Announcements of Support and Public Good Provision

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ABSTRACT

I find that non-binding announcements of support for a public good encourage others to contribute. Others respond with contribution even though the non-binding announcements can be — and often are — made by non-contributors. In a field experiment involving over 36,000 employees at 278 workplaces, giving employees an easy way to announce support for a charity raises an additional $525 per workplace, almost 10% of average workplace giving. In a complementary laboratory experiment, subjects donate twice as much when they observe another subject announce support for a charity. Facilitating individuals to announce support is a powerful tool to increase public good provision. C91, C93, H41

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I. Introduction

A number of theories appeal to social forces in an attempt to explain why individuals contribute to public goods at levels well above what would be predicted by selfishness and altruism (Becker 1974; Batson 1991). These theories suggest that individuals can be motivated to contribute by reciprocity (Sugden 1984), conformity (Bernhneim 1994), or the desire to do their “fair share” (Sen 1977, Rose-Ackerman 1982) and predict that at least some individuals are conditional cooperators who contribute more to a public good when they learn that others also contribute.\(^1\) Significant laboratory and field evidence is consistent with conditional cooperation.\(^2\)

But to what extent can conditional cooperation explain the amount of public good contribution observed in practice? Previous results on conditional cooperation have all provided subjects with “hard” (i.e. credible and verifiable) information about actual contributions of others.\(^3\) While hard information about others’ contributions is straightforward to provide in a laboratory or field experiment, it is only available in a subset of environments in which individuals contribute to public goods. Hard information often does not exist, cannot be credibly communicated to others, or is too costly to communicate.\(^4\) If motivating conditional cooperators requires hard information about others’ contributions, a conditional cooperation motive is unlikely to explain the vast amount of public good contribution observed in practice.

Even in settings where hard information is unavailable, however, people can announce support for a public good. Individuals sign petitions for their local parks, put up yard signs to support funding for education, post statements in support of marriage equality on social media (e.g. facebook or twitter), and affix bumper stickers to their cars to support their preferred presidential candidate. Individuals also announce support verbally: they tell their colleagues they

\(^1\) Related theories suggest that individuals get warm glow from donation (Andreoni 1989, 1990; Cialdini and Kenrick 1976) or contribute to signal wealth (Glazer and Konrad 1996), to gain social approval (Hollander 1990, Benabou and Tirole 2006), or to gain prestige (Harbaugh 1998a,b).
\(^2\) For laboratory evidence see Keser and van Winden (2000); Fischbacher, Gachter and Fehr (2001); Potters, Sefton and Vesterlund (2005). For field evidence in the context of charitable giving see Frey and Meier (2004), Croson and Shang (2008), Martin and Randal (2008), Shang and Croson (2009). See also the literature on environmental protection including Cialdini, Reno and Kallgren (1990) on littering; Goldstein, Cialdini and Griskevicius (2008) on towel reuse; and Allcott (2011) on energy consumption.
\(^3\) In laboratory settings, information about the contributions of other participants is made explicit by the experimenter; in field settings, information about contributions of others is often stated in the appeal.
\(^4\) Even in settings where hard information about contributions exists, such information may be costly to make verifiable. While it may be socially acceptable to talk about a charity or a donation you made to it, it is unlikely to be acceptable to show evidence of your donation on a tax return or a charity receipt.
think the American Red Cross does important work and they tell their friends they plan to vote for a particular candidate. These announcements of support are regularly made without proof of a donation, action, or vote. If conditional cooperators are affected by soft information like these non-binding announcements of support, then individuals can induce one another to contribute to public goods across a wide variety of settings, and conditional cooperation can explain much more of the private provision of public goods observed in practice.

Do non-binding announcements of support affect contributions of others? This paper finds that individuals respond to non-binding announcements of support, that the effect of very subtle announcements can be large in magnitude, and that these announcements activate a conditional cooperation motive. I analyze results from a large-scale field experiment, conducted with the local branch of a major national charity, and a complementary laboratory experiment that investigates the mechanisms driving results in the field. In both experiments, randomly selected subjects were provided with a way to announce support for a charity to other potential donors. In both experiments, those exposed to announcements of support made larger donations.\(^5\)

In the field experiment, workplace fundraising campaigns were randomly selected to receive a bag of pins (i.e. buttons) along with the campaign materials provided by the charity. The pins were printed with “I Support” and the charity name and logo. Employee campaign managers were instructed to give a pin to each of their coworkers and to encourage the coworkers to wear the pins around the office before donation decisions were made. Including pins in the campaign materials increased donations by an average of $525 per workplace (on a mean of $5,341 per workplace). Each $0.17 pin sent to a workplace generated $6.04 in extra donations to the charity. The increase in donations occurred primarily at workplaces that had low participation rates in the previous year’s campaign.

While the results from the field experiment demonstrate that providing pins has a significant effect on charitable giving in a workplace campaign, the field experiment alone does

\(^5\) The motivation of the paper is to investigate private provision of public goods. The experiments identify effects on charitable giving. Consequently, this paper enters a rich experimental literature on motivations for charitable giving both in the field (List and Lucking-Reiley 2002, Frey and Meier 2004, Landry et al. 2006, Falk 2007, Karlan and List 2007, Eckel and Grossman 2008, Croson and Shang 2008, Shang and Croson 2009, Ariely, Bracha and Meier 2009, Landry et al. 2010, Gneezy et al. 2010, DellaVigna, List and Malmendier 2012) and in the laboratory (Vesterlund, Wilhelm and Xie 2009; for a survey, see Andreoni and Vesterlund 2010). Relative to this literature, I elucidate a mechanism that has a substantial impact on charitable donation and investigate how it influences behavior.
not identify the mechanism driving the result. To identify the mechanism, I designed and ran a complementary laboratory experiment.

The laboratory experiment gave subjects the opportunity to donate to United Way and provided subjects in some treatments with pins that stated “I Support United Way.” Subjects in all treatments were exposed briefly and silently to another subject at the front of the room before they made donation decisions. In one treatment, subjects were given the option to wear the pin while this interaction occurred. In this treatment, subjects randomly exposed to a pin wearer at the front of the room donated twice as much as those exposed to a subject who did not wear the pin. Subjects exposed to a pin wearer donated 68% more than those in the treatment where pins were given out but could not be worn. These results demonstrate that announcements of support — even one as subtle as silently wearing a pin that states “I Support United Way” — can vastly increase donations from those exposed to the announcement.

The laboratory experiment also allows me to investigate why subjects respond to announcements of support for a public good. Subjects believed pin wearers donated more to United Way than those who did not wear the pin, which led subjects exposed to pin wearers to donate more themselves. Exposure to a pin wearer did not affect subjects’ beliefs about the quality of United Way (as in Vesterlund 2003), however, and there is still a large effect of exposure to a pin wearer when controlling for a subject’s beliefs about United Way quality. Rather than working through information about charity quality, announcements of support seem to motivate subjects directly through beliefs about the donations of others: a conditional cooperation motive. In addition, the laboratory experiment found no evidence in favor of the other mechanisms that might have generated an increase in donations in the field experiment. In the laboratory experiment, there was no evidence that donations were influenced by a gift exchange motive (e.g. see Falk 2007), by simple exposure to the charity logo, or by forcing individuals to wear the pin.

In addition to demonstrating that non-binding announcements of support can induce contribution from conditional cooperators — helping to explain the prevalence of private provision of public goods — the experiments provide guidance to fundraisers and non-profits. To increase public good provision, they can simply facilitate non-binding announcements of support by lowering the cost of announcement. While both experiments used pins printed with the words “I Support” followed by a charity name and logo, a pin is just one (simple) example of how
individuals can announce support for a public good. A number of much more common communication channels — including posts on social media, petition signatures, yard signs, bumper stickers, worn apparel, and, most common of all, verbal statements — can all be used to announce support for a public good to other potential contributors.⁶

Results from the field experiment also show that facilitating announcements of support can increase contribution in environments where past contribution rates are low. In historically low contribution contexts, facilitating announcement of support may be more effective than the alternative tactic of providing information about past actions, since information about past actions has been shown to decrease contributions if the information provided is below expectations (Croson and Shang 2008). In addition, as noted above, facilitating announcements of support is possible where information about past actions may not exist or may not be credible.

This paper includes both a field experiment and a laboratory experiment. Often, experimental papers with both a lab and field component replicate the same experiment across settings to investigate the external validity of a result. Here, a field experiment is run in a rather complex environment (a workplace fundraising campaign) to show that an effect is economically significant, and a controlled laboratory experiment is run to investigate the potential mechanisms that might generate results in the field setting. While institutional and practical limitations prevented researchers from controlling who employees interacted with during the workplace fundraising campaign, such control could easily be imposed in the laboratory. Using a field experiment to identify economic significance and a laboratory experiment to tease apart mechanisms, as is done here, is just one way in which laboratory and field experiments are complements (see Kessler and Vesterlund 2012 for a discussion).

The rest of the paper is organized as follows. Section II describes the field experiment and its results. Section III describes the laboratory experiment and its results. Section IV summarizes and concludes.

⁶ Charitable and other organizations already facilitate announcements of support on social media platforms (e.g. Facebook) where announcing support costs very little and is broadcast widely. Organizing for America (OFA), a fundraising and advocacy organization of the Democratic National Committee, has regularly encouraged its potential donors to announce support for causes to their social network. OFA would ask individuals to support a cause by entering their name on a website. They would then prompt the supporter to email news of their support to five friends and simultaneously ask the supporter for a donation. OFA used this strategy to generate support and collect donations for causes including: (1) a repeal of “Don’t Ask, Don’t Tell,” (2) a “Clean Energy Future,” and (3) commitments to vote.
II. Field Experiment

The field experiment was conducted at a local branch of an anonymous national charity (when the charity name is required, “Charity” is used). The charity does not provide services directly, but serves the dual roles of raising funds and of distributing those funds to non-profits that provide services for the poor. While the charity operates nationally, its branches raise money locally and distribute those funds to local organizations that provide services. The branch raises the majority of its funds from workplace campaigns. In workplace campaigns, a staffer at the charity makes contact with an employee campaign manager (or ECM, an employee at the workplace) who runs the campaign by asking other employees to donate money to the charity.\(^7\)

Workplace campaigns provide a unique opportunity for research, since they are a setting in which individuals make charitable decisions in pre-existing social groups. Workplace campaigns also have an added feature that makes a charitable donation provide two public goods simultaneously. In these campaigns, a donation helps provide services for the poor, a public good for the community. The results of workplace campaigns are often reported to customers or industry colleagues, so a donation also leads to a better outcome for the workplace campaign, a public good that may benefit all employees at a workplace.\(^8\)

The field experiment involved over 36,000 workers at 278 workplaces who donated a total of over $1.48 million in 2009 (an average of 21 employees per workplace making donations that averaged $255 each). Workplaces in the experiment were a select group of workplaces in the charity database that were randomized into one of three conditions for the 2009 campaign.

Workplaces in the control condition received the standard campaign materials (the same materials as in the 2008 campaign, a list can be found in Appendix A.1). Workplaces in the pins treatment additionally received a bag of 1.25-inch diameter pins (i.e. buttons), one for each

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\(^7\) The employee campaign manager (ECM) is the point person at the workplace who is responsible for corresponding with employees about the campaign, distributing and recollecting pledge cards, and organizing any special events or activities surrounding the campaign. Campaigns only run if a charity staffer can get in touch with the ECM and the ECM expresses interest in running a campaign. Donations in workplace campaigns are collected via payroll deduction, check, or credit card. Workplace campaigns typically last 1 to 4 weeks and are run in the late fall and early winter (September to December).

\(^8\) Alumni giving campaigns at universities also have the feature of providing two public goods. Campaign contributions to a milestone class gift generate additional funds for the school, a public good for all alumni; and pride for a particular class, a public good for that class.
employee, on which was printed “I Support Charity”. The instructions provided to the ECM were to give a pin to everyone at the workplace (to wear voluntarily as the employee wished) and not as a reward for contributing. Thus the pins were not meant to generate a prestige motive (see Harbaugh 1998a,b) or to give explicit information about previous donations, but to lower the cost of making a non-binding announcement of support in favor of the charity. To increase the chance that ECMs used the pins, the bag of pins was placed on top of all other materials in the box that the ECM received from a staffer working for the charity, and staffers were instructed to discuss the pins with the ECM at each workplace that received pins.

In the hopes of increasing the rate at which the pins were used (and to generate variation in the use of the pins), a third treatment was included in the experimental design. Workplaces in the pins and raffle treatment received, in addition to the pins, raffle tickets to run a raffle with a prize of two movie passes to AMC theaters. The packaging and the instructions associated the raffle materials with the pins in the hopes that more ECMs would use the pins. The reverse occurred: ECMs were less likely to use the pins when the raffle materials were included in the package. Use of materials, as established by a phone survey of ECMs after the experiment, is reported on the bottom of Table 1 (see details in the next section). While most (56%) of the workplaces that received pins and raffle tickets reported using some additional materials, inclusion of the raffle materials along with the pins slightly decreased the use of the pins (from 45% to 39%).

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9 The pins were made by the experimenter (at a cost of $0.17 cents each) and did not exist at the charity outside of this experiment. Pins similar to the ones used in the field experiment were used for the laboratory study, in which subjects could donate to United Way. The lab pins for the lab study are shown in Figure A.1 and would look identical to the pins in the field experiment if the United Way name/logo were replaced by the anonymous charity name/logo.

10 Instructions for the ECM were to (emphasis in original): “Please pick a day during the campaign (BEFORE you collect pledge cards) to be ‘Charity Pin Day.’ On the morning of the day you chose, give a pin to every employee at your workplace, so that everyone who wishes to can show their support for Charity.” The instructions emphasized that pins should be given to all employees before donations were made. A disclaimer informed ECMs that extra materials were donated to the charity. Full instructions sent to the ECMs are included in Appendix A.1.

11 Each raffle ticket cost roughly 0.6 cents (1000 for $5.95), and the pair of movie passes cost $15 per workplace (although their cash value depends on the AMC movie theater at which they are used as theater prices vary). Again, a disclaimer informed ECMs that extra materials were donated to the charity.

12 Instructions for the ECM were to (emphasis in original): “...hold a drawing on ‘Charity Pin Day.’ When you distribute the pins, also give a TICKET/COUPON to every employee at your workplace and encourage them to return the COUPON to you before the end of the day if they want to be in the drawing.” Full instructions for the ECM are included in Appendix A.1.
Comparing the pin and raffle treatment with the pin treatment will provide some suggestive evidence that the success in the pin treatment is not coming from a gift exchange motive or from increased awareness about the campaign. That said, the laboratory experiment that is discussed in the next section more directly addresses alterative mechanisms for the success of the pin treatment. The laboratory experiment finds no evidence of a gift exchange motive and instead finds a large effect of being exposed to a subject announcing support for the charity.

2.1 Data

Results are from the 278 workplaces that were eligible for participation in the experiment and generated money for the charity in at least one of the six years preceding the experiment. These workplaces either received the standard campaign materials and are in the control condition (40% of the workplaces were randomized into the control condition) or received additional materials in one of the treatment conditions (30% of the workplaces were randomized into each treatment condition).

Dependent variables come from administrative data on the number of donors and the amount of money donated by workplaces to the charity from 2003 to 2009. Covariates come from the charity’s administrative data (number of employees; staffer assigned to the workplace; and workplace industry, which includes whether the workplace is a non-profit and so may receive funding from the charity). Table 1 shows pre-treatment data for the 278 workplaces across the three treatments. The conditions are well balanced.

[Table 1 here]

2.2 Results

Figure 1 shows the kernel densities of the amount donated in 2009 for each treatment. The kernel density for the pins treatment and pins and raffle treatment are to the right of the

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13 See Appendix A.2 for a detailed description of how workplaces were selected to be included in the experiment and the process by which they received the treatment.

14 The pins and raffle condition has two outlier workplaces with 1200 and 2500 employees, which gives it a higher average number of employees than the control group (p<0.1). Since outliers are driving the difference, it is not significantly different using a Ranksum test (p=0.18).
control density. Figure 2 shows the change in the amount donated for workplaces from 2008 to 2009 for each treatment. The kernel density for the pins treatment is to the right of the control density, and the pins and raffle density falls in between the other two.

Figures 1 and 2 here

These results are formalized in a regression analysis that controls for other factors that might influence the amount of money raised in 2009. Specifications take the form:

$$\text{donation}_{j,2009} = \alpha + \beta \times \text{pins}_j + \delta \times \text{pins and raffle}_j + \sigma \times y_{j,t} + \lambda \times \text{controls}_j + \epsilon_j$$

or

$$\text{donation}_{j,2009} - \text{donation}_{j,2008} = \alpha + \beta \times \text{pins}_j + \delta \times \text{pins and raffle}_j + \sigma \times y_{j,t} + \lambda \times \text{controls}_j + \epsilon_j$$

where j indexes workplaces and \( \text{donation}_{j,2009} \) is the amount donated by workplace j in 2009. While the workplaces are rather similar across treatments on average, there is significant variation in the size and success of workplace campaigns in the experiment. Consequently, the empirical specifications all include historic giving data \( (y_{j,t}) \) and other workplaces characteristics \( (\text{controls}_j) \) as controls. For estimating treatment effects, \( \text{pins}_j \) is a dummy equal to 1 if workplace j was in the pins treatment and \( \text{pins and raffle}_j \) is a dummy equal to 1 if workplace j was in the pins and raffle treatment. Since I could not mandate that ECMs actually use the pins as part of the campaign, all of the estimates presented in this paper are of adding materials to be sent to the campaign manager, rather than of the materials being used.

Field Result 1: Providing pins to workplaces increased the amount donated.

Table 2 shows the estimates for the amount raised in the workplace campaigns. Regression (1) shows that the total amount donated is significantly higher in the pins treatment and estimates that including pins in the campaign materials generated an additional $525 in donations. The pins and raffle treatment generates a point estimate that is approximately half the size of the estimate on the pins treatment. Regression (3) finds similar results analyzing the difference between donation in 2008 and 2009 for each workplace (essentially requiring the
coefficient on “Total $ Donated in 2008” to be 1) and also estimates a significant effect (of a similar magnitude) of providing pins in the campaign materials.

Field Result 2: Providing pins to workplaces generated an increase in amount donated at workplaces with initially low participation rates.

The pins treatment was especially effective at generating donors at workplaces where the participation rate was relatively low in 2008. Regressions (2) and (4) interact the treatment with the participation rate in 2008, where participation rate is the number of donors divided by the number of employees. The negative interaction of pins and the participation rate in 2008 shows that pins were more effective at increasing contributions from workplaces with low contribution in the previous year. Again, the pins treatment effect is directionally replicated in the pins and raffle treatment, but the coefficients associated with the pins and raffle treatment are slightly smaller and less precisely estimated.

[Table 2 here]

2.3 Discussion

Providing workers with a way to easily announce support for the charity in the pins treatment increased donation in the workplace campaigns by $525, or nearly 10% of the average amount ($5,341) collected by workplaces in the experiment. These increases in donation are large relative to the cost of the pins (less than $0.17 cents each). Since the average workplace in the pins treatment received 87 pins, at a total cost of $14.34 per workplace, the $525 additional dollars donated at workplaces that received the pins is almost 37 times their cost. Put another way, each $0.17 cent pin sent out in the pins treatment generated an average of $6.04 in extra donations for the charity.

\footnote{A more detailed analysis shows that providing pins (and providing pins and raffle materials) has its largest impact on workplaces with low-to-moderate participation rate in 2008. The bottom tercile (2008 participation rate below 4%) and top tercile (2008 participation rate above 40%) show non-significant effects of the treatments. The middle tercile (2008 participation rate between 4% and 40%) shows a large and significant effect on donation in 2009 of pins ($1,276, p<0.01) and of pins and raffle materials ($941, p<0.1) and on difference in donations from 2008 to 2009 of pins ($1,379, p<0.01) and of pins and raffle materials ($1,092, p<0.05).}
The preferred explanation for the increase in donations that result from providing the pins is a decrease in the cost of announcing support for the charity. Wearing the pin allows an employee to easily broadcast his support for the charity to the office, rather than (say) having a conversation with each coworker about the charity.

There are other potential mechanisms that might be at play, however. First, a gift exchange motive might arise in the pins treatment (or pins and raffle treatment) if employees at workplaces that received the pins from the charity felt obligated to make a return gift in the form of donation. Falk (2007) documents a gift exchange effect in the setting of a charitable direct mail campaign where he finds a positive effect on donation rates associated with sending postcards “from the children” who benefit from the donations. Unlike the postcards in the Falk (2007) setting, however, the pins in this experiment are not a gift from the ultimate recipient of donated funds and do not have explicit value outside of the campaign, so they may be less likely to induce a gift exchange motive. Second, seeing a coworker wear a pin might increase awareness or serve as a reminder that the campaign is taking place. Conversations with staff at the charity, however, suggest that campaigns are well publicized at the workplaces and usually involve significant communication from the ECM to their coworkers.

The only result from the field experiment that can speak to these alternative mechanisms is the comparison between the pins treatment and the pins and raffle treatment. In the pins and raffle treatment, there was less use of the pins (39%) but more use of some additional materials (56%) than there was use of the pins in the pins treatment (45%). When used as instructed, the raffle materials might have created additional awareness about the campaign and might have provided an additional gift to employees, but the pin and raffle treatment does not generate as strong an effect as the pin only treatment. That said, this comparison is suggestive at best, particularly since the pins and raffle treatment effect is well within the confidence interval of the estimated pins effect.

This discussion highlights that while the field experiment demonstrates a significant impact on donation in response to the pins, limitations of the field experiment prevent it from testing for specific mechanisms that might have generated more donations in the pins treatment than in the control condition. The field experiment lacks control in the sense that I am able to provide pins to the workplaces but cannot control whether they are used by the ECM or worn by the employees. Consequently, in the field I cannot tease apart the mechanisms that might arise
when providing the pins to employees or determine which is impacting donation decisions. To better understand why the pins treatment increased donations, and in particular to test the hypothesis that the pins increase donation by allowing individuals to more easily announce support for the charity, I ran a complementary laboratory experiment that is discussed next.

III. Laboratory Experiment

While the field experiment examined individuals in pre-existing social groups making decisions over large stakes, it could not test for specific mechanisms that might have generated the increase in donation in the pins treatment. The laboratory provides a controlled environment to investigate these mechanisms.

While the field and laboratory settings differ on many dimensions, the mechanisms generating treatment effects in the field are presumably also active in the laboratory, an environment in which they can be cleanly identified and better understood. Using a field experiment to identify an economically significant treatment effect and using a complementary lab experiment to tease apart the mechanisms underlying the effect is one specific way in which field and laboratory experiments can be complements in the production of knowledge.\textsuperscript{16}

In the laboratory experiment, subjects have the opportunity to make an anonymous donation to a charity. The experiment has four experimental treatments that differ in whether subjects receive pins before the donation decision and the rules regarding wearing the pins. Subjects receive pins in three of the four treatments. These treatments differ only in whether subjects are told to wear the pin, not to wear the pin, or given the option to wear the pin if they wish. In all four treatments — the three in which subjects receive pins and the control condition in which they do not — subjects are casually exposed (briefly and silently) to one randomly selected other subject before they have the chance to donate to the charity. This interaction is used to estimate the effect of exposure to a person who is (silently) announcing support for the charity by wearing the pin, which can be cleanly estimated in the condition in which subjects have the option to wear the pin.

\textsuperscript{16} Many people argue that laboratory and field experiments can be complements in the production of knowledge (see Kessler and Vesterlund 2012) for a summary. This paper suggests one particular way in which laboratory and field experiments can complement one another. See Kessler (2013) for a broader methodological discussion and another example of how laboratory and field experiments can complement each other by identifying and analyzing variation in treatment effects across different settings.
3.1 Design

Subjects entering the lab were randomly assigned a row to sit in, were visually isolated from each other (with only one other subject in each row), and were seated so they could not see people walking in the aisles of the lab. In the first phase of the experiment, subjects made 25 anonymous dictator game decisions as a dictator. Subjects were told that one of the 25 decisions would be paid out in cash at the end of the study. The dictator game decisions were made before the donation decision to provide data about dictator game generosity that could be used as a control for pro-social inclination and so subjects had a task to complete before the donation decision. Subjects received no feedback from these choices. The result of the dictator game (how much each subject earned) was not revealed until the end of the study.

After making these decisions, subjects were told they would “have the opportunity to donate money to the Boston branch of a charity called United Way” and were provided with a sheet of information about United Way of Massachusetts Bay and Merrimack Valley. Subjects in the three pin treatments were then provided with pins. The pin treatments will be described in detail in the next section.

For all subjects in all treatments, the donation decision then involved being called to the front of the room at the same time as a randomly selected other subject to collect $15. Subjects were informed that the $15 cash was the guaranteed payment they received for participating in the study. Subjects were encouraged to look at the person who was with them at the front of the room, but were not explicitly told to do so. Subjects were told: “You will come up to the front of the room at the same time as someone else. You will later answer questions about this person.” The experiment was designed so subjects would have limited exposure to all other subjects besides the person who they are with at the front at the room. As noted above, all subjects participated in a session of only 12 subjects, and only two subjects sit in each row of six seats in the computer lab.

\[17\] Subjects were told that with 50\% probability one of their 25 choices would determine payoffs for them and for an anonymous other person in the session, and with 50\% probability their payoff would be determined by the decision of an anonymous other person in the lab.

\[18\] The sheet about United Way is from real United Way marketing materials (and is Figure A.3 in the Appendix). This charity was chosen to be similar to the anonymous charity in the field experiment.

\[19\] The computer lab had blinders around each computer terminal to provide privacy for on-screen decisions. The blinders also prevented subjects from seeing subjects in other rows or at the front of the room. In addition, subjects in the experiment were seated one seat away from the aisle on each side (with three empty seats between them) in each row. The seating arrangement generated additional visual
When both subjects reached the front of the room, each was given an envelope containing two $5 bills and five $1 bills. Once all subjects had come up to the front of the room, received their envelopes, and returned to their seats, they were instructed to remove the $15 of cash from the envelope, to write “United Way” on the envelope, and to put in the envelope any money that they wanted to donate to United Way. Donation decisions were made privately. The experimenter then walked around the room with a large cardboard box. When the experimenter reached a subject’s seat, the subject dropped his or her envelope in the box, regardless of whether there was any money in the envelope.

After all donation envelopes were collected, subjects answered a series of questions, some of which were incentivized, about the quality of United Way, their beliefs about the donations and dictator game decisions of others subjects, and about pin wearing behavior. Subjects then completed a demographic survey. I will describe the questions in further detail when I use them in the analysis.

Subjects were physically handed the information about United Way and (in the relevant treatments) the United Way pin, and subjects made the charity donation decision by placing cash into an envelope. All other parts of the experiment were conducted on the computer using z-Tree (Fischbacher 2007).

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isolation so seated subjects could not see subjects walking in the aisles. I am interested in the effect of a subject being casually exposed to someone who is wearing (or not wearing) a pin, and so I wanted to minimize exposure to others in the lab. With this set-up, subjects ideally only observed the pin wearing of the subject they are with at the front of the room. In addition, subjects in the experiment were asked to make anonymous cash donations by placing cash in an envelope and the seating arrangement allows this to be done with additional privacy. See Figure A.2 in the Appendix for a map of the lab and where subjects were sitting.

20 At the end of the experiment, all subjects are asked whether the person they were with at the front of the room reported being “male” or “female” on a demographic survey. Half of the subjects (198 subjects) were randomly chosen to have an incentive for answering the question (they received $0.25 for a correct answer) and the rest (198 subjects) received no incentive. Both with the incentive and without the incentive, 191 out of 198 subjects (96.5%) answered the question correctly, suggesting that the lack of incentives for some questions in the experiment may not be a concern for the accuracy of answers.
No Pin Control Condition and Three Pin Treatments

In the *no pin control condition* (96 subjects in 8 sessions), subjects did not receive pins. In the three pin treatments, subjects were each given a pin by the experimenter that said “I Support” and showed the United Way logo, which contains the name “United Way.”

In the three pin treatments, the pin was handed out after subjects had been provided with information about United Way and before subjects came to the front of the room in randomly selected pairs to receive the $15. In the three pin treatments, subjects were told: “You will now be given a United Way pin, which is yours to keep.” The three pin treatments differ in the instructions about whether or not the subjects should wear the pin.

In the *gift only treatment* (96 subjects in 8 sessions), subjects were instructed: “Please do not put the pin on now. No one will wear the pin for the remainder of the session. Once you have been given the pin, click the next button below.” Pins are a gift to the subject but are not worn during the session, so the pin cannot provide information about a subject’s support for the charity.

In the *must wear treatment* (96 subjects in 8 sessions), subjects were instructed: “Please put the pin on now. Everyone will wear the pin for the remainder of the session. Once you have put on the pin, click the next button below.” Pins are a gift to the subject and every subject wears the pin during the rest of the session, so (as in the gift only treatment) the pin cannot provide information about a subject’s support for the charity.

In the *pin option treatment* (108 subjects in 9 sessions), subjects were told: “Feel free to put the pin on now. Once you have put on the pin, if you decided to do so, click the next button below.” Pins are a gift to the subjects and subjects can choose whether to wear them during the session. Consequently, in the pin option treatment, the pins can provide information about a subject’s support for the charity. In the pin option treatment, 32% of subjects choose to wear the pin. As stated above, subjects were called up to the front of the room in randomly generated pairs. I will identify the effect of exposure to a subject announcing support for United Way by wearing the pin with this random variation.

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See Figure A.1 for a photo of the pin used in the laboratory experiment. The pins used in the laboratory experiment were similar in message and structure to the pins used in the field experiment.
3.2 Experimental Results

Laboratory results are from 396 subjects, students at Boston-area colleges and universities, who participated in the experiment in May and June of 2010 and April and May of 2011. Subjects participated in one of 33 sessions at the Computer Lab for Experimental Research at Harvard Business School.\(^{22}\) The experiment lasted less than an hour and on average subjects earned $20.02.

We will first identify the impact of announcements of support on subject donations in the pin option treatment. In the pin option treatment, subjects chose whether to wear the pin in support of United Way. They were then exposed to a random other subject at the front of the room: a subject who chose either to wear the pin or not to wear the pin up to the front of the room. To investigate the role of announcements of support on donation, we use this variation of being randomly exposed to a subject who chose to wear — or not to wear — the pin.\(^{23}\)

Of the 108 subjects in the pin option treatment, I observed 35 subjects wearing the pin at the front of the room.\(^{24}\) Since subjects are called up to the front of the room in randomly generated pairs, 35 subjects are exposed to someone at the front of the room who announced support for United Way by wearing the pin and 73 subjects are exposed to someone who chose

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\(^{22}\) There were no statistical differences between behavior within any treatment for the 14 sessions conducted in 2010 and the 19 sessions conducted in 2011, so data from 2010 and 2011 have been merged within each treatment.

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\(^{23}\) Throughout the text, I use “being at the front of the room with a pin wearer” and “being exposed to an announcement of support” interchangeably. Here I briefly mention (and dismiss) two alternative explanations for why being at the front of the room with a pin wearer might increase donations. The first is that seeing a pin wearer might make a subject think people in the session are more generous and that he will earn more money from the dictator game (in expectation). Reported beliefs contradict this story. After the donation decision, subjects were asked to guess the dictator game giving of other subjects in the session for 3 of the dictator games. Those at the front of the room with pin wearers think the modal gift is directionally less than those exposed to non-wearers (for all three games). The second is that pin wearers may be more pleasant people and exposure to pleasant people makes subjects donate to United Way. Here it is worth emphasizing that the interaction between the subjects at the front of the room lasts no more than a few seconds and occurs silently. In addition, subjects at the front of the room with pin wearers do not think they give more in the dictator games (belief differences are insignificant and are that pin wearers give directionally less for 1 of the 3 games). Finally, donations do not respond to any observable characteristics of the person at the front of the room (e.g. gender) in any treatment.

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\(^{24}\) After the donation decision, subjects were asked whether or not they wore the pin. Results here use my record of whether I saw the pin when the subject came up to the front of the room. Comparing my record to the self-reports, I saw the pin on 2 subjects who reported not wearing it, and I did not see the pin on 3 subjects who reported wearing it. Some of these differences are likely in interpretation. For example, one subject who reported wearing the pin noted in a questionnaire that he put the pin on his bag, which he did not wear to the front of the room. Results are nearly identical if I use self-reported pin wearing or if data from these 5 subjects, and the 5 subjects with them at the front of the room, is dropped.
not to wear the pin (a “non-wearer”). Note that these numbers include pairs of two non-wearers, two pin wearers, and pairs of one pin wearer and one non-wearer.

Lab Result 1: Being randomly exposed to a subject who chooses to wear the pin — rather than a non-wearer — increases donations and the probability of making a donation.

Figure 3 compares the distribution of donations of subjects in the pin option treatment who are exposed to pin wearers and who are exposed to non-wearers. The subjects who are at the front of the room with a pin wearer donate 106% more than those at the front of the room with a non-wearer ($2.20 versus $1.07; 108 obs: t-test p<0.01).  

Of the 35 pin wearers in the pin option treatment, 25 make a donation (i.e. 71% donate and 29% do not donate). Subjects display the same positive response in their donation when at the front of the room with a pin wearer who does not donate as with a pin wearer who does donate.

In addition to comparing donations within the pin option treatment, we can also compare donations of subjects in the pin option treatment to donations of subjects in the other treatments. While subjects select into wearing the pin or not wearing the pin, they do not select into being at the front of the room with someone announcing support for United Way by wearing the pin. Consequently, we can make clean comparisons between donations in each subgroup of the pin option treatment to donations in the other treatments. For example, we can compare donations of subjects in the pin option treatment who are at the front of the room with a pin wearer to donations in the control condition where there are no mention of pins and no way to announce support for the charity.

We can also compare donations in the other treatments to one another. This latter exercise allows us to investigate the other potential mechanisms that might have increased donation in workplaces that received pins in the field experiment. In particular, by comparing

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25 They are also 49% more likely to make a donation (71.4% make a positive donation when the other subject wears the pin versus 47.9% when the other subject does not; 108 obs: Probit p=0.021).
donation in the no pin control condition to donation in the gift only and must wear treatments — in which each subject gets a pin emblazoned with the charity logo as a gift but cannot use it to announce support — we can identify the effect of gift exchange and of exposure to the charity imagery (i.e. seeing the United Way logo on the pins). By comparing the latter two treatments, we can identify the effect of being forced to wear a pin. All together, these comparisons allow us to identify the relative magnitudes of mechanisms that might be driving an increase in donation in the field experiment.

Lab Result 2: Being randomly exposed to a subject who chooses to wear the pin — rather than being in a treatment where there is no opportunity to announce support — increases donation.

Lab Result 3: Receiving the pin as a gift, being exposed to the charity logo, and being forced to wear the pin do not statistically significantly impact donation.

Figure 4 shows the average donation to charity in the no pin control condition, the gift only treatment, the must wear treatment, the pin option treatment when subjects were exposed to a non-wearer, and the pin option treatment when subjects were exposed to a pin wearer. The donation levels for the no pin control condition, the gift only treatment and the must wear treatment are nearly identical ($1.31 in control, $1.31 in gift only, $1.47 in must wear). Being exposed to a pin wearer, however, generates a significant increase in donations above the other three treatments ($2.20 when exposed to a pin wearer). Table 3 provides statistical tests for the difference in donation among the different treatments using t-tests.

The donations in the no pin control condition, the gift only treatment and the must wear treatment are nearly identical, so the experiment finds no evidence of a gift exchange motive in donation, no evidence of exposure to charity imagery on donation, and no evidence of mandatory pin wearing on donation. There is, however, a significant positive effect on donation of being

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26 Mandatory pin wearing might have been relevant in the field experiment if there was implicit or explicit pressure for employees at a workplace to wear the pin.
exposed to a subject announcing support for the charity by wearing the pin in the pin option treatment. While finding null results for the other mechanisms is not conclusive evidence that such forces are not active, the tests that compare donations between two treatments have 192 observations each and are well powered to identify an effect of a similar magnitude as the effect of being exposed to a pin wearer.

[Table 3 here]

The fourth column in Table 3 shows that the average donation across all subjects in the pin option treatment ($1.44) is not statistically different from the donations in the no pin control condition, the gift only treatment, or the must wear treatment. Consequently, simply having the option to wear the pin and being exposed to a random other subject does not generate the increase in donations on its own. Rather, it is being exposed to an announcer that generates the increase in donation.

The laboratory experiment was designed to investigate potential mechanisms that might be active in the field experiment. In the field experiment, providing pins to workplace charitable giving campaigns and allowing subjects to announce support to one another before the donation decision increased the amount of money raised in those campaigns. In the laboratory experiment, providing pins and allowing subjects to announce support to one another before the donation decision in the pin option treatment did not statistically increase donations above the no pin control condition (although it did increase giving by 10% over the control condition, a similar percentage change as in the field experiment). One reason we do not observe a statistically significant difference in the laboratory setting is that in the laboratory there is a countervailing effect in the pin option treatment: a negative effect on donation of being exposed to a non-wearer. This countervailing effect is unlikely to be present in the field setting.

In the laboratory, it is publicly announced that every subject has received a pin and has the option to wear it up to the front of the room. Consequently, anyone who is with a non-wearer at the front of the room gets a negative signal about that subject’s support for the charity: they know that the non-wearer could have chosen to wear the pin and explicitly chose not to do so. Those who are exposed to a non-wearer in the pin option treatment are less likely to donate than subjects in the other three treatments where subjects do not get an opportunity to announce
support (47.9% if exposed to non-wearer in pin option and 62.8% in the no pin control, gift only, and must wear treatments combined: Probit p=0.021). This effect is reflected in average donations, which are directionally lower when subjects are exposed to a non-wearer ($1.07 if exposed to non-wearer in pin option and $1.36 in the other three treatments combined; 361 obs: t-test p=0.198).\(^{27}\)

In the field setting, however, it is unlikely that subjects know for certain that a specific coworker received a pin and chose not to wear it: it is possible that a coworker is displaying the pin at his desk, has it pinned to a jacket or bag rather than the shirt he is wearing around the office, or that he never received a pin in the first place. In particular, many employee campaign managers reached in the post-experiment survey reported putting pins in a bowl (e.g. in the break room) for people to take if they wished. It is possible that not all employees observe the bowl of pins, and so when a coworker is spotted without a pin he may have simply not yet had a chance to get one. On the other hand, an employee who sees a coworker wearing a pin gets a positive signal about that coworker’s support for the charity. In the field, positive signals of support are explicit and clear while failure to demonstrate support is a noisy signal.

### 3.3 How Do Announcements of Support Affect Behavior?

The laboratory experiment allows for a thorough investigation of the mechanisms generating the increase in donation associated with exposure to an announcement of support for the charity. First, we expect that subjects who announce support for United Way by wearing the pin should give more than other subjects. Second, we might expect the donation of pin wearers to depend less on whether they are exposed to an announcement themselves. Results are consisted with these predictions.

**Lab Result 4:** *Selecting to wear the pin is associated with larger donations.*

**Lab Result 5:** *Exposure to a pin wearer affects donations of non-wearers but not of pin wearers.*

Table 4 shows that being exposed to someone announcing support has different effects on those who announce support themselves and those who do not. For the 108 subjects in the pin

\(^{27}\) This difference in donations is statistically significant using the Ranksum test (p=0.039).
option treatment, we regress donation on whether the subject wore the pin, whether the subject was exposed to a pin wearer at the front of the room, and the interaction of the two. Regressions (5) and (6) show that the coefficient on being exposed to a pin wearer is positive and significant: being exposed to a pin wearer is associated with an increase in donation. As can be seen in Regression (5), those who do not wear the pin and are exposed to another non-wearer donate $0.75, while those who do not wear the pin and are exposed to a pin wearer donate $2.36, a 215% increase in donation. The coefficient on wearing the pin is positive and significant, so wearing the pin oneself is associated with donating more to United Way. The interaction term, however, is significant, negative, and of a similar magnitude to the coefficient of being exposed to a pin wearer. The donation of someone announcing support for the charity by wearing the pin is much less sensitive to the announcement of support of another subject.

(Table 4 here)

Consequently, the increase in donation associated with being exposed to an announcement of support is coming primarily from the subjects who did not wear the pins themselves. What about being exposed to an announcement of support leads these non-wearers in the pin option treatment to drastically increase their donations? We want answer this question, and generally understand why announcements of support increase donation, so we can: (1) predict when announcements will affect behavior and (2) make claims about the welfare consequence of facilitating announcements of support.

If agents update their beliefs about public good quality when they see an announcement of support, such announcements will primarily affect behavior when agents’ prior beliefs about the value of the public good are weak and when other agents have information about its value. This mechanism also suggests that announcements of support will help spread information about charity quality and so will generally be welfare enhancing.

If instead, agents respond to the donation decision of others per se (regardless of what those decisions reveal about charity quality), subjects who see an announcement of support may only update beliefs about the donation of the announcer. In this case, announcements will primarily affect behavior when agents are more inclined to cooperate conditionally due to reciprocity, fair-share, or conformity motives. In this case, announcements of support may
impose a kind of peer pressure to donate on those who observe the announcements, and thus may or may not be welfare enhancing.

Cleanly teasing apart these mechanisms is an experimental challenge. Below I show that beliefs elicited after the donation decision are more supportive of a story in which exposure to a pin wearer changes beliefs about the donation of others (particularly the pin wearer) without changing beliefs about charity quality. Beliefs about the donations of others are dramatically impacted by exposure to an announcement of support, and these beliefs about donations can statistically explain the accompanying increase in donation. Beliefs about charity quality do not change and cannot statistically explain the increase in donation.

I first investigate effect of exposure to an announcement of support on beliefs about charity quality, and the relationship between beliefs about charity quality and donation. While United Way is a rather well known national charity, if experimental subjects think others in the lab are better informed about United Way, then a subject who is exposed to a pin wearer may update beliefs about the quality of United Way. These changes in beliefs could impact donation (see Vesterlund 2003; Potters, Sefton and Vesterlund 2005).

Among the questions that subjects answer after the donation decision, subjects report incentivized beliefs about charity quality. Subjects are asked to guess the ratings given by Charity Navigator, “an independent organization that rates charities on a scale of 1 to 4 stars,” to United Way of Massachusetts Bay and Merrimack Valley. They are paid $0.25 for a correct guess of the number of stars, for each of three dimensions of charity quality. They are asked independently for an overall rating, a rating of organizational efficiency, and a rating of organizational capacity, in that order.\(^{28}\)

Beliefs about the quality of United Way do not appear to be affected by exposure to an announcement of support. Exposure to a pin wearer does not significantly affect non-wearers guesses of United Way’s overall quality (3.48 when exposed to a pin wearer versus 3.44 when exposed to a non-wearer; 73 obs: t-test p=0.748), organizational efficiency (3.08 versus 3.33; 73 obs: t-test p=0.189), or organizational capacity (3.56 versus 3.38; 73 obs: t-test p=0.278). While beliefs about overall quality and capacity are directionally positively affected by exposure to an announcement of support, beliefs about efficiency are directionally negatively affected.

\(^{28}\) Subjects are provided with definitions of “organizational efficiency” and “organizational capacity” taken from the Charity Navigator website (http://www.charitynavigator.org/).
These null results do not allow us to conclude that announcements of support do not affect beliefs about charity quality. In addition to the limited power of these tests, the belief measures are rather coarse (subjects are restricted to guess 1, 2, 3 or 4 stars on each dimension), there is not much variation in reported beliefs (most subjects guess either 3 or 4 stars for most dimensions), and the question provides an incentive to guess the mode rather than the mean of a subject’s distribution of beliefs about each dimension of quality. Nevertheless, we can show that even if beliefs about charity quality are affected by exposure to an announcement of support, beliefs about charity quality cannot explain the accompanying increase in donation.

Figure 5 displays average donation of the 73 non-wearers in the pin option treatment, broken down by each guess of overall rating of United Way and whether subjects are exposed to a pin wearer at the front of the room. At each rating level, average donation is higher when the subjects are exposed to a pin wearer. Most striking, donations are higher among those exposed to a pin wearer who subsequently guess that United Way has an overall rating of 3 stars than among those exposed to a non-wearer who guess that United Way has an overall rating of 4 stars ($2.08 for 3 stars and exposure to a pin wearer and $0.91 for 4 stars and exposure to non-wearer; 35 obs: t-test p=0.065). Even assuming those who are exposed to a pin wearer are at the highest end of the range of beliefs (so are very “high 3’s”) and those who were exposed to a non-wearer are at the lowest end of the each range of beliefs (so are very “low 4’s”), there is still a significant impact of exposure to the pin wearer on donation after controlling for beliefs about charity quality. These results are formalized in regression analysis presented in Table 5 and discussed below.

[Figure 5 here]

After answering incentivized questions about United Way quality, subjects are asked to report beliefs about the United Way donation of the person they were with at the front of the room, the average United Way donation of all the other people in the room, and their belief about how much money people in their session should donate to United Way.

Beliefs about the donations of other subjects, and particularly beliefs about the person who is with the subject at the front of the room, significantly increase when the person with them at the front of the room announces support for the charity by wearing the pin. Non-wearers who
are at the front of the room with a pin wearer think that subject donates significantly more than those who are at the front of the room with a non-wearer. Subjects at the front of the room with a pin wearer believe that person donates $3.48 on average, and 92% think that person donates a positive amount. Subject at the front of the room with a non-wearer believe that person donates only $1.50 on average, and only 65% think that person donates a positive amount (for amount donated, 73 obs: t-test p<0.001; for probability of donation, 73 obs: Probit p=0.012).29

Lab Result 6: Non-wearers who are exposed to a pin wearer think that subject donates more and this statistically explains their increase in donation.

This change in belief about the donation of the person at the front of the room statistically explains the increase in donation associated with exposure to a pin wearer. Table 5 displays regressions analyzing the relationship between donation of non-wearers and beliefs about United Way quality and the donations of other subjects.

[Table 5 here]

The first set of regressions, on the left side of the table, uses OLS to estimate donation. The second set of regressions, on the right side of the table, replicates the results with Ordered Probit specifications. Looking across the columns in Table 5, we see that only beliefs about the donation of the subject at the front of the room statistically explains the increase in donation from being exposed to a subject who announces support for the charity. In Regression (9) and Regression (14), the coefficient on being exposed to a pin wearer shrinks and becomes statistically insignificant when including a linear control for belief of the donation of the subject at the front of the room. Meanwhile, other belief measures — including dummies for each rating of quality for each of the three dimensions in regressions (8) and (13), for average donation in 29

Beliefs about donation are well above the actual amounts donated. The 25 pin wearers who are at the front of the room with a non-wearer donate $1.68 on average and 68% make a positive donation (well below the beliefs of $3.48 and 92%); the 48 subjects who do not wear the pin and are at the front of the room with other non-wearers donate $0.75 on average and 37.5% make a positive donation (also well below the beliefs of $1.50 and 65%).
(10) and (15), and for how much people should donate in (11) and (16) — can only partially explain the increase in donation associated with exposure to a pin wearer.

3.4 Discussion

Consistent with the results of the field experiment, laboratory subjects exposed to someone who announces support for United Way by voluntarily wearing the pin donate more to the charity than subjects in treatments where pins cannot be used to announce support. Being exposed to someone who voluntarily chooses not to wear the pin is associated with a slight decrease in donation. Announcers donate more, and their donations are not affected by exposure to another announcer. Consequently, the effect on donation from being exposed to an announcement of support is among those who did not announce themselves. Exposure to an announcement of support affects beliefs about how much the announcer donates but does not appear to affect beliefs about the quality of United Way.

While the laboratory experiment finds a strong effect of exposure to an announcement of support on donations to the charity, the experiment does not find evidence of the other potential mechanisms by which the pins might have affected donation in the field experiment. Namely, the experiment finds no evidence of an effect from gift exchange, from exposure to charity imagery, or from mandatory pin wearing. At the very least, these potential effects are estimated to be small relative to the effect of exposure to an announcer in the laboratory experiment.

These laboratory results help explain the field experiment results, and together they provide a more complete picture of how announcements of support influence contribution to a public good. The laboratory provides a controlled setting to investigate the mechanism at play but uses small stakes (on the order of dollars), while the field experiment demonstrates that this mechanism can have a substantial impact on decisions (on the order of hundreds of dollars) in workplace settings.

IV. Conclusion

In the field experiment, giving individuals a way to easily announce support for a public good generated significantly more contribution to the public good — workplaces that received pins allowing employees to announce support for a charity before donations were collected raised $525 more than workplaces that did not receive pins. In the laboratory, individuals
responded to announcements of support for a public good with contribution even though non-contributors sometimes announced support. These results suggest that conditional cooperation can motivate individuals even when hard information about others’ contributions is not available. Individuals respond to *soft information* like announcements of support, which means a conditional cooperation motive can help explain the private provision of public goods in vast array of settings.

In the field experiment, charitable donation funded services for the poor and provided an additional public good: the success of a company’s workplace campaign, which may directly or indirectly benefit the company and its employees. Consequently, announcements of support may not only increase provision of public goods like charitable giving, but they may also encourage employees to provide work effort towards a company goal. This interpretation makes announcements of support a relevant tool not only for fundraisers and charities but also for managers attempting to motivate workers. For example, employees working on a group project may be able to encourage one another to provide effort, even if individual contributions are not monitored or individually rewarded.

In addition, results presented here suggest that fundraisers, charities, and managers may find it beneficial to have discussions about the public good, or the importance of a group project or company goal, take place publicly (for example at a town hall or at a company or division meeting). Similarly, allowing individuals to pledge contribution for the public good in the same public setting, even with verbal statements, may generate more contribution overall.

Fundraisers and managers who want to leverage social motivations to increase contribution to a public good may be in a position to choose between broadcasting social information about the actions of other agents or facilitating announcements of support for the public good. Announcements of support may be more feasible when a new opportunity to provide a public good arises and information about past actions is not available. Results from the laboratory suggest that, like information about the donations of others (see Croson and Shang 2008) announcements of support must be positive to encourage donation. An additional benefit of facilitating announcements of support is that doing so may increase contribution even in cases where historical contribution rates are low and broadcasting information about previous actions may fail to encourage contribution. In the field experiment, the pins were most effective in workplaces that had relatively low participation rates in the previous year.
Future research should continue to investigate the social motives for public good provision. One important dimension that will likely matter for the efficacy of announcements of support is the relationship between the announcer and those who are exposed to the announcement. In the laboratory, subjects were impacted by the announcements of strangers. One might expect that this force would be stronger when individuals are socially connected. Future research could take advantage of rich information about relationships on social networks (see Leider, Mobius and Rosenblatt 2010) to estimate the importance of this effect and to identify what types of individuals are most influential when they announce support. Understanding when and how these social forces influence behavior will provide a more complete picture of why public goods are privately provided and how fundraisers and managers can increase provision.

In addition to providing new results on how social forces impact private provision of public goods, this paper demonstrates a particular way in which laboratory and field experiments can be complements in the production of knowledge. In this paper, a field experiment identified that an intervention had an economically significant effect and a complementary laboratory experiment was designed and run to better understand the mechanisms driving the result in the field.
References


Figure 1: Amount Donated by Treatment

Note: Bandwidth is $2400; for display purposes excludes the top 5% of workplaces (> $23,000)
Figure 2: Difference in Amount Donated by Treatment
Note: Bandwidth is $400; for display purposes excludes the top 5% (> $1600) and bottom 5% (< -$3275) changes in donations
Figure 3: Donation Distributions in Pin Option

* In the Exposed to Non-Wearer group, one subject donated $0.08 and is displayed as $0 and one subject donated $10 and is displayed as $5. In the Exposed to Pin Wearer group, one subject donated $10 and is displayed as $5.
Figure 4: Average Donation By Treatment and Pin Exposure

Note: Standard error bars are shown around each mean. Subjects who were exposed to a pin wearer in the Pin Option treatment donated significantly more than subjects in any of the other treatments.
Figure 5: Amount Donated by Overall Rating of Non-Wearers

Note: Standard error bars are shown around each mean.
Table 1: Pre-Treatment Summary Statistics and Material Use by Condition

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Pins</th>
<th>Pins and Raffle</th>
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<tbody>
<tr>
<td>Workplaces</td>
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<td>86</td>
<td>84</td>
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<tr>
<td>Share (40% / 30% / 30%)</td>
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<td>30%</td>
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<td>Average # of donors 2008</td>
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<td>Average # employees 2008</td>
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<td></td>
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<td>Average $ donation 2008</td>
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<td>Participation 2008 (# of donors 2008 / # of employees 2008)</td>
<td>0.36</td>
<td>0.29</td>
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<td></td>
<td>(0.36)</td>
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<td>Non-profit: may receive grants from the charity</td>
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<td>38%</td>
<td>42%</td>
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<td></td>
<td>(0.50)</td>
<td>(0.49)</td>
<td>(0.50)</td>
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<tr>
<td>Responded to mailed pre-survey (July 2009)</td>
<td>26%</td>
<td>21%</td>
<td>24%</td>
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<td></td>
<td>(0.44)</td>
<td>(0.41)</td>
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<tr>
<td>Reached via phone post-survey (in March to May 2010)</td>
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<td>72%</td>
<td>73%</td>
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<td></td>
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<td>(0.45)</td>
<td>(0.45)</td>
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<td>Use Pins</td>
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<td>Use Both</td>
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<td>26%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(0.44)</td>
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Notes: Standard deviations are in parentheses; * indicates that the data is significantly different from control condition at 10% level using a t-test. The pre-survey was sent to ECMs in July 2009 before the experiment. The phone post-survey was conducted in March 2010 and established use of materials. College student volunteers and full-time staffers for the charity conducted the post-survey.
<table>
<thead>
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<th>Table 2: Amount Donated</th>
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</tr>
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<td>Pins Only *</td>
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<tr>
<td>Participation Rate 2008</td>
</tr>
<tr>
<td>Pins and Raffle</td>
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<td></td>
</tr>
<tr>
<td>Pins and Raffle *</td>
</tr>
<tr>
<td>Participation Rate 2008</td>
</tr>
<tr>
<td>Total $ Donated in 2008</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>No Campaign in 2008</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Participation Rate 2008</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Amount Donated Controls (2003-2007)</td>
</tr>
<tr>
<td>Workplace Controls</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
</tbody>
</table>

Note: Robust standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%. Amount Donated Controls include amount donated in each campaign year 2003-2007 and a dummy equal to 1 if there was no campaign run in each year 2003-2007. Workplace Controls include number of employees in each workplace in 2009 and in 2008, whether the workplace replied to a pre-survey in July 2009, a dummy for each charity staffer who contacted employee campaign managers, and dummies for the industry of the workplace. Participation Rate 2008 is the number of donors in 2008 divided by the number of employees in 2008 at the workplace. Among the 278 workplaces: mean amount donated was $5341, median was $1688. Regression (1) shows that including the pins in the campaign materials had a significant positive effect on the amount donated by the workplace of $525. Regressions (2) and (4) show the effect is more pronounced at workplaces that had low participation rates in 2008.
Table 3: Differences in Donation

<table>
<thead>
<tr>
<th></th>
<th>Control (n=96)</th>
<th>Gift Only (n=96)</th>
<th>Must Wear (n=96)</th>
<th>Pin Option Combined (n=108)</th>
<th>Exposed to Non-Wearer (n=73)</th>
<th>Exposed to Pin Wearer (n=35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>$1.31</td>
<td>$1.31</td>
<td>$1.47</td>
<td>$1.44</td>
<td>$1.07</td>
<td>$2.20</td>
</tr>
<tr>
<td>Gift Only</td>
<td>$0.003 ±0.498</td>
<td>$0.160 ±0.631</td>
<td>$0.127 ±0.650</td>
<td>$-0.243 ±0.449</td>
<td>$-0.239 ±0.411</td>
<td>$0.886 ±0.015**</td>
</tr>
<tr>
<td>Must Wear</td>
<td>$0.163 ±0.535</td>
<td>$0.127 ±0.650</td>
<td>$-0.034 ±0.888</td>
<td>$-0.403 ±0.128</td>
<td>$0.727 ±0.051*</td>
<td>$0.891 ±0.031**</td>
</tr>
<tr>
<td>Pin Option Combined</td>
<td>$-0.366 ±0.206</td>
<td>$0.764 ±0.063*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed to Non-Wearer</td>
<td>$1.130 ±0.006***</td>
<td>$0.006***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed to Pin Wearer</td>
<td>$2.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Each cell displays the column header average donation minus row header average donation. The p-value is associated with a two-sided t-test of the difference in the means: * significant at 10%; ** significant at 5%; *** significant at 1%.
Table 4: Effect of Exposure to Pin Wearer in Pin Option

<table>
<thead>
<tr>
<th></th>
<th>$ Donation (OLS)</th>
<th>$ Donation (Ordered Probit)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Exposed to Pin Wearer</td>
<td>1.61 (0.551)***</td>
<td>0.94 (0.296)***</td>
</tr>
<tr>
<td>Pin Wearer</td>
<td>0.933 (0.493)*</td>
<td>0.677 (0.268)**</td>
</tr>
<tr>
<td>Exposed to Pin Wearer*</td>
<td>-1.493 (0.858)*</td>
<td>-0.755 (0.432)*</td>
</tr>
<tr>
<td>Pin Wearer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.75 (0.186)***</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.11</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Robust standard errors are in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%. For the Ordered Probit specification pseudo R-squared is reported.

Pin wearers are not affected by being exposed to a pin wearer, and so the interaction of being a pin wearer and being exposed to a pin wearer is negative and of a similar magnitude as being exposed to a pin wearer.
Table 5: Exposure to Pin controlling for Charity Quality and Beliefs

<table>
<thead>
<tr>
<th></th>
<th>$ Donation (OLS)</th>
<th></th>
<th>$ Donation (Ordered Probit)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Controls</td>
<td>Quality Only</td>
<td>Front of Room</td>
<td>Average Should</td>
</tr>
<tr>
<td>Exposed to Pin Wearer</td>
<td>(7)</td>
<td>(8)</td>
<td>(9)</td>
<td>(10)</td>
</tr>
<tr>
<td></td>
<td>1.61</td>
<td>1.445</td>
<td>0.243</td>
<td>1.193</td>
</tr>
<tr>
<td></td>
<td>(0.565)**</td>
<td>(0.386)</td>
<td>(0.444)**</td>
<td>(0.520)**</td>
</tr>
<tr>
<td>Beliefs about donation of person at front of room</td>
<td>0.691</td>
<td>(0.126)**</td>
<td>0.499</td>
<td>(0.105)**</td>
</tr>
<tr>
<td>Beliefs about average donation</td>
<td>0.434</td>
<td>(0.182)**</td>
<td>0.255</td>
<td>(0.092)**</td>
</tr>
<tr>
<td>Beliefs about how much one should donate</td>
<td>0.238</td>
<td>(0.125)*</td>
<td>0.238</td>
<td>(0.125)*</td>
</tr>
<tr>
<td>Quality Belief Controls</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Constant</td>
<td>0.75**</td>
<td>0.029</td>
<td>-0.286</td>
<td>-0.123</td>
</tr>
<tr>
<td></td>
<td>(0.185)**</td>
<td>(0.770)</td>
<td>(0.186)</td>
<td>(0.343)</td>
</tr>
<tr>
<td>Observations</td>
<td>73</td>
<td>73</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.15</td>
<td>0.22</td>
<td>0.57</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Note: Robust standard errors are in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%; for Ordered Probit specifications, pseudo R-squared is reported.

Quality Controls include dummy variables for each star rating for each of the three dimensions of United Way quality. “Beliefs about donation of person at front of room” is a dollar amount between $0 and $15. “Beliefs about average donation” is any penny amount between $0.00 and $15.00. “Beliefs about how much one should donate” is a dollar amount between $0 and $15.

Subjects who do not wear the pin who are randomly exposed to a subject who wears the pin donate significantly more. Only adding the beliefs of the donation of the person at the front of the room as a control eliminates the effect of being exposed to a pin wearer.
Appendices (For Online Publication)

A.1 Campaign Materials and Instructions to Employee Campaign Managers

For employee campaign managers who receive the pins:

Thank you for your support of CHARITY! In this bag are pins to help you in your campaign. Please pick a day during the campaign (BEFORE you collect pledge cards) to be “CHARITY Pin Day.” On the morning of the day you choose, give a pin to every employee at your workplace, so that everyone who wishes to can show their support for CHARITY.

NOTE: Please keep any unused pins, which will be collected by a CHARITY representative at the end of your campaign. Pins were donated to CHARITY to aid in the running of workplace campaigns.

For employee campaign managers who receive the pins and raffle materials:

Thank you for your support of CHARITY! In this bag are pins to help you in your campaign. Please pick a day during the campaign (BEFORE you collect pledge cards) to be “CHARITY Pin Day.” On the morning of the day you choose, give a pin to every employee at your workplace, so that everyone who wishes to can show their support for CHARITY.

In this bag, you will also find tickets and a prize (two movie passes) so that you can hold a drawing on “CHARITY Pin Day.” When you distribute the pins, also give a TICKET/COUPON to every employee at your workplace and encourage them to return the COUPON to you before the end of the day if they want to be in the drawing. At the end of the day, randomly draw a COUPON to determine the winner of the movie passes.

NOTE: Please keep any unused pins and prize materials, which will be collected by a CHARITY representative at the end of your campaign. Pins and prize materials were donated to CHARITY to aid in the running of workplace campaigns. It is the express policy of CHARITY that participation in drawings or raffles not be restricted in any way. Accordingly, no participation fee, pledge or contribution to the CHARITY is to be required in connection with any drawing or raffle.
Table A.1: Campaign Materials by Treatment

<table>
<thead>
<tr>
<th>Standard Materials</th>
<th>Control</th>
<th>Pins Treatment</th>
<th>Raffle Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pledge Cards (25, 50, 100 or 200)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>One page of instructions for ECM</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Posters to put up in the workplace</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Lists of non-profits charity funds</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Cards with benefit info for $156 donors</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Envelope to mail back pledge cards</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Materials</th>
<th>Control</th>
<th>Pins Treatment</th>
<th>Raffle Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pins (25, 50, 100 or 200)</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Raffle Tickets (25, 50, 100 or 200)</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>2 AMC Movie Passes</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

A.2 Detailed Workplace Selection and Process

The experiment was conducted among a group of workplaces with the potential to run a workplace campaign in the fall of 2009. The charity selected 361 workplaces to be potentially included in the experiment based on a set of two criteria. The workplaces:

1. Were at the low end of the charity’s workplace campaigns in total revenue;
2. Were slated to receive all of the campaign materials, including paper pledge forms, in a single box for a campaign.
The first criterion was a requirement of the charity (and allowed my experiment to be conducted on a group of workplaces that the charity believed had a potential for improvement). The second criteria was necessary since my treatment conditions were implemented by adding additional materials to the box of campaign materials received by the ECM at each workplace.

These 361 workplaces had already been assigned to staffers who were in the process of making initial contact with the ECMs (to determine whether the workplace was running a campaign that year and to arrange a meeting to drop off the box). The whole list of 361 workplaces was randomized into the conditions of my experiment. Each workplace was assigned either to the control condition (with 40% probability) or into one of the two treatment conditions (each with 30% probability).

After randomization, the staffers were informed of which of their workplaces were to receive the additional materials. The intervention was explained at a training session on September 14, 2009 to all the staffers who were responsible for any of the 361 campaigns, since most staffers had some workplaces in each of the three conditions. The staffers were told that randomly chosen workplaces were given extra materials since the charity was attempting to learn how it could increase workplace giving with its limited resources. The staffers were told to explain to the ECM about the materials that were provided for that workplace and not to mention that different workplaces received different materials. It was explained to the staffers that the charity would not learn anything about the campaign materials if they did not follow the instructions carefully.

Each of the 361 workplaces was assigned a box with all of the standard materials as well as any additional materials as was required by the treatment. The boxes were in fixed sizes of either 25, 50, 100, or 200 pledge cards. When extra materials were added for the pins treatment, a bag with the same number of pins as pledge cards were added to the box (pins were in bags of 25 and 50, so boxes receiving 100 or 200 pins received 2 or 4 bags of 50 pins each). In the pins and raffle treatment, the same number of raffle tickets as pins and pledge cards was added to the box along with two AMC movie passes. Workplaces received the smallest box that had at least as many pledge cards as workers as indicated in the charity’s administrative data. All pins and

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30 If a staffer conversation with an ECM indicated that the workplace had many more (or many fewer) workers than was indicated in the administrative data, the box was upsized to be a larger box, i.e. from 25 to 50 (or downsized to be a smaller box, i.e. from 50 to 25). Any additional materials required by the
raffle materials were added to the box last so they would be the first thing seen by the ECM upon opening the box.

Each staffer was given a list of the workplaces that were included in the experiment. The box assigned to a workplace had a label indicating the company name, the number of pledge cards in the box, and what materials they received so the staffer would not be confused about which workplace received which box and what materials they should be discussing with that ECM. I prepared the boxes and ensured the right materials were included in each box and that the boxes were labeled appropriately. The staffers were provided the boxes in advance of any meetings they had with the ECMs. The staffers were required to bring the specific labeled box to the associated workplace. For many campaigns, the staffer visited the ECM personally. For other campaigns, the staffer mailed the box or dropped it off at the office without a meeting.

While all 361 workplaces were randomized into a treatment, not all 361 workplaces are included in the experimental analysis. There are three reasons why workplaces are excluded from the analysis:

1. The workplace never received a box and thus never received the treatment or the control (72 total workplaces). There are four reasons why workplaces did not receive a box:
   · Some workplaces had begun their campaigns before the workplaces were randomized into treatments and before the program was introduced to the staffers on September 14, 2009. These workplaces did not receive either the control or treatment conditions and so were excluded from the experiment (17 workplaces).
   · Some workplaces decided not to run a campaign before receiving any campaign materials, mostly citing the state of the economy (19 workplaces).
   · Some workplaces had moved, gone out of business, or were unable to be reached by the staffer (21 workplaces).
   · Some workplaces had decided to use their own materials or were running their workplace campaign as part of a national campaign or as an online campaign (15 workplaces).

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31 These workplaces were ruled out by conversations with the staffers in the first few weeks of the campaign (before any campaign results were known).
2. The workplace had multiple boxes assigned or requested multiple boxes (9 total workplaces). Some companies had multiple workplaces and asked for a box for each workplace. Other workplaces had multiple boxes assigned to them (due to multiple unique identifiers accidentally being assigned to one workplace in the charity’s database).\textsuperscript{32}

3. The workplaces had not run a campaign in any previous year in my administrative data: they had zero donations in each year from 2003 to 2008 (2 total workplaces).

A.3 Pin Used in Laboratory Experiment

Figure A.2 shows the pin used in the laboratory experiment. The pin used in the field experiment was similar with the United Way name and logo replaced by the anonymous charity name and logo.

![Figure A.1 Pin Used in Laboratory Experiment](image)

A.4 Map of the Experimental Laboratory

Figure A.2 shows a map of the experimental laboratory. A high divider sits on each desk to provide privacy and made it difficult to see up to the front of the room. Subjects were seated in the second and fifth seat of each row so they were visually isolated from each other and so they could not easily see subjects walking in the aisles on either side of the lab.

\textsuperscript{32} For example, four workplaces were excluded that each had unique identifiers in the charity database in 2008 but were all part of the same organization, an error that was corrected in 2009. Multiple identifiers cause both contamination (the same organization receives multiple treatments) and data integrity problems (the donations at the workplace level becomes suspect). These companies were identified by administrative data (i.e. the same ECM name was listed as a contact for multiple workplaces) or from conversations with the staffers.
When subjects were called up to the front of the room, they walked to the aisle and up to the front of the room where they saw each other and received an envelope of cash from the experimenter before returning to their seats.

Figure A.2 Map of Experimental Laboratory
There's a new kind of need in our region.

We see it every day. Thousands of children and families that never asked for help before urgently need a hand, a break, that little bit of help that can lift them up from a downward spiral. But it can't end there. We must join together to meet the crisis of today with a strong, hopeful vision of tomorrow. One that builds a brighter future for everyone. Reach out with your neighbors, friends and colleagues to join the LIVE UNITED movement. HELP TODAY, STRENGTHEN TOMORROW.

Five urgent needs that United Way is addressing now:

1. Family homelessness is at an all-time high. This includes more than 17,000 children. Last year, we helped nearly 11,200 people keep or get homes.

2. One in four working families in Massachusetts doesn’t earn enough to cover basic costs of living. Last year, we helped nearly 734,000 people receive emergency food assistance.

3. One third of adult workers in Massachusetts lack the skills necessary to compete in an increasingly high-tech, knowledge-based economy. Last year, we helped more than 13,000 people gain competitive skills.

4. Low-income children can begin kindergarten 1-2 years behind. Last year, our work resulted in nearly 22,000 children being enrolled in high quality early education and care programs.

5. Every year, more than 11,000 youth drop out of school, costing Massachusetts nearly $100 million a year in unearned wages, unpaid taxes and social services. Last year, we helped nearly 139,000 youth stay in afterschool and other programs proven to prevent this.

For a bibliography of sources, please visit supportunitedway.org/bibliography

To help, visit supportunitedway.org

Figure A.3 Page about United Way provided to all subjects