Don't Tell Me What to Do, Tell Me Who to Follow!

Field Experiment Evidence on Voluntary Donations

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Abstract

We conducted a field experiment in a protected area to explore the effects of conformity to a social reference versus a comparable, but imposed, suggested donation. As observed before, we see visitors conforming to the changing social reference. On the other hand, the treatment in which we suggested a donation resulted in lower shares of visitors donating, compared to the social reference treatment, and lower conditional donations even compared to the control. We concluded that visitors look at their peers as a reference to conform to, but partially reject being confronted with an imposed suggestion on how to behave.

Discussion papers are research materials circulated by their authors for purposes of information and discussion. They have not necessarily undergone formal peer review.

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Introduction

The financing of many goods and activities (such as parks and museums), aid to people in need, and lobbying organizations in many cases relies heavily on voluntary donations motivated by prosocial behavior. The basic fact that large, ambitious human enterprises, both in the developed and the developing world, are often highly dependent on people's willingness to donate time and money to various charities and organizations is in stark contrast to the prediction of zero voluntary donations of the neoclassic modeling framework, which is based on the assumption of a selfish and rational *homo economicus*. During the last years, there has been increased interest and research on the economics of charitable giving (e.g., Ariely et al. 2009; Andreoni and Bernheim 2009; Andreoni 2006; List 2008; Meier 2007; Vesterlund 2006).

The objective of this paper is to test the effect on charitable behavior of two factors: the desire to conform to a social reference of common (acceptable) behavior, treatment 1; and the acceptance of an imposed suggestion (comparable to the social reference) regarding how much to donate, treatment 2. We framed our tests and hypothesis on Bénabou and Tirole's (2006) model of self image in prosocial behavior. We tested how our treatments affected the amount donated by visitors when entering Cahuita National Park in Costa Rica, a public good fully dependent on voluntary donations.

Bénabou and Tirole (2006) constructed a model in which prosocial behavior arises from a mix of intrinsic, reputational, and extrinsic factors. The basic assumption in this and similar models is that people care how they are perceived by others, and prosocial behavior is motivated

not only for "the good cause" itself but also by a desire to gain appreciation of others and of oneself (Ariely et al. 2009; Andreoni and Bernheim 2009; Ellingsen and Johannesson 2008; Bernheim 1994; Glazer and Konrad 1996). Hence, intrinsic factors include not only our valuation of the "good cause," but also—more importantly for our experiment—self image, or the desire to have a positive image of one's own conduct.

In our case, the participants' altruistic estimation of the value of donating money to the "good cause" was kept unaltered by our treatments and formed the baseline for our control. Our treatments aimed at affecting the way that participants construct their self image. Inferences about self image are valid if put in the context of what others do. In that sense, our first hypothesis was a convergence of donations toward common, acceptable behavior as transmitted by treatment 1, in which we provided a social reference; and treatment 2, in which we actually suggested how much to donate. If prospective donors planned to give x, based on their own valuation of the "good cause," but the social reference or the suggested donation was lower, then we expected them to lower their donation since self image can be attained at a lower cost. The opposite situation is also true: if the socially acceptable donation is higher than the valuation (x) of the good cause, the quest for self image will drive the stated donation upwards. Moreover, this convergence is expected to be stronger when "avoidance of stigma" (which was most likely in our study because donations substituted as entrance fees and the historical share of individuals who chose not to donate was small), rather than "the pursuit of distinction," drives reputational concerns (Bénabou and Tirole 2006, 1654).[1]

A related issue arises from the comparison between alternative ways of conveying the behavior of others. Whether prosocial behavior differs when we reveal what others did, versus impose an action that is regarded as socially acceptable, is not straightforward. Clearly self image issues are at stake in both cases, but our second hypothesis was that the construction of self image might be negatively affected by a strong suggestion about what to do. Conceptually, this is derived from Bénabou and Tirole's (2006) model: if the suggestion in treatment 2 carries the feeling of forced participation, then "the stigma from abstention is now unchanged…but the distinction conveyed by participation is dulled" (ibid., 1668), leading to smaller donations, compared to treatment 1.

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[1] "[Avoidance of stigma] occurs when there are relatively few types with low intrinsic altruism, and when valid excuses for not contributing are more rare than events that make participation inevitable, or unusually easy" (Bénabou and Tirole 2006, 1654).

One frequently-discussed exogenous intervention affecting self image is the use of monetary rewards to encourage prosocial behavior. In a seminal paper, Titmuss (1970) discussed the possibility of monetary rewards crowding out self image and potentially lowering blood donations. This hypothesis has been explored and confirmed by, among others, Gneezy and Rustichini (2000). Our study is not about exogenous monetary rewards, and extrinsic motivations are unaffected by our treatments.

Experimental economics has identified conditional cooperation as an important explanation for contributions in public goods experiments (e.g., Keser and van Winden 2000; Fischbacher et al. 2001; Fischbacher and Gächter 2009). Similarly, there is a large and rich literature on the issue of social comparison in psychology stressing the fact that people use the behavior of others as a reference when deciding what to do (e.g., Festinger 1954). Frey and Meier (2004) investigated how students at the University of Zurich responded to information on the share of people donating a fixed amount to two social funds. They found that the share of subjects donating increased in response to higher reported shares. In a similar vein, Shang and Croson (2006) informed individuals who called a public radio station to donate money how much another listener had donated and found a positive correlation. Goldstein, Cialdini, and Griskevicius (2008) applied normative appeals, using the behavior of previous hotel visitors as reference to encourage pro-environmental efforts and found that appeals are most effective if closely related to the guest's immediate circumstances. In a related field experiment conducted at another national park, Alpízar, Carlsson, and Johansson-Stenman (2008) found limited support for the use of common donations by others as a reference for own donations. In that case, donations were made on top of compulsory entrance fees and not as a voluntary first step for entering the park, as in this case. Accordingly, the main issue at stake in Alpízar, Carlsson, and Johansson-Stenman (2008) most likely was not avoidance of stigma but rather the quest for distinction.

To our knowledge, this is the first field-experiment study to test the effect of suggesting an exogenously determined course of action, which we identify with the notion of forced participation in Bénabou and Tirole (2006). Moreover, we are able to distinguish these effects both on the decision to donate and on conditional donations. The paper is organized as follows. Section 1 describes the design of our experiment and the field experiment setting, section 2 presents our results, and section 3 concludes.

1. Design of the Field Experiment

The natural field experiment was conducted in Cahuita National Park (CNP) in Costa Rica, in December 2007 and early 2008. The park is located on the Caribbean coast of Costa Rica and consists of both a marine area with coral reefs, as well as beach and mangrove areas. There are only two entrances to CNP and 95 percent of the 50,000 annual visitors to the park enter through the northern entrance closest to the town of Cahuita. Costa Rica has a large system of national protected areas, and entrance to all its national parks requires a compulsory payment of US$ 6.[2] The only exception is the northern entrance to CNP, which is located next to the "beach and sun" part of the national park, Playa Blanca. Notably, this part of the park is free of charge and is fully dependent on voluntary contributions to cover its normal operating expenses.

Visitors who enter CNP through the northern entrance have to cross a river on a narrow bridge leading to the registration hut. Although admission is free, for security reasons, visitors must register their names, gender, and nationality in the visitor's logbook.[3] The final column in the visitor's logbook relates to donations, where visitors write down the amount they will donate. The money is then handed to the park ranger, who gives a receipt as proof that the money has been received by CNP.[4] The donation can be made either in Costa Rican colones or in U.S. dollars.[5] Both currencies are used interchangeably in Costa Rica. (For example, prices of accommodations are mostly quoted in U.S. dollars.)

Our experimental design contained two key components. First, we gave out an information leaflet about CNP[6] to visitors when they entered the park over the bridge. Second, we controlled for some of the exogenous factors that could affect the decision to contribute when registering at the hut, such as whether other people could see the amount of donations in the registration logbook or if they explicitly asked advice from the park rangers on how much to donate. One solicitor from the town of Cahuita was hired and trained to hand out the leaflets and to respond neutrally to any questions asked by the visitors. In addition, two senior field

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[2] This was the entrance fee per person per day for the 2007–2008 season.

[3] Nobody can enter without registering.

[4] The logbook and the receipts are control mechanisms for the park rangers, so there is no possibility of writing false information about the amount donated.

[5] We used an exchange rate of CRC 500 = US$ 1 for the study, which was roughly the prevailing rate when the field experiment took place.

[6] The wording in the leaflets varied for the two main treatments and the control.

researchers were stationed, one at a time, inside the registration hut with the official park ranger in charge of the registration logbook.[7] Their job was to register, in a separate book, any exogenous factors that could affect our research design as discussed above. The field staff underwent extensive, paid training both in the classroom and at the park, and there was a daily debriefing session to make sure that the experiment went smoothly. From the visitor's perspective, there was no identifiable characteristic that could lead them to think they were taking part in an experiment. This is important because subjects might change their behavior depending on the context they find themselves in (Levitt and List 2007).

The experimental design consisted of two main treatments and a control: 1) a study of the role of social references in deciding if and how much to donate; and 2) an exploration of the effect of suggesting specific amounts to donate, as is done in other settings. The control treatment simply set up the baseline for comparison that accounted for the introduction of the leaflet, since usually no leaflet is handed out. Each treatment required a slight modification of the following control script, which was printed in both Spanish and English on each side of the colorful leaflet:

Dear Visitor,

Unlike other parks in Costa Rica, Playa Blanca in Cahuita National Park does not charge a fee to enter the park. Instead, the park relies on donations. Your donation will mainly be used for the maintenance and management of the park, and the protection of its natural resources, but also for projects in the local community.

In the treatment for social reference, the subjects were given a reference amount that reflected the behavior of previous visitors to the park. The reference values used in our study were commonly observed donations in past records. The following text (and variations) was included after the baseline script: "In the past, one of the common donations per person has been $1/$2/$3/$4 for a visit."

The treatment exploring the effect of suggesting a specific amount simply included the following text after the baseline script: "The suggested donation per person is $1/$2/$3/$4 for a visit."

In both of these treatments, the amount stated in the leaflet changed every 30 minutes cyclically, and each morning the leaflets began with a different reference amount to ensure that

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[7] The field agent in the registration hut was unobtrusively positioned to the side and behind the park ranger.

visitors entering the park at different hours were exposed to all treatments. Given that tourists entered the park in the morning and stayed for a few hours, it was easy to change the reference without creating any confusion or cross contamination. The choice of the highest reference amount for both the social reference and the suggested donation treatment was $4, which was a large donation, based on previous historical records.

The second key component of our experimental design was to control as much as possible for unwanted influence on the subjects. This was achieved by having an extended registration logbook managed by the field staff inside the hut, which used the same visitor number in the official registration logbook so the two books could be linked. We were able to control for two main sources of influence that could have biased our experimental findings.

First, the official park rangers[8] could slip and suggest a donation, or the visitor could directly request an amount to donate. In either case, the field researcher would record the violation of our research design. Second, the registration book itself could provide information about the behavior of others that could put our treatments at risk. We hid previous entries, but several times visitors purposely checked previous donations or there simply was not enough time to hide a previous entry. All three cases were dropped from the dataset used in this paper. In addition, the extended registration book included information about gender and whether the visitor was part of a tour. Visitors coming with a tour do not decide their own contribution, so they were also dropped from our dataset.

One potentially important factor, which we were not able to control for, was whether visitors came in tour groups. Because CNP is a recreational area, almost all visitors came in groups. In this sense, the key limiting factor was whether we were able to hide previous individual donations in the logbook and prevent park rangers from giving donation information to the visitors. If these two requirements were met, then visitors in groups of any size were included.

Finally, we needed to control for the fact that visitors tend to stay in the town of Cahuita for three to four days and were likely to make multiple visits to the park. Not only might their behavior change if they began to feel "local," but in the worst case they might be exposed to a

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[8] We also conducted training sessions for the park rangers responsible for registering tourists going to the beach-and-sun section of the park. We emphasized that they needed to fully complete the registration book and remain as neutral to the experiment as possible.

different treatment in their subsequent visits. Fortunately, the information we recorded allowed us to identify multiple visitors and only include their first visit in our analysis.

The field experiment was conducted from December 2007 to mid-March 2008. We designed it so that generally one week of no treatment was followed by one week of treatment (Tuesday–Saturday).[9] This set up was used because we did not want a spillover effect from one treatment to another. December to March is the high tourist season for CNP and there were no identifiable differences in the characteristics of visitors coming at different times in the experiment. In total, we had 1,090 observations, fully controlled for external factors. Table 1 provides the number of observations for each of the experimental treatments.

Table 1. Experimental Design for All Treatments

Information provided (Reference amount in US$)	No information	Social reference	Suggested donation
No amount stated (control)	433		
$1		78	44
$2		92	60
$3		45	78
$4		77	70
Totals	*433*	*355*	*302*

2. Results

Our analysis investigated three different effects for each of our treatments: 1) the share of visitors making a donation, 2) the average conditional donation (i.e., amount donated, given

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[9] The experiment began right after the Christmas and New Year holidays and finished a week before the Easter holidays, so that no public holidays occurred during the experiment. Sundays were not included in the study because the locals from the town of Cahuita went to the park on this day and the number of visitors made it impossible from a logistical point to fully account for external effects that could jeopardize our treatments. Monday was the park staff's day off.

that the visitor has chosen to donate), and 3) the sample average donation (including zero donations). The focus of the analysis was the share of visitors who donated and the conditional donation. Total donations are ultimately a summary of these two effects.

Table 2 presents the results from the field experiment. There are three main groups of treatments presented in the table: 1) our control, 2) cases in which we provided a social reference, and 3) cases in which we suggested a donation. In general, we observed that an increasing social reference had a positive effect on total donation up to $3, while the suggested donation treatment had a positive effect on total donations only for $3 and $4. In the following sections, we discuss the effect of our treatments by studying paired differences.

Table 2. Descriptive Statistics

Treatment	Share	Mean conditional donation	Mean total donation
Control*	0.76	1.95	1.47
Social reference $1	0.91	1.67	1.52
Social reference $2	0.93	1.98	1.85
Social reference $3	0.91	2.02	1.84
Social reference $4	0.78	1.85	1.44
Suggestion $1	0.77	1.74	1.35
Suggestion $2	0.87	1.55	1.34
Suggestion $3	0.78	2.20	1.72
Suggestion $4	0.95	1.79	1.71

* In addition to the observations included in table 1, we also had 2,222 observations for the situation with no leaflet at all, which were also screened by the solicitor. We tested whether the introduction of a leaflet (i.e., our control treatment) had any significant effect on people's behavior. We cannot reject the hypothesis of no effect of the leaflet, either on the share of visitors donating (share = 0.73; Fisher Chi2 with p-value = 0.266) or on equal underlying distributions both for conditional (mean = 1.95), as well as for total donations (mean = 1.43) using a Wilcoxon-Mann-Whitney test (p-values of 0.99 and 0.385, respectively).

2.1 Social Reference

We started by testing our first hypothesis—that concern for self image, in cases where "avoidance of stigma" was the predominant motive, leads to a convergence toward the social reference provided. Table 3 shows the difference between the donation in the social reference treatment and the control treatment. A positive sign indicates a higher donation in the social reference than in the control treatment and vice versa. In brackets, we show the p-values for the nonparametric Fisher Chi2 tests of equal shares and the Wilcoxon-Mann-Whitney tests of equal underlying distributions for conditional and sample donations.

Table 3. Social Reference Minus Control

Treatment	Differences in share of visitors making a donation	Differences (US$) in an average conditional donation	Differences (US$) in an average sample donation
Social reference $1	+0.15 (0.003)	-0.28 (0.585)	+0.05 (0.076)
Social reference $2	+0.17 (0.000)	+0.03 (0.100)	+0.38 (0.000)
Social reference $3	+0.15 (0.019)	+0.07 (0.317)	+0.37 (0.014)
Social reference $4	+0.02 (0.681)	-0.10 (0.899)	-0.03 (0.694)

Note: P-values are in brackets.

The provision of a reference value of $1 increased the share of visitors donating by 15 percentage points (from 0.76 to 0.91), and this difference is significant (p-value = 0.003). Interestingly, the average conditional donation was 14 percent lower, although the hypothesis of equal distribution cannot be rejected. This result was expected; as visitors realized that others commonly gave less than their own valuation of the good (average of $1.95 in the control), they lowered their donation, converging to the social norm. The rise in the probability of donating could be motivated by finding it cheaper to avoid the stigma of selfishness or by a concern with the low value provided as reference and its implication for CNP.

As reference values increased to $2 and $3, we observed a clear pattern of significantly higher shares of visitors contributing, compared to the control and positive, although no significant differences in the underlying distributions of conditional donations, again compared

to the control treatment. The total average donation also increased by as much as 26 percent (from $1.47 to $1.85) for the treatment with a reference value of $2. We can, in all three cases, reject the hypothesis of equal underlying distributions compared to the control, and similarly for $3. Somewhere between $3 and $4, the data indicated an inflection point. The provision of a reference donation of $4 achieved no significant change in any of the relevant parameters, compared to the control.

The existence of an inflection point can be further corroborated by testing the effect of increasing the social reference amount. As the reference increased from $1 to $2, and then to $3, we observed a clear pattern of increasing average conditional donations (significantly so for $1 to $2, Chi2 p-value = 0.008), which was linked to high (although not significantly different from each other) shares of visitors making a donation. When the reference was raised to $4, the share of visitors donating significantly decreased by 13 percentage points, compared to the treatment with a $3 reference (Chi2 p-value = 0.063). The average conditional and total means also decreased, the last one by 22 percent (from $1.84 to $1.44) and with a significantly different underlying distribution (Wilcoxon-Mann-Whitney p-value = 0.072).

2.2 Suggested Donation

Suggesting a donation is a strategy frequently used by museums and charities to drive people to make a donation. As suggestions are expected to become a social reference, this is also a test of our first hypothesis. In table 4, we show the difference between observed donations when an amount was suggested and our control in a similar manner as in table 3.

Table 4. Suggested Donation Minus Control

Treatment	Differences in share of visitors making a donation	Differences (US$) in an average conditional donation	Differences (US$) in an average sample donation
Suggestion $1	+0.01 (0.822)	-0.21 (0.697)	-0.12 (0.927)
Suggestion $2	+0.11 (0.059)	-0.40 (0.321)	-0.13 (0.495)
Suggestion $4	+0.19 (0.000)	-0.16 (0.485)	+0.24 (0.001)

Note: P-values are in brackets.

Suggesting a donation of $1 had no significant effect on the share of visitors contributing and on the distribution of conditional and sample donations, compared to the control treatment. Raising the amount suggested to $2 significantly increased the probability of making a donation by 11 percentage points. Interestingly, compared to the control treatment, for both $1 and $2 we observed a decrease in average conditional donations of $0.21 and $0.40, respectively. In both cases, this led to lower average total donations.

In the case where we suggested a donation of $3, we observed no effect on the share of visitors contributing, but saw an increase in average conditional and sample donations, compared to the control. The Wilcoxon-Mann-Whitney test also rejected the hypothesis of equal underlying distributions for these two variables. When we suggested a donation of $4, we observed a significant increase of 19 percentage points in the share of visitors making a donation, but an insignificant decrease in average conditional donations. The average donation increased significantly as a result of the increased proportion of people donating.

Given the clear pattern observed in the table, if we ignore the suggested $3 amount, it is hard to make too much of the break in the pattern observed for that treatment, which is difficult to explain. Focusing only on the treatments with suggested donations equal to $1, $2, and $4, it is clear that the increasing share of visitors contributing was linked to smaller average conditional donations, as compared to the control. It was only for the latter that the joint effect of the two contradictory forces—a higher probability of donating and a lower average conditional donation—finally resulted in an underlying distribution of sample donations significantly higher than the control group. This points to the fact that people do react to suggestions on what to do, as shown by the higher share of visitors making a donation, but their degree of obedience is limited in the sense that those making a donation tend to give even less than in the control—even less than what they would have otherwise donated in the absence of the suggestion.

2.3 Effect of Social Reference as Compared to Suggested Donation

The previous results show a pattern of donations for the treatments in which a social reference is provided, which is somehow different from the pattern of donations of the different suggested donations. In the social reference treatments, we observed a significant increase in the share of people donating, compared to the control, plus increases in average conditional donations as the reference was increased from $1 to $2, and from $2 to $3. These effects combined to achieve sample donations that were significantly higher, compared to the control treatment. The social reference of $4 marked an inflection point, resulting in the parameters not

being different from the control treatment, and henceforth they were significantly lower than in the $3 treatment.

On the other hand, the treatments in which we suggested a donation resulted in higher shares of visitors making a donation, but surprisingly lower conditional donations, compared to the control (except for the treatment with $3). Given that both treatments had a positive effect on the share of visitors actually contributing, we proceeded to test whether this effect was different. Table 5 shows that the shares were significantly higher for the social reference treatments up to the inflection point. For $4, the effect was reversed.[10] As a whole, these results support the hypothesis that the construction of self image is affected by the way in which a reference value is introduced into the decision to donate and, if so, how much. Although both the social reference and the suggested values affect the decision to donate, the social reference treatment carries a stronger, more positive effect on the share of visitors donating.

Table 5. Difference in the Share of Visitors Making a Donation

Treatment	Differences in share of visitors making a donation	Fisher Chi2 test p-values
Social reference: suggestion $1	+0.14	0.036
Social reference: suggestion $2	+0.07	0.156
Social reference: suggestion $3	+0.13	0.067
Social reference: suggestion $4	-0.18	0.002

3. Discussion and Conclusions

In this paper, we looked at the effect of introducing a social reference or imposing a suggested value on the individual decision whether to donate and how much to donate when entering Cahuita National Park. We investigated two hypotheses. First, we explored whether there is a convergence of donations towards either a social reference to past behavior and/or a

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[10] We also ran a probit regression for the share of visitors making a donation and a robust OLS (ordinary least squares) regression for conditional and sample donations to test for the effect of the treatments once corrected for exogenous factors. The regression results did not differ from the extensive nonparametric analysis included. In the econometric analysis, we controlled for gender, country of origin, composition of travel party, and park staff working at the ranger hut.

suggested value on how much to donate. Second, we tested whether the construction of self image might be negatively affected by a strong suggestion about what to do, which carried the feeling of forced participation. Both hypotheses were extracted from Bénabou and Tirole's (2006) model of prosocial behavior.

In both cases, we found a strong effect when providing a reference on behavior and, in particular, on the share of people who donate. In addition, there was a positive correlation between the social reference value provided by our treatment and the conditional donation. On the other hand, the treatment in which we suggested a donation resulted in slightly lower conditional donations. Interestingly for both cases, when the reference value regarding how much to donate was lower than the average donation in the control, we observed an increase in the share of visitors making a donation, but lower conditional donations. When the reference value was higher, we observed higher shares and higher conditional donations up to an inflection point. We believe our results provide support to our first hypothesis of a convergence of behavior to the social norm, but up to the inflection point, in which the quest for self image seems to become too expensive.[11]

An inflection point effect has been found in a previous study. Shang and Croson found that contributions increased up to a social reference corresponding to the 95th percentile, from which contributions decreased as the social reference was further increased. In our case, the inflection point was between the 88th percentile ($3) and the 92th percentile ($4), which is close to Shang and Croson.

Regarding our second hypothesis, we found the shares of visitors donating were smaller in the treatment in which a suggestion was made compared to the corresponding social reference level. Moreover, our results indicated that conditional donations, if a suggestion is made, actually go down when compared to the control, although not significantly. This is weak evidence of a crowding out of self image when the visitor is confronted with a "forced decision." As a whole, these results show that visitors look at the behavior of their peers as a reference to conform to, but partially reject being confronted with a suggestion on how to behave.

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[11] Note that tourists pay 6$ in all other national park entrances.

References

Alpízar, F., F. Carlsson, and O. Johansson-Stenman, 2008. Anonymity, Reciprocity, and Conformity: Evidence from Voluntary Contributions to a National Park in Costa Rica. *Journal of Public Economics* 92: 1047–1060.

Andreoni, J. 2006. Philanthropy. In *Handbook of the Economics of Giving, Reciprocity, and Altruism*, vol. 2, edited by S.C. Kolm, and J.M. Ythier. Amsterdam: Elsevier.

Andreoni, J., and B.D. Bernheim. 2010, forthcoming. Social Image and the 50-50 Norm: A Theoretical and Experimental Analysis of Audience Effects. *Econometrica.*

Ariely, D., A. Bracha, and S. Meie. 2009. Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially. *American Economic Review* 99(1): 544–55.

Bénabou, R., and J. Tirole. 2006. Incentives and Prosocial Behavior. *American Economic Review* 96(5): 1652–78.

Bernheim, B.D. 1994. A Theory of Conformity. *Journal of Political Economy* 102(5): 841–77.

Ellingsen, T., and M. Johannesson. 2008. Pride and Prejudice: The Human Side of Incentive Theory. *American Economic Review* 98(3): 990–1008.

Falk, A. 2007. Gift Exchange in the Field. *Econometrica* 75: 1501–1511.

Festinger, L. 1954. A Theory of Social Comparison Processes. *Human Relations* 7: 117–40.

Fischbacher, U., and S. Gächter. 2010, forthcoming. Social Preferences, Beliefs, and the Dynamics of Free Riding in Public Good Experiments. *American Economic Review*.

Fischbacher, U., S. Gächter, and E. Fehr. 2001. Are People Conditionally Cooperative? Evidence from a Public Goods Experiment. *Economics Letters* 71: 397–404.

Frey, B., and S. Meier. 2004. Social Comparison and Pro-Social Behavior: Testing "Conditional Cooperation" in a Field Experiment. *American Economic Review* 94: 1717–22.

Glazer, A., and K. Konrad. 1996. A Signaling Explanation for Charity. *American Economic Review* 86(4): 1019–1028.

Gneezy, U., and A. Rustichini. 2000. Pay Enough or Don't Pay at All. *Quarterly Journal of Economics* 115(3): 791–810.

Goldstein, N., R. Cialdini, and V. Griskevicius. 2008. A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research* 35(3): 472–482.

Keser, C., and F. van Winden. 2000. Conditional Cooperation and Voluntary Contributions to Public Goods. *Scandinavian Journal of Economics* 102: 23–39.

Levitt, S. D., and J.A. List. 2007. What Do Laboratory Experiments Measuring Social Preferences Reveal about the Real World? *Journal of Economic Perspectives* 21(2): 153–74.

List, J. 2008. Introduction to field Experiments in Economics with Applications to the Economics of Charity. *Experimental Economics* 11: 203–212.

Martin, R., and M. Randal. 2008. How Is Donation Behavior Affected by Donations of Others. *Journal of Economic Behavior and Organization* 67: 228–38.

Meier, S. 2007. A Survey of Economic Theories and Field Evidence on Pro-Social Behavior. In *Economics and Psychology: A Promising New Cross-Disciplinary Field,* edited by B.S. Frey and A. Stutzer, 51–88. Cambridge, MA, USA: MIT Press.

Rabin, M. 1993. Incorporating Fairness into Game Theory. *American Economic Review* 83: 1281–1302.

Shang, J., and R. Croson. 2006. The Impact of Social Comparisons on Nonprofit Fundraising. *Research in Experimental Economics* 11: 143–56.

Titmuss, Richard. 1970. *The Gift Relationship: From Human Blood to Social Policy*. London: Allen and Unwin.

Tversky, A., and D. Kahneman. 1974. Judgment under Uncertainty: Heuristics and Biases. *Science* 185: 1124–30.

Vesterlund, L. 2006. Why Do People Give? In *The Nonprofit Sector: A Research Handbook*, edited by W.P. Powell and R.S. Steinberg. New Haven, CT, USA: Yale University Press.