

## Returnable reciprocity: Returnable gifts are more effective than unreturnable gifts at promoting virtuous behaviors<sup>☆,☆☆</sup>

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### ABSTRACT

Increasing virtuous behaviors, such as initiating healthy habits, is an important goal for policymakers and social scientists. To promote compliance with requests to perform virtuous behaviors, we study “returnable reciprocity.” Whereas traditional reciprocity involves giving people unreturnable unsolicited gifts to encourage compliance, returnable reciprocity involves offering opportunities to return the unsolicited gifts if they choose not to comply. Four studies (and two additional supplemental studies) show that returnable reciprocity (compared to traditional reciprocity) leads to higher enrollment in a hypothetical workplace wellness program (Study 1), as well as greater compliance in an incentive-compatible large-scale field experiment (Study 2) and conceptual lab replications (Studies 3 & S1). Returnable reciprocity may be more effective than traditional reciprocity because it induces increased feelings of guilt for non-compliance (Study 3). Though making an unsolicited gift returnable can be inexpensive, it appears to impose psychological costs that negatively affect the tactic’s overall impact on social welfare (Studies 4 & S2).

Finding ways to initiate and promote virtuous habits and behaviors, such as going to the gym, enrolling in workplace wellness programs, or volunteering for non-profits, is a fundamental challenge of social science. Encouraging uptake of these behaviors can lead to health, well-being, and financial improvements at both the individual and societal levels (Baicker, Cutler, & Song, 2010; Song & Baicker, 2019). For example, inducing people to increase their physical activity and monitor their health can markedly increase their quality of life and life expectancy (Lee et al., 2012). Additionally, from an organizational perspective, ensuring employees are healthy can be an effective strategy to lower absenteeism and increase job satisfaction (Parks & Steelman, 2008).

This paper examines whether a twist on the norm of reciprocity can be leveraged to promote compliance with virtuous requests. In particular, we examine whether a novel form of reciprocity, which we call returnable reciprocity, can be used to increase the likelihood people will

respond positively to requests such as enrolling in a wellness program or helping others.

In the following sections, we review the relevant existing literature and outline the reasoning behind our hypotheses.

### 1. The norm of reciprocity

A fundamental tenet of human behavior is that people repay the benefits shown to them. This centuries-old principle, typically referred to as the norm of reciprocity (Gouldner, 1960), has been identified and examined in philosophy (Becker, 1986), sociology (Gouldner, 1960), psychology (Cialdini, 1984; Genschow et al., 2020), management (Flynn & Brockner, 2003; Goldstein, Griskevicius, & Cialdini, 2011), anthropology (Lévi-Strauss, 1969), economics (Falk & Fischbacher, 2006), and evolutionary biology (Nowak and Sigmund, 2005). A foundational assumption of this norm is that people do not want to feel indebted to

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others, and thus are compelled to repay any benefits they receive (Goei & Boster, 2005; Watkins, Scheer, Ovnicek, & Kolts, 2006). Failing to repay these benefits invokes feelings of guilt (Dahl, Honea, & Manchanda, 2005), which is an aversive emotional state that people generally try to avoid (Tangney, Miller, Flicker, & Barlow, 1996).

In a traditional reciprocity situation, an individual is typically given an unconditional gift (often money or a small item) and is then asked to comply with a subsequent request (Cialdini & Trost, 1998). Even though the individual did not ask for the gift – and receipt of the gift is not contingent on compliance – empirical work finds that people feel obligated to the giver and thus are more likely to comply with the request (e.g., Burger, Sanchez, Imberi, & Grande, 2009; Kunz & Woolcott, 1976). We examine a novel case of reciprocity, which we call returnable reciprocity. In a returnable reciprocity situation, an individual is still given an unconditional gift and then asked to fulfill a request; however, in this case the individual is given an additional choice of simply returning the gift and removing the initial benefit given to them. In other words, people in a returnable reciprocity situation are given the opportunity to cancel or nullify the initial obligation.<sup>1</sup>

There are numerous reasons to believe that, compared to a traditional reciprocity situation, compliance in a returnable reciprocity situation would remain the same or even decrease. First, a rational choice perspective would predict that anyone who values avoiding the request more than the benefit of the gift would take advantage of the opportunity to simply return the gift (and not have to fulfill the request). While this could lead to either no change or a decrease in compliance, there is no plausible reason why it would increase compliance. Second, taking psychological processes into account, a simple model of guilt alleviation would predict that returnable reciprocity would provide people with an additional pathway to assuage their guilt (i.e., by returning the gift). Thus, this account would similarly predict a drop in the rate of people complying with the request.

We surprisingly find evidence of the opposite. In particular, we find that allowing people to voluntarily return the initial benefit leads more people to accommodate the request. We argue that this is because, under these circumstances, people feel guiltier about the prospect of failing to help the requester than if they had no opportunity to give the gift back. In order to avoid these heightened feelings of guilt, people must either return the gift or comply with the request. If returning the gift is undesirable<sup>2</sup>, then the prospect of complying becomes relatively more attractive.

## 2. Reciprocity in practice

The norm of reciprocity has been used to explain a staggeringly diverse array of behaviors, from effort on organizational tasks (Gilchrist, Luca, & Malhotra, 2016; Gneezy & List, 2006) to negotiation outcomes (Weingart, Thompson, Bazerman, & Carroll, 1990). Indeed, some have even argued that offering free samples at the supermarket induces feelings of reciprocity, which in turn increases purchases (Cialdini, 1984; Friedman & Rahman, 2011).

Notably, and most relevant to the present work, reciprocity has been used to increase virtuous behaviors. Nonprofit organizations often provide small gifts – such as return address labels – in their request for

donations (Koop, 2005), and governmental organizations – such as the Bureau of Labor Statistics – have introduced unconditional cash payments to increase completion of important consumer sentiment surveys (McGrath, 2006). Interestingly, however, while monetary incentives have been found to be effective at increasing uptake of health-relevant behaviors (e.g., Bachireddy et al., 2019; Volpp et al., 2008, 2009), we do not know of any previous work examining whether the norm of reciprocity in particular applies in these situations.

Research examining the boundaries of reciprocity has largely focused on the effect of changes to three aspects of the situation: (1) who the players are (e.g., whether the requester differs from the initial giver or whether the initial beneficiary differs from the person asked to comply with the request; Bartlett & DeSteno, 2006; Dufwenberg, Gneezy, Güth, & Van Damme, 2001; Goldstein et al., 2011; cf. Gray, Ward, & Norton, 2014), (2) what the gift is (e.g., the amount of money given or whether the gift was monetary or nonmonetary; Chao, 2018; Gneezy & Rey-Biel, 2014; Kube, Maréchal, & Puppe, 2012), and (3) what the request is (e.g., whether the requested help is larger or smaller in magnitude than the initial gift; Regan, 1971).

Although invoking reciprocity has proved successful at increasing compliance across a wide variety of these situations (and perhaps because of this success), little work has examined changes to the fundamental structure of the reciprocity paradigm. In the present work, we challenge an unexamined assumption behind the efficacy of reciprocity – that people who receive an unconditional gift are stuck complying with a request because they don't have another way to resolve their indebtedness (Cialdini & Trost, 1998) – and examine what happens when this assumption is relaxed.

## 3. Making the gift returnable

People are often torn between behaving in ways they want to and behaving in ways they know they should (Milkman, Rogers, & Bazerman, 2008). These want-should conflicts can take a variety of forms, including choosing between healthy and unhealthy options (Milkman, Rogers, & Bazerman, 2010), between present- and future-benefiting policies (Rogers & Bazerman, 2008), or between self-interested and prosocial options (Tenbrunsel, Diekmann, Wade-Benzoni, & Bazerman, 2010). People's positive self-evaluations rest on their ability to view themselves as the type of person who behaves how he or she *should*; in other words, people are motivated to see themselves as healthy, moral, virtuous, etc. (Blasi, 1984; Mazar, Amir, & Ariely, 2008; Shalvi, Gino, Barkan, & Ayal, 2015; Steele, 1988; Touré-Tillery & Fishbach, 2015; Zlatev, Kupor, Laurin, & Miller, 2020; Dunning, 2007).

When temptations arise, people typically require some sort of excuse or justification to feel comfortable behaving in line with their *wants* (Berman & Small, 2012; Dhar & Wertenbroch, 2012; Lin, Zlatev, & Miller, 2017; Shalvi, Dana, Handgraaf, & De Dreu, 2011). For example, externally imposing a self-interested option (e.g., the decision to keep money rather than donate it) leads people to feel better about themselves than if they were forced to make the choice themselves (Berman & Small, 2012). In this case, the external imposition allows people, in the words of a popular English idiom, to have their cake and eat it too. People can end up with the self-beneficial outcome (keeping the money) without the guilt or self-reproach that comes with having to actively choose it.

When invoking reciprocity, there are many excuses one can come up with for not fulfilling a request. For example, one might argue that the request takes too much time or effort, or that the goal is not worthy enough. When the gift is non-returnable, as in a traditional reciprocity situation, deciding not to comply also *de facto* means keeping the gift. Similar to the Berman and Small (2012) reasoning described earlier, this allows people to minimize any potential guilt they might have otherwise experienced for keeping the gift, as they have no choice in the matter. In other words, any justification for acting in line with one's *wants* in this situation need only excuse avoiding the request itself.

<sup>1</sup> It should be noted that, while we use the term returnable reciprocity, the social exchange happening in this situation can only be considered reciprocity if the gift recipient does not return the gift. If the gift is returned, then the reciprocal chain is broken. However, we believe that the term reciprocity is appropriate here because the recipient's entire decision still revolves around whether or not to reciprocate the initial gift.

<sup>2</sup> Returning the gift may be undesirable for a number of reasons. Specifically, the gift may be valued by the recipient or it may be difficult or time-consuming to return (or both). In our studies we focus on the former, but do not preclude the latter as another possible case where we would expect our results.

However, when keeping the gift is optional, as in a returnable reciprocity situation, it becomes more psychologically difficult to justify an outcome where one both avoids the request and keeps the gift. Because the gift is no longer externally imposed, people who want to avoid the request must now actively choose to additionally keep the gift if they desire to do so. We propose, in line with [Berman and Small \(2012\)](#), that this active choice will increase feelings of self-reproach such as guilt. Thus, anyone who values the gift and who otherwise may have felt comfortable not complying while keeping the gift, we now predict will instead fulfill the request, leading to an overall higher rate of compliance.

We additionally predict that increased feelings of anticipated guilt in particular will underlie this increased compliance. As mentioned earlier, guilt has been proposed as a primary mechanism for traditional reciprocity ([Dahl et al., 2005](#)). Not complying with a request after receiving a gift makes people feel as if they have failed an obligation ([Burger et al., 2009](#)) – a behavior associated with one's "wants" (as opposed to one's "shoulds") that can lead to feelings of guilt ([Tangney, 1995](#)). Because, as discussed above, returnable reciprocity makes it even more difficult to excuse one's *want* behavior, we predict this will highlight the potential social violation that comes with failing to fulfill an obligation. This increased focus on non-compliance as being associated with one's *want* behavior will in turn heighten feelings of anticipated guilt for not complying, which in turn should increase compliance.

#### 4. Using returnable reciprocity to increase healthy habits

Behavioral research has identified many barriers to the creation of healthy habits. A key barrier that must be initially overcome is simply starting an activity in the first place. Previous research has found that encouraging people to start a habit, such as going to the gym, makes them more likely to sustain it long-term ([Charness & Gneezy, 2009](#)). Thus, it is important to identify effective ways to nudge people toward initiating virtuous behaviors, with the intent that these behaviors will turn into habits.<sup>3</sup>

One particularly prominent method of prompting people to create healthy habits is encouraging them to enroll in employee wellness programs. In recent years there has been a rise in the implementation of employee wellness programs in the U.S. and abroad ([Rossi, 2010; Jack, 2018](#)). As of 2018, approximately 50 million Americans were eligible for some form of wellness program in their organization ([Jones, Molitor, & Reif, 2019](#)) with average incentives falling between \$100 and \$500 per employee ([Mattke, Schnyer, & Van Busum, 2013](#)).

Numerous studies have found positive benefits of employee wellness programs, such as medical cost savings, increased employee satisfaction and productivity, and decreased employee turnover ([Baicker et al., 2010; Gubler, Larkin, & Pierce, 2018; Krekel, Ward, & De Neve, 2019; cf. Song & Baicker, 2019; Jones et al., 2019](#)). However, enrollment in these programs is typically voluntary. As a result, it is important to examine whether there are ways to increase participation in these programs in order to boost the individual and societal benefits that may result.

#### 5. Overview of studies

We examine the ability of returnable reciprocity to increase virtuous behaviors in six studies (four primary and two supplemental). Study 1 provides initial evidence that returnable reciprocity increases compliance with a hypothetical request to enroll in an employee wellness program. Study 2 examines the effect further in a large-scale field experiment looking at rates of survey completion across two U.S. states.

<sup>3</sup> It is important to note, however, that while we predict returnable reciprocity will increase uptake of an initial activity, we cannot speak to the second part of habit formation: turning the initial behavior into a repeated one.

Studies 3 and S1 replicate the result in a more controlled setting using an incentive compatible design, and provide some evidence that guilt statistically mediates the relationship between request type and compliance. Finally, Studies 4 and S2 provide an initial examination of the welfare implications of this intervention, finding that if given the option people on average prefer to be placed in a traditional reciprocity situation rather than a returnable reciprocity situation. Data, code, and materials for all studies are available at: <https://osf.io/u7wvt>.

#### 6. Study 1

The goal of Study 1 was to examine whether returnable reciprocity could be used to increase enrollment in an employee wellness program. Study 1 was preregistered at <https://aspredicted.org/ti7ew.pdf>.

##### 6.1. Participants and methods

Six hundred participants (287 male, 307 female, 6 other;  $M_{\text{Age}} = 35.41$ ,  $SD_{\text{Age}} = 12.72$ ) living in the U.S. were recruited from Prolific Academic. We set a sample size of 600 participants in advance.

Participants were asked to imagine that they received a package in the mail from their employer. In the package was \$5 and a flyer with information about a new employee wellness program that they could choose to enroll in. Participants were able to read the flyer, which outlined the various perks of the employee wellness program, including a fitness assessment, personal training sessions, and webinars. In total nine options were listed in the flyer that participants in the wellness program could take part in. Participants were told that if they decide to enroll in the program, they would be asked to participate in at least two of the options listed in the flyer.

Participants were then randomized across two conditions. Participants in the Traditional Reciprocity condition saw the following information:

*"You are not required to enroll in the wellness program. You can keep the \$5 whether or not you enroll in the wellness program."*

Participants in the Returnable Reciprocity condition instead saw the following information:

*"If you choose not to enroll in the wellness program, you are asked to return the \$5. However, you are not required to enroll in the wellness program or return the \$5. It is only requested, and your employer would not know whether or not you returned the \$5."*

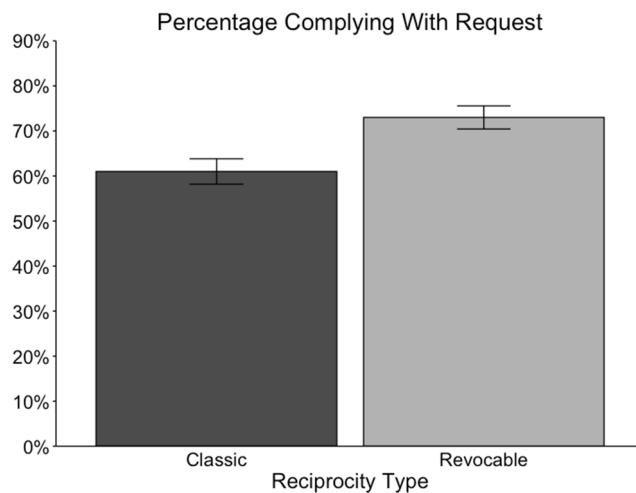
Participants then indicated whether or not they would choose to enroll in the wellness program, and finally answered demographic questions.

##### 6.2. Results

Overall, 67.0% of participants indicated that they would enroll in the wellness program. Participants in the Returnable Reciprocity condition (73.0%) were significantly more likely to enroll in the wellness program than participants in the Traditional Reciprocity condition (61.0%;  $\chi^2 (df = 1, N = 600) = 9.23, p = .002$ ; see [Fig. 1](#)).

##### 6.3. Discussion

In Study 1 we found that returnable reciprocity increased compliance above a traditional reciprocity situation in a health-related domain. However, a limitation of this study was that the scenario itself was hypothetical. As a result, it is possible that participants simply said they would enroll while having no intention of doing so if faced with this decision for real. As a result, in Study 2 we examine this phenomenon in the field using a real, incentive-compatible request.



**Fig. 1.** Percentage of participants complying with the request by condition in Study 1.

## 7. Study 2

The goal of Study 2 was to see whether returnable reciprocity was effective in a naturalistic field setting designed to increase uptake of a virtuous survey.

### 7.1. Participants and methods

#### 7.1.1. Design

This study was part of a large-scale program that ran across three public school districts in two states between November 2017 and June 2018. The goal of the program was to examine the effect of engaging social support networks on student achievement. As part of the program, parents were asked to list one or two “supporters” for their child whom they permitted to receive information about their child’s education. These supporters could be any adult who played an important role in the child’s life, including grandparents, mentors, or coaches. In total, 2964 students and 2195 supporters enrolled in the program.

As part of this program, supporters were randomly assigned to either a treatment condition, where they received weekly mail and text message updates about their paired student, or a control condition, where they received no communication. A pre-registered analysis plan for the program is available at osf.io/62cyb. Assignment to these two program conditions was unrelated to the assignment to the conditions in the present study, which are described in detail below.<sup>4</sup> The goal of the present study was to assess response rates to a survey sent to a subset of parents and mentors who participated in this program.

#### 7.1.2. Participants

A total of 5665 parents and supporters were enrolled in the program at the end of the school year (June 2018). At this time, people enrolled in the program received a letter in the mail asking them to complete a survey to help the school system learn more about how to best support their students. 1865 people who participated in the program were not sent a survey for one of a number of reasons (4 participants associated with students whose consenting guardians no longer had custody; 1517 participants associated with students where neither the parent nor the supporter had any contact information; and 344 participants who did not have a mailing address; see Lasky-Fink & Rogers, 2020 for more details on how contact information was acquired and validated).

In total, 3800 people (1896 parents and 1904 supporters) were mailed a survey. Students in the same household and students who shared a supporter were clustered, leaving a total of 2022 clusters. One student was randomly selected as the focal student for each cluster. Participants were then assigned, via stratified randomization, to one of five conditions.<sup>5</sup> The present research focuses on three of these conditions described in more detail below; the other conditions are discussed in Lasky-Fink and Rogers (2020). As a result, this study included 2287 participants (1146 parents and 1141 supporters) grouped into 1216 total clusters.

The students asked about in the survey represented all grade levels from kindergarten to 12th grade. 48.2% of the students were female and 10.2% lived in a home where the primary language was not English.

#### 7.1.3. Procedure

All participants were mailed a short letter from their school district informing them that the school district was partnering with academic researchers to learn more about how best to support students (see Appendix A for examples of the letter). Participants were then asked to complete an enclosed survey. As mentioned above, participants were randomly assigned to one of three conditions. Participants in the Control condition were not given any monetary incentive to complete the survey. Participants in the Traditional Reciprocity and Returnable Reciprocity conditions received an additional \$5 bill in the mailing. Participants in the Traditional Reciprocity condition were simply told that the enclosed \$5 was to thank them for their time and effort. Participants in the Returnable Reciprocity condition were additionally asked to return the \$5 if they chose not to complete the survey.

In addition to mentioning this is the text of the letter, the \$5 bill had a sticky note attached to it reiterating the most important information from the letter. In particular, in the Traditional Reciprocity condition, the sticky note included the following text:

To thank you for your time and effort, please find \$5 enclosed from the Spencer Foundation, one of the funders supporting this project.

In the Returnable Reciprocity condition, the sticky note included the text above plus the following additional text:

If you choose not to complete this survey, please return the \$5 using the return envelope provided by 7/3/18. (You are not required to complete this survey or return the \$5)

The survey was between 26 and 32 questions long and was spread out over 4 to 6 pages. A prepaid return envelope was included either to return the survey or, in the Returnable Reciprocity condition, to potentially return the \$5.

## 7.2. Analytic approach

The primary outcome measure was whether or not participants sent back the survey in the return envelope. For all analyses we conducted binary logistic regressions using robust standard errors with errors clustered by student-supporter cluster. We also included several control variables: school district, whether the respondent was a parent or supporter, treatment assignment in the program, whether the respondent’s reported language was English, student gender, and student grade level. Results described in the results section are from the model that includes the control variables. However, full results with and without controls are displayed in Table 2.

## 7.3. Results

Of the 2287 surveys mailed out, 590 were returned, leading to an overall response rate of 25.8%. Breaking down return rates by condition, 19.1% of participants in the Control condition, 25.8% of participants in

<sup>4</sup> There was no statistical relationship between assignment to program condition and our primary dependent measure.

<sup>5</sup> Assignment to these conditions was orthogonal to assignment to the treatment vs. control conditions for the program discussed earlier.

**Table 1**  
Descriptive results from Study 2.

	Control	Traditional Reciprocity	Returnable Reciprocity
All			
Total N	760	767	760
% returning survey	19.1%	25.8%	32.5%
Parents			
Total N	380	380	386
% returning survey	13.4%	22.4%	26.4%
Nominated supporters			
Total N	380	387	374
% returning survey	24.7%	29.2%	38.8%

the Traditional Reciprocity condition, and 32.5% of participants in the Returnable Reciprocity condition returned a survey (see Table 1).

Participants in the Traditional Reciprocity and Returnable Reciprocity conditions returned surveys at a significantly higher rate than participants in the Control condition ( $b = 0.19$ ,  $z = 4.84$ ,  $p < .001$ ). This indicates that participants were sensitive to reciprocity concerns. Looking within the two types of reciprocity tested, participants in the Returnable Reciprocity condition returned the survey at a significantly higher rate than participants in the Traditional Reciprocity condition ( $b = 0.17$ ,  $z = 2.83$ ,  $p = .005$ ). This indicates that participants were sensitive to the suggestion that they return the money if they did not complete the survey.

Another way to categorize these results is that the Returnable Reciprocity condition increased compliance by 26% above the Traditional Reciprocity condition and 70% above the Control condition. Had all 5665 people who were enrolled in the program in June 2018 received a single version of the letter, the Returnable Reciprocity version would have resulted in approximately 379 additional returned surveys compared to the Traditional Reciprocity version, presumably at a cost savings since participants also had the opportunity to return the money to the school district.

#### 7.4. Discussion

Study 2 provided further evidence that giving people the option to return a gift increased compliance with a request. This was demonstrated in an incentive-compatible field setting with a behavioral measure of compliance (i.e., completing a survey for the school district). These results conform with Study 1, both in direction and magnitude of the effect. Having established the efficacy of returnable reciprocity in the lab and the field, we now turn to examining the potential psychological mechanism.

#### 8. Study 3

The goal of Study 3 was twofold: First to examine the effect in a controlled setting with an incentive compatible measure of compliance, and second to assess whether anticipated guilt statistically mediated the effect of reciprocity type on compliance, as we predicted. Study 3 was preregistered at <https://aspredicted.org/ru6n9.pdf> (see also Study S1 in the Supplementary Material).

##### 8.1. Participants and methods

Six hundred and four participants (318 male, 279 female, 7 other;  $M_{age} = 31.68$ ,  $SD_{age} = 11.11$ ) living in the U.S. were recruited from Prolific Academic. We set a sample size of 600 participants in advance.

Participants were first asked to complete a filler task involving

**Table 2**  
Regression results from Study 2.

	Dependent variable:	
	Returned survey (1)	Returned survey (2)
Reciprocity vs. no reciprocity	0.184*** (0.039)	0.187*** (0.039)
Traditional vs. returnable reciprocity	0.162** (0.061)	0.174** (0.061)
District		0.034 (0.140)
Supporter		0.503*** (0.094)
Program treatment assignment		-0.158 (0.104)
Female		-0.009 (0.103)
Non-english		-0.284 (0.196)
Student Grade		-0.017 (0.016)
Constant	-1.077*** (0.052)	-1.250** (0.426)
Observations	2,287	2,287
Note:	* $p < .05$ ** $p < .01$ . *** $p < .001$	

indicating whether or not various images featured animals or wildlife. When participants finished they were told that, to thank them for their time and effort, we were giving them an additional bonus of \$0.25. Participants were then asked to complete a short mental wellbeing assessment.

Participants were randomized across two conditions. Participants in the Returnable Reciprocity condition saw the following:

*[If you choose not to complete this assessment, please return the \$0.25 bonus you are receiving]. You are not required to complete this assessment [or return the \$0.25 bonus]. Your compensation for this survey and the \$0.25 bonus are yours regardless of whether you complete the assessment. [You will have the chance to return the bonus on a later page.]*

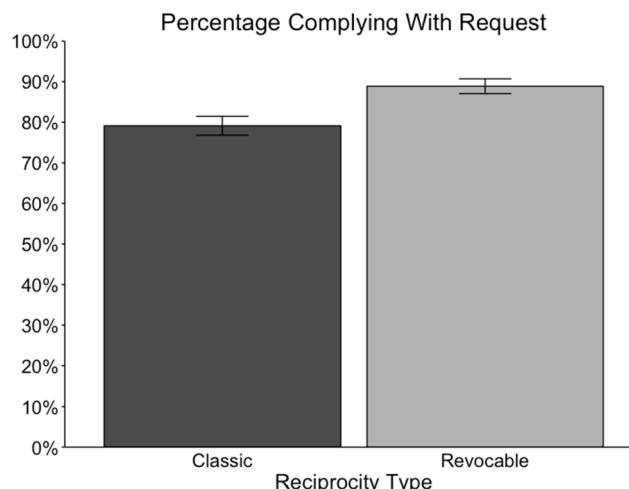
Participants in the Traditional Reciprocity condition only saw the text outside of the brackets.

Participants were then asked to report how guilty they would feel if they chose not to complete the assessment. Participants responded on a five-point scale from “Not at all guilty” to “Extremely guilty.” Participants were next asked whether they would like to complete the assessment or skip it, and finally they responded to demographic questions.

#### 8.2. Results

As in the previous studies, participants in the Returnable Reciprocity condition (92.0%) were significantly more likely to complete the assessment than participants in the Traditional Reciprocity condition (80.2%;  $\chi^2 (df = 1, N = 604) = 16.67, p < .001$ ; see Fig. 2).<sup>6</sup> Participants in the Returnable Reciprocity condition ( $M = 3.36, SD = 1.34$ ) also indicated that they would feel significantly higher guilt than participants in the Traditional Reciprocity condition ( $M = 2.92, SD = 1.36; \beta = 0.32, t(598) = 3.93, p < 0.001, 95\% CI [0.16, 0.48]$ ). Additionally, ratings of guilt positively and significantly predicted the choice to complete the assessment ( $\beta = 0.78, z = 6.13, p < 0.001, 95\% CI [0.54, 1.04]$ ). Finally, a mediation analysis with bootstrapping (10,000 iterations)

<sup>6</sup> Out of the 24 people in the returnable reciprocity condition who indicated they wanted to skip the assessment, 7 indicated that they would voluntarily return the bonus. Non-preregistered follow-up analyses indicated that removing these 7 participants did not change any results.



**Fig. 2.** Percentage of participants complying with the request by condition in Study 3.

indicated a significant indirect effect of condition on decision to complete the assessment via anticipated guilt (95% CI [0.01, 0.05]).

### 8.3. Discussion

Study 3 provided additional evidence people complied more with a request when they had the option to return the gift than when they did not have that option. Study 3 also found that returnable reciprocity increased anticipated guilt, and that this anticipated guilt statistically mediated the effect of reciprocity type on compliance.

## 9. Study 4

While the traditional reciprocity and returnable reciprocity situations are equal in terms of their economic costs (i.e., they require the same amount of money to implement), they may differ in terms of other costs to participants and society. In particular, recent work has argued there are often unexamined welfare costs to seemingly simple behavior change interventions (Allcott & Kessler, 2019; DellaVigna, List, & Malmendier, 2012). We do an initial examination into this possibility in Study 4 (see also Study S2 in the Supplementary Material).

### 9.1. Participants and methods

Three hundred and two participants (148 male, 146 female, 8 other;  $M_{age} = 33.46$ ,  $SD_{age} = 12.08$ ) living in the U.S. were recruited from Prolific Academic. We set a sample size of 300 participants in advance.

Participants were asked to imagine that they received a package identical to the one people imagined receiving in Study 1, in which they were asked to sign up for an employee wellness program. Participants were then shown two options, which were counterbalanced. The first option was the Traditional Reciprocity situation, described identically to the Traditional Reciprocity condition in Study 1. The second option was the Returnable Reciprocity situation, again described identically to the Returnable Reciprocity condition in Study 1. Participants were asked which version of this package – the version with the traditional reciprocity wording or the version with the returnable reciprocity wording – they would prefer to receive.

### 9.2. Results

Overall, 78.8% of participants preferred to receive the Traditional Reciprocity situation over the Returnable Reciprocity situation. This was the majority of participants by a significant margin ( $\chi^2 (df = 1, N = 302) = 100.25, p < .001$ ).

### 9.3. Discussion

Study 4 informed participants about both types of reciprocity situations examined in Studies 1–3, and asked them to choose in which they preferred to be placed. A majority of participants preferred to receive the \$5 without the explicit opportunity to return it. One possibility is that people may anticipate the increased guilt they will feel in the returnable reciprocity situation, and thus would prefer to avoid it.

## 10. General discussion

In four studies, we have demonstrated that making a gift optional increases compliance with a subsequent request, an effect that we call returnable reciprocity. In Study 1 we demonstrate that returnable reciprocity can increase enrollment in a wellness program, thus potentially improving important health outcomes. In Study 2 we find evidence that returnable reciprocity additionally increases survey completion in a large-scale field experiment. In Study 3 we find that guilt statistically mediates the effect of reciprocity type on compliance in a controlled, incentive-compatible setting. Finally, in Study 4 we begin to examine the welfare effects of returnable reciprocity, finding that people prefer to be placed in a traditional reciprocity situation than in one where they have the option to return the initial gift.

### 10.1. Theoretical implications

This work has a number of important theoretical implications. First, we contribute to the literature on increasing the uptake of healthy behaviors (Halpern et al., 2015; Loewenstein, Brennan, & Volpp, 2007; Staats, Dai, Hofmann, & Milkman, 2017). While little previous work has examined the efficacy of reciprocity in the health domain, we demonstrate that returnable reciprocity is still beneficial for compliance on health-relevant behaviors. However, our studies in the health domain did not include a true control condition, so future research would benefit from examining the effect of traditional reciprocity (over and above no reciprocity) in the health domain.

Second, we identify a previously unexamined form of reciprocity that we demonstrate is even more potent than the traditional reciprocity situation used to increase compliance across a wide variety of domains. In short, making the gift easier to return actually counterintuitively makes people more likely to respond to a request from the gift giver. Notably, however, none of the requests in our studies were done face-to-face, but rather were done either via letter or on the computer. It may be that feelings of guilt for not completing a request are heightened in general in face-to-face situations, leading to a ceiling effect where making the gift returnable does not further increase compliance. Future work could examine this is a potential moderator.

Third, we demonstrate a novel way in which people feel compelled to engage in behavior that benefits the social good. Namely, making a self-interested gain optional makes it harder to avoid doing a virtuous deed without feeling guilty. This work contributes to a long and growing list of ways in which people's positive view of themselves is constrained by the situation (e.g., Berman & Small, 2012; Lin et al., 2017; Wang & Murnighan, 2017). Ironically, and unlike previous work, returnable reciprocity achieves this feeling of psychological constraint while simultaneously giving people *more* options (i.e., the additional option to return the gift) rather than by taking options away. Future work could further explore whether there are other instances in which increasing the actual freedom of a decision simultaneously decreases the psychological freedom one feels when making the choice.

We would like to clarify that we have no reason to believe that returnable reciprocity only works for health-relevant behaviors. In fact, Studies 2 and S1 were conducted outside of the health domain entirely. We discuss more about potential boundary conditions for this effect below.

### 10.2. Practical implications

On the practical side, this research provides a simple and powerful intervention to boost compliance rates in a real-world setting. This work falls in line with recent attempts to identify effective nudges that can increase desirable behavior (e.g., Benartzi et al., 2017; Rogers, Goldstein, & Fox, 2018; Sunstein & Thaler, 2003). In particular, as mentioned earlier, this version of reciprocity provides even more choice than traditional versions, thus satisfying the view that nudges should preserve individual autonomy (Sunstein & Thaler, 2003). Study 2 found that the addition of a single line mentioning the possibility of returning the gift led to a 26% increase in compliance over a traditional reciprocity request. This presents an immediately scalable technique to increase compliance for everything from survey completion to charitable donations. Of course, the results from Study 4 should rightfully give us some pause, a point that we return to in the next section.

### 10.3. Limitations and Future directions

In the present work, we focused on situations in which (1) the giver and requester were the same entity (i.e., direct, rather than indirect, reciprocity), and (2) there is a specific subsequent request to do something (as opposed to an implied general obligation to reciprocate). It is unclear to what extent these factors play a role in the effectiveness of returnable reciprocity. For example, without an explicit request for help, people may feel more comfortable simply keeping the gift and not complying with the request. Future research should examine these potential boundary conditions.

Additionally, while we find evidence for our effect in a number of different domains, including education and health, there may be domains where this effect would not hold. Relatedly, while reciprocity itself has been called a near-universal norm, different cultures may engage in reciprocity for different reasons (Miller & Bersoff, 1994). If, rather than inducing an obligation that one does not really want to repay, reciprocity instead induced something more like a sense of duty or allegiance, then this effect would likely not occur.

Relatedly, to simplify the study design, or current studies used money as the initial gift given to participants. Thus, one might question whether these effects generalize to non-monetary gifts as well. Recent work has found no differences in reciprocity behavior between monetary and non-monetary gifts in a traditional reciprocity paradigm (Chao, 2018), which suggests that non-monetary gifts should also be effective in a returnable reciprocity situation. However, future research should examine this question more directly, particularly in situations where the non-monetary gift is not valued by the recipient.

It is important to also note that while we find evidence in Study 3 that returnable reciprocity evokes greater anticipated guilt than traditional reciprocity, which supports our proposed mechanism, it is entirely possible that other psychological processes are at play as well. For example, from a social relations perspective (Fiske, 1992), returnable

reciprocity may additionally change the interpretation of the gift from being part of an equality matching relationship to a market pricing relationship. Future work could identify these other potential processes and test whether they are also at play in the phenomenon we've identified.

Finally, Study 4 provides suggestive evidence that there may be additional affective consequences to invoking returnable reciprocity that should be taken into account when deciding whether or not to implement it in a field setting. If the aggregate welfare benefit of increased compliance is less than the aggregate welfare harm of increased feelings of guilt for non-compliance, then this strategy could lead to overall decreases in social welfare.

More broadly, Study 4 adds to a growing area of research focusing on potential spillover effects of well-known behavioral nudges. For example, Allcott and Kessler (2019) find that approximately one-third of households would pay not to receive home energy conservation reports, suggesting these reports are providing negative utility to a portion of residents. Nonetheless, the program they studied is administered each quarter to millions of homes around the world. Tools for better understanding the true costs and benefits of nudges are only now being developed (Benartzi et al., 2017), and these limitations should be kept in mind when deciding when and how to implement this, or any other, nudge in an organizational setting.

Future research could attempt to quantify these benefits and harms more systematically, perhaps by examining how much (if anything) people would be willing to pay to avoid being placed in a returnable reciprocity situation. In addition to the aggregate welfare consequences, individual actors desiring compliance should also keep these preferences in mind since non-compliers may have heightened resentment toward the compliance-requesting organization when returnable reciprocity is deployed.

## 11. Conclusion

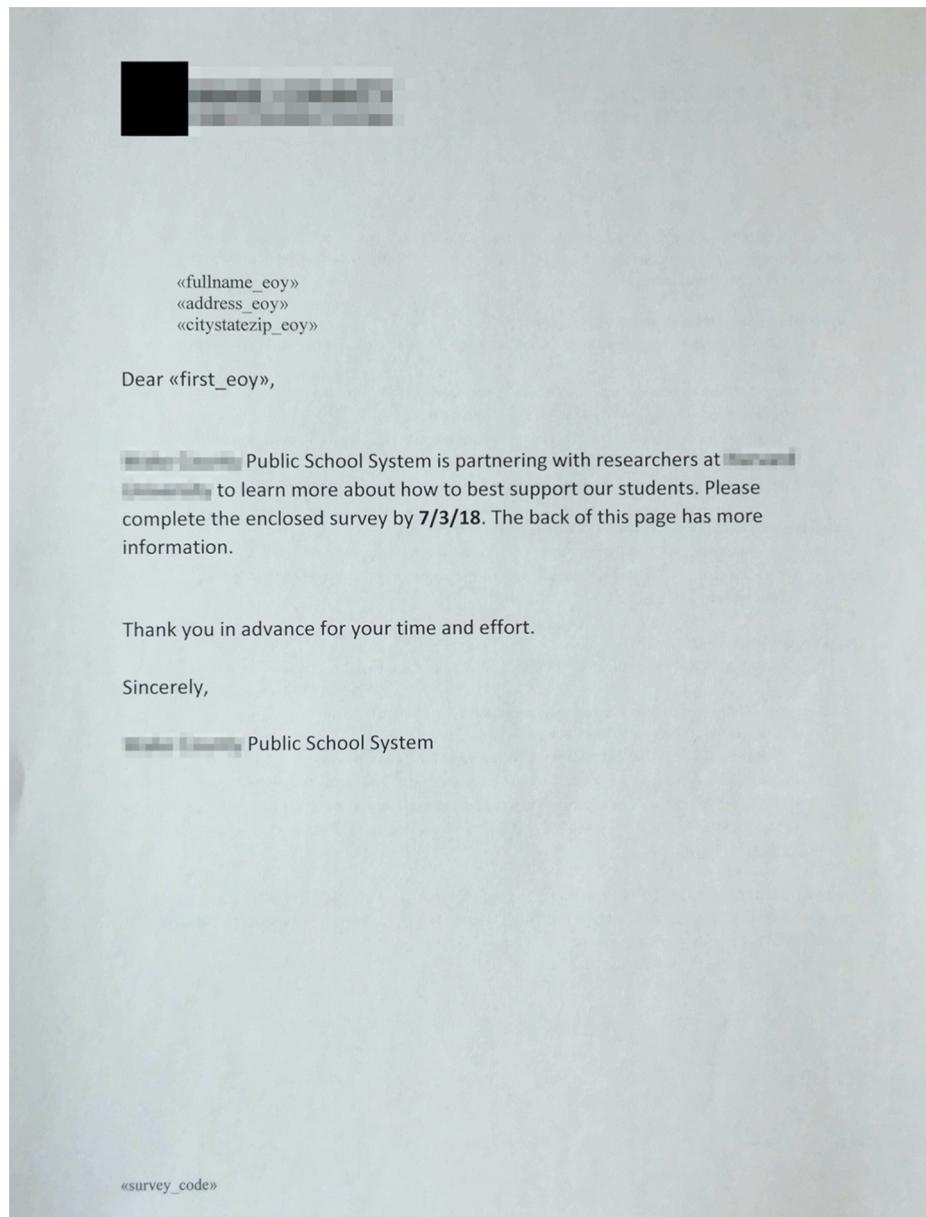
We demonstrate that, counter to important economic and psychological predictions, gift recipients comply with subsequent requests to a greater extent when the gift is returnable than when it is not. The increased guilt associated with returnable reciprocity suggests that people want to find ways to benefit themselves while avoiding feeling bad about it, which returnable reciprocity makes more difficult to accomplish. These findings provide practical advice on increasing rates of compliance, while also speaking to the ethics of deploying this tactic in the field.

## CRediT authorship contribution statement

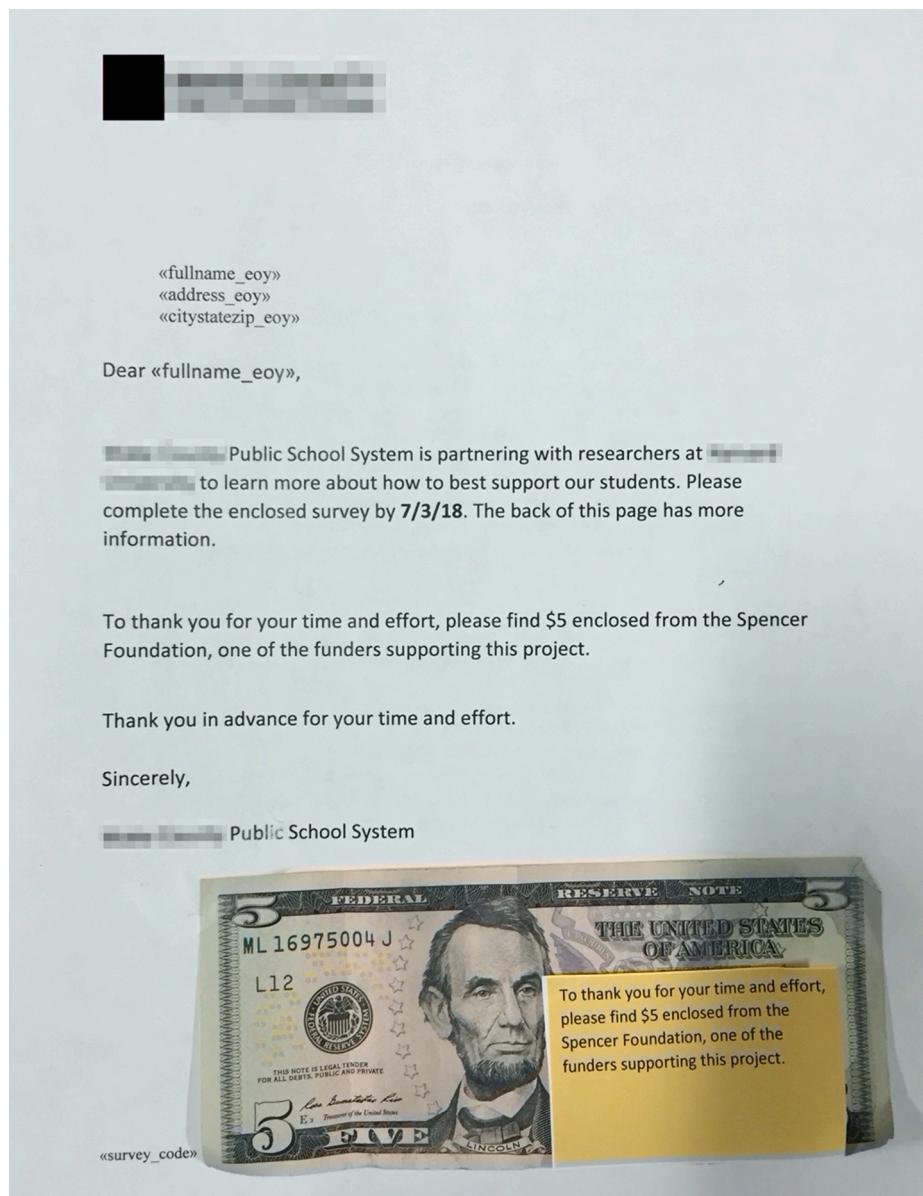
**Julian J. Zlatev:** Conceptualization, Methodology, Investigation, Writing - original draft. **Todd Rogers:** Conceptualization, Methodology, Investigation, Writing - review & editing.

## Appendix A

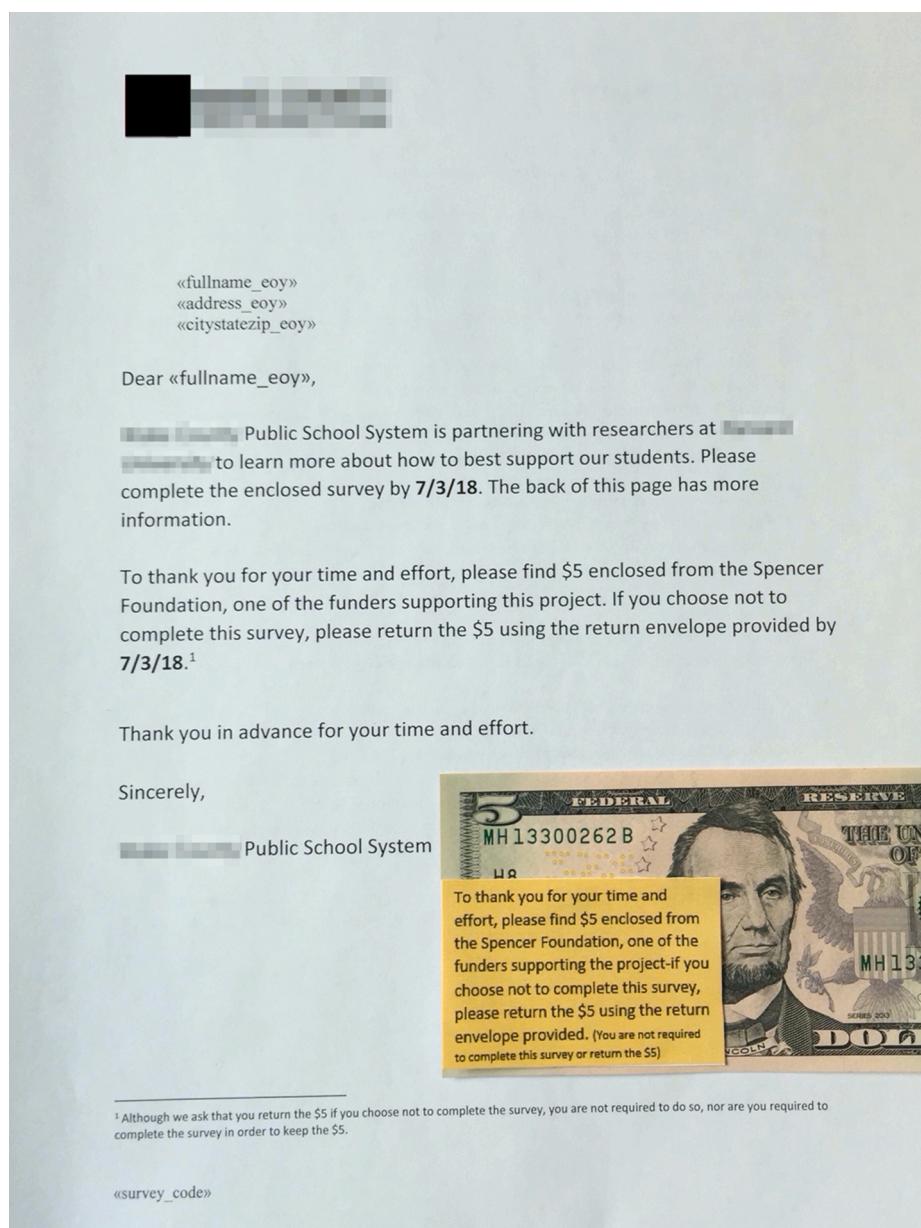
Letter sent to parents in the Control condition in Study 2. (Letter sent to supporters included slightly different wording.)



Letter sent to parents in the Traditional Reciprocity condition in Study 2. (Letter sent to supporters included slightly different wording.)



Letter sent to parents in the Returnable Reciprocity condition in Study 2. (Letter sent to supporters included slightly different wording.)



## Appendix B. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.obhdp.2020.10.006>.

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