

Working Paper

The Effectiveness of Reciprocity Appeals in Economic Booms and Busts

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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 lab and field 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.

The Effectiveness of Reciprocity Appeals in Economic Booms and Busts

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 highly limited resources to assist people on the other side of the world?

As described by Ethiopian officials, the donation was simply returning a favor. Half a century before, during the Second World War, Mexico had generously provided aid to Ethiopia. Yet for many, Ethiopia's donation seems to defy rational logic: An impoverished nation went against its self-interest and sent scarce resources to strangers. Adopting a functional evolutionary framework, however, I suggest that Ethiopia's donation might not be so irrational after all. In fact, I contend that this donation might reflect a deeper rationality, and that it might be *because* Ethiopia faced such extreme resource scarcity, that they feel 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). Moreover, marketers have described reciprocity as “one of the most potent weapons of social influence around us” (Cialdini, 1993) and retailers use a wide variety of methods to activate a sense of reciprocity in customers—whether it be through free goods and services, increased time and effort devoted to each customer, or more personalized retail experiences (Bagozzi 1995; Dahl,

Honea, and Manchanda 2005; Howard 1992; Morales 2005; Palmatier et al. 2009; Walker 2009; Wirtz 2007). Despite previous research establishing that reciprocity occurs under a wide range of circumstances, less is known about variation in reciprocity. For instance, when will appeals to reciprocity be more or less effective?

A functional approach suggests that variation in reciprocity may be linked to resource scarcity. When resources are limited, an individual or family may not be able to obtain enough resources to survive, and forming reciprocal exchange relationships can reduce the risk of starvation. Indeed, anthropological field studies have documented increased food sharing in resource-scarce environments (Sahlins 1972; Kaplan and Hill 1985; Alexander 1987; Smith 1988). Integrating streams of research from consumer behavior, psychology, and anthropology, I posit that under resource-scarce conditions, much like those experienced in Ethiopia, people increasingly engage in and rely upon reciprocal relationships. Further, I hypothesize that those concerned with resource scarcity should be more compelled to reciprocate the benefits given to them by others, and respond more strongly to reciprocity appeals.

In a series of five experiments, I investigate the relationship between resource scarcity and reciprocity using both chronic measures of resource scarcity and by temporarily activating concerns about resource scarcity. Further, I elaborate on the proposed relationship between resource scarcity and reciprocity by examining processes that mediate and moderate it. In doing so, I demonstrate that under certain conditions, reminding people of how little they have, can actually increase their willingness to reciprocate.

RECIPROCITY

Reciprocity is ubiquitous, has been observed across a wide range of circumstances, and is rarely violated (e.g., Brehm and Cole 1966; Goranson and Berkowitz 1966; Pruitt 1968; Regan 1971; Wilke and Lanzetta 1970). Reciprocity has been observed in every known human society and is proposed to have adaptive evolutionary origins (e.g., Cialdini 1993; Gouldner 1960; Henderson et al. 2011). Further, researchers have demonstrated that people respond to reciprocity appeals in both public and private contexts (Whatley, Webster, Smith, and Rhodes 1999), when they do not like their exchange partner (Regan 1971), and even when the benefits they receive were unwanted or forced upon them (Cialdini 1993; Paese and Gilin 2000; Regan 1971).

In addition to its role in interpersonal relationships, reciprocity is considered to be “at the core of marketing relationships” (Bagozzi 1995, 275). Indeed, marketers adopt a variety of methods to activate a sense of reciprocity in consumers. Using direct appeals to reciprocity, a retailer might offer a free sample of their product or a free trial period of their service (Howard 1992; Walker 2009). After receiving this benefit, the consumer is more likely to “return the favor” by purchasing something from the retailer. In addition to material goods, reciprocal exchange can also be activated in other ways, such as through enhanced effort on the part of the retailer or customer personalization. A salesperson that devotes extra time and effort helping a customer activates a sense of reciprocity, and the customer is more likely buy a product from that salesperson (Dahl, Honea, and Manchanda 2005; Morales 2005). Likewise, retailers may signal increased effort by personalizing their contact with a customer. For example, Nordstrom stores are known for building strong customer relationships by assigning a specific salesperson to lend

personal help to a particular customer (King 2010). Consistent with this thinking, an analysis of the effectiveness of reward programs found that personalized benefits are better than more general benefits at creating positive relationships between a retailer and consumer (Palmatier et al. 2009; Wirtz 2007).

Despite the apparent prevalence and stability of reciprocity, people do not reciprocate every favor they receive. Indeed, researchers have uncovered several factors that influence the extent to which a recipient is willing to reciprocate. For example, people are less likely to reciprocate a benefit if they see it as being conferred accidentally, rather than deliberately (Greenberg and Frisch 1973), or if they perceive that the initial benefit was given through coercion, rather than the provider's free will (Schopler and Thompson 1968). Moreover, people are less willing to reciprocate a benefit when they think the person granting the favor is being manipulative or has persuasive intent (Ames et al. 2004; Insei, Gruenfeld, and Galinsky 2012). In consumer contexts, the activation of persuasion knowledge (Campbell and Kirmani 2000; Friestad and Wright 1994) has also been shown to significantly reduce the effectiveness of reciprocity appeals (Budowski 2010; Campbell 1995; Campbell, Simpson, Boldry, and Rubin 2010; Marcoux 2009; Morales 2005).

As a whole, extant research demonstrates that reciprocity pervades interpersonal relationships, consumer behavior, and social influence. Although this research has established a wide range of circumstances in which reciprocal exchanges occur, or factors that turn off reciprocity effects, less is known variables that enhance reciprocity. To address this gap in the literature, the current investigation seeks to understand when and for whom reciprocity appeals are more effective. In the present investigation, I use a functional evolutionary framework to integrate research on reciprocity from the psychology and consumer behavior literatures with

anthropological research on food sharing and exchange relationships. In doing so, I relate variation in reciprocity to a critical environmental factor, resource scarcity, and generate a series of hypothesis predicting when reciprocity appeals will be more or less effective.

AN EVOLUTIONARY APPROACH TO RECIPROCITY

Anthropologists and evolutionary biologists have proposed that reciprocal relationships arose to help people survive in resource-scarce environments (Hobhouse 1906; Thurnwald 1932; Trivers 1971). Humans have perennially faced periods of resource scarcity, and acquiring sufficient food has consistently been a significant adaptive problem. In response, researchers have proposed that food sharing likely provided a means of reducing the risk of starvation (Sahlins 1972; Kaplan and Hill 1985; Alexander 1987; Smith 1988). Because it was likely difficult for any given individual or family to obtain sufficient food supplies under resource-scarce conditions, sharing resources with trusted exchange partners may have been an effective means of survival. Indeed, in an ethnographic investigation of the Ache hunter-gatherer group, Kaplan and Hill (1985) showed that hunting failure rates were a significant problem in achieving caloric sufficiency, and that reciprocal exchange relationships solved this problem. When adopting individual resource acquisition strategies, individual Ache were unable to obtain sufficient calories on 27% of days; however, when they exchanged resources through reciprocal networks, that number dropped to 3%. In line with this analysis, other qualitative field studies have shown that reciprocal exchange tends to be more common for variable, high-risk food sources (e.g., rare fruits)—further supporting the notion that reciprocity is a strategy for risk reduction (Gurven 2004; Winterhalder 1986). Finally, researchers assessing a number of

potential explanations for observed patterns of food sharing (e.g., reciprocal exchange, conspicuous consumption, altruism) have demonstrated that reciprocal exchange is the strongest predictor of food sharing across a diverse set of hunter-gatherer groups (Brosnan 2001; Hames 2007). Taken together, this research suggests that reciprocity functions to help people survive in resource-scarce environments: Under resource scarce conditions, 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 is undernourished or starving (worldhunger.org, 2013). Moreover, for those not facing direct food shortages, resource scarcity can still occur through macro-level economic recessions. During the most recent economic downturn in the United States, the average household's wealth declined more than 20% (Pew, 2010). Additionally, according to several recent empirical studies, merely activating perceptions of resource scarcity, by reminding people of tough economic times, is sufficient to produce changes in a range of phenomena. Adopting a functional evolutionary perspective, White et al. (2013a) found that arousing concerns about resource scarcity, by having people read about a recent economic recession, influenced preferences for economic fairness and attitudes toward government redistribution programs. Likewise, 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 alter mating preferences, shift female mating tactics, and influence the types of mating-related consumer goods that women purchase. Together, these findings provide evidence that mere perceptions of resource scarcity can affect a variety of psychological and behavioral outcomes.

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 when thinking about economic downturns. Formally, these predictions are:

H1: Reciprocity appeals will be more effective for those chronically concerned with resource scarcity.

H2: Reciprocity appeals will be more effective for those temporarily concerned with resource scarcity.

RECIPROCITY, RESOURCE SCARCITY, AND RELATIONSHIPS

Although the functional evolutionary perspective predicts a link between resource scarcity and reciprocity, it also suggests important boundary conditions on this relationship.

From this perspective, 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. Therefore, people concerned with resource scarcity may be particularly vigilant of the motives of their potential exchange partners.

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, and Rubin 2010; Marcoux 2009). Further people reciprocate less when persuasion knowledge is explicitly activated (Morales 2005). Building on this work, I propose that people concerned about resource scarcity should be *especially* wary of, and sensitive to, cues of persuasive intent. If so, those concerned with resource scarcity, relative to those without such concerns, will be particularly reactive to persuasive intent and will respond to such cues by reciprocating even less. Formally, I hypothesize:

H3: Concerns about persuasive intent will moderate the relationship between resource scarcity and reciprocity. When resources are scarce and cues of persuasive intent are *not* present, resource scarcity will increase the effectiveness of reciprocity appeals. When resources are scarce and cues of persuasive intent *are* present, resource scarcity will reduce the effectiveness of reciprocity appeals.

As a whole, the research outlined above suggests an important shift in current thinking about resource scarcity and reciprocity. 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, people facing scarcity should not become generally altruistic and share their resources with everyone—a person exchanging with the wrong partner could be exploited. Instead, the evolutionary framework suggests that people should respond to resource scarcity by sharing and exchanging resources with specially trusted exchange partners—a strategy characterized by strategic interdependence.

OVERVIEW

Integrating streams of research from consumer behavior, psychology, and anthropology, I hypothesize that resource scarcity will increase the effectiveness of reciprocity appeals. As described above, however, this relationship may have important boundary conditions related to the persuasive intent. In a series of lab and field experiments, I test the link between resource scarcity and reciprocity, and explore the processes that moderate and mediate it. Experiment 1 examines the relationship between chronic concerns about resource scarcity, as measured by socioeconomic status, and reciprocity. Experiment 2 is a field study exploring how experimental manipulations of resource scarcity and reciprocity affect volunteerism. Experiments 3 and 4 test whether the relationship between resource scarcity and reciprocity is moderated by the perceived

persuasive intent of one's exchange partner. Finally, experiment 5 explores the process that mediates this relationship.

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 qualified them for 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 we are 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

Results showed a significant main effect of the reciprocity condition, $F(1, 215) = 5.03, p < .001$.

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, $t(214) = 2.49, p = .013$, such that the effect of the reciprocity condition was stronger for low-SES participants (see figure 1). Spotlight analyses showed that low-SES participants were willing to complete significantly more questions in the reciprocity condition ($M = 9.60$) than in no reciprocity condition ($M = 5.43$), $p < .001$.

However, for high-SES participants, the difference between the reciprocity ($M = 7.31$) and no reciprocity conditions ($M = 5.85$) was smaller and only marginally significant, $p = .061$.

Overall, experiment 1 provides initial support for the link between resource scarcity and reciprocity using a behavioral outcome measure.

Figure 1 about here

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. Moreover, 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 and the content of the email message served as the experimental manipulation. Participants were randomly assigned to read one of four conditions (for specific wording, see

Appendix A). The *control, no reciprocity* message stated, “We want to make sure you are getting the most out of your college experience...” and described that the university was seeking to make its application 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 (see Appendix A). 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. indicated that students in the resource scarcity conditions were 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, $F(1, 7997) = 34.64, p < .001$. There was a higher response rate in the reciprocity condition ($n = 1,125$) than in the no reciprocity condition ($n = 897$). However, this main effect was qualified by a marginally significant resource scarcity X reciprocity interaction, $F(1, 7997) = 2.88, p = .090$, see figure 2. In the control condition, there was a main effect of reciprocity on the survey completion rate ($n_{\text{reciprocity}} = 531$ vs. $n_{\text{no reciprocity}} = 450, p < .003$). This effect was exacerbated in the resource scarcity condition ($n_{\text{reciprocity}} = 594$ vs. $n_{\text{no reciprocity}} = 447, p < .001$). Stated another way, for those who received the reciprocity-based messages, participants in the resource scarcity condition complied more than those in the control condition ($n_{\text{resource scarcity}} = 594$ vs. $n_{\text{control}} = 531, p = .022$). For those who received the no reciprocity messages, 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 about here

EXPERIMENT 3

Experiment 3 sought to replicate and extend the previous findings by examining a potential boundary condition on the relationship between resource scarcity and reciprocity—the intent of one’s exchange partner. As described earlier, people are wary of influence tactics, and reciprocate less when they believe reciprocity appeals are solely designed to persuade them (Budowski 2010; Campbell 1995; Campbell, Simpson, Boldry, and Rubin 2010; Marcoux 2009; Morales 2005). During periods of resource scarcity, the costs of having an inconsistent, manipulative, untrustworthy exchange partner are exacerbated. Thus, I propose that when people are concerned about resource scarcity, they become *especially* wary of influence tactics. As such, I predict that people concerned with resource scarcity should be increasingly sensitive to cues suggesting persuasive intent, and should respond to such cues by reciprocating less.

I hypothesize that one cue to persuasive intent may be the familiarity of a retailer. 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. However, 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 the thinking outlined above, the link between resource scarcity and reciprocity may be moderated by the familiarity of the retailer. The link should hold for familiar retailers, but not *unfamiliar* retailers. In fact, to the extent that benefits from unfamiliar retailers arouse

concerns about persuasive intent, reciprocation of these benefits might be significantly reduced when resources are scarce. 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, $F(1, 250) = 11.48, p = .001$, 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. $M_{\text{no reciprocity}} = 4.17, p = .040$), and this effect was exacerbated in the resource scarcity condition ($M_{\text{reciprocity}} = 5.80$ vs. $M_{\text{no reciprocity}} = 4.06, p < .001$). 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. $M_{\text{control}} = 4.87, p = .014$). For those in

the no reciprocity condition, there was no difference between the resource scarcity and control conditions, $p > .80$

For the *unfamiliar* store, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 5.06$ vs. $M_{\text{no reciprocity}} = 2.71$, $p < .001$). However this effect was significantly reduced in the resource scarcity condition ($M_{\text{reciprocity}} = 4.19$ vs. $M_{\text{no reciprocity}} = 3.24$, $p = .009$). 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. $M_{\text{control}} = 5.06$, $p = .014$).

Figure 3 about here

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; $M_{\text{age}} = 35.04$) 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 experiments 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, $F(1, 254) = 8.17, p = .005$, 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. $M_{\text{no reciprocity}} = 4.37, p = .13$) and this effect was exacerbated in the resource scarcity condition ($M_{\text{reciprocity}} = 5.72$ vs. $M_{\text{no reciprocity}} = 3.95, p < .001$). 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. $M_{\text{control}} = 4.90, p = .030$).

When persuasion knowledge was active, there was an effect of reciprocity on compliance in the control condition ($M_{\text{reciprocity}} = 4.97$ vs. $M_{\text{no reciprocity}} = 3.86, p = .001$), but this effect was significantly *reduced* in the resource scarcity condition ($M_{\text{reciprocity}} = 4.23$ vs. $M_{\text{no reciprocity}} = 3.93, p = .38$). 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. $M_{\text{control}} = 4.97, p = .031$). 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 about here

EXPERIMENT 5

Experiment 5 sought to understand the mechanism by which resource scarcity affects reciprocity. Reviewing literature from consumer behavior, psychology, and anthropology, converging evidence 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 and 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 more help to others (Emmons and 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). Together, these studies highlight the role of gratitude in reciprocity.

Building on this research, some have proposed that the emotion of gratitude should be 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, and 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 suggest that people may 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. Formally, I predict:

H4: Gratitude will mediate the relationship between resource scarcity and reciprocity. When resources are scarce, people will feel more grateful for the benefits they receive, and this increased gratitude will predict greater reciprocity.

In addition to investigation process, experiment 5 sought to explore another potential boundary condition on the link between resource scarcity and reciprocity—the importance of the relationship between exchange partners. As discussed earlier, the evolutionary perspective emphasizes the role or *strategic interdependence* under conditions of resource scarcity. That is, when resources are scarce, people should seek out exchange partners with whom they can form long-term relationships and establish a social safety net. Building on this thinking, I propose that the relationship between exchange partners becomes increasingly important under resource-

scarce conditions. As such, I predict that when concerns about resource scarcity are activated, people will respond most strongly to appeals that signal the potential for a trusted, long-term exchange relationship. By contrast, people should not necessarily respond more strongly to appeals without such signals—from a functional perspective, people should selectively reciprocate only with those who can provide long-term relationships. Formally, I hypothesize:

H5: Emphasis on the relationship between exchange partners will moderate the link between resource scarcity and reciprocity. During resource scarce conditions, reciprocity appeals that emphasize the relationship between exchange partners will be more effective; appeals that do not emphasize such a relationship will not be more effective.

To test this prediction, experiment 5 manipulated whether participants received an economic benefit that emphasized an existing relationship between exchange partners (reciprocity-based benefit), or a similarly-valued economic benefit that was seemingly unrelated to any relationship (a general economic incentive given to everyone). I predict that people concerned with resource scarcity will respond more positively to the reciprocity-based benefit, but not to the general economic incentive. Overall, experiment 5 had a 2 (resource scarcity vs. control) X 3 (reciprocity vs. economic incentive 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 *reciprocity* 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 *economic incentive* 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 ($r = .72$).

Results

Store rating. Results revealed a marginally significant 2-way resource scarcity X reciprocity interaction on the store rating, $F(2, 197) = 2.78, p = .079$, see figure 5. Participants in the reciprocity condition rated the store more favorably in the resource scarcity condition ($M = 86.37$) than in the control condition ($M = 73.32$), $p = .003$. There was no effect of resource scarcity condition for participants in the economic incentive ($M_{\text{resource scarcity}} = 71.37$ 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, when concerns about resource scarcity were activated, participants in the reciprocity condition liked the store significantly more than participants in the economic incentive or no discount conditions, $ps < .001$.

Figure 5 about here

Willingness to buy the expensive suit. Results revealed a significant 2-way resource scarcity X reciprocity interaction on willingness to buy the expensive suit, $F(2, 197) = 4.68, p = .010$. Participants in the reciprocity condition were more willing to buy the expensive suit in the resource scarcity condition ($M = 45.8\%$) than in the control condition ($M = 18.4\%$), $p = .013$. There was no effect of resource scarcity condition for participants in the economic incentive ($M_{\text{resource scarcity}} = 18.4\%$ vs. $M_{\text{control}} = 26.5\%$, $p = .42$) or no discount conditions ($M_{\text{resource scarcity}} = 13.2\%$ vs. $M_{\text{control}} = 29.0\%$, $p = .12$). Examined another way, when concerns about resource scarcity were activated, participants in the reciprocity condition were significantly more willing to buy the expensive suit than participants in the economic incentive or no discount conditions, $ps < .001$.

Gratitude. Results revealed a significant 2-way resource scarcity X reciprocity interaction on feelings of gratitude, $F(2, 197) = 3.19, p = .043$, see figure 6. Participants in the reciprocity condition felt more gratitude in the resource scarcity condition ($M = 6.06$) than in the control condition ($M = 5.41$), $p = .065$. Participants in the economic incentive condition, tended to feel less gratitude in the resource scarcity condition than in the control condition ($M_{\text{resource scarcity}} = 4.76$ vs. $M_{\text{control}} = 5.31$, $p = .09$). For participants in the no discount condition, there was no effect of the resource scarcity manipulation ($M_{\text{resource scarcity}} = 4.24$ vs. $M_{\text{control}} = 4.32$, $p = .79$). Stated another way, in the resource scarcity condition, participants in the personalized reciprocity condition felt more gratitude than those in the economic incentive and no discount conditions, $ps < .001$.

Figure 6 about here

Mediation. To examine whether changes in gratitude mediated the relationship between resource scarcity and responses to reciprocity appeal, 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 reciprocity to either the economic incentive or no discount conditions. Therefore, in the analyses reported below the economic incentive and no discount conditions were combined and compared to the reciprocity 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 reciprocity 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 reciprocity 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 reciprocity 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 economic incentive 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 personalized reciprocity 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 reciprocity 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 economic incentive or no discount conditions.

Discussion

Experiment 5 demonstrated that experimentally manipulating concerns about resource scarcity increased the effectiveness of reciprocity appeals. However, it also documented an important boundary condition on this relationship. Resource scarcity increased responses to a reciprocity appeal that emphasized an existing relationship (a discount received through a special valued customer program), but did not increase the effectiveness of a general economic incentive that was unrelated to any existing relationship (a general store discount). 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 reciprocity-based benefits, and responded by reciprocating more.

General Discussion

Although reciprocal exchanges have been found to be “universal” across cultures, there are important variations in the extent to which they are activated 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 people with fewer resources are less likely to give away those resources, I proposed instead that people might be especially likely to reciprocate under conditions of economic threat. Experiment 1 showed that people 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 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—people concerned with resource scarcity should be wary of entering into exchange relationships with potentially untrustworthy partners, and the motives of the unfamiliar retailer are 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. 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.

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 reduce the effectiveness of reciprocity appeals, and (2) resource scarcity boosts 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 shows 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 people 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, people concerned with resource scarcity should selectively reciprocate with partners who show long-term potential. This thinking leads to the somewhat counterintuitive prediction that under resource-scarce conditions, reciprocity may be relatively *less* dependent on the value of any particular benefit, and *more* closely tied to the potential long-term 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. This finding suggests that future research on reciprocity should consider both the value of the benefit being exchanged and the value of the relationship between exchange partners.

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 Haan 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, people should not become generally altruistic and share their resources with everyone—a person could be exploited if they share with

the wrong exchange partner. Instead, the present investigation suggests that people should respond to resource scarcity by sharing and exchanging resources with specially trusted exchange partners. Across studies, I found clear and consistent support for the functional framework, and for the notion of strategic interdependence.

Implications

As a whole, these findings have several important managerial implications. First, they show that reciprocity appeals may be more useful with some market segments than others. Specifically, low-income consumers respond more strongly to reciprocity appeals than their high-income counterparts. As such, retailers with a greater percentage of low-income clientele may benefit from more frequently employing reciprocity appeals. Relatedly, this investigation indicates that marketers may want to differentially use reciprocity appeals during economic booms and busts. During recessionary periods, it may be wise to use reciprocity appeals. However, when the economy is doing well, it may be better to adopt other tactics.

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 reference to poor economic conditions was enough to enhance the effectiveness of reciprocity appeal and increase survey participation rates. Importantly, many common marketing strategies may, knowingly or unknowing, arouse concerns about resource scarcity, from framing discounts as being a part of “recession sales” to emphasizing limited stocks of goods to activating social comparisons with wealthy others. This

research suggests pairing these strategies with reciprocity appeals could increase their effectiveness.

Overall, 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, in line with the findings of experiment 5, for those concerned with resource scarcity, 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 link 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, and (5) identified gratitude as the psychological

mechanism mediating this relationship. Taken together, these results demonstrate when and for whom reciprocity appeals are more or less effective.

APPENDIX A

For experiment 2, manipulations of resource scarcity and reciprocity.

Control, No Reciprocity

Arizona State University recently hired a team of web developers to guarantee that we are giving you the most personalized, high-quality experience we can offer. Last year's application process was quicker, easier, more dynamic, and more informative than ever before. We also have exciting new developments for the ASU home page and My ASU. We want to make sure you are getting the most out of you college experience...

Resource Scarcity, No Reciprocity

Arizona State University recently hired a team of web developers to guarantee that we are giving you the most personalized, high-quality experience we can offer. Last year's application process was quicker, easier, more dynamic, and more informative than ever before. We also have exciting new developments for the ASU home page and My ASU. In today's tough economic times, we want to make sure you are getting the most out of you college experience...

Control, Reciprocity

Your relationship with Arizona State University is important to us. That's why we recently hired a team of web developers to guarantee that we are giving you the most personalized, high-quality experience we can offer. Though you might not be aware, as an applicant, you have already benefited from this work. Last year's application process was quicker, easier, more dynamic, and more informative than ever before. And you will keep benefiting from our efforts in the future. We have exciting new developments for the ASU home page and My ASU. We want to make sure you are getting the most out of your college experience...

Resource Scarcity, Reciprocity

Your relationship with Arizona State University is important to us. That's why we recently hired a team of web developers to guarantee that we are giving you the most personalized, high-quality experience we can offer. Though you might not be aware, as an applicant, you have already benefited from this work. Last year's application process was quicker, easier, more dynamic, and more informative than ever before. And you will keep benefiting from our efforts in the future. We have exciting new developments for the ASU home page and My ASU. In today's tough economic times, we want to make sure your are getting the most out of their college experience...

REFERENCES

- Ames, Daniel R., Francis J. Flynn, and Elke U. Weber (2004). "It's the Thought that Counts: On Perceiving How Helpers Decide to Lend a Hand," *Personality and Social Psychology Bulletin*, 30, 461-474.
- Axelrod, Robert (2006), "The Evolution of Cooperation," New York: Basic Books.
- Bagozzi, Richard P. (1995), "Reflections on Relationship Marketing in Consumer Markets," *Journal of the Academy of Marketing Science*, 23 (Fall), 272-77.
- Brehm, Jack W. and Ann H. Cole (1966), "Effect of a Favor Which Reduces Freedom," *Journal of Personality and Social Psychology*, 3, 420-426.
- Budowski, S. (2010), "Red Flags about Timeshares," PR Newswire, (November 1).
<http://www.prnewswire.com/news-releases/red-flags-about-timeshares-106435048.html>.
- Burger, Jerry M. (1986), "Increasing Compliance by Improving the Deal: The That's-Not-All Technique," *Journal of Personality and Social Psychology*, 51, 277-83
- Campbell, Lorne, Jeffrey A. Simpson, J. A., Boldry, Jennifer G., and Harris Rubin (2010), "Trust, Variability in Relationship Evaluations, and Relationship Processes," *Journal of Personality and Social Psychology*, 99(1), 14-31.
- Campbell, Margaret C. (1995), "When Attention-Getting Advertising Tactics Elicit Consumer Inferences of Manipulative Intent: The Importance of Balancing Benefits And Investments," *Journal of Consumer Psychology*, 4(3), 225-254.
- Campbell, Margaret C. and Amna Kirmani (2000), "Consumers' Use of Persuasion Knowledge: The Effects of Accessibility and Cognitive Capacity on Perceptions of an Influence Agent," *Journal of Consumer Research*, 27 (June), 69-83.

- Cialdini, Robert B. (1993), *Influence: Science and Practice*, New York: Harper Collins.
- Cialdini, Robert B. and Noah J. Goldstein (2004), "Social Influence: Compliance and Conformity," *Annual Review of Psychology*, 55, 591-622.
- Cialdini, Robert B., Joyce E. Vincent, Stephen K. Lewis, Jose Catalan, Diane Wheeler, and Betty Lee Darby (1975), "Reciprocal Concessions Procedure for Inducing Compliance: The Door-In-The-Face Technique," *Journal of Personality and Social Psychology* 31, 206.
- Clark, Margaret S., and Judson Mills (1979), "Interpersonal Attraction in Exchange and Communal Relationships," *Journal of Personality and Social Psychology* 37, 12.
- Dahl, Darren W., Heather Honea, and Rajesh V. Manchanda (2005), "Three Rs of Interpersonal Consumer Guilt: Relationship, Reciprocity, Reparation," *Journal of Consumer Psychology*, 15, 307–315.
- Friestad, Marian and Peter Wright (1994), "The Persuasion Knowledge Model: How People Cope with Persuasion Attempts," *Journal of Consumer Research*, 21 (June), 1–31.
- Goldstein, Noah J., Vladas Griskevicius, and Robert B. Cialdini (2011), "Reciprocity by Proxy A Novel Influence Strategy for Stimulating Cooperation," *Administrative Science Quarterly*, 56, 441-473.
- Goranson, Richard E. and Leonard Berkowitz (1966), "Reciprocity and Responsibility Reactions to Prior Help," *Journal of Personality and Social Psychology*, 1966, 3, 227-232.
- Gouldner, Alvin W. (1960), "The Norm of Reciprocity: A Preliminary Statement," *American Sociological Review*, 25, 161–78
- Greenberg, Martin S., and David M. Frisch (1972), "Effect of Intentionality on Willingness to Reciprocate a Favor," *Journal of Experimental Social Psychology*, 8, 99-111.

- Griskevicius, Vladas, Joshua M. Tybur, Andrew W. Delton, A. W., and Theresa E. Robertson, (2011), "The Influence of Mortality and SES on Risk and Delayed Rewards: A Life History Theory Approach," *Journal of Personality and Social Psychology*, 100, 1015-1026.
- Henderson, Conor M., Joshua T. Beck, and Robert W. Palmatier, (2011), "Review of the Theoretical Underpinnings of Loyalty Programs," *Journal of Consumer Psychology*, 21, 256-276.
- Hill, Sarah E., Chris Rodeheffer, Vladas Griskevicius, Kristina M. Durante, and Andrew Edward White (2012), "Boosting Beauty in an Economic Decline: Mating, Spending, and the Lipstick Effect," *Journal of Personality and Social Psychology*, 103, 275-291.
- Hobhouse, L.T. (1951), *Morals in Evolution: A Study in Comparative Ethics*, London: Chapman and Hall, 1951, p. 12
- Houston, Franklin S. and Julie B. Gassenheimer (1987), "Marketing and Exchange," *Journal of Marketing*, 51 (October), 3–18.
- Howard, D. J. (1992). "Gift-Wrapping Effects on Product Attitudes: A Mood-Biasing Explanation," *Journal of Consumer Psychology*, 1(3), 197–223.
- Inesi, M. Ena, Deborah H. Gruenfeld, and Adam D. Galinsky (2012), "How Power Corrupts Relationships: Cynical Attributions for Others' Generous Acts," *Journal of Experimental Social Psychology*, 28, 795-803.
- Kelln, Brad R.C. and John H. Ellard (1999), "An Equity Theory Analysis of the Impact of Forgiveness and Retribution on Transgressor Compliance," *Personality and Social Psychology Bulletin*, 25, 864–72

- King, P. (2010), "Personal shoppers find clothes to make the man," *The Wall Street Journal*, (August 12). <http://online.wsj.com/article/SB10001424052748704164904575421373622725304.html>.
- Marcoux, Jean-Sebastian (2009), "Escaping the Gift Economy," *Journal of Consumer Research*, 36(4), 671–685.
- Mills, Judson, and Margaret S. Clark (1982), "Exchange and Communal Relationships," *Review of Personality and Social Psychology*, 3, 121-144.
- Mowen, John C., and Robert B. Cialdini (1980), "On Implementing The Door-In-The-Face Compliance Technique in a Business Context," *Journal of Marketing Research* 253-258.
- Morales, Andrea C. (2005), "Giving Firms an "E" For Effort: Consumer Responses to High-Effort Firms," *Journal of Consumer Research*, 31(4), 806–812.
- Nevin, John R. (1995), "Relationship Marketing and Distribution Channels: Exploring Fundamental Issues," *Journal of the Academy Marketing Science*, 23 (Fall), 327–34.
- Paese, Paul W. and Debra A. Gilin, (2000), "When an Adversary is Caught Telling the Truth," *Personality and Social Psychology Bulletin*, 26, 75–90.
- Palmatier, Robert W., Cheryl Burke Jarvis, Jennifer R. Bechkoff, and Frank R. Kardes (2009), "The Role of Customer Gratitude in Relationship Marketing," *Journal of Marketing*, 73(5), 1–18.
- Pew Research Center (2010, June). A balance sheet at 30 months: How the great recession has changed life in America. Retrieved August 1, 2012, from the Pew Research Center website: <http://www.pewsocialtrends.org/2010/06/30/how-the-great-recession-has-changed-life-in-america/>

- Pruitt, Dean G. (1968), "Reciprocity and Credit Building in a Laboratory Dyad," *Journal of Personality and Social Psychology*, 1968, 8, 143-147.
- Regan, D. T. (1971), "Effects of a Favor and Liking on Compliance," *Journal of Experimental Social Psychology*, 1, 627-39.
- Schopler, John and Vaida Diller Thompson (1968), "Role of Attribution Processes Mediating Amount of Reciprocity for a Favor," *Journal of Personality and Social Psychology*, 10, 243-250.
- Thurnwald, Richard (1932), *Economics in Primitive Communities*, London: Oxford University Press, p. 106.
- Walker, R. (2009), "Hyatt's random acts of generosity," *The New York Times*, (June 17).
<http://www.nytimes.com/2009/06/21/magazine/21FOB-Consumed-t.html>.
- Whatley, Mark A., J. Matthew Webster, Richard H. Smith, and Adele Rhodes (1999), "The Effect of a Favor on Public and Private Compliance: How Internalized is the Norm of Reciprocity?," *Basic and Applied Social Psychology*, 21, 251-259.
- White, Andrew Edward, Douglas T. Kenrick, Rebecca Neel, and Steven L. Neuberg (2013) "From The Bedroom to the Budget Deficit: Mate Competition Changes Men' Attitudes Toward Economic Redistribution," *Journal of Personality and Social Psychology*, in press.
- White, Andrew Edward, Yexin Jessica Li, Vladas Griskevicius, Douglas T. Kenrick, and Steven L. Neuberg (2013), "Putting All Your Eggs in One Basket: Life History Strategies, Bet Hedging, and Economic Diversification," *Psychological Science*, 24, 715-722.
- Wilke, H., and John T. Lanzetta (1970), "The Obligation to Help: The Effects of Amount of Prior Help on Subsequent Helping Behavior," *Journal of Experimental Social*

Psychology, 6, 488-493.

Wilson, David Sloan, and Elliott Sober (1994), "Reintroducing Group Selection to the Human Behavioral Sciences," *Behavioral and Brain Sciences*, 17, 585-607.

Wirtz, Jochen, Anna S. Mattila, and May Oo Lwin (2007), "How Effective Are Loyalty Reward Programs In Driving Share Of Wallet?," *Journal of Service Research* 9, 327-334.

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

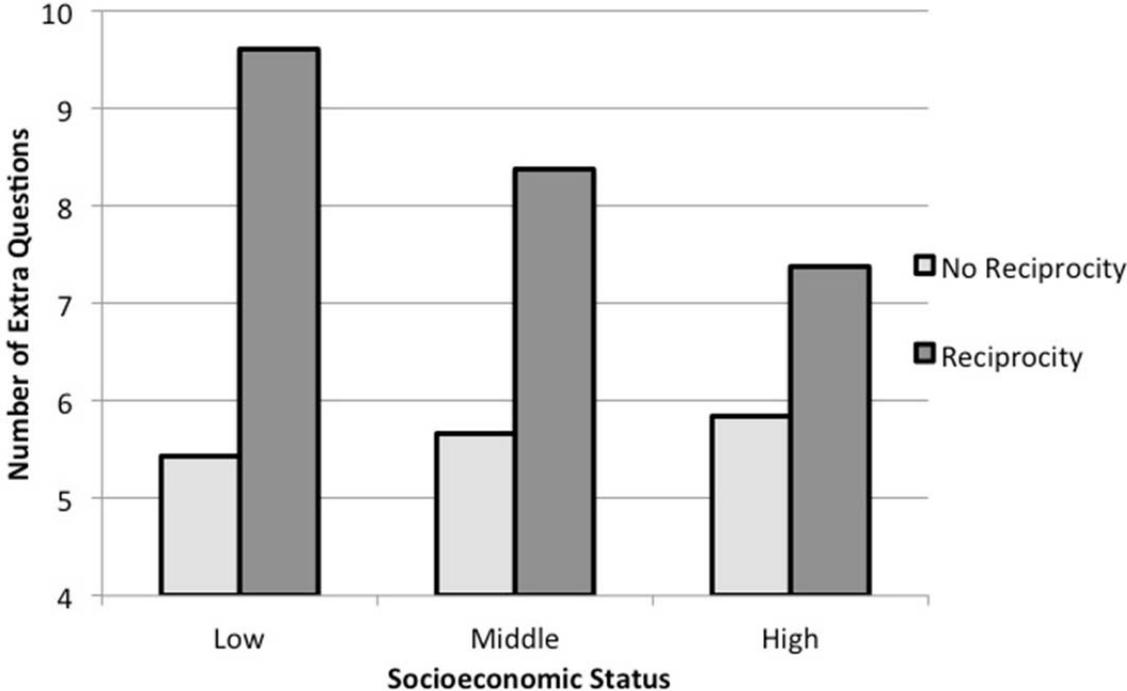


Figure 2. In experiment 2, effect of resource scarcity and reciprocity conditions on volunteering to complete the survey.

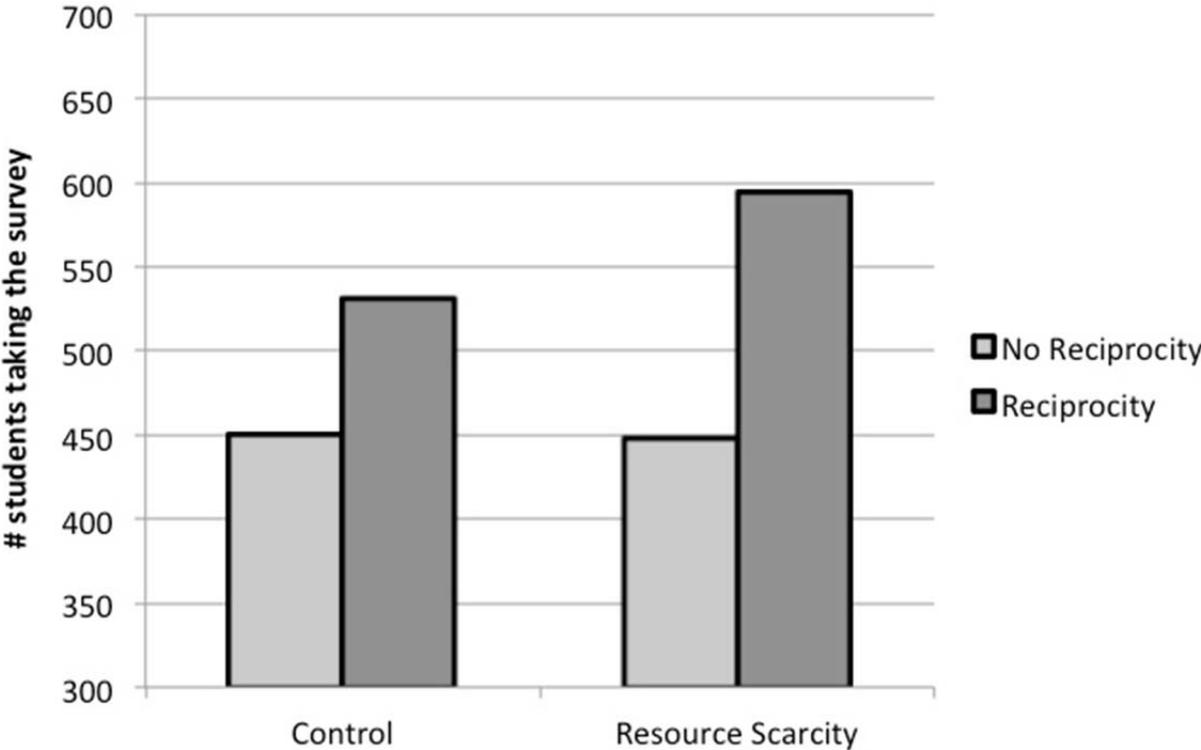


Figure 3. In experiment 3, effect of resource scarcity, reciprocity, and familiarity conditions on compliance.

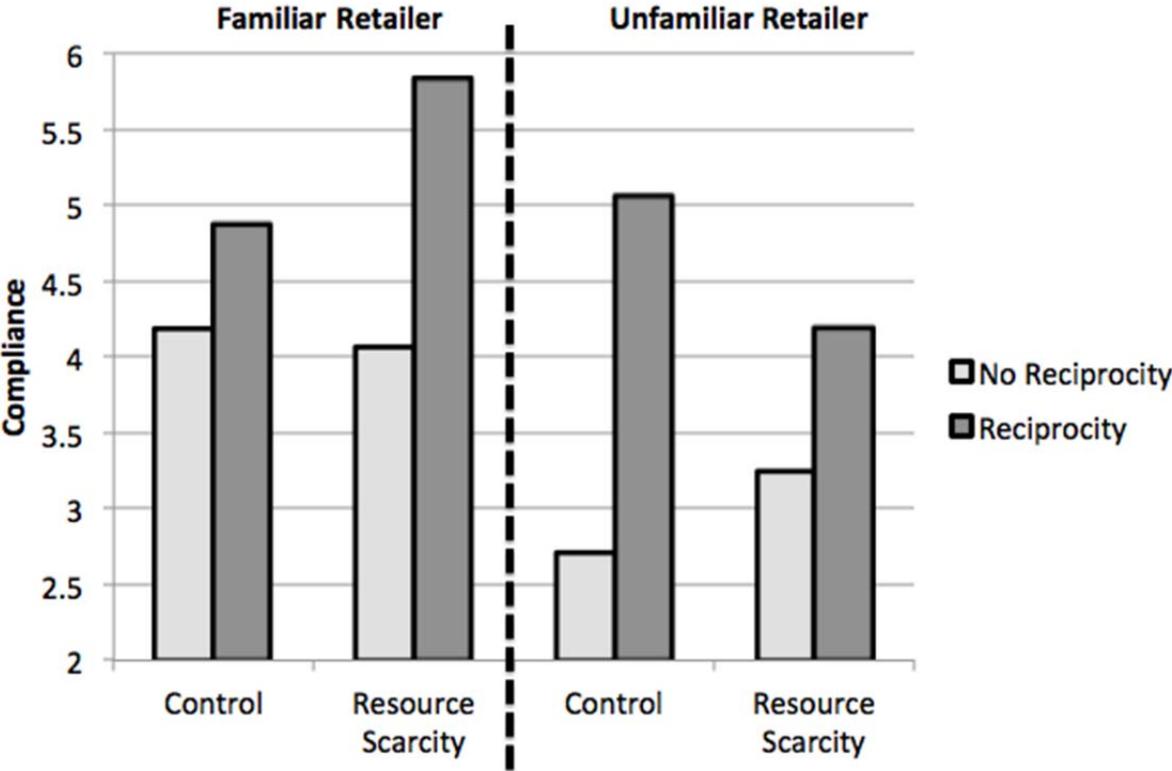


Figure 4. In experiment 4, effect of resource scarcity condition, reciprocity condition, and persuasion knowledge condition on compliance.

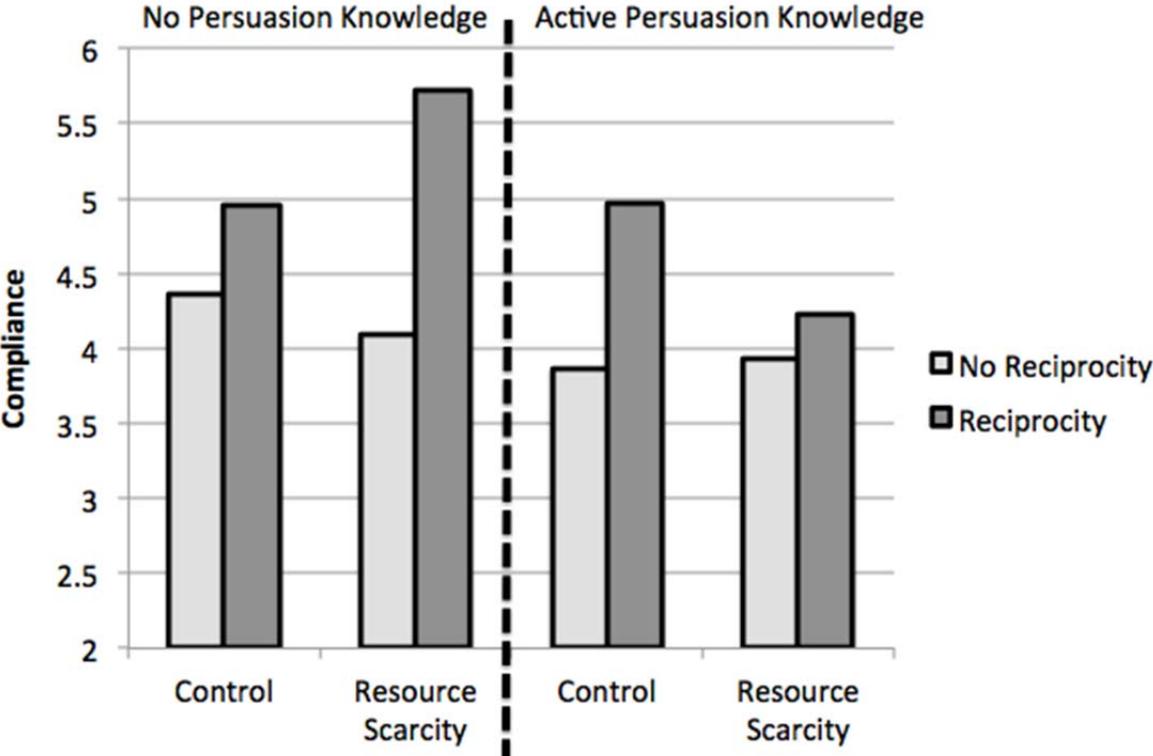


Figure 5. In experiment 5, effect of resource scarcity condition and type of benefit on store rating.

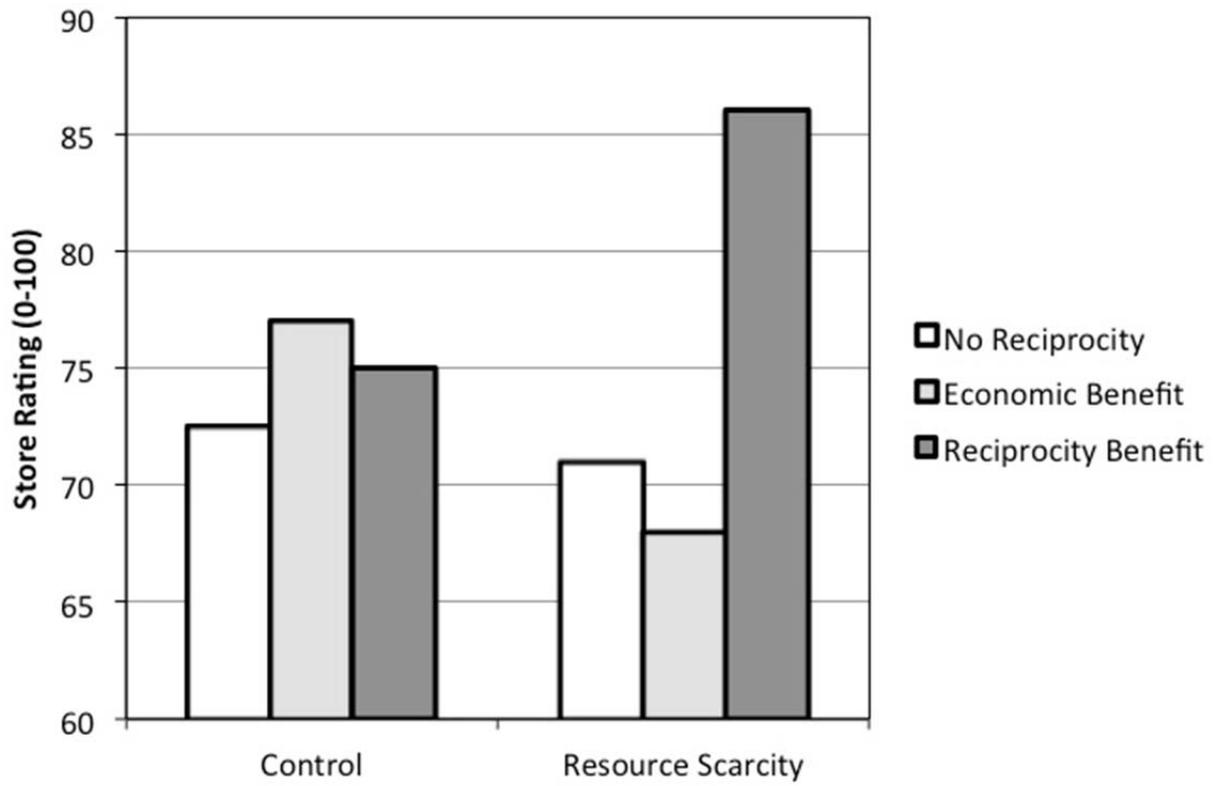


Figure 6. In experiment 5, effect of resource scarcity condition and type of benefit on store rating.

