The Effect of Status on Charitable Giving

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Abstract

Fundraisers often start their campaigns by soliciting the wealthier, more recognized, and respected individuals in a community. We examine whether the success of this solicitation ordering in part can be attributed to the fact that it enables individuals to select organizations that have a high-status donor base. Assuming that individuals prefer to associate with individuals of higher social ranking we use a simple linear model to show that both aggregate donations and earnings are larger when high-status donors are solicited first. We investigate the predicted comparative statics using the experimental laboratory. Inducing a status differential we reverse the contribution ordering between participants of high and low status. Consistent with current fundraising practice, we find that low-status followers are likely to mimic donations by high-status leaders and this encourages high-status leaders to give. Donations are therefore larger when individuals of high status give before rather than after those of low status.

1. Introduction

Many fundraising campaigns are launched with the announcement that a large contribution has been made by a well-known donor. While the fundraising literature provides advice on how to entice the initial participation of

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major donors, it does not explain why this is a preferable strategy. Perhaps a straightforward explanation is that lead donors prefer to have their donations announced and that this "red-carpet" treatment helps secure their donation. However, there is evidence to suggest that the benefits may be more wide ranging. Fundraisers argue and research suggests that the announcement of the initial donation not only affects the lead donor, but also increases the donations made by subsequent donors.[1] For example, characteristic of the late Brook Astor's philanthropic endeavors was that news about her contributions would cause others to give, "When she gave one donation to the New York Public Library, for example, three other major gifts—from Bill Blass, Dorothy and Lewis B. Cullman, and Sandra and Fred Rose—all followed, with her generosity cited as the inspiration."[2] Thus to explain the attraction of the solicitation ordering we need to consider the effect it may have on both lead and follower donations. Accounting for both effects this paper examines whether concerns for status can help explain why fundraisers opt to first solicit funds from well-known donors and second to announce these contributions to future donors.

The economics literature on solicitation order is relatively recent. In the classic Bergstrom, Blume, and Varian (1986) model of voluntary contributions the fundraiser prefers not to announce past contributions to future donors. The reason is that the announcement of the first donation enables the first donor to commit to a small initial gift and thereby free ride on subsequent donors (Varian 1994). Small modifications of the classical model do, however, give rise to sequential solicitation strategies with the commonly observed characteristics. For example, Andreoni (1998) examines an environment where there are fixed costs associated with providing the charity's output and where simultaneous giving may result in multiple equilibria; some where the nonprofit's output is provided and others where it is not. Announcements may increase giving in this environment because they enable donors to coordinate on the positive provision outcome, and if it is costly to organize and secure leadership contributions then fundraisers will prefer to first solicit the wealthier and most generous donors. Another explanation for the observed solicitation order is proposed by Vesterlund (2003). Extending the classic model by assuming that there is uncertainty about the quality of the charity it is shown that announcements can be sustained in equilibrium because the initial contributions serve as credible signals on the quality of the nonprofit.[3] A further attraction of the model is that it gives rise

[1]The chairman of the trustees of Johns Hopkins explains that the reason why the university asks donors for permission to announce their gifts is that "fundamentally we are all followers. If I can get somebody to be the leader, others will follow. I can leverage that gift many times over." The New York Times, February 2, 1997, p. 10. Examples of experimental evidence on the effect of announcing contributions are Andreoni, Brown, and Vesterlund (2002), List and Lucking-Riley (2002), Gaechter et al. (forthcoming).

[2]New York Times, March 30, 2002, p. A13.

[3]Potters, Sefton, and Vesterlund (2005, 2007) examine contributions in an experimental environment where there is uncertainty about the quality of the public good. They

to an optimal solicitation ordering where high-quality organizations find it optimal to first solicit their wealthiest donor.[4] The reason is not simply that wealthy donors are willing to pay more to investigate the charity, but also that they need to increase their contribution more to convince others that an organization is of high quality.

The present paper contributes to this existing literature by asking whether another explanation for the solicitation order may be that donors care about the social rankings of an organization's donor base, in particular they may have a preference for giving to organizations that have donors that have higher status than themselves. Thus rather than focusing on the wealth of the lead donor this explanation points to lead donors being well-known, well-respected, and in particular having higher status.

Status and concerns for relative standing have the potential of influencing the allocation of resources as well as behavior in general.[5] Economists have been particularly interested in the theoretical implications of such concerns. For example Frank (1985) examines behavior when status is determined by one's ordinal rank in the distribution of consumption, income, or wealth. Fershtman and Weiss (1993) study the role of social status in a general equilibrium framework and show that changes in the demand for status may affect the wage structure, the level of aggregate output, and economic welfare. Congleton (1989) studies status-seeking games where an individual's utility is not only determined by his absolute consumption, but also by his relative expenditure on status-seeking activities. He shows that some status-seeking activities may generate positive externalities, and that status acquisition need not be wasteful. Hopkins and Kornienko (2004, 2009) examine behavior when individuals care about their relative rank in the distribution of consumption of a "positional" good, and they find that too many resources are allocated to consumption of the positional good.[6]

While there is substantial economics research on the theoretical implications of status, there is limited empirical evidence that concerns for status influence behavior. A classic exception is Ball et al. (2001). Using an

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show that sequential giving increases contributions, and that this increase is due to signaling. Furthermore, a sequential contribution ordering will arise endogenously. Andreoni (2006) and Komai, Stegeman, and Hermalin (2007) also examine sequential fundraising under uncertainty.

[4]To not reveal their type, low-quality organizations will also first solicit wealthy donors.

[5]For early explorations of status see, for example, Becker (1974), Smith (1982), and Veblen (1926).

[6]See Heffetz and Frank (2008) for a review of the status literature. The literature on social identity and prestige relates directly to that on status. Harbaugh (1998a, 1998b) examines a model where donating provides prestige, and he shows that total giving increases when using a category reporting plan. Andreoni and Petrie (2004) alter the identification of the participants and information on their contribution in an experimental study. By doing so, they allow social effects such as pride, shame, social comparison, and prestige to affect participants' decisions. They find that identity and information matter. Akerlof and Kranton (2000) analyze the effects identity, that is, a person's sense of self, have on economic outcomes.

a procedure developed by social psychologists they induce status in the laboratory and examine prices in a competitive market where either the buyer or seller side has high status, while the other side has low status. To secure that there is room for status to influence market outcomes, they use a box-design market, where a vertical overlap in supply and demand ensures that there are multiple equilibrium prices. Surprisingly, they find that independent of which side of the market is held by the high-status agents, the high-status group always captures a greater share of the surplus.

If concerns for status can affect behavior in a competitive market then it may have an even greater effect in less competitive environments.[7] In particular, it may affect voluntary contributions to nonprofits, and perhaps explain the observed solicitation order. We first investigate this possibility in a simple linear contribution model and then examine the derived comparative statics in a laboratory experiment.

Our linear contribution model assumes that there are two members of each group, and that they each decide whether to contribute to a charity. Contributing incurs a private cost, but generates a net benefit to the group. Assuming that status is exogenously given and that individuals prefer to associate with those of higher status we examine the effect of solicitation order. When the two members differ in their status rank, contributions are shown to be larger when the high-status individual contributes prior to rather than after those of low status. The reason is that a contribution by a high-status individual encourages those of low status to contribute, and anticipating the followers' mimicking provides the high-status leader with an incentive to give. Specifically, the benefits of subsequent follower contributions overcome the leader's private cost from giving.

To investigate whether concerns for status influence behavior in a voluntary contribution setting we use the Ball et al. (2001) procedure to induce status in the laboratory. We pair people in groups of two, where one participant is induced to have higher status than the other. Using a between-subject design, we examine the effect of reversing the contribution order between the two participants. That is, in one treatment the leader is induced to have high status and the follower low status, and in the second treatment the contribution order is reversed. Our experimental results are consistent with the comparative statics of our linear model. Low-status followers mimic the high-status leaders, while high-status followers are reluctant to copy the behavior of low-status leaders. Leaders appear to correctly anticipate these responses, and high-status leaders contribute substantially more than low-status leaders. The net effect is an 80% increase in total contributions when high-status participants contribute first.

The remainder of the paper is organized as follows. In Section 2, we introduce a simple model for voluntary contributions with status concerned

[7]See Eckel and Wilson (2007) for the effect of status on behavior in coordination games.

donors, and we examine the interaction between contribution order and status. The predicted comparative statics guide our experimental design, which is described in Section 3. The associated results are presented in Section 4, and Section 5 concludes.

2. A Simple Model of Voluntary Contributions with Status

Status can influence charitable giving through two different channels. First, an individual's donation may affect how she is ranked relative to other people hence charitable giving may help donors acquire status.[8] Second, an individual's status prior to giving can also influence donations. Although her donation to the New York Public Library may have enhanced her status, Brook Astor was already known to be the grand-dame of philanthropy prior to giving, and it is possible that this initial status influenced her contribution as well as that of others. Thus charitable giving may respond to status acquired prior to giving (exogenous) or be used as a mean for acquiring additional status (endogenous).[9]

We focus on an environment where a status differential exists prior to the individual contributing. Assuming that donors like to associate with those of higher status we ask whether fundraisers and donors prefer that contributions be made simultaneously or in sequence, and if so who they would prefer contribute first?

To mirror our experimental design, we use a simple binary and linear example to illustrate the effect concerns for status may have on voluntary contributions. Suppose two individuals, A and B, each must allocate a unit endowment to either private consumption ($g_i = 0$) or a charity ($g_i = 1$). If allocated to private consumption the individual gets a return of one, while an allocation to the charity generates a return of m to both participants. The individual's payoff from the interaction is given by

$$\pi_i = 1 - g_i + m(g_A + g_B), \quad i \in \{A, B\}. \tag{1}$$

As others before us we model the charity as a public good. The reason is that when one donor contributes to a charity others, who are concerned for the well-being of the recipients of the charity, cannot be prevented from benefitting from this increase in contributions (nonexclusion) and the benefit they experience does not influence that experienced by anyone else (nonrival). We focus on the case where absent concerns for status there is a social dilemma, that is, $0.5 < m < 1$. Implying that absent status it is efficient for

[8]For example, Akerlof and Kranton (2000) notes "In a world of social difference, one of the most important economic decisions that an individual makes may be the type of person to be."

[9]See Bracha, Heffetz, and Vesterlund (2009) for a simultaneous examination of the two motives. See also Eckel, Fatas, and Wilson (this issue) where the combination of repeated interaction and induced status allows for both types of status.

both to contribute, but independent of the contribution order neither individual will choose to do so.

To augment this model with a concern for status we follow Ball et al. (2001) and assume that individuals want to associate with people who have higher status than themselves and for symmetry that they dislike associating with those of lower status. While our results rely on a preference for association with those of higher status, the dislike for association with those of lower status only limits the range where the observed solicitation strategy is preferred. Association with others can be secured by contributing to the organizations they support, and it can be prevented by not doing so. To capture status concerns we assume that individual i's utility from contributing to the same organization as individual j, is an increasing function of the status term $S_{ij} = e_i \cdot (s_j - s_i) \cdot g_i g_j$, where $s_i \in R^+$ denotes the individual's status score, and $e_i \in [0, 1]$ the individual's concern for status. Note that in our binary example $g_i g_j \in \{0,1\}$. Thus, we assume that the return from giving is larger when contributing to charities with a high-status donor. Combining the payoffs in (1) with the concern for status we consider the simple utility function:

$$U_i = 1 - g_i + m(g_A + g_B) + e_i(s_j - s_i)g_A g_B, \quad i \in \{A, B\}.$$

As noted above when $e_i = 0$, $i \in \{A, B\}$, neither individual contributes to the charity. To demonstrate the effect of status we examine the implications of $e_i > 0$. Note first that when the two donors have the same level of status then independent of the solicitation order the equilibrium reverts back to one with no concerns for status. Thus, when $s_A = s_B$ no contributions are made in the linear example. Consider instead the case where individual A has more status than B, that is, $s_A > s_B$, and refer to individual A as the high-status agent and individual B as the low-status agent. Suppose that they only differ in their individual status, that is, they are equally concerned about status. Specifically, low-status individuals are as eager to be with someone of high status as the high-status individuals are reluctant to be with someone of low status, normalizing $e_i = e = 1$.

How should a contribution-maximizing fundraiser design his campaign in this environment? Suppose he first solicits the low-status agent, and subsequently the high-status one. Since in this case the low-status contribution is taken as given, contributing is costly for the high-status follower and she allocates her endowment to private consumption. Knowing that the high-status follower will not contribute, the low-status leader's return from giving is only $m < 1$, and he too allocates his endowment to private consumption. Thus no donations are made to the charity when the low-status agent is solicited first. The outcome is the same when the two agents contribute simultaneously, as the high-status agent once again takes the low-status contribution as given and opts not to contribute. Thus, when agents give simultaneously or the low-status agent moves first the equilibrium is the same as when there is no concern for status (i.e., $e_i = 0$).

Contributions, however, do not need to equal zero when the high-status person is the first to give. The reason is that a low-status follower mimics the high-status contribution when $s_A - s_B > 1 - m$, that is when the benefit of being associated with someone of high status is sufficient to compensate for the cost of contributing. How does this influence the high-status leader? The follower's mimicking compensates the leader for the cost she experiences from contributing to the same charity as someone of low status. Specifically, conditional on a low-status follower mimicking her action, a high-status leader contributes if the follower's status is not too low and the status differential is compensated by the net return from the public good, specifically when $s_A - s_B < 2m - 1$. Thus, when the difference in status between the two donors is neither too large nor too small, that is, $2m - 1 > s_A - s_B > 1 - m$, contributions can be secured by first soliciting the high-status person, then announcing the contribution and asking the low-status person to give. Note that the condition $s_A - s_B < 2m - 1$ is relevant only when individuals prefer not to associate with those of lower status. When status concerns instead are limited to a preference for association with those of higher status (e.g., $\max\{(s_j - s_i), 0\} \cdot g_A g_B$), then the follower's mimicking will trigger the high-status leader's contribution as long as there is a social dilemma where $2m - 1 > 0$.

The comparative statics of our example are consistent with the general results of Romano and Yildirim (2001). Extending Varian's (1994) model to a general class of preferences they show that relative to simultaneous giving, sequential giving increases contributions to a public good when the follower's best response function is increasing in that of the leader and this increase is sufficient to compensate the leader for the cost of contributing.

By first soliciting the high-status donor the fundraiser enables the low-status donors to associate with someone of higher status and effectively secures donations from both. Interestingly, the status differential gives rise to an efficient outcome, where both individuals contribute to the public good. This suggests that status acquisition need not be wasteful or decrease overall welfare. In fact a status differential may facilitate a contribution game, which generates welfare improvements that outweigh status-acquisition costs. While similar in spirit, our result differs from that of Congleton (1989). He demonstrates that acquisition of status need not be wasteful if status is acquired from investing in a good that has positive externalities. In contrast, our example demonstrates that existing status differences may influence subsequent behavior and cause an improvement in welfare even when status acquisition is costly.

To summarize, the linear model suggests that concerns for status can help explain why a contribution-maximizing fundraiser chooses to announce past contributions, and why he first solicits high-status donors. Furthermore, such a solicitation order can arise even in the absence of a fundraiser. The reason is that the high-status individual is better off contributing and triggering the contributions of others, and therefore will volunteer to go first.

3. Experimental Design

To further investigate the effect status may have on charitable giving we determine if consistent with our example the contribution ordering of high- and low-status individuals influences giving in an experimental setting. Specifically, we study behavior in a voluntary contribution game where we use the procedures of Ball et al. (2001) to induce some individuals to have higher status than others.[10] We opted to induce status rather than to rely on individual characteristics that have been thought to be associated with high status, for example, gender and height.[11] There are several reasons why we chose this option. First, in our study it is crucial that participants agree on who has high versus low status. Given that individuals have several different status characteristics, it would be difficult to secure that the status dimension we would sort by corresponded with the one participant focused on. Second, even if individuals were to pay attention to the dimension by which they were sorted, there may not be agreement on what constitutes high or low status. For example, individuals may disagree on how, say, geeks or jocks rank in the social hierarchy. Third, and perhaps most importantly, commonly accepted status characteristics may not only be indicative of an individual having higher status, but also of them having different preferences or different perceptions of the game. For example, while gender and height commonly are used to characterize an individual's status, others have argued that preferences also differ along these dimensions. For example, some studies have found males to be more risk seeking, less reciprocating, more trusting, and less altruistic than females.[12] If this characterization is correct then a study using males (as high status) and females (as low status) may find results consistent with the predicted comparative statics simply because preferences differ by gender. In particular, we may be mislead to interpret the results as suggesting that status influences behavior, when instead the results are caused by generous and reciprocating female followers being more likely to mimic

[10]The experiment was programmed and conducted using the software z-Tree (Fischbacher 1999).

[11]Bohnet and Hong (2007) examine the effect of an individual's status characteristics on own behavior. Using gender, race, and religion to classify individual status they find that while low- and high-status groups are equally unlikely to trust others, the motives for distrust differ. Individuals with high-status characteristics do not trust because they fear betrayal, and those with low-status characteristics do not trust for fear of inequality. Glaeser et al. (2000) measure an individual's status by characteristics such as whether you have a sexual partner, drink alcohol on weekends, and family education. They find little effect of status on trusting behavior, but find that those of higher status elicit more trust worthiness.

[12]For example, Croson and Buchan (1999) and Chaudhuri and Gangadharan (2007) find that men are more trusting and women more reciprocal. Eckel and Grossman (1997) find that women are more risk averse and more altruistic. Andreoni and Vesterlund (2001) describe a more complex picture of gender differences in altruism. See Eckel and Grossmann (2008a, 2008b) and Croson and Gneezy (2009) for a review of the literature.

the leader's action, and the risk seeking more trusting male leaders being more willing to make an initial contribution.[13] By inducing status we secure that participants in the laboratory jointly recognize the status differential, and it allows us to identify the effect of status.

Mirroring our example we pair participants in groups of two, where one person is induced to have higher status than the other. We study voluntary contributions in two treatments that only differ in the participants' contribution order. In one treatment participants with high status contribute before those of low status, and in the other, the contribution order is reversed. Thus members of the higher-status group are assigned to one of the two roles (leaders or followers) each facing a member of the low-status group in the other role. An identical protocol was used in each of the two treatments. The protocol consisted of two parts; the first was a status-inducement exercise as in Ball et al. (2001) and the second a sequential voluntary-contribution game.[14]

Upon arrival, participants were seated throughout the laboratory. They were given the first part of the status-inducement exercise as they were asked to answer a trivia quiz that contained 10 general knowledge questions with numerical answers. Participants were told they would receive $5 for completing the quiz, and that their answers to the quiz would be used to determine their role in the experiment. Once everyone had completed the quiz and it was collected, an experimenter proceeded to hand out the instructions for the sequential voluntary-contribution game.

While one experimenter read the instructions for the voluntary-contribution part of the experiment, a second experimenter (who was seated toward the front of the room) reviewed the trivia quiz answers and determined which participants would be assigned to either a star-group (high-status) or a no-star-group (low-status). In half the sessions, we assigned participants who provided the largest numerical answers to the last question on the quiz to the star-group, and in the remaining sessions the star-group consisted of those with the smallest numerical answer.[15]

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[13]Taller people have also been found to be less altruistic than shorter people (Harbaugh, Krause, and Liday 2003). Persico, Postlewaite, and Silverman (2004) find that while taller men earn more than short ones, this correlation can be explained by their height at age 16. Height as an adult does not add any additional explanatory power. They attribute this to taller adolescents reporting that they have larger social networks, which they hypothesize lead to the development of skills that are valuable in the labor market. Thus observed differences between short and tall people need not be due to a status differential.

[14]A copy of the instructions for the experiment can be found in the Appendix A.

[15]While our procedure is based on that of Ball et al. (2001) there are small differences. Their quiz consisted of five obscure economic questions with numerical answers, and assignment to the star-group was based on the sum of the five numerical answers. Surprisingly, they find that status has less of an effect in an "awarded" than in an obviously random-status treatment. They argue that this most likely is because the test was considered unfair. We therefore choose to modify the questions such that they do not relate to economics, and may be considered fair.

Once the instructions for the voluntary contribution game were reviewed participants were asked to calculate payoffs for the possible decisions that may occur in the game. The answers to these questions were then presented on the blackboard. Participants were allowed to ask questions by raising their hand and speaking to the experimenter in private. No communication among participants was allowed.

Having finished instructions to the decision-making part of the experiment, we continued the status-inducement exercise by holding an award ceremony to assign participants to the two groups. We first called out the ID numbers for those who were assigned to the star-group. One by one they were invited to come to the front of the room where they were given a shiny black folder with a gold star as well as a congratulatory ribbon that they were asked to wear for the remainder of the experiment. A public applause was given once all six members of the star-group were standing at the front of the room. Members of the star-group were then seated in the two front rows of the laboratory. The walls of this section were marked by three large gold stars, and the individual computers had a gold-star sticker attached to the board. While seating members of the star-group, members of the no-star-group were asked to come and receive a yellow manila folder, and were then seated in the back two rows of the laboratory.

Once everyone was seated we reviewed the content of the folders. The content of the two types of folders was the same, both included a brief summary of instructions and a record sheet. We then read the summary of instructions and began the voluntary-contribution game. The game consisted of 12 contribution rounds. In each round, a star participant was anonymously and randomly paired with a no-star participant, under the stipulation that no participant was paired with another participant twice in a row, and that no two participants could be paired more than twice during a session.

In each round participants were given the choice between two actions A and B.[16] Choosing A gave the participant a \$1 payoff, while choosing B provided both participants with a payoff of 75 cents. Choosing A corresponds to not contributing ($g_i = 0$) and choosing B corresponds to contributing ($g_i = 1$). When leaders had made their decisions, it was shown to the follower they were paired with and the follower was asked to select one of the two options. The only variation across treatment was whether the leader had high or low status. We refer to the treatment where members of the star-group were asked to contribute first as the Star-First treatment, and to the treatment where members of the no-star-group were asked to contribute first as the Star-Second treatment. After each round the participants were informed about the choices and payoffs in their game, and they recorded this information on their record sheets.

[16]The voluntary contribution game mirrors that of Potters, Sefton, and Vesterlund (2005, 2007) when $m = 0.75$. We maintain their labeling and refer to the two actions as A and B.

At the end of the 12 rounds participants were asked to come to a separate room where they were paid in private for their participation in the two parts of the experiment. Each session of the experiment lasted a little less than an hour and average earnings were $18.93 (with a minimum of $15.5 and a maximum of $23). We ran four sessions of each treatment with 12 participants in each session. A total of 96 participants were recruited from the Pittsburgh Experimental Economics Laboratory (PEEL) subject pool and were randomly assigned to a treatment. No one participated in more than one session of the experiment.

4. Results

Our analyses of the data focus on examining the comparative statics of our linear model. We determine if total contributions to the public good are larger when individuals of high status contribute first, and ask what might explain such a result. Of particular interest is whether low-status followers are more likely to mimic the leader's contribution, and whether in anticipation of such a response high-status leaders contribute more frequently than low-status leaders. While confirmatory answers to these questions will be seen as supportive of the possibility that concerns for status may help explain the solicitation ordering frequently observed, one must keep in mind that the results are sensitive to the relatively small-status differential we induce in the laboratory.

The participants' behavior in the laboratory suggests that they did care about the status-inducement part of the experiment. They seemed anxious to learn which group they were assigned to, and those assigned to the star-group appeared very pleased with themselves, while those in the no-star-group did not. There is, however, little evidence that they consciously thought about their assignment when making decisions in the voluntary-contribution part of the experiment. In our open-ended exit survey regarding their voluntary-contribution decisions, only one of our participants made reference to the star- versus no-star assignment. The participants' behavior upon leaving the experiment suggests, however, that they still cared about their assigned role. While all participants were asked to leave their folders and other material by their computer, members of the star-group frequently brought their shiny folders and ribbons with them as they walked through the lab to receive payment, by contrast no-star members always left their materials by their computer. Furthermore, several members of the star-group asked if they could take their ribbons with them.

Our results from the Star-First and Star-Second treatments demonstrate a substantial effect from ordering. Figure 1 shows the average group contribution per round. With two people in each group the maximum contribution is 2. We see that on average group contributions are 80% larger when high-status participants contribute first. As usual in public-good games, the frequency of contributions is larger in the first half than in the second half

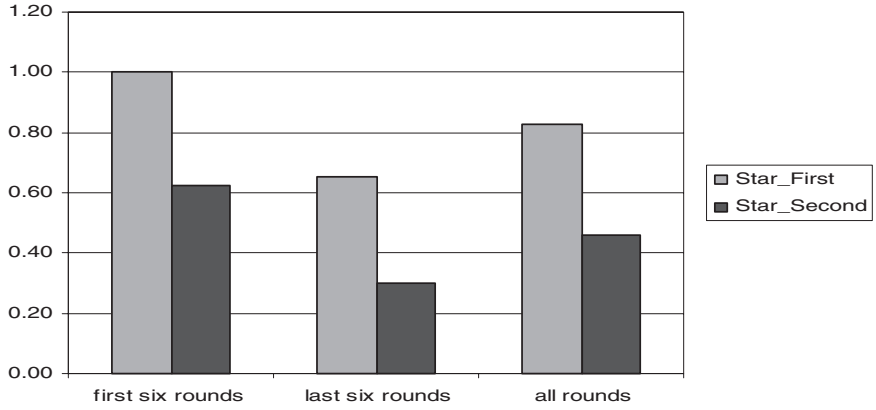

Figure 1: Average group contribution per round.

of the experiment, and this decrease in contributions is observed in both treatments. Note, however, that the difference between treatments does not decrease. Whether we look at the first or second half of the experiment, aggregate contributions remain larger in the Star-First treatments. Using each session as the unit of observation the conservative Mann-Whitney U-test reveals that these differences are statistically significant, whether we look at the entire experiment or only the first half or second half of the experiment.[17] Thus letting the high-status leader contribute first rather than last has a substantial and significant effect on aggregate contributions.

Next, we examine what causes this increase in contributions. We start by determining whether the frequency by which followers mimic the leader's contribution is larger when the leader has high status. While not contributing remains the payoff-dominant strategy for the followers, Figure 2 shows that a number of followers, nonetheless, mimic the leader's contribution and mimicking is more frequent in the Star-First treatment. While low-status followers mimic high-status leader contributions 45% of the time, high-status followers mimic low-status leaders 30% of the time. This difference is statistically significant in a one-sided test, that is, we reject the null that followers are less likely to mimic leader contributions when the leader has high status (one-sided p-value is 0.0786). In contrast, when the leader does not contribute, only 6 and 5% of the followers choose to contribute in Star-First and Star-Second treatments, respectively. Hence, by contributing a leader increases the probability that a follower gives by 39% in the Star-First treatment and by 25% in the Star-Second treatment. While this difference may appear small it implies that a payoff-maximizing leader prefers to contribute when she is of high status, but not when she is of low status. Since the cost

[17]The three one-sided p-values are no larger than 0.0571. A summary of the reported statistical tests can be found in Appendix B.

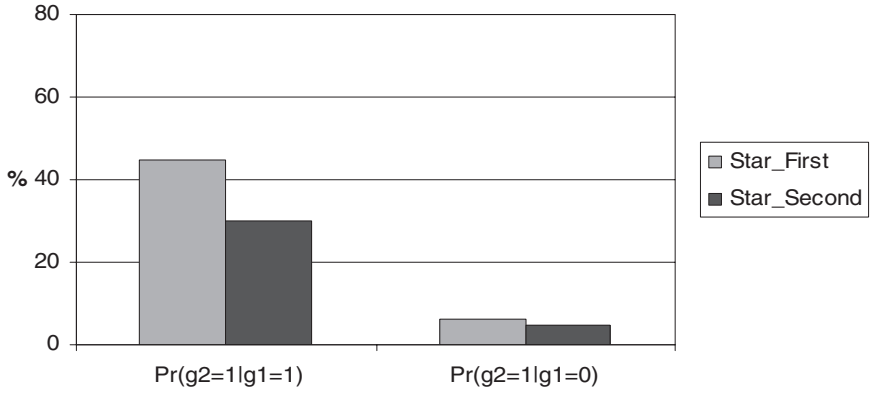

Figure 2: Follower's conditional contribution probabilities.

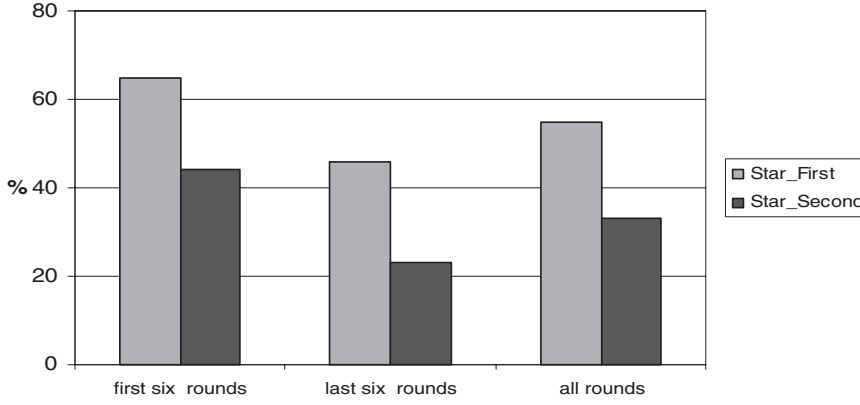

Figure 3: Frequency of contributions by the leader.

of contributing is 25 cents, and each contribution by the follower generates a leader payoff of 75 cents, the leader prefers to contribute when doing so increases the probability that the follower gives by 33 percentage points.

Next, we examine if leaders in the two treatments appear to anticipate the follower's response. Figure 3 illustrates the leader's contribution frequency in each treatment. As predicted high-status leaders are more likely to contribute than low-status leaders. While the contribution frequency is 55% among high-status leaders, it is only 33% among low-status leaders. Despite the decrease in contributions over the course of the game, the difference between the contribution frequencies remains substantial and in the 22–23 percentage-point range. This difference is significant whether we examine the entire experiment, or only the first or second half of the experiment (one-sided p-values ≤ 0.0429). The larger contribution rate among high-status leaders suggests that they, from the very beginning of the game, have

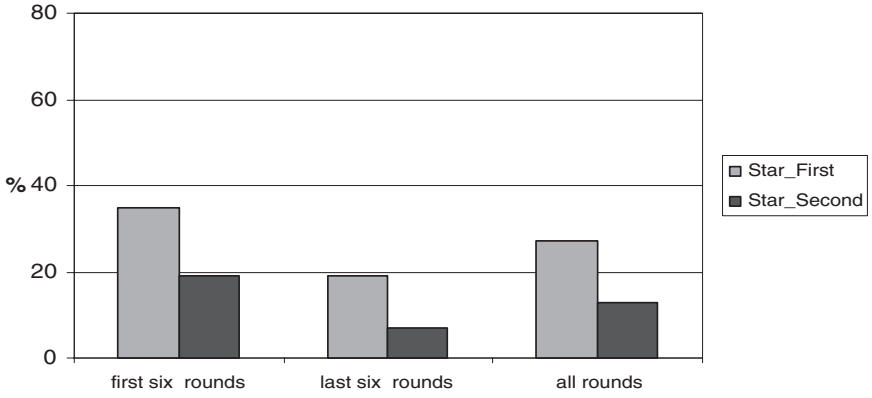

Figure 4: Frequency of contributions by the follower.

different expectations about the follower's response, and that this difference in expectations between the two treatments is maintained throughout the game.

While the larger leader contributions in the Star-First treatment are consistent with our predictions, they are not necessarily what we would have anticipated in light of past experimental results. For example, Hoffman and Spitzer (1985) show that individuals who earn a role in a simple bargaining game feel entitled to that role and tend to make less generous offers. To the extent that our high-status leaders feel that they are entitled to their role of leaders, one may therefore have anticipated that they contribute less, instead of more, than low-status leaders.

The combination of higher leader-contribution rates and greater follower mimicking, results in greater follower contributions in the Star-First treatment. The difference in follower-contribution frequency is shown in Figure 4. The contribution frequency is 27% for low-status followers and only 13% for high-status followers. This difference is significant whether we examine the entire experiment, or only the first or second half of the experiment (one-sided p-values ≤ 0.0571).

Interestingly, behavior in the Star-Second treatment is very similar to what has been seen in experiments absent status. Potters, Sefton, and Vesterlund (2007) use a very similar environment to analyze the effects of announcements on contributions when there is uncertainty about the quality of the public good. They observe that if there is no uncertainty and $m = 0.75$, then the leader-contribution frequency is 27% and followers mimic the leader's contribution 33% of the time. By comparison in our Star-Second treatment the contribution frequency by low-status leaders is 33%, and the likelihood that the high-status follower mimics the contribution is 30%. Thus behaviorally status has little if any effect when the first-mover has low status. Although this result is consistent with the prediction of our model the

comparative static relies on an equilibrium prediction of zero contributions. Note, however, that the comparative static changes if the low-status leader makes a positive contribution. If individuals are reluctant to associate with low-status leaders then contributions should be lower than that observed absent status. The similarity in the mimicking behavior of the high-status follower to that of followers in Potters, Sefton, and Vesterlund (2005) suggests that there is minimal aversion to association with those of lower status in our study.

As an alternative explanation for our results, it may be argued that perhaps the difference between treatments is caused by followers being likely to mimic behavior of those who are perceived to be more intelligent but not those who are less intelligent. In considering this explanation, it is important to recognize that intelligence is considered an important status indicator.[18] Thus if mimicking by low-status followers is driven by a desire to associate with those of greater intelligence then this interpretation is in line with our status model. This is, however, not the case if individuals mimic the high-status leaders because these are perceived to have a superior understanding of the game. There are a number of reasons why we do not think that the latter is a convincing explanation for our results. First, the examined game is an exceptionally simple one and it is hard to imagine that perceived superior performance on the unrelated trivia quiz would be seen as an indicator of greater game-theoretic insights. Second, if our results are driven by participants mimicking behavior of those who are more intelligent, and not those who are less intelligent. Then we should see treatment differences both when the leader does and does not contribute. However, when the leader fails to contribute, the contribution rate of the follower is 5–6% independent of treatment. Third, if low-status individuals are seen as less intelligent then high-status followers in the Star-Second treatment should be less likely to mimic their initial contributions, yet the contribution patterns are very similar to those of Potters, Sefton, and Vesterlund (2005, 2007) where no status is induced.[19]

Another suggested explanation for our results is that perhaps high-status individuals feel more generous once they have been awarded high status. All else equal a donor may view an increase in personal status as a substitute for private consumption that in turn may increase the relative return from giving (see e.g., Bracha, Heffetz, and Vesterlund 2009). Note, however, that while, in this sequential setting, this explanation is consistent with high-status leaders giving more, it is not consistent with high-status followers giving less than low-status followers, nor is it consistent with the high-status follower's contribution frequency being similar to that seen absent status.

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[18]For example, Nie, Junn, and Barry (1996) argue that education is a good proxy for relative status.

[19]The open-ended exit questionnaire provided no evidence that participants perceived members of the star group as being more intelligent.

Table 1: Average earnings ($) per participant per session

	Leaders	Followers
Star-First	12.8	16.1
Star-Second	12.2	14.6

Next, we examine the effect of status on individual earnings. A common view among economists has been that individuals acquire status not because they value status itself, but rather that they seek it because high status allows higher incomes and better consumption opportunities (see e.g., Postlewaite 1998).[20] The prediction that high-status individuals earn more has been confirmed in a couple of studies. For example, Ball and Eckel (1998) examine bargaining games and show larger earnings to those of high status. Ball et al. (2001) extend this finding to competitive markets and find that low low-status individuals appear to bear the cost of associating themselves with the high-status individuals. Similarly Glaeser et al. (2000) find evidence suggesting that individuals with high-status characteristics tend to extract larger rents from a voluntary nonmarket transaction, namely a trust game.

The prediction of our simple model, however, is not that high-status individuals have higher earnings than those of low status. While no earnings differential is predicted in the Star-Second treatment, differences may arise in the Star-First treatment. Specifically, when agents have heterogeneous status concerns it is entirely possible that earnings of the high-status leader be smaller than those of the low-status follower. The reason is that low-status followers only contribute when a high-status leader has already done so. Suppose that only some low-status followers are willing to mimic the contribution of a high-status leader, and that the proportion mimicking is large enough to provide some leaders with an incentive to contribute. This will cause the average contributions of high-status leaders to be larger than those of low-status followers, and as a result individuals of high status will on average earn less than those of low status.

Table 1 reports average earnings from the two treatments. Focusing first on the Star-First treatment, we see that consistent with our example, but in contrast to previous research, high-status leaders earn less than their low-status followers.[21] The earnings differential in the Star-Second treatment, however, is not consistent with our example. Rather than finding no difference we see low-status leaders earning less than their high-status followers.[22]

[20]In contrast, biology and evolutionary psychology propose that people pursue status as an (emotional) goal in itself, independent of the other benefits status may engender.

[21]One-sided $p = 0.0143$ over the 12 rounds or the first six rounds, and $p = 0.0286$ for the last six rounds.

[22]One-sided $p = 0.0143$ over the 12 rounds or the first six rounds, and $p = 0.0429$ for the last six rounds.

Thus, independent of treatment followers earn more than leaders.[23] This finding suggests that in contrast to our theory it need not be the case that, absent a fundraiser, a high-status individual will volunteer to contribute first. Note, however, that this conclusion relies critically on there being one follower in both treatments. If by moving first the high-status contributor can trigger contributions by more followers then the benefit from leading increases and may outweigh the earnings of following a low-status leader.

In addition to contributions being larger when the high-status person gives first, Table 1 reveals that the sum of leader and follower earnings is significantly larger in the Star-First treatment.[24]

5. Conclusion

Fundraisers often start their campaigns by soliciting the wealthier, more recognized, and respected individuals in a community. We have examined whether concerns for status can help explain such a solicitation strategy. Assuming that individuals prefer to associate with those of higher status, we use a simple linear model to show that contributions increase when individuals of high status are asked to give before rather than after those of lower status. In fact we show that the charity, fundraiser, and associated donors all will benefit from the frequently observed solicitation order.

Despite inducing a small-status differential in the laboratory, the evidence from our experiment is nonetheless consistent with the predicted dynamics of our model. When individuals who are induced to have high status contribute first, low-status followers are likely to mimic their contribution. By comparison, high-status followers are more reluctant to mimic the contributions of low-status leaders. Leaders appear to anticipate this response, and the contribution frequency for high-status leaders is much greater than that of those with low status. The net result is an 80% increase in contributions when high-status individuals contribute before rather than after individuals of low status.

Our study suggests that a contribution-maximizing fundraiser will benefit from first soliciting donors who have a high social ranking, and then announcing their contributions to those of lower ranking.[25] As in the

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[23]For star participants we can reject that leader earnings exceed those of followers over the 12 rounds and first six rounds (one-sided $p = 0.0286$ and $p = 0.0429$, respectively). We cannot reject this hypothesis during the last six rounds ($p = 0.1357$). For nonstars we reject the hypothesis that earnings are larger as a leader than follower overall and for the first and second half of the experiment (one-sided $p = 0.0143$ in all three cases).

[24]One-sided $p = 0.0143$ over the 12 rounds and the first six rounds, and $p = 0.0571$ for the last six rounds.

[25]Note that fundraisers may also opt to not announce initial contributions and instead let donors contribute simultaneously. Potters, Sefton, and Vesterlund (2007) observe that when there is no uncertainty and $m = 0.75$, average contributions in the simultaneous-move and the sequential-move games are almost identical. As demonstrated earlier, the

signaling model by Vesterlund (2003) it is not merely a question of having a lead contribution, but also who made the lead contribution.[26] Indeed, the characteristics of this lead donor will play an important role for the resulting contribution behavior. While lead contributions by high-status individuals have a substantial effect on giving, lead contributions by low-status individuals do not.

Of course, it appears that fundraisers have already figured out which solicitation ordering to use. In fact, their practices were the main motive for our examination of status. However, when fundraisers are asked why they start by soliciting the wealthier and more prominent individuals, their explanations tend to focus on the fact that this strategy helps create enthusiasm around the campaign. Our paper has shown both theoretically and experimentally that an explanation for this "enthusiasm" may be that individuals like to associate with those who have higher status than themselves. When asked if the commonly used strategy may work because it enables subsequent donors to associate with the initial donors, one fundraiser commented that indeed the strategy appears to work well when it enables new money to associate with old money.

Appendix A: Experimental Instructions

Preparation:

- Gold stars attached to the wall toward the front of the lab.
- Prepare folders with summary of instructions and record sheet (six shiny black folders with stars on the front and six yellow manila folders).

Arrival:

- Participants are seated in the lab

Welcome and Consent:

- Thank you for coming.
- Before we begin we will hand out a consent form.
- Please read the consent form carefully, put your initials at the bottom of the first page and sign it at the bottom of the second page. Your signature will indicate your willingness to participate in the experiment.

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difference between contribution levels in the Star-Second treatment and Potters et al. sequential-move treatment is negligible. This may be seen as evidence that a fundraiser will not prefer simultaneous-move game in this environment.

[26] Croson and Shang (2009) show that the gender of past donors is important when individuals decide whether to mimic their contribution. While women are influenced by women, men are influenced by men.

- After you have signed the consent form we will come around to collect it.
- *Collect forms.*

Quiz:

- As indicated in the consent form there are two parts of this experiment.
- First, you will be asked to answer a quiz, and then you will participate in a decision-making experiment.
- We will start with the quiz [*hand out the quiz*].
- The answers you give on this quiz will determine to which one of two groups you will be assigned for the decision making part of the study. At the end of the experiment you will receive $5 for having completed the quiz.
- At the top of the quiz there is a yellow post-it note with an ID number on it. This is the number we will use to identify you in the experiment. Please remove your ID number and put it in a safe place.
- Please go ahead and answer the quiz.

*ID Number*_____

Quiz

Please take a few moments to answer the quiz. If you do not know an answer please give your best guess. When you have completed the quiz, please turn it over and we will come around to collect it. Your score on the quiz determines to which one of two groups you will be assigned for the decision making part of the study. At the end of the experiment you will receive $5 for completing the quiz.

1. How many days are there in a nonleap year?
2. How many degrees Fahrenheit correspond to 0 degrees Celsius?
3. How many red stripes are there in the American flag?
4. How many days are there in the month of February during a leap year?
5. How many members are there of the U.S. Senate?
6. How many floors are there in the Cathedral of Learning?
7. What year was the University of Pittsburgh founded?

8. What are the costs of sending a one-ounce first-class letter within the United States?
9. How many acres is the main campus of the University of Pittsburgh?
10. How many millions of dollars did the University of Pittsburgh receive in research money from the National Institute of Health between 1995 and 2002?

- Collect trivia quiz and hand out instructions.
- Score quiz in the back of the room—visible to the participants. The 50% who provide the largest numerical answers to question 10 are assigned to the star-group in half of sessions and assigned to the no-star-group in the other half.

Decision-Making Experiment:

- While we score your quiz we will go over the instructions for the decision-making experiment. Please follow along as I read the instructions out loud.

Instructions

This is an experiment about decision making. There are 12 people in this room participating in the experiment. Six participants will be given the role of "first-mover," the other six will be given the role of "second-mover." Your score on the quiz determines whether you are a first-mover or a second-mover. Your role will be the same throughout the experiment.

The experiment will consist of 12 rounds. In each round, each first-mover will be anonymously and randomly paired with a second-mover. This will be done in such a way that you will not be paired with the same person two rounds in a row. Nor will you be paired with the same person more than two times. You will never know the identity of the other person in your pair, nor will that person know your identity.

Choices and Earnings

In each round you have to choose between two options: A or B. The other person in your pair also has to choose between options A and B. Your earnings in each round will depend on the decisions made by you and the person you are paired with for that round.

If you choose A, 100 cents are added to your earnings and 0 cents are added to the earnings of the person with whom you are paired. Similarly, if the person you are paired with chooses A, 100 cents are added to his or her earnings and 0 cents are added to your earnings.

If you choose B, 75 cents are added both to your earnings and to the earnings of the other person in your pair (irrespective of whether that person chooses A or B). Similarly, if the other person in your pair chooses B, 75 cents are added both to his or her earnings and to your earnings (irrespective of whether you choose A or B).

Procedure and Information

In the first stage of a round the first-mover will enter a choice (A or B). Then, in the second stage, the second-mover will enter a choice (A or B). Before making his or her choice the second-mover will be informed of the first-mover's choice.

When all the second-movers have made their choices, the result of the round will be shown on your screen. The screen will list the choices made by you and the other person in your pair, and the amounts earned by you and the other person in your pair. You should then record this information on your Record Sheet.

You must not talk to the other participants or communicate with them in any way during the experiment. If, at any stage, you have any questions raise your hand and the experimenter will come to where you are sitting to answer them.

Quiz

To make sure everyone understands how earnings are calculated, we are going to ask you to complete a short quiz. Once everyone has completed the quiz we will go over the answers. If you finish the quiz early, please be patient. For each question you have to calculate earnings in a round for you and the other person in your pair. Please raise your hand if you have any questions.

	Your earnings	Other's earnings
1. You choose A and the person you are paired with chooses A?	_____	_____
2. You choose A and the person you are paired with chooses B?	_____	_____
3. You choose B and the person you are paired with chooses A?	_____	_____
4. You choose B and the person you are paired with chooses B?	_____	_____

- *When all participants have completed the quiz go over the answers using the black board.*

Assignment to groups:

- We have completed the instructions for the decision-making part of the experiment, and based on the results of your quiz we will now assign you to be either a first- or second-mover in the experiment.

- Those who received the high score on the quiz are assigned to what we will refer to as the star-group. The members of the star-group will be first-movers in the experiment. Individuals who received a low score will be assigned to the no-star-group and will be second-movers in the experiment.
- We will first call out the ID numbers for those who received a high enough score to be part of the star-group.
- Once you hear your ID number called please come to the front of the class.
- Once you get up here Cagri will give you a folder with a summary of the instructions and your record sheet as well as a ribbon to congratulate you. Please wear this ribbon for the rest of the experiment. [*hand out ribbons and shinny black folders*]
- Please remain standing at the front of the room until all members of the star-group have been found.
- *Call out ID numbers*
- Let's give the Star-group a round of applause.
- Members of the star-group will be seated in the two front rows of the lab. If the no-star people could please come up and get your folders with a summary and record sheet (*Cagri hand out yellow manila folders, Lise seat star-group toward front)*
- If the members of the no-star-group can take a seat the last two rows. *(Cagri direct them)*
- Before we begin let us summarize the rules of the experiment by reading through the summary in your folder.

Summary

The rules of the experiment are as follows:

1. If you received a star for your performance on the quiz you are a first-mover, if you did not receive a star you are a second-mover.
2. You will be making decisions over 12 rounds. The sequence of each round is as follows:
   a. Each first-mover is randomly paired with a second-mover.
   b. The first-mover chooses between A and B.
   c. The second-mover is informed of the first-mover's choice, and chooses between A and B.
   d. Both the first-mover and the second-mover are informed of the results of the round and record them on their Record Sheet.
3. After round 12 the experiment ends and each participant is paid his or her accumulated earnings from the 12 rounds, plus $5 for completing the quiz. Payments are done in private and in cash.

- *Point to the first two rows* "you will be the first movers," and *point to the last two rows* "you will be the second movers."
- We are now ready to begin the decision-making part of the experiment. At various times you will have to wait for others to make their decisions. When that happens please be patient. If you have a question at any time, just raise your hand. Be sure to click OK when you have finished reading the content on the screen.

Appendix B

Table B1: Average Contribution per Round

		g_1	g_2	G
All rounds	Star-First	0.552	0.274	0.826
	Star-Second	0.333	0.128	0.461
First 6 rounds	Star-First	0.638	0.354	0.992
	Star-Second	0.437	0.187	0.624
Last 6 rounds	Star-First	0.458	0.194	0.652
	Star-Second	0.231	0.069	0.300

Table B2: Average Earnings ($) per Round

		Earnings for First-Mover	**Earnings for Second-Mover**	**Total Earnings**
All rounds	Star-First	1.067	1.345	2.412
	Star-Second	1.013	1.217	2.230
First 6 rounds	Star-First	1.104	1.395	2.499
	Star-Second	1.031	1.281	2.312
Last 6 rounds	Star-First	1.031	1.295	2.326
	Star-Second	0.994	1.154	2.148

Table B3: Conditional Probabilities (%) per Round

		$\mathbf{Pr}(g_2 = 1 \mid g_1 = 1)$	$\mathbf{Pr}(g_2 = 1 \mid g_1 = 0)$
All rounds	Star-First	45	6
	Star-Second	30	5
First 6 rounds	Star-First	52	6
	Star-Second	34	9
Last 6 rounds	Star-First	37	6
	Star-Second	Undetermined[a]	2

[a]None of the first-movers contributed in the last six rounds of a session. Looking at the remaining three sessions the average is 26.

Table B4: Treatment Effects on Contributions: One-sided *p*-values for test that Star-First $\leq$ Star-Second (Mann-Whitney *U*-test)

A: First Contribution:	
All rounds	0.0143
First 6 rounds	0.0286
Last 6 rounds	0.0429
B: Second Contribution:	
All rounds	0.0143
First 6 rounds	0.0143
Last 6 rounds	0.0571
C: Total Contribution:	
All rounds	0.0143
First 6 rounds	0.0143
Last 6 rounds	0.0571

Table B5: Treatment Effects on Mimicking Behavior: One-sided *p*-values for test that Star-First $\leq$ Star-Second (Mann-Whitney *U*-test)

$\mathbf{Pr}(g_2 = 1 \mid g_1 = 1)$	
All rounds	0.0786
First 6 rounds	0.0571
Last 6 rounds	Undetermined

Table B6: Treatment Effects on Average Earnings per Round: One-sided *p*-values for test that Star-First $\leq$ Star-Second (Mann-Whitney *U*-test)

A: Donor 1's Earnings	
All rounds	0.0571
First 6 rounds	0.0571
Last 6 rounds	0.1357
B: Donor 2's Earnings	
All rounds	0.0143
First 6 rounds	0.0143
Last 6 rounds	0.0429
C: Total Earnings	
All rounds	0.0143
First 6 rounds	0.0143
Last 6 rounds	0.0571

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