeSteno, 2006). Relatedly, participants instructed to write about things for which they were grateful each day, relative to those who wrote about other topics, offered help to others more (Emmons & McCullough, 2003). Finally, research in consumer behavior has identified gratitude as a central emotion driving responses to reciprocity appeals—the more grateful a person is for the benefits they receive from a retailer, the more likely they are to reciprocate (Morales, 2005).

When considering reciprocity, some researchers have proposed that gratitude is sensitive to the costs and benefits of helpful acts (Trivers, 1971). That is, helpful acts that are more costly for the favor-giver to undertake, or those that are more beneficial for the favor-receiver to obtain, should lead to increased gratitude, and as such, increased reciprocity. Indeed, evidence seems to support the importance of relative costs and benefits in determining gratitude and reciprocity: Gratitude is greatest when a helpful act does more good (Heider, 1958), and the more a person needs help, the greater his/her tendency to reciprocate (Gouldner, 1960). Likewise, people reciprocate more when a helpful act was expensive for the benefactor to undertake (Pruitt, 1968; Tesser, Gatewood, & Driver, 1968).

Given the research outlined above, one possibility is that the link between resource scarcity and reciprocity is mediated by changes in gratitude. Under resource scarce conditions, the relative cost of doing a favor is greater; at the same time, the relative benefit one receives from a favor is also greater. Together, these shifting costs

and benefits may mean that people will be more grateful for helpful acts when resources are scarce. Experiment 5 investigated this possibility by measuring gratitude and testing whether it mediates the relationship between resource scarcity and reciprocity.

In addition to investigating process, Experiment 5 sought to explore another potential boundary condition on the link between resource scarcity and reciprocity—the type of benefit exchanged between partners. As described earlier, when resources are scarce, it becomes increasingly important to distinguish between trusted, long-term exchange partners and untrustworthy or manipulative partners. In a retail setting, the type of benefit conferred upon a consumer may differentially signal the quality of the relationship between the retailer and consumer. For instance, consider a benefit delivered through a personalized “rewards” program. These benefits are given to a select number of special customers and are only offered after a series of successful exchange or transitions. These benefits seem to signal a long-term, high-quality relationship between the retailer and customer. In contrast to personalized rewards programs, many retailers offer their customers benefits in the form of general sales events. Such sales events are typically open to all customers, and as such, they do not signal anything special about the relationship between the retailer and any one specific consumer.

When resources are scarce, I predict that people may react differently to these two types of benefits. Following the logic outlined above, people facing resource scarcity should respond particularly positively to benefits that signal a long-term, high-quality relationship, such as those conferred through the rewards program. Conversely, people facing resource scarcity should not necessarily reciprocate benefits without cues to a personalized or long-term relationship, such as general sales offered to everyone—these

benefits say nothing about the type of relationship that exists between the retailer and any one particular customer.

To test this prediction, Experiment 5 manipulated whether participants received a benefit that emphasized an existing relationship between exchange partners (reward-based discount), or a similarly-valued benefit that was seemingly unrelated to any relationship (a general discount given to everyone). I predict that people concerned with resource scarcity will respond more positively to the reward-based discount, but not to the general discount. Overall, Experiment 5 had a 2 (resource scarcity vs. control) X 3 (discount: reward-based vs. general vs. no discount) between-subjects design.

Method

Participants. Two hundred twenty-seven participants (101 male, 104 female, 22 not reported; $M_{\text{age}} = 33.32$) were recruited from the Amazon Mechanical Turk website and paid a small monetary compensation to complete the study.

Procedure. Participants were randomly assigned to view one of the two slideshows from Experiment 3. After viewing the slideshow, participants were randomly assigned to read one of three consumer scenarios. The *reward-based discount* scenario described a person visiting their local department store to buy a suit and receiving a 35% discount for being a “valued customer.” The scenario went on to describe that only a select number of special customers would receive the discount. The *general discount* scenario described a person visiting their local department store to buy a suit and being informed that the store was having a 35% off sale. The scenario indicated that everyone would receive the same discount—suggesting that the benefit was unrelated to the relationship between the customer and the retailer. The *no discount* scenario described a

person visiting their local department store to buy a suit, but did not mention anything about a discount.

Dependent variable. Experiment 5 had two dependent variables. After reading the scenario, participants were asked, “On a scale from 1-100, with 100 being most positive, what rating would you give this department store?” Additionally, all participants read the following, “You try on several different suits, but you aren't sure about which you should get. You really like one of the suits, but it is pretty expensive. You like some of the others, but aren't completely sold on them. You know that there are other stores in the mall and you wonder if you should check out their selection of suits.” Then they were asked, “If you were in the situation described above, what do you think you would be most likely to do next?” and could select between three options: (1) “look at the selection at the other department stores,” (2) “buy one of the suits that you like, but aren't completely sold on,” or (3) “buy the expensive suit that you like the best.” Responses to this question were coded such that participants received a score of 1 if they opted to buy the expensive suit and a score of 0 if they selected one of the other choices.

Mediators. After responding to the dependent variables, participants were asked about the emotions they experienced while reading the consumer scenario. They responded on a seven-point scale ranging from 1 = “not at all” to 7 = “to a great degree.” Of interest to the current investigation, the list of emotions included “grateful” and “appreciative.” Responses to these two emotions were combined into a single gratitude composite ($r = .72$).

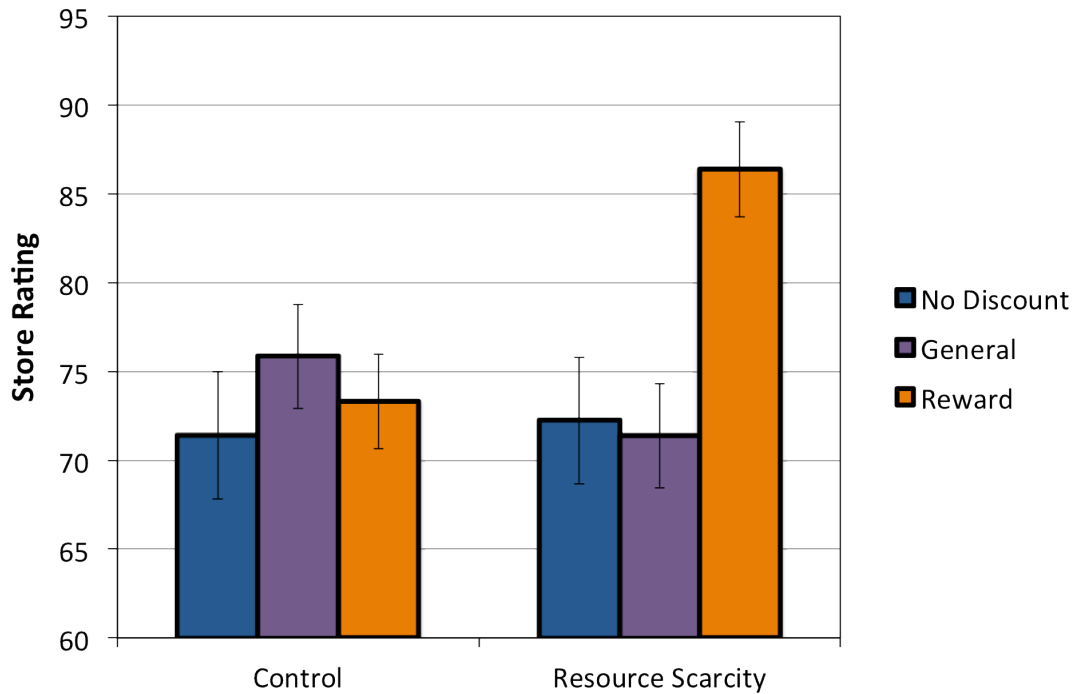


Figure 5. In Experiment 5, effect of resource scarcity condition and type of discount on store rating.

Results

Store rating. Results revealed a marginally significant two-way resource scarcity X discount interaction on the store rating, $F(2, 197) = 2.78, p = .079, \eta^2 = .025$, see Figure 5. Participants in the reward-based discount condition rated the store more favorably in the resource scarcity condition ($M = 86.37$) than in the control condition ($M = 73.32$), $p = .003, \eta^2 = .14$. There was no effect of resource scarcity condition for participants in the general discount ($M_{\text{resource scarcity}} = 71.37$ vs. $M_{\text{control}} = 75.85, p = .25$) or no discount conditions ($M_{\text{resource scarcity}} = 72.23$ vs. $M_{\text{control}} = 71.39, p = .83$). Examined another way, in the control condition, there was no effect of the reward-based discount condition relative to the no discount condition ($M_{\text{reward}} = 73.32$ vs. $M_{\text{no discount}} = 71.39, p = .59$). However, in the resource scarcity condition, participants in the reward-based

discount rated the store significantly higher than those in the no discount condition

($M_{\text{reward}} = 86.37$ vs. $M_{\text{no discount}} = 72.23$, $p < .001$, $\eta^2 = .20$).

Willingness to buy the expensive suit. Results revealed a significant two-way resource scarcity X discount interaction on willingness to buy the expensive suit, $F(2, 197) = 4.68$, $p = .010$, $\eta^2 = .045$. Participants in the reward-based discount condition were more willing to buy the expensive suit in the resource scarcity condition ($M = 45.8\%$) than in the control condition ($M = 18.4\%$), $p = .013$, $\eta^2 = .09$. There was no effect of resource scarcity condition for participants in the general discount ($M_{\text{resource scarcity}} = 18.4\%$ vs. $M_{\text{control}} = 26.5\%$, $p = .42$) or no discount conditions ($M_{\text{resource scarcity}} = 13.2\%$ vs. $M_{\text{control}} = 29.0\%$, $p = .12$). Tested another way, in the control condition, participants were no more willing to buy the expensive suit in the reward-based discount condition than in the no discount condition ($M_{\text{reward}} = 18.4\%$ vs. $M_{\text{no discount}} = 29.0\%$, $p = .54$). However, in the resource scarcity condition, participants in the reward-based discount were significantly more willing to buy the expensive suit than those in the no discount condition ($M_{\text{reward}} = 45.8\%$ vs. $M_{\text{no discount}} = 13.2\%$, $p = .014$, $\eta^2 = .09$).

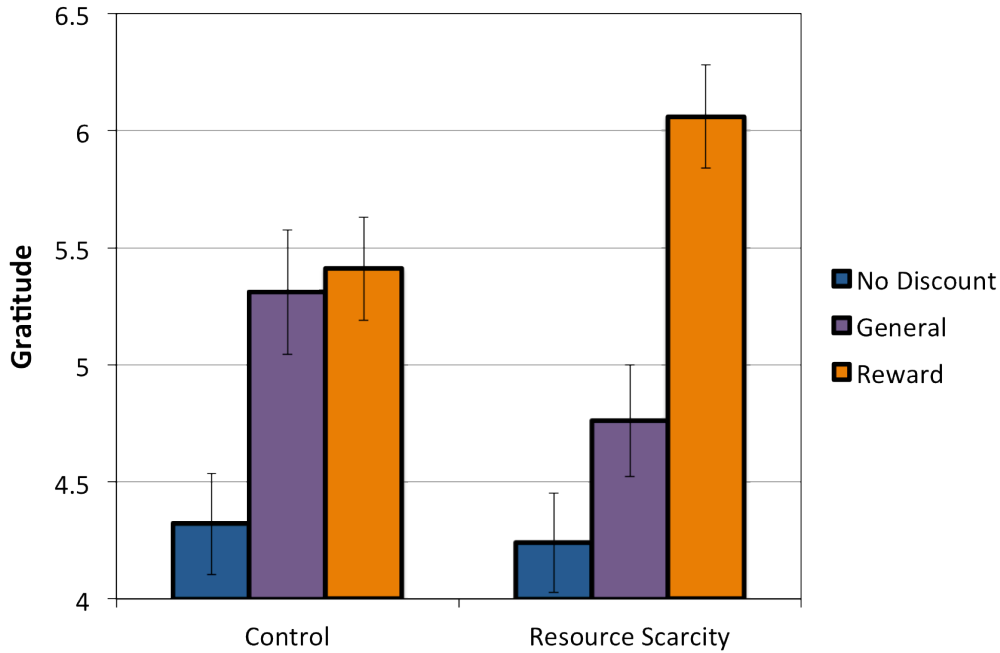


Figure 6. In Experiment 5, effect of resource scarcity condition and type of discount on gratitude.

Gratitude. Results revealed a significant two-way resource scarcity X discount interaction on feelings of gratitude, $F(2, 197) = 3.19, p = .043, \eta^2 = .031$, see Figure 6. Participants in the reward-based discount condition felt more gratitude in the resource scarcity condition ($M = 6.06$) than in the control condition ($M = 5.41$), $p = .065, \eta^2 = .08$. Participants in the general discount condition, tended to feel less gratitude in the resource scarcity condition than in the control condition ($M_{\text{resource scarcity}} = 4.76$ vs. $M_{\text{control}} = 5.31, p = .09, \eta^2 = .04$). For participants in the no discount condition, there was no effect of the resource scarcity manipulation ($M_{\text{resource scarcity}} = 4.24$ vs. $M_{\text{control}} = 4.32, p = .79$). Probed these effects another way, in the control condition, participants felt more gratitude in the reward-based discount condition than the no reward condition ($M_{\text{reward}} = 5.41$ vs. M_{no}

discount = 4.32, $p < .001$, $\eta^2 = .15$). This effect was exacerbated under conditions of resource scarcity ($M_{\text{reward}} = 6.06$ vs. $M_{\text{no discount}} = 4.24$, $p < .001$, $\eta^2 = .22$).

Mediation. To examine whether changes in gratitude mediated the relationship between resource scarcity and reciprocity, I conducted a mediated-moderation analysis used Model 8 of the Hayes Process macro for SPSS (Hayes, 2012). Analyses showed the same significant pattern of results when conducting these analyses comparing the reward-based discount to either the general discount or no discount conditions. Therefore, in the analyses reported below the general discount and no discount conditions were combined and compared to the reward-based discount condition.

First, I conducted the mediated-moderation analysis for the store rating dependent variable. Following Preacher and Hayes (2008), I estimated the standard deviation of the indirect effect of the resource scarcity manipulation for the reward-based discount condition and the other conditions for 5,000 bootstrapped samples. The indirect effect of the highest order interaction was estimated to lie between .50 and 7.21 with 95% confidence ($\beta = 2.98$, $SE = 1.66$). Because zero was not included in the 95% confidence interval, this analysis demonstrates significant mediated-moderation. For those in the reward-based discount condition, the indirect effect was estimated to lie between .14 and 4.75 with 95% confidence ($\beta = 1.90$, $SE = 1.12$). For those in the other conditions, the indirect effect was estimated to lie between -3.73 and .53 with 95% confidence ($\beta = -1.08$, $SE = 1.02$). These results indicate that in the reward-based discount condition, the resource scarcity manipulation increased gratitude, which, in turn, predicted more positive ratings of the store. Gratitude did not mediate the relationship between resource scarcity and store rating for the general discount or no discount conditions.

Next, I conducted the same set of analyses for the willingness to buy the expensive suit dependent variable. The indirect effect of the highest order interaction was estimated to lie between .003 and .62 with 95% confidence ($\beta = .19$, $SE = .15$). Again, because zero was not included in the 95% confidence interval, this analysis suggests significant mediated-moderation. For those in the reward-based discount condition, the indirect effect was estimated to lie between .004 and .41 with 95% confidence ($\beta = .12$, $SE = .10$). For those in the other conditions, the indirect effect was estimated to lie between -.31 and .03 with 95% confidence ($\beta = -.07$, $SE = .08$). Again, in the reward-based discount condition, the resource scarcity manipulation increased gratitude, which, in turn, predicted increased willingness to buy the expensive suit. Gratitude did not mediate the relationship between resource scarcity and willingness to buy the expensive suit for the general discount or no discount conditions.

Discussion

Experiment 5 demonstrated that manipulating concerns about resource scarcity increased reciprocity; it also documented an important boundary condition on this relationship. Resource scarcity increased responses to reward-based discount that signaled a trusting exchange relationship (a discount received for being a valued customer), but did not increase the effectiveness of a general discount that was unrelated to any existing relationship. Experiment 5 also showed that the effect of resource scarcity on reciprocity was driven by changes in gratitude. Those concerned with resource scarcity felt more grateful for the reward-based discount, and responded by reciprocating more.

EXPERIMENT 6

The results of five experiments document a functional relationship between resource scarcity and reciprocity. An important question that remains to be addressed is whether this relationship is unique to reciprocity, or whether it extends to other threats as well. One possibility is people become more dependent on reciprocal relationships when facing any type of threat. If so, activating other threats (e.g., self-protection, disease avoidance) should produce the pattern of results observed in Experiments 1-5.

From an evolutionary perspective, I do not expect all threats to affect reciprocity in the same way. Rather, I anticipate that reciprocation will vary in predictable and functional ways, depending on the nature of the threat. To test this possibility for my dissertation, I proposed to conduct an experiment with a 4 (threat: resource scarcity, self-protection, disease avoidance, control) X 2 (reciprocity versus no reciprocity) between-subjects design.

Disease threats. Past research has shown that disease threats lead people to become more disagreeable, less open to new experiences, and avoidant of interacting with potentially-sick others (Mortensen et al., 2010; Schaller & Murray, 2008). Given these findings, one possibility is that people concerned with disease will be *less* inclined to engage in reciprocal relationships, as any interpersonal contact may expose them to disease. However, another alternative is that people concerned with disease only strategically avoid those with potential cues of disease. If that is the case, merely activating disease concerns may not affect reciprocation with an ostensibly healthy exchange partner, and there will no difference in reciprocity between the control and disease avoidance conditions.

Self-protection threats. Considering the relationship between self-protection threats and reciprocity leads to a number of interesting predictions. If reciprocal relationships are specifically linked to the exchange of material resources, it is unlikely that self-protection threats will alter reciprocation—people concerned with self-protection should not be more concerned with material resources than those in a control condition. Still, another prospect is that reciprocity is related to interdependence more generally, and that it functions to foster relationships among ingroup members. Past research has shown that self-protection threats lead people become more nationalistic, conforming, and interdependent (e.g., Griskevicius et al., 2006; Pyszczynski, Greenberg, & Solomon, 1997; Schachter, 1969; Skitka, 2005; Taylor, 2000; Wisman & Koole, 2003). Therefore, if reciprocity is more generally related to interdependence, self-protection threats may increase reciprocation.

Non-reciprocal giving. It is important to note that in the current set of studies resource scarcity affected reciprocation, but not altruism or helping more generally (e.g., in the no reciprocity conditions). This pattern of results would seem to make functional sense—people concerned with resource scarcity should be wary of using their valuable resources to help someone else without a guarantee of reciprocation. When it comes to disease and self-protection threats, however, responses are unlikely to be contingent upon a guarantee of reciprocation. That is, if people concerned with disease want to avoid others, they should not reciprocate favors done by others, nor should they initiate help with another person. Likewise, if people concerned with self-protection are driven to unconditionally help their group members, they should do so whether their potential exchange partner helps them first or not. Thus, although it is unclear how disease and

self-protection threats will affect helping behavior, resource scarcity should be the only threat to be contingent upon reciprocation.

Method

Participants. Five hundred seven participants (211 male, 296 female; $M_{\text{age}} = 35.04$) were recruited from the Amazon Mechanical Turk website and paid a small monetary compensation.

Procedure. As in previous studies, participants were told they would complete a study on memory and attitudes. Participants were instructed to read a short story and imagine themselves in the situation described; they were randomly assigned to read one of four stories that have been used in previous research on psychological responses to threats (see Appendix A; White, Kenrick, Neel, & Neuberg, 2013; White, Kenrick, & Neuberg, 2013). The *resource scarcity* story described a man who had been unexpectedly fired from his job and documented his struggles searching for a job. The *disease threat* story described a person volunteering at a geriatric ward who encountered a number of disgusting events—a sickly person sneezing on him/her, another sickly person with an open wound, and a hair in his/her lunch. The *self-protection* story described a person, home alone during a stormy night, who realized there is an intruder in his/her house. The *control* story described a person organizing his/her office.

After reading one of the four stories, participants completed a measure of helping used in several of my previous studies on resource scarcity and reciprocity. Though those studies are not included in the current paper, they replicate the results reported here—with cues of resource scarcity increasing reciprocity, but not non-reciprocal helping.

Participants were randomly assigned to either a reciprocity or no reciprocity condition (see Appendix B). In the reciprocity condition, participants read a scenario in which a coworker grants them a favor and later asks them to volunteer for a charity. In the no reciprocity condition, participants read a scenario in which a coworker grants them a favor, and later a *different* coworker asks them to volunteer for a charity. The dependent variable is the number of hours the participant reported being willing to volunteer for the charity.

Individual Differences. After the dependent variable, participants were asked a series of questions to capture individual differences relevant to each of the three threat conditions. To assess chronic concerns about resource scarcity, participants were asked to report their family's annual income on a scale ranging from, 1 = "Less than \$15,000" to 9 = "More than \$150,000." This measure was used in Experiment 1 and has been used in previous research on economic threats (White et al., 2013a; White et al., 2013b). To measure individual differences in perceptions of disease threat, participants were asked four questions from the Perceived Vulnerability to Disease Scale (Duncan, Schaller, & Park, 2009; "If an illness is 'going around', I will get it;" "In general, I am very susceptible to colds, the flu, and other infectious diseases;" "I am more likely than the people around me to catch an infectious disease;" "It makes me anxious to be around sick people"). Participants rated their agreement on a scale ranging from 1 = "Strongly Disagree" to 7 = "Strongly Agree" ($\alpha_{PVD} = .87$). To evaluate chronic concerns about self-protection threats, participants were asked four questions from the Belief in a Dangerous World Scale (Altemeyer, 1988; "It seems that every year there are fewer and fewer truly respectable people, and more and more persons with no morals at all who threaten

everyone else;” “There are many dangerous people in our society who will attack someone out of pure meanness, for no reason at all;” “Our society is full of immoral and degenerate people who prey on decent people;” “Things are getting so bad, even a decent law-abiding person who takes sensible precautions can still become a victim of violence and crime”). Again, participants responded on a scale ranging from 1 = “Strongly Disagree” to 7 = “Strongly Agree” ($\alpha_{BDW} = .89$).

Results

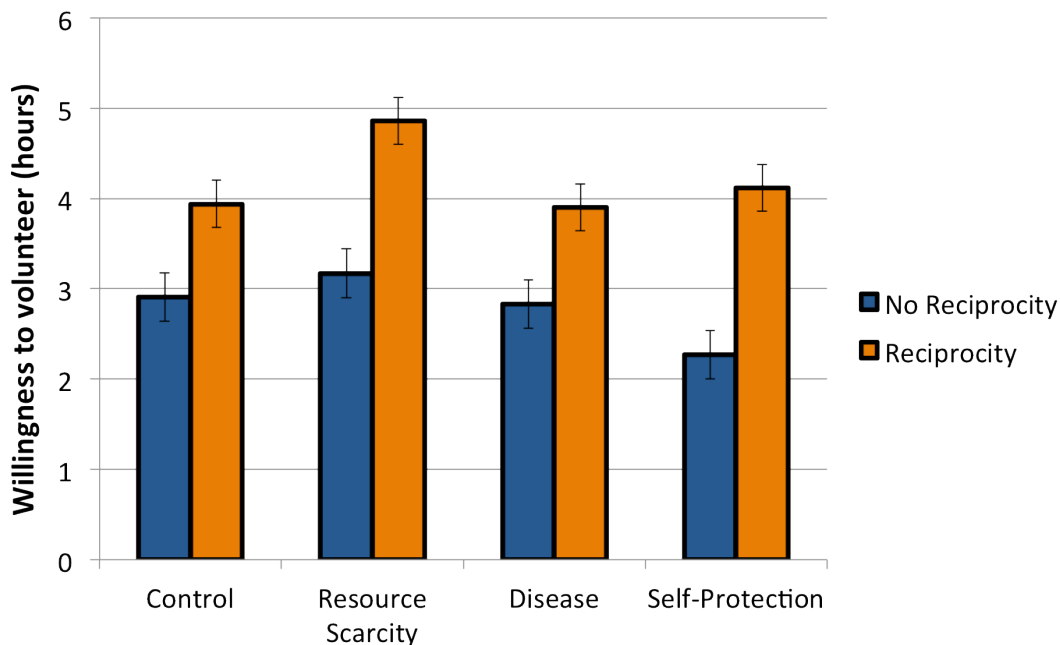


Figure 7. In Experiment 6, effect of threat condition and reciprocity condition on willingness to volunteer.

A two-way ANOVA revealed a significant main effect of reciprocity, $F(1, 500) = 26.26, p < .001, \eta^2 = .051$, but no significant main effect of threat manipulation, $F(3, 500) = 1.77, p = .15$, and no significant threat X reciprocity interaction, $F(3, 500) = .59, p = .62$, see Figure 7. Participants in the reciprocity condition were willing to volunteer

significantly longer than those in the no reciprocity condition ($M_{\text{reciprocity}} = 4.21$ hours, $M_{\text{no reciprocity}} = 2.79$ hours).

Because the omnibus ANOVA does not specifically test for the predictions outlined above, I also conducted a series of planned contrasts. Comparing the size of the reciprocity effect in the control condition (the increase in willingness to volunteer between reciprocity vs. no reciprocity conditions) to each of the three threat conditions separately revealed no significant interaction effects (p s of .31, .42, and .88). Taking another approach, I also examined the effect size of the reciprocity-induced increase in willingness to volunteer across threat conditions. Descriptively, relative to control, reciprocity appeals were twice as effective in both the resource scarcity and self-protection conditions (control: $p = .032$, $\eta^2 = .076$; resource scarcity: $p = .001$, $\eta^2 = .13$; disease: $p = .077$, $\eta^2 = .048$; self-protection: $p = .002$, $\eta^2 = .14$). Though the p -values for the interaction terms were not significant, these findings begin to suggest that resource scarcity and self-protection threats, but not disease threats, increase the effectiveness of reciprocity appeals.

I also examined the simple effects comparing threat conditions for participants who received the reciprocity story. Across the reciprocity conditions, there were significant differences between threat conditions, ($M_{\text{control}} = 3.94$, $M_{\text{resource scarcity}} = 4.86$, $M_{\text{disease}} = 3.90$, $M_{\text{self-protection}} = 4.12$): Replicating previous results, participants in the resource scarcity condition were willing to volunteer longer than participants in the control condition, $p = .009$, $\eta^2 = .046$. Additionally, participants in the resource scarcity condition were willing to volunteer for longer than those in the disease condition, $p = .035$, $\eta^2 = .039$, and self-protection condition, $p = .089$, $\eta^2 = .025$. There were no

significant differences between the disease, self-protection, and control conditions, $ps > .50$. Finally, comparing the resource scarcity condition to the average of the other three conditions, there was a significant difference in willingness to volunteer, $M_{\text{resource scarcity}} = 4.86$, $M_{\text{others}} = 3.98$, $p = .008$, $\eta^2 = .028$.

Finally, I tested the simple effects comparing threat conditions for participants who received the no reciprocity story. Across the no reciprocity conditions, there were no significant differences between threat conditions ($M_{\text{control}} = 2.91$, $M_{\text{resource scarcity}} = 3.17$, $M_{\text{disease}} = 2.83$, $M_{\text{self-protection}} = 2.27$), all $ps > .10$. The largest trend was for participants in the self-protection condition to be less willing to volunteer than those in the other conditions—though these contrasts only approached significance, ps of .11, .26, and .35. To further test the possibility that self-protection reduced willingness to volunteer for those in the no reciprocity condition, I compared the self-protection condition to the average of the other three conditions. This analysis showed no significant difference between the self-protection condition and the other conditions, $M_{\text{self-protection}} = 2.27$, $M_{\text{others}} = 2.99$, $p = .21$.

Individual Differences. I also explored whether the threat and reciprocity conditions interacted with any threat-relevant individual differences to affect willingness to volunteer. Across threat conditions, socioeconomic status interacted with reciprocity condition to influence willingness to volunteer, $t(495) = 2.93$, $p = .046$, $\eta^2 = .008$. Spotlight analyses showed that low-SES participants (1 standard deviation below the mean) were willing to volunteer for significantly more hours in the reciprocity condition than in no reciprocity condition, $M_{\text{reciprocity}} = 4.40$ vs. $M_{\text{no reciprocity}} = 2.56$, $p < .001$, $\eta^2 = .089$. For high-SES participants (1 standard deviation above the mean), the difference

between the reciprocity and no reciprocity conditions was smaller, $M_{\text{reciprocity}} = 3.83$ vs. $M_{\text{no reciprocity}} = 2.74$, but still significant, $p < .001$, $\eta^2 = .032$. These results replicate the findings of Experiment 1.

Testing whether socioeconomic status interacted with any of the threat conditions to affect willingness to volunteer, there were no significant two-way threat X socioeconomic status interactions, (ps of .58, .59, and .75), nor were there any significant three-way interactions between threat condition, reciprocity condition, and socioeconomic status (ps of .52, .76, and .99).

Across threat conditions, responses to the Belief in a Dangerous World (BDW) scale did not interact with reciprocity condition to affect willingness to volunteer, $t(495) = .23$, $p > .8$. Moreover, BDW scores did not interact with any of the threat conditions to affect willingness to volunteer (ps of .18, .54, and .57). Finally, there were no three-way interactions between threat condition, reciprocity condition, and BDW (ps of .22, .66, and .76).

Across threat conditions, the Perceived Vulnerability to Disease (PVD) scale did not interact with reciprocity condition to affect willingness to volunteer, $t(495) = 1.19$, $p = .24$. PVD scores did not interact with any of the threat conditions to affect willingness to volunteer (ps of .14, .56, and .84). Additionally, there were no three-way interactions between threat condition, reciprocity condition, and PVD (ps of .14, .79, and .85).

Discussion

Replicating the results of Experiments 1-5, Experiment 6 showed that cues of resource scarcity significantly increase people's willingness to reciprocate favors done for them by others. Despite this replication of the basic effect, it remains unclear whether other threats affect reciprocity in the same way. On the one hand, across the *reciprocity* conditions, only the resource scarcity threat was significantly different from control; self-protection and disease were not. This would suggest that resource scarcity uniquely affected responsiveness to reciprocity. On the other hand, however, relative to control, the reciprocity effect (the increase in willingness to volunteer between reciprocity vs. no reciprocity conditions) was twice as large for both the resource scarcity and self-protection threat conditions. Thus, one could claim that self-protection threats also enhance the effectiveness of reciprocity appeals. Because these data can be interpreted in both ways, future research is needed to establish whether self-protection threats really do alter responses to reciprocity appeals.

Previous research has largely focused on how reciprocity is affected by the value of the benefit being exchanged between partners. In conjunction with Experiment 5, Experiment 6 suggests that reciprocal exchange may not just be about the exchange of material goods. In addition to physical resources, reciprocity seems to be functionally linked to the value of the *relationship* between exchange partners. Experiment 5 demonstrated that under conditions of resource scarcity, reciprocity appeals were more effective when they involved a personal, rather than general, benefit. The findings of Experiment 6 indicated that reciprocity appeals are increasingly effective during two threats in which it is potentially beneficial to band together—resource scarcity and self-

protection. Together, these results fit with the notion that reciprocity may solve multiple functions, and that reciprocal exchange may be a means of establishing or maintaining trusting relationships with others. Going forward, it will be useful for researchers to consider both the economic value of the benefit being exchanged, as well as, the value of relationship between exchange partners. Much as the subjective economic value of a benefit may depend on individual differences and situational factors, the subjective value of relationships may fluctuate across people and situations—and all of these variables will ultimately influence the effectiveness of reciprocity appeals.

In the introduction of Experiment 6, I suggested several reasons why disease or self-protection threats could affect reciprocity. Because the present experiment were not entirely conclusive, it may be useful for future studies to more carefully consider the specific conditions under which disease or self-protection threats could influence reciprocity. For instance, it may be that disease threats influence reciprocal exchanges with some exchange partners, but not others. Experiment 6 measured willingness to reciprocate with a known coworker. As described earlier, a person concerned with disease may be inclined to reciprocate with a known other if they do not present cues to illness. A different pattern of results might emerge if one's exchange partner is an unknown stranger or sick other. Indeed, I predict that disease concerns would reduce willingness to reciprocate with an unknown or sick other. Likewise, there may be specific circumstances under which a self-protection threat alters willingness to reciprocate. In Experiment 6, the self-protection manipulation described someone alone in their home facing an intruder. In this situation, there is not a friendly other with whom to form a reciprocal relationship, and the benefits of reciprocation are unclear. To further

test whether self-protection threats affect reciprocity, a future study might present a situation in which a group of people face a self-protection threat. In such a circumstance, the advantages of reciprocity may be more apparent, leading people to reciprocate more.

GENERAL DISCUSSION

Although reciprocal exchanges have been found to be “universal” across cultures, there are important variations in the effectiveness of reciprocity appeals in any given context. I opened this paper with the general question of whether there are functional and predictable patterns to those variations. Although one might plausibly have expected to find that consumers with fewer resources are less likely to give away those resources, we proposed instead that consumers might be especially likely to reciprocate under conditions of economic threat. Experiment 1 showed that consumers who are chronically concerned with resource scarcity, as indicated by lower socioeconomic status, reciprocated more than those without such concerns. Experiment 2 was a field study demonstrating how resource scarcity and reciprocity appeals interact to affect real-time volunteerism. Experiment 3 documented that the relationship between resource scarcity and reciprocity held when a reciprocity appeal came from a familiar retailer, but not an unfamiliar retailer. In fact, resource scarcity reduced the effectiveness of the reciprocity appeal from the unknown retailer. This pattern follows a functional logic—consumers concerned with resource scarcity should be wary of entering into reciprocal relationships with potentially untrustworthy partners, and the motives of the unfamiliar retailer were unclear. Experiment 4 expanded on this finding by more directly activating concerns about persuasive intent. When persuasion knowledge was explicitly activated, resource scarcity reduced the effectiveness of reciprocity appeals, even for familiar retailers.

Experiment 5 showed that the relationship between resource scarcity and reciprocity is mediated by gratitude, and that this link occurs for reciprocity appeals that emphasize the relationship between exchange partners, but not for general economic incentives. Finally, Experiment 6 suggested that resource scarcity may not uniquely influence the effectiveness of reciprocity appeals: Self-protection, another threat in which it is useful to band together, also seemed to enhance reciprocation.

Theoretical Contributions. Taken together, these findings highlight the usefulness of considering reciprocity from a functional evolutionary perspective. Although researchers have frequently suggested that the universality of reciprocity may be indicative of its adaptive origins, empirical investigations in psychology and consumer behavior have not used a functional framework to systematically explore variation in the effectiveness of reciprocity appeals. Adopting this framework, the current investigation documented a novel factor that influences the power of reciprocity—resource scarcity. Moreover, this framework identified important boundary conditions on the relationship between resource scarcity and reciprocity: (1) under resource-scarce conditions, concerns about persuasive intent significantly reduced the effectiveness of reciprocity appeals, and (2) resource scarcity boosted the effectiveness of reciprocity-based benefits, but not general economic incentives. Finally, building on theorizing about the adaptive function of the emotion of gratitude, the current set of studies showed that changes in gratitude mediate the relationship between resource scarcity and reciprocity.

As a whole, the present investigation suggests an important shift in conceptualizing reciprocity. Extant research on reciprocity in consumer behavior and psychology has largely focused on the economic value of the benefit being exchanged—

finding that consumers reciprocate more when they receive a larger benefit. However, the evolutionary perspective suggests something different—that under resource scarce conditions, the benefit of reciprocal exchange may relate to the long-term value of the *relationships* they help to establish and maintain. Because such relationships provide a social safety net, consumers concerned with resource scarcity should selectively reciprocate with partners who show long-term potential. This thinking suggests that under resource-scarce conditions, reciprocity may actually be *less* centrally tied to the immediate economic value of the resources being exchanged and *more* closely linked to the relationship between exchange partners. As documented in experiment 5, resource scarcity boosted the effectiveness of reciprocity appeals that emphasized the relationship between the retailer and customer, but did not boost the effectiveness of more general economic incentives that were unrelated to such a relationship. Further, Experiment 6 showed that when facing a self-protection threat, a circumstance in which it is useful to band together, people also reciprocate more with exchange partners. Going forward, these results indicate that it may be useful for future research to consider how reciprocity varies in relation to both the value of the benefit being exchanged as well as the value of the relationship between exchange partners. Some circumstances may lead consumers to reciprocate on the basis of economic benefits, whereas others may compel consumers to reciprocate according to the value of exchange relationships.

Overall, the current findings also contribute to a growing body of research examining the consequences of resource scarcity. Previous research has largely focused on how resource scarcity affects mental health outcomes, such as life satisfaction, optimism, and well-being (de Hauw and De Vos 2010; Tausig and Fenwick 1999).

However, several recent studies using an evolutionary perspective have found that resource scarcity can affect a wide range of other psychological and behavioral responses: attitudes toward government redistribution programs (White et al. 2013a), risk-taking, (Griskevicius et al. 2012), and spending on specific categories of consumer goods (Hill et al. 2012). Importantly, the current findings show that resource scarcity arouses a form of strategic interdependence. When resources are limited, people should not simply become selfish and hoard their resources—doing so would work against the formation of a broader social safety net. On the other hand, consumers should not become universally altruistic and share their resources with everyone—a consumer could be exploited if they share with the wrong exchange partner. Instead, the present investigation suggests that consumers should respond to resource scarcity by sharing and exchanging resources with specially trusted exchange partners. Across studies, we found clear and consistent support for the functional framework, and for the notion of strategic interdependence.

Implications. The current findings have several important managerial implications. First, they show that reciprocity appeals may be more useful with some market segments than others. Specifically, reciprocity appeals would seemingly be more effective for low-income consumers, due to their chronic feelings of resource scarcity, than their high-income counterparts. As such, retailers with a greater percentage of low-income clientele may benefit from spending more of their resources on promotional strategies that are based on reciprocity such as free samples or gifts. By contrast, retailers with a greater percentage of high-income clientele may steer away from the use of reciprocity appeals in favor of other marketing strategies.

Relatedly, this investigation indicates that marketers may want to change their promotional strategies during economic booms vs. busts. During recessionary periods, when consumers feel relatively poor, reciprocity appeals may be more effective than other promotional tactics. However, when the economy is doing well and consumers feel relatively wealthy, it may be better to adopt other strategies.

More generally, these findings show that merely activating temporary concerns about resource scarcity can increase the effectiveness of reciprocity appeals. As Experiment 2 documented, even a subtle, half-sentence referencing poor economic conditions was enough to enhance the effectiveness of a reciprocity appeal and increase survey participation rates. Given this result, it seems possible that many common marketing strategies may, knowingly or unknowingly, influence the effectiveness of reciprocity appeals by making concerns about resource scarcity more salient. For instance, framing discounts as being a part of “recession sales” or may enhance the effectiveness of reciprocity appeals. As demonstrated through this research, it will be important for marketers to more carefully consider how their practices might influence perceptions of resource scarcity, and to consider the implications of such practices for reciprocity appeals.

Finally, these results are also useful for retailers seeking to employ Customer Relationship Management (CRM) strategies. As retailers seek to establish long-term, high quality relationships with their customers, these findings suggest when (during resource scarce conditions) and for whom (low-income customers) these strategies may be more effective. Further, building on the findings of Experiment 5, CRM strategies

may be more effective when they emphasize the relationship between the consumer and retailer, rather than strategies that solely rely on economic incentives.

Conclusion. I began this investigation by seeking to understand why reciprocity is so prevalent and so powerful. To address this question, I considered the psychological roots of reciprocity and identified a link between reciprocity and strategies for overcoming resource scarce conditions. Using a functional evolutionary framework, my investigation: (1) established that chronic concerns about resource scarcity are related to greater reciprocation, (2) showed that experimentally activating resource scarcity concerns increased the effectiveness of reciprocity appeals, (3) documented that the relationship between resource scarcity and reciprocity is moderated by the perceived persuasive intent of the retailer, (4) highlighted that reciprocity under resource scarce conditions is more tied to the relationship between exchange partners, rather than the economic value of the benefit being exchanged, (5) identified gratitude as the psychological mechanism mediating this relationship, and (6) demonstrated that self-protection, but not disease threat, may similarly enhance the effectiveness of reciprocity appeals. Taken together, these results demonstrate when and for whom reciprocity appeals are more or less effective. Further, they may help to explain why Ethiopian officials, facing financial ruin, felt so compelled to reciprocate the benefit from their exchange partners in Mexico.

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APPENDIX A
GUIDED VISUALIZATION STORIES

Self- Protection Story

Imagine that you have been particularly busy lately and you are getting a little stressed out from everything you have to do. To unwind, you decide to have a quiet evening at home tonight by yourself to get away from all of the hassles and stress.

Tonight is a particularly windy night. As the wind howls, tree branches sway from side to side. A small crescent moon is barely visible, making it feel a little darker than usual. Few people would want to be outside, and it makes the house feel cozy. You initially watch some TV on the couch to relax. But you soon decide to go to the bedroom and curl up with a book you've been meaning to read. You feel relaxed and comfortable in your bed, and you notice how everything seems so quiet when you're home by yourself. All you can hear is the rumble of the wind. It makes you feel a little chilly, so you get more comfortable in your sheets and slowly become engrossed in your book.

Silence envelops the room, and you hear the front door rattle. Although you know it's just the wind, the noise makes you feel a little uneasy. You think back to whether you locked the door, and you think you did. Out of the corner of your eye you notice a sudden movement. You quickly turn your head to look, but there's nothing there.

You are a little jittery. You try to go back to the book, but you have a hard time concentrating. You hear the wind outside getting stronger. Tree branches brush against the outside walls, making it sound as though something is scraping against the house. You get an eerie feeling, and you try to calm yourself down, hoping to get back into the story you were just reading. It seems like it takes a huge effort to read each word and when you get to the end of the page you are not even sure what you just read. You were not paying any attention to the book. You try to think of what you can do to take your mind off of the storm and your uneasiness.

Suddenly, you hear a loud clang outside that jolts your entire body. Sitting up in your bed you are now highly alert. You can feel your heart beating faster than before, and you begin to feel uncomfortable in your own home. You notice that your breathing is very heavy and for a moment it seems like it is all that you can hear. You wish you weren't alone, and you wish it was daytime. Your bedroom light flickers momentarily, then goes out altogether.

The room becomes pitch black. You look at your electric alarm clock, but it's not working. The electricity is gone. Your muscles tense up and you find it difficult to take a normal breath.

You look around the room, but you can't see anything. You can't even make out your own hand right in front of you. You are wide awake. Your chest is pounding. You try to remember where you keep the flashlight, recalling that it's in the kitchen. You collect yourself and decide to try to slowly feel your way into the kitchen to find the flashlight. You slowly get off of your bed and try to walk toward the nearest wall. With both hands

feeling the walls, you feel your way to your bedroom doorway in absolute darkness.

Then, you hear a petrifying sound: The handle on the front door rattles and the door squeaks as it opens. You've heard that noise a hundred times, but it has never been this frightening. You are sure the door was locked and you're not expecting anyone. You want to tell yourself it's your imagination, but you are not so sure. Your body presses up against the wall. Unsure of what to do, you call out: "is anyone there?"

There's no response. Just daunting silence.

Gripped with a new jolt of fear, your arms clench up against your body. All of your senses are heightened; you can hear your own breathing. You strain your ears for the slightest noise.

You hear a footstep. Then another. There is someone in your house. Your eyes open wide, and you begin to feel panicked inside. Your instinct tells you to scream, but nothing comes out. Suddenly, you hear a crashing lamp in the living room. The noise sends your heart throbbing and makes your hands begin to shake.

You decide to try to call 911, but it's almost impossible to find your cell phone in the darkness. In a panic, you run back into the bedroom. But in the confusion, you trip on the corner of the bed. You stumble and fall onto the bedroom floor. Turning your head toward the doorway, you hear the sound of heavy footsteps coming down the hall towards your room...

Disease Avoidance Story

It's the middle of the semester and most of your classes are going pretty well. However, you're not so sure about your biology class. It's the one class that you don't really enjoy. A couple weeks ago you had to dissect a pig preserved in a foul-smelling formaldehyde solution. Next week's assignment is volunteer work in the geriatric ward of a local hospital. You recall visiting your great-grandmother in the hospital, and remember how the sight and smell of all those elderly patients made you feel a bit queasy.

Arriving at the hospital, you immediately confront the same unpleasant stench you experienced years before. You grab your stomach and think about leaving. Just then, the volunteer coordinator greets you and brings you to an activity room. "Wait here for a moment," she says. You look around the room and see several old people. One is sitting in a chair in the corner slumped over. You're concerned at first, but then you realize you can hear him loudly wheezing as he breathes. Every once in a while he coughs and it sounds pretty bad.

Also, you notice a woman sitting at a table playing cards by herself. She is surrounded by what looks like used tissues and you keep staring at the tubes running into her wrists. You wince and try to look around for something else to focus on, but there's not much

else. The walls are a dull yellow and look like they haven't been washed in a while. You can barely see out the only window in the room because it's so dirty. The air is thick and stale and you try not to breathe too deeply. Why does every hospital seem to smell like this?

Just then the volunteer coordinator comes back with a very elderly man shuffling along in a walker. His wrinkled hand reaches out to shake yours, and you notice he has very little muscle tone. You can't help staring at the liver spots on his hand, and the yellowness of his finger nails.

Your first task is to help him eat by spoon-feeding him. You take a seat at the table with the old woman playing cards and her used tissues. You take a look at the food you're supposed to feed him. It is mushy and colorless and the thought of having to eat such food makes you feel sick. You take a look at the elderly man's aging body, which is obviously wasting away. He needs help because his arthritic hands are no longer strong enough to grasp a spoon. As you raise the first spoonful to his mouth, you feel a bit repulsed as the spoon rubs against one of his few remaining teeth. His poor muscle tone causes him to drool, and after every few spoonfuls, you need to wipe his chin. After one spoonful, he sneezes and your hand is covered with a fine spray of soup and saliva. You look around for a tissue to wipe it off, but there aren't any clean ones around. You tell the old man you'll be back in a minute and go to find a tissue or paper towel or anything to get the snot off your hand as soon as possible. On your way back to the table, you run into the volunteer coordinator. She must have noticed the look of disgust you were trying to suppress, and suggests you take a break. You go to the hospital cafeteria, happy to leave the smells and sights of the ward behind.

Although your stomach is still a bit queasy and all you can think of is the colorless mush you just saw, you are starving because you missed breakfast that morning. The food selection is limited, but you settle on a hamburger and a bowl of pudding. When you bite into the hamburger, However, the smell of the ward still lingers in your nose, so you push it aside after forcing down one mouthful. The pudding is blandly lukewarm and soupy, and when you spill some on your finger you are reminded of the old man sneezing onto that same hand. Your appetite completely disappears when you notice a human hair mixed in with your pudding. This whole experience has been sickening.

When you return to the ward, things only get worse. You are asked to change the bandages on an elderly patient with a distended swelling on the upper thigh. As you remove the bandage, you are shocked to see a large open sore. You involuntarily pull your head back from the putrid stench and sight of puss. You are overwhelmed with nausea, as you taste the half-digested hamburger returning into your mouth. You close your eyes for a moment and take a short breath to collect yourself. You focus on finishing the job changing the bandages, but when you're done, you tell the volunteer coordinator that you have to leave. You can't stand being there any longer.

Resource Scarcity Story

Less than a year ago Jonathan Pierce had a stable, well-paying job. Having earned a college degree, Jon was doing well at age 30. He had a steady paycheck and liked his job. He enjoyed his colleagues and workplace and was looking forward staying with the company for a long time. Having worked at the company for several years already, he even believed he was about to be promoted.

Today, However, Jon is yet again standing in the dreary unemployment line downtown. No longer dressed in his suit and tie, today he is wearing sweatpants with hole in the knee and a ratty t-shirt. "I didn't think this could happen to me," he mutters while shaking his head. "I have a college degree and I can't even get a job interview, let alone a job. I'm facing foreclosure on my house and I am late on my car payments. I just don't know where the money is going to come from. I feel like I lost everything in this downturn and I have no idea how I'm going to get back onto my feet."

This depressing scene is not unique. Unemployment lines are full across the country. "The numbers are staggering," notes Oliver Windsor, the head of the U.S. Economic Commission. And it's not just blue-collar jobs like construction and food service that are being cut. It's the white-collar jobs like management and office work that are being hit the hardest." According to Windsor, "Even when the crash happened in 2008, no one thought that things would be this bad for this long. Things are worse than anyone can remember and the truly horrifying thing is that the worst is not over yet, not by a long shot." Unfortunately, there is little that the government can do to remedy the situation. As every economist knows, while government bailouts can slow the bleeding, it can't fix the underlying problems.

The economic crisis is only the beginning of the new reality faced by Americans. After decades of economic growth, experts agree that the U.S. is on the verge of an economic shift. "The economy of the 21st century is fundamentally different from that in the past," explains Dr. Patricia Wharton, chair of the panel for U.S. Economic Stability. "The sad truth is that this generation is certain to be the first generation to do worse than their parents. And their parents aren't going to fare too much better as they head into retirement with little to no money. The housing bubbles, bank crises, skyrocketing food and energy prices, and the credit crisis only begin to scratch the surface of our economic problems. Instead of college graduates wondering whether they will be able to afford a flat screen TV, they'll soon be wondering where their next meal is going to come from, how they'll clothe themselves, and how they can possibly afford a place to live."

The fact Americans should expect to have little economic advancement is only part of the imminent economic disaster. Skyrocketing worldwide population growth and scarcity of natural resources are both working together to transform the U.S. economy. To understand how these factors are changing life for Americans, Oliver Windsor, one of 80 leading scientists who contributed to the government report, reminds us of the basics: "There are literally billions of people out there competing with each other. And these

people are not just competing for jobs. The truth is that they're competing for food, water, and air.”

While it may be difficult for some to imagine that the U.S. might one day be in poverty, the world in the 21st century is highly inter-connected. Things that happen in China, India, and Africa have tremendous consequences for what happens in the rest of the world. As the people across the globe gain skills and opportunities, competition for scarce jobs and resources will only increase. As necessities such as safe food, drinkable water, and breathable air become scarcer and more expensive, the world as I know it will become a very different place. Instead of walking into a supermarket and buying a gallon of water for under a dollar, consumers may soon be spending as much as \$10 for only a small bottle of clean water.

Watching Jonathan Pierce wait in the unemployment line downtown, one can't help but be reminded of the Great Depression—a time in American history that most people only remember from their history classes. The images of the Depression are difficult to erase: Malnourished children begging for food, people standing in line all day to get a slice of bread and a cup of soup, everyone struggling to feed themselves and their families. The sad truth for people like Jonathan Pierce and countless others is that losing a job is only the beginning. Tough times are ahead.

Control Story

Imagine you are at your desk at work. It's been a pretty hectic few days and as you look around at your things, you realize that everything is completely disorganized. You decide that you need to organize your workspace before things get any worse. Your first target is the empty coffee cup and leftover pastry from breakfast. You go to throw them both in the trash, but your garbage can is already full. You sigh. It seems you need to take your trash out to the dumpster before you can get started organizing things. After taking out the trash, you come back to your office and throw away all the junk that has accumulated on your desk over the past few days.

Next up is organizing all of the loose papers that are strewn over your desk. You have several new clients and you decide to put their papers in separate, color-coded folders. You seem to be out of folders, so you find a coworker to borrow some from. Now you can finally begin to organize these papers. You have 5 new clients and unfortunately, your coworker gave you five identical folders. Based on past experience, you know that it is good to make each client's folder distinctive so that you can grab their folder quickly on your way out the door. You remember you have some alphabet label stickers in your drawer and you take them out. You've used A previously, so you take B, C, D, E and F out.

None of your clients have a last name that starts with B. But Mrs. Jones first name is Becca. So you paste the B label on a folder and place Mrs. Jones' paperwork into the folder. Next is C. Mr. Crawford fits just nicely, and you put his papers into the C folder.

Again, you do not have any clients with a last name beginning with D. But you have Mr. Oliver, and D kind of looks like O. So D for Mr. Oliver. Now you have Mrs. Edwards and Mr. Andrew left. Mrs. Edwards goes with E, but there isn't really any connection between Mr. Andrew and F. An idea hits you and you pick up a marker, drawing a vertical line down the right of the letter F on the label. Now it looks like an A, A for Andrew. With all the clients' paperwork organized, things are looking much better. You file the folders away in your desk drawer and breathe a sigh of relief.

Now that you have everything for your clients in order, you can turn your attention to the large stack of books on the edge of your desk. These books need to be put back on the bookcase. Since you've been organizing things so efficiently this morning, you decide it's time to organize your bookcase too. You clear the top shelf of all of the books, and put them back on, reordering them according to their size. You put the tallest book to the far left of the shelf, and keep adding shorter books to the right of the first one, until there are no more books left. On the second shelf, you put your three-ring binders, and then miscellaneous notebooks and folders. On the lower shelf, you have some leisure books. You decide to just organize these books by size too so that everything looks nice.

As you are putting the books back, you remember about an important phone call that you need to make later in the afternoon. You go to your desk to jot down a reminder. As you grab a pen for the top desk drawer, you notice that it is also a little unorganized. You grab up all of your loose pens, pencils, paper clips, rubber bands, staples, tacks, and binder clips and place them on top of your desk. You remember that you have a tray with several different-size compartments that will fit into this drawer. You slip the tray into the drawer and begin separating out all of the office supplies. The binder clips are too big for the tray, so you decide to put them in a clear jar. Everything else fits perfectly into the tray and you close the drawer with a smile. You take a moment to look around the room and are pleased at how much better everything looks.

After you are finished, you begin to realize how much time you've spent organizing things. You feel a little bad about not doing any of the other work that you have to do, but you know that this organization will help you get things done better and more efficiently in the long run. Your mind already feels a bit clearer and more focused. You feel like you're ready to tackle all the tasks that face you for the rest of the day. You jot down the reminder about the afternoon phone call and place it next to your computer monitor. Now you are ready to get some work done.

APPENDIX B

RECIPROCITY AND NO RECIPROCITY SCENARIO

Reciprocity Condition

Imagine that you are at work when one of your teeth suddenly starts throbbing. It's so painful that you can't even think of anything else. You call the dentist and, luckily, he can get you in that afternoon. The only problem is that you have several reports that also must be done that afternoon. You ask a coworker, Molly, if she can cover for you and do the reports herself. She agrees--even though it likely means she'll have to stay at work several hours after she usually goes home.

The next day at work, your tooth is fixed and you're feeling much better. Molly got the reports done and she did a great job on them. When you see Molly she looks tired. You chat with her for a bit when she starts to tell you about a new volunteer organization that she is involved with. This organization is raising money for people in a nearby town that was recently hit by a tornado. Molly is in charge of getting people to collect donations. She asks you if you would be willing to stand outside a local grocery store over the weekend to collect donations and if so, how many hours you would be willing to do it for.

If you were in this situation, how many hours would you offer to volunteer for.

No Reciprocity Condition

Imagine that you are at work when one of your teeth suddenly starts throbbing. It's so painful that you can't even think of anything else. You call the dentist and, luckily, he can get you in that afternoon. The only problem is that you have several reports that also must be done that afternoon. You ask a coworker, Molly, if she can cover for you and do the reports herself. She agrees--even though it likely means she'll have to stay at work several hours after she usually goes home.

The next day at work, your tooth is fixed and you're feeling much better. Molly got the reports done and she did a great job on them.

In the morning, you are chatting with another coworker, Barbara, and telling her about your trip to the dentist. When you finish your story, she starts to tell you about a new volunteer organization that she is involved with. This organization is raising money for people in a nearby town that was recently hit by a tornado. Barbara is in charge of getting people to collect donations. She asks you if you would be willing to stand outside a local grocery store over the weekend to collect donations and if so, how many hours you would be willing to do it for.

If you were in this situation, how many hours would you offer to volunteer for.