

Following Situation-Specific Social Expectations*

Laboratory Evidence on Pro-Social Following

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Abstract

We design an experiment where second-movers anonymously contribute to a charity after a first-mover's contribution, and provide evidence that whether and how subjects follow first-movers depends on situation-specific social expectations. Subjects who observe a first-mover and know an audience will see their anonymous contribution respond positively to what their first-mover contributes. Subjects who observe a first-mover but have no audience respond positively what first-movers are expected to contribute. Subjects who do not observe a first-mover respond to what is expected in their situation. The evidence is inconsistent with standard explanations of following, such as information transmission, image concerns, reciprocity, or cost structure. We conclude that subjects follow if it is expected of them, and what they follow depends on whether someone might be disappointed with the outcome.

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JEL Codes:

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1 Introduction

A key to solving collective action problems comes from individuals' propensity to imitate others. Indeed, a wealth of evidence suggests that individuals are prone to acting more pro-socially when they see others act pro-socially.¹ This opens up the possibility that cascades of pro-sociality may occur when individuals observe others' actions. In order to design policies that encourage pro-social following, we need to better understand what motivates this type of behavior. One standard explanation suggests that a second-mover follows a first-mover because the first-mover's action conveys information that is relevant to the second-mover—for example, about the impact of the action.² A second explanation is that individuals follow out of image concerns—they do not want to look bad to themselves or to others³ by not acting generously after a first-mover acted generously. In this paper, we provide evidence that is inconsistent with those (and other) explanations.

We will argue that individuals take their cue about how pro-social to behave from the situation they are in: in ‘followership situations’, where a first-mover acts before they do, they follow first-movers, whether a specific first-mover or their expectation of a first-mover. Who they follow depends on the presence of an audience who can see their behavior, but not their identity. When there is no audience, they follow their expectation of first-movers’ actions. When there is an audience, they follow their specific first-mover—that is, they give more when the first-mover gives a surprisingly large contribution. We rationalize this behavior by assuming that individuals follow when they are expected to, but also do not like to feel judged by others, so they follow in a way that looks less bad to others when there is an audience. We will refer to the concerns of acting according

¹For example, field evidence indicates that individuals give more to charity when there is a seed fund (List and Lucking-Reiley, 2002), or when they hear or see others' high contribution (Frey and Meier, 2004; Croson and Shang, 2008; Martin and Randal, 2008; Alpizar et al., 2008; Shang and Croson, 2009). In lab experiments where a subject contributes before others to a public goods game or to a charity, second-movers' contribution is positively related to the contribution of the first-mover (Güth et al., 2007; Potters et al., 2007; Levati et al., 2007; Rivas and Sutter, 2011; Glöckner et al., 2011; Komai et al., 2011; Gächter et al., 2012; d'Adda et al., 2017; Gächter and Renner, 2018). Jack and Recalde (2015) provide a similar design to the lab experimental literature in a natural setting. Individuals' propensity to imitate others has been found in other settings, such as in energy use (Allcott, 2011; Allcott and Rogers, 2014; Allcott, 2015), political contributions (Perez-Truglia and Cruces, 2017), tax evasion (Wenzel, 2005), and female labor force participation (Bursztyn et al., 2018). This body of results, which are in line with our results, are taken as evidence against individuals having pure altruistic motivations, or a motivation to maximize the amount of social welfare. Holding information regarding the public good constant, pure altruists would contribute less to a public good the more others contributed (Andreoni, 1990).

²Several papers provide a theoretical analysis of leadership as an information transmission mechanism (Hermalin, 1998; Andreoni, 2006; Komai et al., 2007; Komai and Stegeman, 2010). Experimental evidence in favor of this view comes from Levy et al. (2011); Komai et al. (2011); Houser et al. (2014); Kessler (2017); Karlan and List (2018).

³Bodner and Prelec (2003), Bénabou and Tirole (2011) and Bigenho and Martinez (2019) provide a theoretical framework for thinking about self-signaling concerns, and experiments such as Grossman (2015) have found supportive evidence. There is much more work done on social-image concerns, with Bénabou and Tirole (2006) providing the seminal theoretical framework, followed by much experimental work (Ariely et al., 2009; Gerber et al., 2008; Newman and Shen, 2012; Alpízar and Martinsson, 2013; Chao, 2017).

to what is expected of the situation and by an audience as *situation-specific social expectations concerns*. When thinking about followership, the concern to act according to what is expected arises naturally. However, there has been little work done on the importance of these expectations.

The evidence comes from a lab experiment in which first-movers and second-movers, each in separate rooms, decided how to split \$10 with a charity. First and second-movers were never able to identify each other, but sometimes saw others' contributions. Each second-mover was assigned to a first-mover. Second-movers were first asked to guess how much first-movers gave on average, and then were randomized into one of three treatments. In the *private and uninformed* treatment, second-movers made their contribution, and only *after* saw what their first-mover had contributed. That is, the first-mover's contribution could not influence the second-mover's contribution. In this treatment, no one saw the second-mover's contribution. In the *private and informed* treatment, second-movers saw what their first-mover had contributed, and *then* made their own contribution. Again, no one saw the second-mover's contribution. In the *public and informed* treatment, second-movers saw what their first-mover had contributed before making their own contribution, but in this treatment there was an audience. In particular, what the matched first- and second-movers contributed were seen by three other first-movers. We will refer to the last two treatments as the 'Follow treatments', since in those treatments the second-mover has a first-mover's contribution to follow.

We find that the second-movers' contributions can be explained by what they predict first-movers will do on average, but only in the Follow treatments. That is, when they are not in a situation where a first-mover makes a contribution before they do, they do not give more the more they expect a first-mover to contribute. But when there is a first-mover who contributes before they do, they give 80 cents more for every extra dollar they expect the first-mover to give. Moreover, a surprisingly large contribution of their matched first-mover explains contributions only in the public and informed treatment—controlling for expectations of the first-mover's contribution, the second-mover contributes 20 cents more for every extra dollar their matched first-mover contributes. Overall, subjects in Follow treatments contributed 1.4 dollars more, which is a large effect given an average contribution of 4.4 dollars. Indeed, in a Follow treatment subjects' actions can be explained well by what they expect first-movers to do, and they expect them to give a high amount.

We interpret these findings as evidence for situation-specific social expectations concerns: subjects use the social context and the presence of an audience to decide whether and what to follow. Our preferred microfoundation for these results is the following. Suppose that in followership sit-

uations, second-movers care about following what they expect first-movers to do. Their priors over first-movers' contributions are strong enough that they are not much affected by observing their matched first-movers, which is why in the private and informed treatment they follow the expectation of first-movers but not their matched first-movers. However, they also want to avoid disappointing an audience with the outcome: even if their contribution is anonymous, second-movers do not like the audience to observe an outcome where the second-mover did not follow the first-mover. Therefore, they do follow their matched first-mover in the public and informed treatment.

Our design allows us to rule out other explanations. We rule out social image concerns since contributions are anonymous, even to the experimenter—reputations cannot be made or broken when no one can identify the actor. Self-image concerns are also hard to square with the evidence. Suppose subjects' motivation to contribute came from how they will judge themselves. Then they would not react differently to the first-mover's contribution depending on the presence of an anonymous audience. The second-mover's differential reaction in the presence of an audience is also hard to square with an information-transmission story, as the information conveyed by the first-mover does not change with the treatment. This differential reaction also rules out outcome-based explanations such as dislike of contribution differentials (Huck and Rey-Biel, 2006), a preference for fairness (Duffy and Muñoz-García, 2015; Abe et al., 2014), snob appeal (Romano and Yildirim, 2001), or a fixed costs of the public good (Andreoni, 1998; Hatsumi, 2013). Other stories can similarly be ruled out by design. Reciprocity considerations (Fehr and Gächter, 2000; Fischbacher et al., 2001) can be ruled out since the contribution does not benefit the other player. Second-movers do not seem motivated by competitiveness, or a desire to make second-movers look better than first-movers in front of an audience of first-movers. Indeed, the main result is that they follow first-movers more closely in the public and informed treatment; they do not give more than in the private and informed treatment.

After second-movers were assigned to a treatment and made their contributions, we asked them further questions to delve deeper into mechanisms. These results should be taken with some caution, since they are based on post-treatment variables. Nevertheless, they allow us to test specific hypotheses regarding situation-specific social expectations concerns, and taken at face value provide supportive evidence.

We asked subjects to guess the average contribution of second-movers in different situations. Consistent with situation-specific social expectations concerns, second-movers' contributions are

explained by their predictions of average contributions in their own situation, and not by their predictions of other situations. For example, contributions in the private and uninformed treatment are explained by what they expect others to do in their own treatment, but not by what they expect others to do in the Follow treatments. As another example, we find that the subjects who react positively to a surprising contribution by the first-mover are those in the public and informed treatment who expect second-movers to react positively. This is consistent with the idea that a positive reaction is driven by what subjects believe is expected in the situation.

Despite the large body of evidence of the positive impact of observing others' large contributions (see footnote 1), less work has been done on disentangling the motivations that drive the impact. Many of the examples in the literature study public good contributions that are observable, so social concerns, material self-interest and other-regarding considerations are bundled together.⁴ To our knowledge, Jack and Recalde (2015) are the first to offer suggestive evidence that separates the impact of information transmission from other channels, by finding that followers continue to follow even if they are given extra information about the productivity of the NGO.

By teasing out the impact of situation-specific social expectations concerns from the broader impact of observing others' contributions, our work suggests policy designs that increase pro-social actions, even in settings where there is not a lot of pro-sociality to begin with. Our paper suggests that putting individuals in followership situations and varying the presence of an audience will be optimal depending on what individuals expect first-movers to do and what first-movers actually do.

Our work links the literature on followership to the literature on social expectations concerns, or concerns of what others may think of an individual's actions. If individuals care about not disappointing others for non-instrumental reasons, as they may within a psychological game theory framework (Geanakoplos et al., 1989),⁵ they might act in ways that appear altruistic but they

⁴For example, consider the literature that use lab experiments to study leadership in settings similar to ours. In order to study non-selfish motivations, a simple design decision would be to focus on anonymous decisions to public goods that do not benefit the decision makers directly, such as a charity. However, most of the experimental work in the literature that have studied altruistic followership do not do so, although they often argue that the motivation being captured is altruistic. Many of them study a public goods game where the subject gets material benefits from what other players contribute (Meidinger and Villeval, 2002; Moxnes and Van der Heijden, 2003; Potters et al., 2005; Güth et al., 2007; Komai et al., 2007; Levati et al., 2007; Levy et al., 2011; Gächter et al., 2012; Rivas and Sutter, 2011; Houser et al., 2014; Komai et al., 2011; Bracha et al., 2011; d'Adda, 2012; Arbak and Villeval, 2013). This setting is problematic since a follower may be following out of reciprocity or gratitude (e.g. to directly reward the leader for having directly benefited them). This is a different motivation from contributing more towards a public good because they have updated their beliefs over its productivity or the warm glow its contribution generates.

⁵One related example of this type of utility comes from *guilt aversion* in Charness and Dufwenberg (2006), who assumes that one individual is concerned with another individual's beliefs over how the first individual's action affects the second individual's payoffs.

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1. A group of first-movers decide how much to contribute to Save the Children out of \$10. Their decision is studied in Fernández-Duque and Hiscox (2019).
 2. Second-movers go into a separate room in the lab, are told first-movers are finishing their decisions.
 3. Second-movers guess how much first-movers gave on average (incentivized).
 4. Second-movers decide how much to anonymously contribute to Save the Children out of \$10, randomized into three treatments.
 - (a) *Private and uninformed* ('*PrU*'): Makes contribution without seeing what any first-mover gave, no subjects see the contribution (27 subjects).
 - (b) *Private and informed* ('*PrI*'): Makes contribution after seeing what their assigned first-mover gave, no subjects see the contribution (54 subjects).
 - (c) *Public and Informed* ('*PuI*'): Makes contribution after seeing what their assigned first-mover gave, three other first-movers see the contribution of the assigned first-mover and of the second-mover (59 subjects).
 5. Second-movers guess how much second-movers gave per dollar contribution of the assigned first-mover. Second-movers also guess how much others guessed about first- and second-movers (guesses are incentivized).
 6. Second-movers answer socio-demographic questions.
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Table 1: Timeline of the Design

would actually prefer to avoid (Dana et al., 2006; DellaVigna et al., 2012; Exley, 2015). A different implication of social expectations concerns, which has received less attention, is that these concerns may vary with the social context (Fernández-Duque, 2019). Indeed, social expectations may be created by the situation itself. This is a natural implication to study in the context of followership, as we show with how subjects react to their expectation of a first-mover only in followership situations.

The rest of the article is structured as follows. Section 2 describes the experimental design. Section 3 describes the regression specification. Section 4 provides the results. Section 5 provides a simple reduced-form model to capture situation-specific social expectations concerns, which we relate back to the empirical results and discuss its microfoundation. Section 6 concludes.

2 Experimental Design

In this section we describe the experimental design, which is summarized in Table 1. A more detailed description of the design can be found in Supplementary Materials C. The instructions read out loud at the beginning of each session, as well as screenshots of the computer terminal prompts, can be found in Supplementary Materials B.

Participants were recruited through the Harvard Decision Science Lab subject pool. They were

paid a \$5 show up fee. A session is composed of two sign up times, twenty minutes apart. The first group is composed of ‘first-movers’ (masculine pronouns), the second is of ‘second-movers’ (feminine pronouns), who make their decision in a separate room. Note that random assignment between these groups was not necessary, since the comparison will be between followers.

All subjects are endowed with \$10 and asked how much they would like to allocate to a charity. The charity was the East Africa Food Crisis Relief Fund of Save the Children, which addressed a drought in East Africa. We purposefully chose a charity that for subjects was remote geographically and addressed a temporary problem. Doing so allows us to rule out behavioral motivations that are indirectly self-interested. For example, if subjects were playing a public goods game and acted cooperatively, they may be doing so out of reciprocity or gratitude.

Although some subjects will see others’ contributions, the identity of the contributor is anonymous. By separating first- and second-movers into different rooms starting at different times, we were able to keep contributions anonymous to other subjects. We further assigned them an identifier randomly and paid them via numbered lockers in a private room, with the objective of keeping contributions anonymous to the experimenter.

First-movers decide how much to contribute first, and then second-movers make their decision. First-movers made their decision knowing whether it would be seen by a second-mover, and did not know that the second-mover might be assigned to an audience. What we will vary across second-movers is *when* they see the contribution of the first-mover, and who sees the amount contributed.

Before making their contribution, second-movers are asked to play the first part of a ‘guessing game,’ in which they are asked to predict how much a first-mover gives if he knows that a second-mover will see the contribution before making her own contribution. Subjects are told that they are incentivized for accuracy. The guessing game is pre-treatment: subjects’ instructions differ only after this part of the guessing game is finished.

Second-movers are randomly assigned to one of three treatments. In the *private and uninformed* (‘*PrU*’) treatment, second-movers make a decision without knowing what the first-movers contributed, and without any subject knowing what they contributed. Second-movers will end up seeing what their matched first-mover contributed, but only after the second-mover makes her own contribution. In the other two treatments, which we call the ‘Follow treatments’, the second-mover makes a decision after observing the first-mover’s contribution. In the *private and informed* (‘*PrI*’) treatment, no participant will see what the second-mover gave. In the *public and informed* (‘*PuI*’) treatment, the second-mover knows that an audience will observe the contributions of her own and

her matched first-mover. The second-mover knows that the audience is composed of three other first-movers who had no more contributions to make. To highlight the second-mover's sense of being judged by the audience, she was told that the audience had guessed how much she would contribute given the matched first-mover's contribution.

Once the second-movers made their contribution, they had to continue guessing how much people in different scenarios contributed on average. They were asked to guess what second-movers contributed after seeing what the first-mover contributed, for each integer amount between 0 and 10 dollars that the first-mover could have contributed. They were also asked to guess what a second-mover would do if she contributed without seeing what a first-mover contributed, and with no one seeing what she contributed. We asked this question in two ways. We asked the second-mover's contribution if she saw the first-mover's contribution after her own contribution (as in the private and informed condition), and if she did not see the first-mover's contribution at all. We will focus on the first measure below, as it captures a treatment subjects were actually in, and was the first of these questions to be asked. After they had made their guesses, they were asked to make guesses about what others had guessed, for each of the scenarios we described. These guesses of others' guesses were meant to get at what subjects thought others thought subjects did on average. We refer to guesses of others' guesses as *second-order beliefs*.

After the guessing game, second-movers are asked two types of questions. The first type are sociodemographic questions such as age, gender and education. We also asked about experience with past experiments and familiarity with Save the Children. The second type are personality questions. Some of these questions ask about past experiences of leadership positions, other questions were taken from the psychology literature on leadership. The personality questions were included because of a companion experiment on first-movers' motivation to contribute (Fernández-Duque and Hiscox, 2019), and will not be included in the study.

Finally, second-movers filled out an exit survey that asked open questions about what was going through their minds when they were making the decisions and playing the guessing game.

The variables we captured after the contribution decision are post-treatment variables. Our main results will not use these variables, although we wanted to include them to shed light on mechanisms. However, the evidence that does use these post-treatment variables may suffer from reverse causality, and therefore should be interpreted with caution. Our design decision traded off these endogeneity concerns against ensuring that the decision environment for subjects was simple when asked the main variables of interest. For instance, we were concerned that that guessing

game questions may pollute subjects' responses across all treatments. The one exception to our use of post-treatment variables in our main results is that we will use as controls socio-demographic characteristics that plausibly are not affected by the treatment. The results are robust to taking off these controls.

3 Empirical Specification

In this section we discuss the empirical specification we will use for the results.

In general, we will use one of two simple regression specifications. The first specification is a comparison between treatment groups:

$$Y_i = \beta Treatments_i + \gamma Controls_i + \varepsilon_i, \text{ or}$$

where Y_i is an outcome variable, $Treatments_i$ is a vector of treatment variables, $Controls_i$ is a vector of control variables, and we use robust standard errors at the subject level.

The second specification is a simple difference-in-difference design:

$$Y_i = \alpha X_i + \delta Treatments_i + \beta Treatments_i * X_i + \gamma Controls_i + \varepsilon_i$$

where X_i is a vector of independent variables.

In both specifications, our estimand of interest is β . We use robust standard errors throughout.

We control for age, sex whether the subject is a college graduate and whether the subject is a student. These questions were asked post treatment assignment, but as argued in section 2, they are included because the answers are hard to change with the assignment. The results are robust to taking off the controls.

4 Results

In this section we present the results. Section 4.1 provides summary statistics. Section 4.2 provides the overall effects of the treatments, and of the overall impact of first-movers' contributions on second-movers' contributions. We show that the Follow treatments increase second-movers' contributions, although there is no overall impact of first-movers' contributions. Section 4.3 provides evidence that the expected contribution of the first-mover affects the contribution of second-movers only in the Follow treatments. Section 4.4 shows that surprising contributions affect second-movers'

contributions only in the public and informed treatment. Taken together, the results from Sections 4.3 and 4.4 indicate that whether and how second-movers follow depends on the situation.

Sections 4.5, 4.6 and 4.7 provide further evidence that second-movers follow based on the social expectations of the situation. These tests should be interpreted with some caution, as they use post-treatment variables. However, they test predictions that favor the situation-specific social expectations concern story over any alternative we have considered.

Section 4.5 shows that in the Follow treatments, subjects' contributions can be explained by what they expect second-movers to contribute conditional on specific first-mover contributions. These results are in line with those of Sections 4.3 and 4.4, and suggest that situation-specific expectations play a role in driving contribution decisions. The same conclusion can be drawn from Section 4.6, which compares the role of expectations in the Follow treatment with their role in the private and uninformed treatment. Only in Follow treatments do subjects respond to the expected response to a first-mover's contribution—in the private and uninformed treatment, subjects only respond to expectations of what others contribute in their same situation where there is no first-mover. Section 4.7 considers a re-analysis of the results with a different set of beliefs: instead of using subjects' guesses of what others do in different situations, we use their guesses of others' guesses. We also provide evidence against the hypothesis that second-movers in the public and informed treatment were following to inspire the audience of first-movers to lead more.

4.1 Summary Statistics

Table 2 presents summary statistics. Balance tables can be found in Supplementary Materials A. A little over half of subjects are male, with an average age of 32. The age, together with the fact that 71% of subjects finished college, and 8% are adults who dropped out of high school, reflects the recruitment effort of non-college students by the Harvard Decision Science Lab. Indeed, only 44% of subjects are currently students. The number of reported past experiments is 9, as subjects are part of a pool used for several experiments. Subjects predicted that first-movers gave half of their endowment on average. These predictions are balanced across treatments. They are also accurate: first-movers gave 4.39 dollars on average, statistically indistinguishable from the prediction at conventional levels. First-movers' contribution was balanced across the Follow treatments.

In a preview of the results, second-movers' contributions varied across treatments. Second-movers gave \$3.22 in the private and uninformed treatment. In the Follower treatments they gave about \$1.5 extra: they gave \$5 in the private and informed treatment, and \$4.44 in the public and

informed treatment.

Over three quarters of subjects believed that second-movers contribute more the more a first-mover contributes, as measured by the slope of a regression of the integer amount a first-mover could contribute on the predicted contribution of second-movers given the first-mover's contribution.

	Mean	S.D.	N
Male	0.56	0.50	140
Age	32.00	14.87	140
Finished College	0.71	0.45	140
Finished High School	0.92	0.27	140
School	0.44	0.50	140
Past Experiments	9.09	11.98	140
Prediction of First-Mover's Contribution	5.08	2.81	140
First-Mover's Contribution	4.39	3.86	113
Contribution In Private And Uninformed Treatment	3.22	2.92	27
Contribution In Private And Informed Treatment	5.00	4.06	54
Contribution In Public And Informed Treatment	4.44	3.75	59
Positive Second-Mover's Response	0.77	0.42	140

Table 2: Summary Statistics

4.2 Follow Treatments Increase Contributions Overall, But There is No Aggregate Impact of First-Movers' Contributions

Table 3 presents the overall effects of the treatments. The first column shows that subjects give 1.4 dollars more in the Follow treatments. This is a sizable increase over an unconditional average of 4.4 dollars. Column 2 of the Table breaks down the impact into the two treatments that make up the Follow treatments. Although only the private and informed coefficient is significant, the two effect sizes are similar, and indeed we cannot reject that they have the same value.

The third column of the table considers the impact of the first-mover's contribution on the second-mover's contribution, for subjects in the Follow treatments. The impact of the first-mover's contribution is zero. Below we show that this null effect is driven by the fact that we are not taking into account whether the first-mover's contribution was surprising, and we are not breaking down the impact of the first-mover's contribution by treatment. Before we do so, we first show how second-movers' contributions are correlated with their expectations over first-movers' contributions.

	(1)	(2)	(3)
	Contribution	Contribution	Contribution
Follow Treatments	1.446** (0.679)		
Private And Informed		1.731** (0.799)	
Public And Informed		1.185 (0.760)	
First-Mover's Contribution			-0.0299 (0.101)
Dep Variable Mean	4.421	4.421	4.708
Observations	140	140	113
R ²	0.059	0.064	0.046
Treatment groups (<i>t</i>)	All	All	{PrI, PuI}

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed ($t = PrU$), private and informed ($t = PrI$), and/or public and informed ($t = PuI$). * p < .1 ** p < .05 *** p < .01

Table 3: Seeing A First-Mover Increases Second-Mover's Contribution, But Second-Mover Doesn't Follow First-Mover

4.3 Only in the Follow Treatments Do Expectations of First-Movers' Contributions Explain Second-Movers' Contributions

Table 4 considers the correlation between second-movers' contribution and their expectations of first-movers' contributions. The first three columns of break down this correlation for each treatment. There is zero correlation for the private and uninformed treatment, bu the relationship is almost one-to-one for each of the Follow treatments. These results are consistent with the idea that the expectations subjects are influenced by depend on the situation. Second-movers only follow what they expect a first-mover to do in a followership situation. Moreover, since second-movers expect first-movers to contribute a high amount (\$5), this explains a large part of the increase between Follow treatments and the private and uninformed treatment.

The fourth column confirms the above conclusion in a difference-in-difference setup. Indeed, subjects in the Follow treatments are significantly more responsive to their prediction of the first-mover's contribution than those in the private and uninformed treatment.

4.4 Only in the Public and Informed Treatment Do Surprising First-Movers' Contributions Explain Second-Movers' Contributions

Tables 5 and 6 present the main results. Table 5 shows the impact of a surprising first-mover's contribution on a second-mover's contribution, for both Follow treatments. As a preliminary, the

	(1) Contribution	(2) Contribution	(3) Contribution	(4) Contribution
Prediction of First-Mover's Contribution	0.125 (0.277)	0.800*** (0.194)	0.809*** (0.127)	0.242 (0.261)
Follow Treatments				-1.571 (1.321)
Follow Treatment * Prediction				0.573** (0.286)
Dep Variable Mean	3.222	5	4.441	4.421
Observations	27	54	59	140
R ²	0.133	0.397	0.431	0.360
Treatment groups (<i>t</i>)	<i>PrU</i>	<i>PrI</i>	<i>PuI</i>	<i>All</i>

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed ($t = PrU$), private and informed ($t = PrI$), and/or public and informed ($t = PuI$).
* $p < .1$ ** $p < .05$ *** $p < .01$

Table 4: Only Those Who See First-Mover's Contribution Are Affected By What They Expect First-Mover To Contribute

first two columns show that, for both treatments, the impact of a first-mover's contribution on a second-mover's contribution is zero when expectations are not taken into account. However, the story changes when we do take expectations into account. We show this in several ways. Columns three and four again show the impact of a first-mover's contribution, but this time controlling for the second-mover's expectation of the first-mover's contribution. The impact on second-movers in the private and informed treatment is zero, but the impact on the public and informed treatment is positive and significant. In the public and informed treatment, an extra dollar contributed by the first-mover increases the second-mover's contribution by 21 cents. Columns five and six show the results of including an indicator variable equal to one if the first-mover's contribution is higher than the second-mover's expectation, and controlling for second-mover's expectation. We again find our main result: second-movers respond positively to a surprising contribution by the first-mover in the public and informed treatment, but not in the private and informed treatment.

Table 6 provides the same evidence in a difference-in-difference framework. The first four columns paint a similar picture: second-movers are more responsive to first-movers' contributions in the public and informed treatment than in the private and informed treatment. The columns vary along two dimensions. They differ in whether we are including just the first-mover's contribution (columns one and three), or an indicator variable for whether the first-mover's contribution was higher than the second-mover expected (columns two and four). The columns also vary in whether there are no controls for the second-movers' expectations (columns one and two) or whether we control for the second-movers' expectations and their interaction with the public and informed treatment (columns three and four). In results not shown, we find similar results if we had just

	(1)	(2)	(3)	(4)	(5)	(6)
	Contr.	Contr.	Contr.	Contr.	Contr.	Contr.
First-Mover's Contribution	-0.204 (0.137)	0.131 (0.137)	-0.122 (0.136)	0.213** (0.101)		
First-Mover's Contribution Greater than Expected					-1.119 (1.154)	1.890** (0.758)
Prediction of First-Mover's Contribution				0.775*** (0.200)	0.847*** (0.127)	0.734*** (0.225)
Dep Variable Mean	5	4.441	5	4.441	5	4.441
Observations	54	59	54	59	54	59
R ²	0.159	0.077	0.409	0.479	0.411	0.482
Treatment groups (<i>t</i>)	<i>PrI</i>	<i>PuI</i>	<i>PrI</i>	<i>PuI</i>	<i>PrI</i>	<i>PuI</i>

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed ($t = PrU$), private and informed ($t = PrI$), and/or public and informed ($t = PuI$). * p< .1 ** p< .05 *** p< .01

Table 5: More Following When Contributions Will Be Seen, In Particular When First-Mover Surprises

controlled for the second-movers' expectations.

The fifth column presents a different test for the same hypothesis. The outcome variable “Follow” is now the Euclidean distance between the first- and second-movers’ contributions. The more closely a second-mover is following a first-mover, the smaller this distance will be. As predicted, second-movers follow more closely in the public and informed treatment.

As mentioned in the introduction, the evidence from Tables 5 and 6 rule out several important explanations of pro-social following. Following a matched first-mover only when an audience observes anonymous contributions suggests that following is not about information transmission. If first-movers’ contributions were transmitting information that compelled the second-mover to act—perhaps information about the effectiveness of the NGO, or about the satisfaction of giving—then information would not be affected by the presence of an audience that has no more decision to make.⁶ Image concerns are similarly ruled out. We can rule out social image concerns, or reputational considerations, by design: the audience never identifies the second-mover. Self-image concerns also run into trouble, since the second-mover witnesses his own behavior in both Follow treatments, yet only follows when there is an audience. Outcome-based explanations of follower-ship, such as the ones we mentioned in the introduction, run into similar problems. Outcomes do not change with the presence of an audience who has no more decisions to make.

⁶The reader may be concerned that the second-mover is motivated to transmit first-mover’s information to the audience, even if the audience has no more decisions to make. We address these concerns in Section 4.7.

	(1) Contribution	(2) Contribution	(3) Contribution	(4) Contribution	(5) Follow
Contribution (Specified Below)	-0.216 (0.145)	-2.920*** (1.095)	-0.132 (0.139)	-1.411 (1.140)	
Public And Informed	-2.031* (1.114)	-1.255 (0.914)	-2.096 (1.711)	-2.389 (1.714)	-14.90** (6.953)
Contribution * Public And Informed	0.354* (0.198)	2.573* (1.527)	0.337* (0.174)	3.171* (1.380)	
Prediction of First-Mover's Contribution			0.782*** (0.193)	0.733*** (0.215)	-0.167 (1.276)
Prediction * Public And Informed			0.0566 (0.228)	0.189 (0.245)	
Dep Variable Mean	4.708	4.708	4.708	4.708	30.42
Observations	113	113	113	113	113
R ²	0.079	0.105	0.411	0.415	0.104
Contribution	First-Mover's Contribution	Greater Than expected	First-Mover's Contribution	Greater Than expected	
Treatment groups (<i>t</i>)	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed ($t = PrU$), private and informed ($t = PrI$), and/or public and informed ($t = PuI$). * p< .1 ** p< .05 *** p< .01

Table 6: More Following When Contributions Will Be Seen, In Particular When First-Mover Surprises: Interactions

4.5 Which Expectations of First-Movers' Contributions Explain Second-Mover's Contributions Vary By Treatment, In a Way Consistent With Past Results

In section 4.4 we argued that the evidence rules out the standard explanations for why people follow, so in the next three sections (4.5, 4.6 and 4.7) we will test for a situation-specific social expectations concerns story more specifically. That is, we will test that second-movers act according to how they believe they are expected to in a specific situation. Our results from these sections use post-treatment variables. Although they should be taken with a grain of salt because they may suffer from endogeneity bias, they are broadly supportive of the situation-specific social expectations concerns story.

If second-movers act according to what they are expected to do, and these expectations change with the situation, second-movers' predictions of what is expected in a situation should explain their behavior in that situation. Table 7 provides evidence that situation-specific predictions explain contributions. We tried to explain subjects' contributions using what they expected second-movers contribute after the first-mover contributed specific amounts. The amounts we considered are the second-movers' predictions of what a first-mover contributed (corresponds to 'Expected Response to Predicted First-Mover' in the Table), and what their matched first-mover actually

contributed (corresponds to ‘Expected Response to Actual First-Mover’ in the Table). Recall from sections 4.3 and 4.4 that second-movers’ predictions of first-movers’ contributions were predictive of second-movers’ contributions in the private and informed treatment, while the actual first-movers’ contributions were predictive in the public and informed treatment. Here we are testing a more direct implication of situation-specific social expectations: that the expectations of second-movers given those first-movers’ contributions can explain contributions in the corresponding situations.

The results are consistent with the situation-specific social expectations concerns story. The contribution of second-movers in the private and informed treatment (first column of the Table) is explained by the Expected Response to Predicted First-Movers, but not by the Expected Response to Actual First-Movers. In contrast, for second-movers in the public and informed treatment, both expectations explain what they contribute. The third column pools the results.

	(1) Contribution	(2) Contribution	(3) Contribution
Expected Response To Actual First-Mover	0.0694 (0.175)	0.270* (0.161)	0.201* (0.112)
Expected Response To Predicted First-Mover	0.647*** (0.168)	0.651*** (0.162)	0.657*** (0.109)
Dep Variable Mean	5	4.441	4.708
Observations	54	59	113
R ²	0.338	0.498	0.384
Treatment groups (<i>t</i>)	<i>PrI</i>	<i>PuI</i>	{ <i>PrI</i> , <i>PuI</i> }

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. ‘Expected Response to Actual First Mover’ is a subject’s prediction of what second-movers contribute on average after seeing the first-mover contributed what the subjects’ own first-mover contributed. ‘Expected Response to Predicted First Mover’ is a subject’s prediction of what second-movers contribute on average after seeing the first-mover contributed what they predicted first-movers contribute on average. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed (*t* = *PrU*), private and informed (*t* = *PrI*), and/or public and informed (*t* = *PuI*). * p < .1 ** p < .05 *** p < .01

Table 7: Subjects in the Follower Treatments Act According To How They Expect A Second-Mover To Respond To An Average First Mover, But Only With An Audience Do They Also Act According To How They Expect A Second-Mover To Respond To Their Actual First-Mover

Table 8 tests for the role of situation-specific social expectations in a different way. As shown in section 4.4, subjects in the public and informed treatment are the ones who follow their matched first-mover. If their following is driven by situation-specific social expectations, then it should be the case that those who follow are the ones that believe that second-movers react positively to first-movers’ contributions. Indeed, we find such a relationship. The first four columns of Table 8 divide subjects in the Follow treatments into four groups. The first two columns are subjects in the private and informed treatment, divided by whether they expect second-movers to respond positively (Positive Second-Mover’s Response) or non-positively to first-movers’ contributions. The third and fourth columns are subjects in the public and informed treatment, divided the same way.

To define the Positive Second-Mover's Response variable, we first regressed the possible integer amounts of a first-mover's contribution on subjects' expected contribution of second-movers after seeing each amount. We then set Positive Second-Mover's Response to one if the slope of the regression was positive, and to zero otherwise. As can be seen from the Table, the only positive (and significant) coefficient is among subjects in the public and informed treatment who expect second-movers to respond positively.

Columns 5 through 7 of Table 8 consider difference-in-difference specifications. The interaction term is only marginally significant for the specification with all subjects in the Follow treatments. The lack of significance for subjects in the other specifications can be explained by the small number of subjects who believe second-movers react non-positively to first-movers' contributions. However, note that, in line with the first four columns, the coefficient of the interaction in the public and informed specification (column 6) is more than double the coefficient in the private and informed specification (column 5).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Contr.	Contr.	Contr.	Contr.	Contr.	Contr.	Contr.
First-Mover's Contribution	-0.115 (0.155)	-0.0802 (0.467)	0.313*** (0.107)	-0.309 (0.217)	-0.283 (0.184)	-0.0764 (0.242)	-0.200 (0.159)
Positive Second-Mover's Response					-0.0990 (1.382)	-1.176 (1.659)	-0.653 (1.023)
Contribution * Positive Response					0.180 (0.221)	0.397 (0.273)	0.316* (0.186)
Prediction of First-Mover's Contribution	0.657*** (0.230)	1.310** (0.470)	0.944*** (0.120)	0.185 (0.380)	0.754*** (0.206)	0.813*** (0.126)	0.785*** (0.115)
Dep Variable Mean	5.209	4.182	4.578	4	5	4.441	4.708
Observations	43	11	45	14	54	59	113
R ²	0.350	0.845	0.600	0.631	0.414	0.519	0.405
Treatment groups (<i>t</i>)	<i>PrI</i>	<i>PrI</i>	<i>PuI</i>	<i>PuI</i>	<i>PrI</i>	<i>PuI</i>	{ <i>PrI, PuI</i> }
Positive or non-positive response?	Pos	Non-Pos	Pos	Non-Pos	Both	Both	Both

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. 'Positive Second-Mover's Response' is an indicator variable equal to one if a subjects' expectation of second-movers' contributions increased with what they saw a first-mover contributed. Specifically, it is equal to one if there is a positive slope of a regression of second-movers' expected contributions on first-movers' contributions. The next-to last row of the table indicates the treatment groups that are included in the regression: private and uninformed (*t* = *PrU*), private and informed (*t* = *PrI*), and/or public and informed (*t* = *PuI*). The last row indicates whether the subjects includes those who had a positive followers' response, those who had a non-positive follower's response, or both. * p < .1 ** p < .05 *** p < .01

Table 8: The Subjects Who React Positively To A Surprising First-Mover's Contribution Are Those Who Have An Audience And Expect Second-Movers To Respond Positively To A First-Mover

Table 8 helps rule out a different alternative explanation. It is plausible that the reason subjects were following in the public and informed treatment is that the presence of an audience simply made them pay more attention to the contribution of the first-mover. However, if that were the case, then they would not be differentially responsive depending on whether they believed second-movers

responded positively to a first-mover, as they are in Table 8.

4.6 Situation-Specific Social Expectations Concerns Explain Second-Mover Contributions In Followership and Non-Followership Situations

In this section we continue testing for the situation-specific social expectations concerns story, by considering whether situation-specific expectations can also differentially explain the behavior of those who are not in a followership situation. While section 4.5 considered expectations for subjects in the Follow treatments, here we consider expectations for subjects in all treatments.

Table 9 shows that the expectations that explain contributions in the Follow treatments differ from those in the private and informed treatment. The first two columns look, respectively, at subjects in the uninformed and private treatment, and at subjects in the Follow treatments. We regress second-movers' contributions on their expectations in different scenarios. First, we include their expectation of second-movers' contributions in an private and uninformed treatment. Second, we include the Expected Response To Predicted First-Mover, defined in section 4.5 as their expectation of second-movers' contributions after they observe the first-mover contribute what they expect first-movers to contribute. Notice that, as opposed to section 4.5, we do not include the Expected Response To Actual First-Mover, which is not defined for subjects in the uninformed and private treatment.

	(1)	(2)	(3)
	Contribution	Contribution	Contribution
Prediction of A Private and Uninformed Contribution	0.649** (0.302)	0.637*** (0.127)	
Expected Response To Predicted First-Mover	0.0348 (0.195)	0.423*** (0.117)	0.306 (0.230)
Follow Treatments			-0.539 (1.113)
Follow Treatments * Expected Response To Predicted First-Mover			0.450* (0.252)
Dep Variable Mean	3.222	4.708	4.421
Observations	27	113	140
R ²	0.307	0.497	0.351
Treatment groups (<i>t</i>)	<i>PrU</i>	{ <i>PrI</i> , <i>PuI</i> }	<i>All</i>

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. 'Expected Response to Predicted First Mover' is a subject's prediction of what second-movers contribute on average after seeing the first-mover contributed what they predicted first-movers contribute on average. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed (*t* = *PrU*), private and informed (*t* = *PrI*), and/or public and informed (*t* = *PuI*). * p < .1 ** p < .05 *** p < .01

Table 9: Subjects in the Uninformed And Private Treatment Only Respond To Expectations In Their Situation

The results again support a story in which subjects are concerned about situation-specific social

expectations. For the private and uninformed treatment, the only expectations that correlate with contributions are those of the same situation. For the Follow treatment, the Expected Response To Predicted First-Mover are strongly correlated with second-movers' contributions, echoing past results. Indeed, the third column uses a difference-in-difference design to show that the impact of the Expected Response To Predicted First-Mover is significantly different in the Follow treatments than in the uninformed and private treatment.

4.7 Robustness: Second-Movers Do Not Following To Inspire Leading, Similar But Insignificant Results With Second-Order Beliefs

In this section we provide tests to rule out further alternative explanations. We first rule out that second-movers are following to inspire first-movers to lead. Then we re-analyze our main results with second-order beliefs.

Not following to inspire leading. The reader may be concerned that second-movers were motivated to follow in order to inspire first-movers to contribute more whenever they are in a leadership position. In the public and informed treatment, there is an audience of three first-movers. Those three first-movers had already made their contribution. However, it is still possible that the second-mover followed the contribution of their matched first-mover in order to show the audience of first-movers that giving a lot in the presence of second-movers paid off, perhaps for interactions outside the experiment.

Table 10 provides evidence that second-movers are not following to inspire first-movers to lead. If they were, then they should be more willing to do so the more they believed, or they believed others believed, that second-movers were not responsive to first-movers. However, we do not find evidence for this relationship.

Our tests rely on the ‘Second-Mover’s Response Slope’ variable, which is a measure of subjects’ belief of how responsive second-movers are to first-movers’ contributions. This variable is the slope of a regression of the possible integer amounts of a first-mover’s contribution on what subjects expect second-movers to contribute after seeing each amount. The higher the variable, the more responsive subjects believe second-movers are to first-movers. We will also use a related variable, ‘Second-Order Response Slope’, which is constructed in the same way, but using second-order beliefs.

As a preliminary result, we show that neither measure of expected responsiveness varies across the Follow treatments. Columns 1 and 2 of Table 10 show, respectively, that the treatment as-

	(1) 2nd-Mover's Response Slope	(2) 2nd-Order Response Slope	(3) Follow	(4) Follow	(5) Follow	(6) Follow
Public And Informed	-0.000155 (0.0904)	-0.0657 (0.161)		-9.580 (8.718)		-10.67 (8.765)
Second-Mover's Response Slope			-2.257 (8.661)	6.206 (11.09)		
Response Slope * Public And Informed				-16.21 (17.04)		
2nd-Order Response Slope					-4.466 (7.793)	1.603 (10.26)
2nd-Order Slope * Public And Informed						-11.59 (15.21)
Dep Variable Mean	0.344	0.459	30.42	30.42	30.42	30.42
Observations	113	113	113	113	113	113
R ²	0.040	0.056	0.065	0.115	0.069	0.114
Treatment groups (<i>t</i>)	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. ‘Second-Mover’s Response Slope’ is the slope of a regression of second-movers’ expected contributions on first-movers’ contributions. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed ($t = PrU$), private and informed ($t = PrI$), and/or public and informed ($t = PuI$). * $p < .1$ ** $p < .05$ *** $p < .01$

Table 10: Second-Movers Do Not Follow To Inspire Leading

signment does not affect the Second-Mover’s Response Slope or the Second-Order Response Slope. This suggests that the distribution of these measures are similar across treatments, which makes it more straightforward to compare its aggregate impact on other variables. Moreover, it provides further evidence that the treatment did not affect behavior by changing beliefs of how subjects react in different situations (as might be the case if the first-mover’s contribution were transmitting information).

Columns 3 and 5, respectively, show that Second-Mover’s Response Slope and Second-Order Response Slope are not predictive of how close the second-movers’ contributions are to the first-movers’ contributions. Recall from section 4.4 that the outcome variable ‘Follow’ is the Euclidean distance between the first-mover and second-mover’s contributions. Our independent variables are insignificant, which suggests that subjects are not more willing to follow the more they believe, or believe others believe, second-movers were not responsive to first-movers. Columns 4 and 6 use a difference-in-difference specification to show that this null result is similar across both Follow treatments. We conclude that subjects do not follow to inspire leaders.

Re-analyzing the results with second-order beliefs. Finally, Supplementary Materials A analyses the main results, but instead of using second-movers’ guesses of contributions, it uses their guesses of others’ guesses. That is, we will use the second-order beliefs (as explained in Section 3). This

measure has the benefit of capturing what subjects perceive others perceive is expected in a certain situation—in that sense it is a more appropriate way of capturing ‘social expectations’.⁷ On the other hand, these measures are more problematic since they are all post-treatment variables, and are cognitively more demanding for subjects to answer. The second-order prediction of the first-mover’s contribution is particularly problematic since subjects make this guess after observing the contribution of an actual first-mover. Nevertheless, we included the analysis for completeness.

Table 14 in Supplementary Materials A shows how the ‘second-order’ expectations of the first-mover’s contribution correlate with the second-mover’s contribution across treatments. Unlike earlier results, these second-order expectation have a similar, positive impact on contributions across treatments.

Table 15 in Supplementary Materials A shows that we get results in the same direction as our main results but without significance when we use second-order expectations. Across several specifications, the results are qualitatively similar.

5 Capturing The Results With A Simple Model

In section 4 we argued that the empirical results are consistent with a situation-specific social concerns story, and inconsistent with several other explanations for pro-social following. In particular, we argued that the anonymity of contributions together with second-movers’ differential responsiveness to expected behavior in different situations ruled out the leading explanations, such as information-transmission, image concerns and outcome-based explanations. We then provided further supportive evidence of key hypotheses of situation-specific social expectations, and ruled out other alternative explanations.

In this section we provide a simple, reduced-form model that captures what we have been referring to as situation-specific social expectations concerns. Section 5.1 sets up the model. Section 5.2 provides the optimal contribution for second-movers. Section 5.3 discusses our preferred microfoundation for the model, and relates the prediction of the model to the empirical results from section 4.

⁷We focus on second-order beliefs in the companion paper Fernández-Duque and Hiscox (2019). In that study we did not face the concern of post-treatment measurement, and we find that second-order effects are useful in understanding first-movers’ motivation to lead.

5.1 Setup

There are first-movers and second-movers, who are endowed with a dollar. Second-movers decide how much to anonymously contribute to a charity ($s \in [0, 1]$) after a first-mover contributes ($f \in [0, 1]$). Second-movers care about how much they keep for themselves ($1 - s$), how much they contribute (s), and they care about social expectations:

$$v = \phi(1 - s, s) + \mathbb{1}_{s < \theta_t} \frac{(s - \theta_t)^2}{2}$$

where ϕ is concave in each argument, $\phi_{11} > \phi_{22}$, and we assume an interior solution. The term ϕ has two arguments, which respectively capture the second-mover's utility from keeping and contributing her endowment. The second summand captures social expectations.

Second-movers are assigned to a treatment t , which captures the social situation they are in, including who will see their contribution. The treatment t is associated with a threshold amount θ_t that she is expected to contribute in that situation with that audience. We refer to θ_t as the social expectation, and we assume that subjects pay a cost from contributing less than the social expectation.

There are three treatments, $t \in \{PrU, PrI, PuI\}$. In the private and uninformed treatment PrU , θ_{PrU} captures what the second-mover believes subjects contribute when their contribution is made before seeing what the first-mover contributed, and when no one will see what they contributed. In the private and informed treatment PrI , $\theta_{PrI}(f)$ captures what she believes a second-mover contributes when she sees that a first-mover contributed f and that contributions are unseen by others. In the public and informed treatment PuI , $\theta_{PuI}(f)$ captures what she believes a second-mover contributes when a first-mover contributes f and there is an audience that observes the first- and second-movers' contributions. Note that the treatments n and a are the 'Follow treatments'.

We now make a couple of assumptions about social expectations that capture the main empirical results.

- Assumption 1.**
- *The social expectation in treatment PrI , $\theta_{PrI}(f)$, does not depend on f ($\theta_{PrI}(f) = \theta_{PrI}$).*
 - *The social expectation in treatment PuI , $\theta_{PuI}(f)$, increases in f .*

The first part of Assumption 1 states that social expectations concerns are not affected by the first-mover's contribution in the private and informed treatment. The second part states that

social expectations concerns increase with the first-mover's contribution in the public and informed treatment. In section 5.3 we discuss the microfoundations of these assumptions.

5.2 Solving the Model

The first-order condition of the second-mover's maximization problem is

$$\frac{\partial \phi}{\partial s} = \begin{cases} s_t^* - \theta_t < 0 & \text{if } \theta_t > s_t^* \\ 0 & \text{if } \theta_t \leq s_t^* \end{cases}$$

Noting that $\psi \equiv s - \partial\phi/\partial s$ and ψ^{-1} are increasing, it follows that s_t^* is unique. Let s^* be defined by $\partial\phi(1 - s^*, s^*)/\partial s = 0$. We can now state the result.

Result 1. *For all $t \in \{PrU, PrI, PuI\}$,*

$$s_t^* = \begin{cases} \psi^{-1}(\theta_t) & \text{if } \theta_t > s^* \\ s^* & \text{if } \theta_t \leq s^* \end{cases}$$

The optimal contribution s_t^ increases in θ_t .*

The result states that the contribution decision follows a threshold rule. If the social expectation is low enough, second-movers will contribute a baseline amount s^* . If the social expectation is high enough, then second-movers will contribute a higher amount, $\psi^{-1}(\theta_t)$. In particular, given Assumption 1, the contribution of the second-mover will increase with a surprisingly large contribution by the first-mover in the public and informed treatment ($t = PuI$). There is no similar result for the other treatments, where second-movers do not respond to the first-mover's contribution.

5.3 Discussion

In this section we discuss our preferred microfoundation of the model, and relate the results to the empirical results in section 4.

Although we only present a reduced-form specification of second-movers' utility, our preferred informal microfoundation for these assumptions is that second-movers have a dual motivation. The first motivation is that in Follow treatments, and only in those treatments, subjects are motivated to act as typical followers, contributing the same amount as first-movers are expected to contribute.

This is consistent with the results of section 4.3, in which only in the Follow treatments do second-movers' contributions increase with their expectation of first-movers' contributions. On the other hand, the first part of Assumption 1 states that second-movers do not react to their first-mover's contribution in the private and informed treatment. We explain this by further assuming that the contribution of their first-mover does not much affect their priors over what first-movers contribute on average, perhaps because they have strong priors. The prediction that follows from this part of Assumption 1 is that social expectations do not react to first-movers' contributions in the private and informed treatment, as per the empirical evidence of section 4.4.

The other motivation second-movers have in our preferred microfoundation is to avoid outcomes that appear inappropriate when an audience is observing. Second-movers follow a surprising contribution by their matched first-mover in the public and informed treatment because not following such a contribution looks bad. Note that in this account, second-movers are directly motivated to not look bad—as in a psychological game (Geanakoplos et al., 1989)—and are not doing it out of reputational considerations, which we have ruled out. The second part of Assumption 1 states that social expectations increase more the more first-movers give in the public and informed treatment. This captures the idea that ‘looking bad’ means not following the first-mover. The prediction that follows from this part of Assumption 1 is consistent with the result from section 4.4: that subjects in the public and informed treatment follow the surprising contribution of their first-mover on average. It is also consistent with the more specific results from section 4.5: that most subjects believe second-movers react positively to a first-mover, and it is precisely those who hold this belief that follow their first-mover in the public and informed treatment. The result is also consistent with the other evidence from section 4.5: only in the public and informed treatment do subjects follow what they expect second-movers to contribute given what the subjects' first-mover actually contributed.

Finally, consider a subject in the uninformed and private treatment. Her social expectation in the model is not related to what a first-mover does. We can see this in the empirical results. Her contribution is explained by her expectation of an individual in the same situation as her. Her contribution is not explained by what she expects a first-mover to contribute, as opposed to subjects in the Follow treatment (section 4.3). Likewise, her contribution is not explained by her expectation of what second-movers contribute after they see the first-mover contributed what she expected first-movers to contribute (section 4.6).

6 Conclusion

This paper provided experimental evidence to argue that whether and how individuals follow pro-social actions depends on situation-specific social expectations. This argument differs from standard accounts of pro-social following, with both conceptual and practical implications.

Conceptually, the paper emphasizes the importance of understanding the heterogeneous impact of social expectations across situations. Theoretical work sometimes assumes that individuals have a pro-social motivation to do what they believe others do on average. Our work suggests we should study more systematically when these concerns affect pro-social behavior. In particular, we found that only in followership situations are second-movers affected by social expectations of how to follow a first-mover.

On the practical side, understanding situation-specific social expectations can help shape policies to increase pro-social behavior. Standard social information campaigns publicize the amount of pro-social activity others engage in, and have become a common tool for affecting behavior (see, e.g., Frey and Meier, 2004; Croson and Shang, 2008; Allcott, 2011; Kenny et al., 2011). Our results suggest that social information campaigns will have a higher impact if individuals think of the situation as a followership situation, seeing those whose behavior was aggregated in the campaign as the first-movers. Of course, these results are tentative until the predictions are tested in the field.

Our results further suggest that whether social expectations drive the impact of social information campaigns depends on the situation. If behavior is not publicly observed, social expectations must be changed for social information campaigns to impact behavior. If behavior is publicly observed, changing social expectations is not necessary for affecting behavior: a single first-mover's behavior may affect second-movers' behavior, even if the first-movers' behavior does not change social expectations.

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A Data Appendix

In this appendix we provide some supplementary tables. Section A.1 shows the balance tables for our experiment. Section A.2 replicates some of the earlier tables, but using subjects' guesses of others' guesses of average contributions, which we call their second-order beliefs.

A.1 Balance Tables

In this section we provide balance tables for the experiment. Table 11 compares the private and informed treatment with the public and informed treatment; Table 12 compares the private and uninformed treatment with the public and informed treatment; and Table 13 compares the private and uninformed treatment with the private and informed treatment. Except for the prediction of the first-mover's contribution, the balance tables use post-treatment variables, but they are variables which arguably would not be affected by the treatment. We find balance across all variables and all comparisons.

	$t = PrI$		$t = PuI$		Mean diff
	Mean	S.D.	Mean	S.D.	
Female	0.50	(0.50)	0.63	(0.49)	-1.36
Age	33.28	(14.36)	31.34	(15.26)	0.70
Finished College	0.63	(0.49)	0.80	(0.41)	-1.97
Finished High School	0.87	(0.34)	0.97	(0.18)	-1.84
Student	0.48	(0.50)	0.44	(0.50)	0.43
Number of Past Experiments	9.28	(13.55)	8.58	(9.50)	0.32
Prediction of Leader's Contribution	5.32	(2.75)	5.01	(2.94)	0.59
Leader's Contribution	3.93	(3.77)	4.83	(3.93)	-1.25

Table 11: Balance Table Comparing The Private And Informed Treatment ($t = PrI$) With The Public And Informed Treatment ($t = PuI$)

	$t = PrU$		$t = PuI$		Mean diff
	Mean	S.D.	Mean	S.D.	
Female	0.56	(0.51)	0.63	(0.49)	-0.62
Age	30.89	(15.39)	31.34	(15.26)	-0.13
Finished College	0.70	(0.47)	0.80	(0.41)	-0.89
Finished High School	0.93	(0.27)	0.97	(0.18)	-0.71
Student	0.37	(0.49)	0.44	(0.50)	-0.61
Number of Past Experiments	9.81	(13.79)	8.58	(9.50)	0.42
Prediction of First-Mover's Contribution	4.76	(2.68)	5.01	(2.94)	-0.39

Table 12: Balance Table Comparing The Private And Uninformed Treatment ($t = PrU$) With The Public And Informed Treatment ($t = PuI$)

	$t = PrU$		$t = PrI$		Mean diff
	Mean	S.D.	Mean	S.D.	
Female	0.56	(0.51)	0.50	(0.50)	0.47
Age	30.89	(15.39)	33.28	(14.36)	-0.67
Finished College	0.70	(0.47)	0.63	(0.49)	0.66
Finished High School	0.93	(0.27)	0.87	(0.34)	0.80
Student	0.37	(0.49)	0.48	(0.50)	-0.95
Number of Past Experiments	9.81	(13.79)	9.28	(13.55)	0.17
Prediction of First-Mover's Contribution	4.76	(2.68)	5.32	(2.75)	-0.89

Table 13: Balance Table Comparing Private And Uninformed Treatment ($t = PrU$) With The Private And Informed ($t = PrI$) Treatment

A.2 Second-Order Tests

In this section we show the results of regressions that replicate the main specifications found in the body of the text, but which replace subjects' guesses of what others contributed with subjects' guesses of what others guessed, or what we refer to as second-order beliefs. We discussed the results in section 4.7 of the main text.

Table 14 shows how the ‘second-order’ expectations of the first-movers’ contributions correlate with the second-movers’ contributions across treatments. Unlike earlier results, these second-order expectation have a similar, positive impact on contributions across treatments.

Table 15 shows that we get results in the same direction as our main results but without significance when we use second-order expectations. We consider the impact of a first-mover’s contribution (first column), whether the first-mover’s contribution is higher than the expectations of the first-mover’s contribution (second column), and whether the first-mover’s contribution is higher than the second-order expectations of the first-mover’s contribution (third column). We control for the second-order prediction of the first-mover’s contribution, and for the interaction of this prediction with the public and informed treatment. In results not shown, we also drop the second of these controls. Across all specifications, the results are qualitatively similar.

B Public Instructions and Screenshots

In this section we present the instructions as they were presented to the subjects. Section B.1 provides the instructions that were read out loud to subjects once they were seated in front of their computers, but before the first instruction screen. Section B.2 presents the screenshots subjects saw, for all treatments.

	(1)	(2)	(3)	(4)	(5)
	Contribution	Contribution	Contribution	Contribution	Contribution
Second-Order Prediction of First-Mover's Contribution	0.425** (0.202)	0.528*** (0.174)	0.399** (0.164)	0.439** (0.192)	0.444** (0.194)
Follow Treatments				1.013 (1.022)	
Follow Treatments * 2nd-Order Prediction				0.00593 (0.224)	
Informed And Private					1.075 (1.237)
Informed And Public					0.997 (1.202)
Informed and Private * 2nd-Order Prediction					0.0578 (0.256)
Informed and Public * 2nd-Order Prediction					-0.0537 (0.254)
Dep Variable Mean	3.222	5	4.441	4.421	4.421
Observations	27	54	59	140	140
R ²	0.276	0.256	0.155	0.181	0.186
Treatment groups (<i>t</i>)	<i>PrU</i>	<i>PrI</i>	<i>PuI</i>	<i>All</i>	<i>All</i>

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed (*t* = *PrU*), private and informed (*t* = *PrI*), and/or public and informed (*t* = *PuI*). * p< .1 ** p< .05 *** p< .01

Table 14: Second-Order Expectations Of A First-Mover Do Not Explain Difference In Contributions Across Treatments

B.1 Public Instructions

In this section we present the instructions that were read out loud publicly to subjects once they were seated in front of their computers, but before the first instruction screen.

Public Instructions: The key you were given has a number on it. Before we begin, please take a moment to type the number into the computer.

You are taking part in an experimental session. You may have noticed that there were two sign up times for this session. That is because todays session will take place in two rooms, with the participants in each room beginning at different times. Please do not talk or try to communicate with other participants during the session.

You are given 10 dollars. You will be asked to make a decision of how to divide these 10 dollars. In your decision you will be asked to divide the ten dollars between yourself and the East Africa Food Crisis Relief Fund of Save the Children. Millions of people, many of them children, are at risk in drought-stricken East Africa. Save the Children is a charitable organization providing food, water, education, child care and more for children and families affected by the food crisis. Please note that this study does not use deception, which means we are obligated to give the money you

	(1) Contribution	(2) Contribution	(3) Contribution
First-Mover's Contribution	-0.159 (0.131)		
Informed and Public	-0.959 (1.538)	-0.750 (1.505)	0.0649 (1.564)
Contribution * Informed and Public	0.233 (0.187)		
Second-Order Prediction of First-Mover's Contribution	0.472** (0.183)	0.434** (0.180)	0.590*** (0.194)
Second-Order Prediction * Informed and Public	-0.133 (0.249)	-0.0738 (0.246)	-0.179 (0.257)
First-Mover's Contribution Greater than Expected		-2.476** (1.136)	
Contribution Greater * Informed and Public		1.925 (1.506)	
First-Mover's Contribution Greater Than Second-Order Expectation			0.972 (1.335)
Contribution Greater Than 2nd-Order * Informed and Public			0.0868 (1.687)
Dep Variable Mean	4.708	4.708	4.708
Observations	113	113	113
R ²	0.191	0.218	0.190
Treatment groups (<i>t</i>)	{PrI, PuI}	{PrI, PuI}	{PrI, PuI}

Results of an OLS regression controlling for age, sex, whether they finished college, and whether they are currently students. Robust standard errors in parentheses. The last row of the table indicates the treatment groups that are included in the regression: private and uninformed (*t* = PrU), private and informed (*t* = PrI), and/or public and informed (*t* = PuI). * p< .1 ** p< .05 *** p< .01

Table 15: The Impact Of A Surprise Contribution With Second-Order Beliefs Is Insignificant

decide to Save the Children. Save the Children will only be contacted by this study to give them the amount of money you decide. The money will be given anonymously and without an explanation of where it came from.

Please pay attention to the instructions. It is normal and encouraged to read the instructions more than once, as they contain several important details. If you have any questions, please push the assistance button in front of you.

You will not use your name at any point during the session. You have been given a key and assigned a cubicle by chance. With the key you have been given you will be able to open a locker and collect your payment privately at the end of the session.

The rest of the instructions you will read privately on your computer screen.

The people in Room B began before you did. Once they have all finished making their decisions, the program on your computer screen will display a button allowing you to proceed. If this button is already on your screen, you can now proceed to the experiment.

The key you were given has a number on it. Before we begin, please take a moment to type the number into the computer.

You are taking part in an experimental session. You may have noticed that there were two sign up times for this session. That is because todays session will take place in two rooms, with the participants in each room beginning at different times. Please do not talk or try to communicate with other participants during the session.

You are given 10 dollars. You will be asked to make a decision of how to divide these 10 dollars. In your decision you will be asked to divide the ten dollars between yourself and the East Africa Food Crisis Relief Fund of Save the Children. Millions of people, many of them children, are at risk in drought-stricken East Africa. Save the Children is a charitable organization providing food, water, education, child care and more for children and families affected by the food crisis. Please note that this study does not use deception, which means we are obligated to give the money you decide to Save the Children. Save the Children will only be contacted by this study to give them the amount of money you decide. The money will be given anonymously and without an explanation of where it came from.

Please pay attention to the instructions. It is normal and encouraged to read the instructions more than once, as they contain several important details. If you have any questions, please push the assistance button in front of you.

You will not use your name at any point during the session. You have been given a key and

assigned a cubicle by chance. With the key you have been given you will be able to open a locker and collect your payment privately at the end of the session.

The rest of the instructions you will read privately on your computer screen.

The people in Room B began before you did. Once they have all finished making their decisions, the program on your computer screen will display a button allowing you to proceed. If this button is already on your screen, you can now proceed to the experiment.

B.2 Screenshots

In this section we present the screenshots that subjects saw on their computer screens. All subjects saw the same screens in the order in which they are presented, except for the screens in Figures 2, 3, and 4. These three screens varied by treatment: subjects in the private and uninformed treatment observed Figure 2; subjects in the private and informed treatment observed Figure 3; and subjects in the public and informed treatment observed Figure 4.

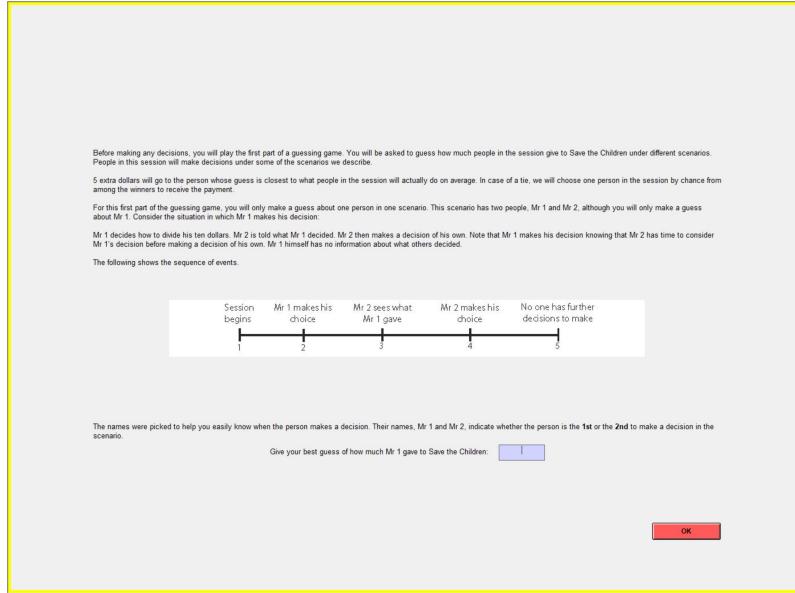


Figure 1: Introductory Slide, Prediction Of First Mover

You will now choose how much of the ten dollars you would give to Save the Children, and the rest you would keep for yourself. You will make a decision in a situation that neither Mr 1 nor Mr 2 faced. No one in this session would know what you decide.

Other people in this session have already made a decision.

Please enter the amount of dollars between 0 and 10 you would like to give to Save the Children:

Figure 2: Contribution Screen for Private And Uninformed Treatment



Figure 3: Contribution Screen For Private And Informed Treatment

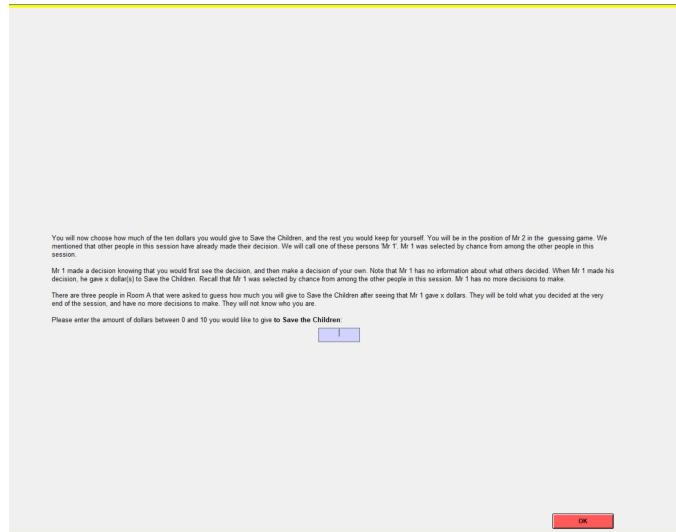


Figure 4: Contribution Screen For Public And Informed Treatment

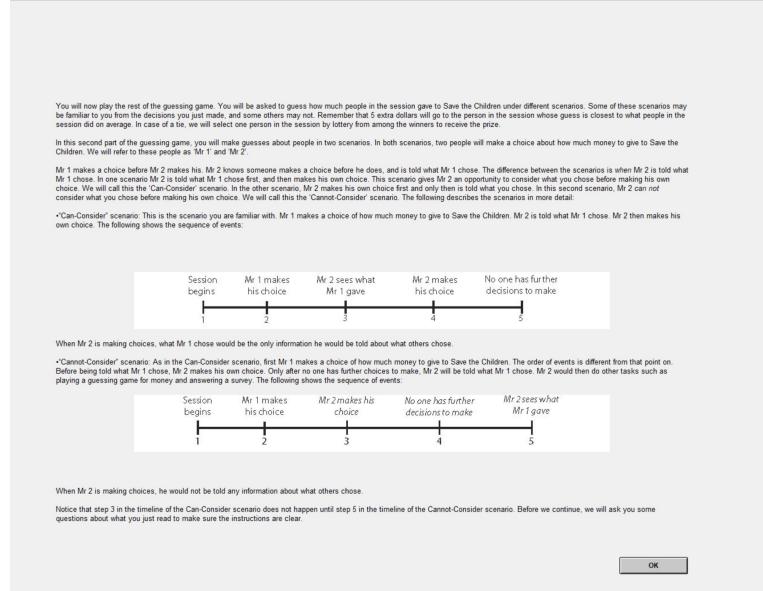


Figure 5: Screen Explaining Rest Of Guessing Game

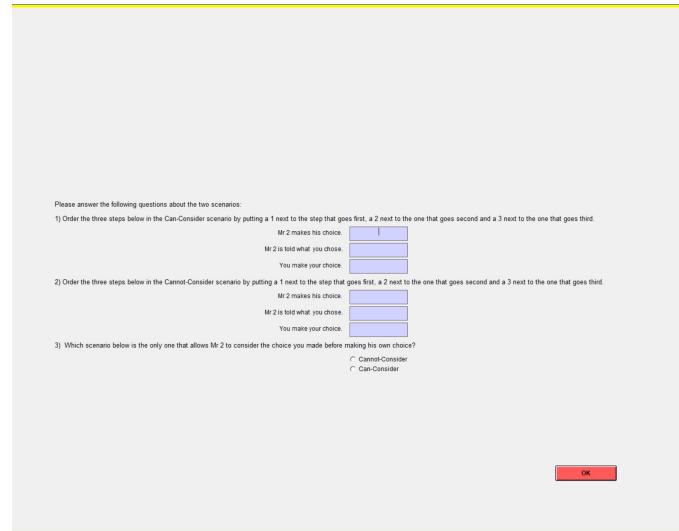


Figure 6: Questionnaire Of Screen Explaining Rest Of Guessing Game

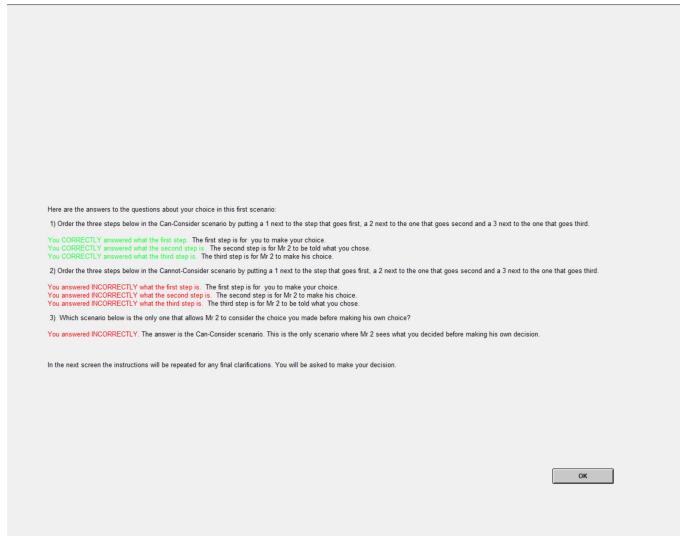


Figure 7: Answers To Questionnaire Of Screen Explaining Rest Of Guessing Game

First consider the Can-Consider scenario. Here we recap the sequence of events:

Session begins	Mr 1 makes his choice	Mr 2 sees what Mr 1 gave	Mr 2 makes his choice	No one has further decisions to make
1	2	3	4	5

You will now give your best guess as to how much Mr 2 will give to Save the Children, for each choice Mr 1 can make.

Give your best guess as to how much Mr 2 will give to Save the Children...

... if he sees Mr 1 gave 0 dollars to Save the Children:

... if he sees Mr 1 gave 1 dollar to Save the Children:

... if he sees Mr 1 gave 2 dollars to Save the Children:

... if he sees Mr 1 gave 3 dollars to Save the Children:

... if he sees Mr 1 gave 4 dollars to Save the Children:

... if he sees Mr 1 gave 5 dollars to Save the Children:

... if he sees Mr 1 gave 6 dollars to Save the Children:

... if he sees Mr 1 gave 7 dollars to Save the Children:

... if he sees Mr 1 gave 8 dollars to Save the Children:

... if he sees Mr 1 gave 9 dollars to Save the Children:

... if he sees Mr 1 gave 10 dollars to Save the Children:

Now consider the Cannot-Consider scenario. In this scenario, Mr 2 cannot consider what anybody else gave before making his own decision. Here we recap the sequence of events:

Session begins	Mr 1 makes his choice	Mr 2 makes his choice	No one has further decisions to make	Mr 2 sees what Mr 1 gave
1	2	3	4	5

Give your best guess as to how much Mr 2 will give to Save the Children:

OK

Figure 8: First Input Screen For Guessing Game

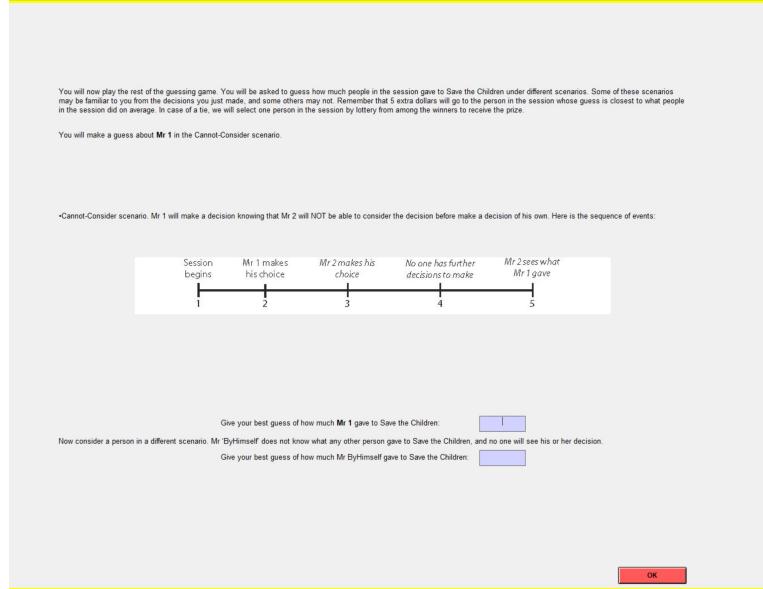


Figure 9: Second Input Screen For Guessing Game

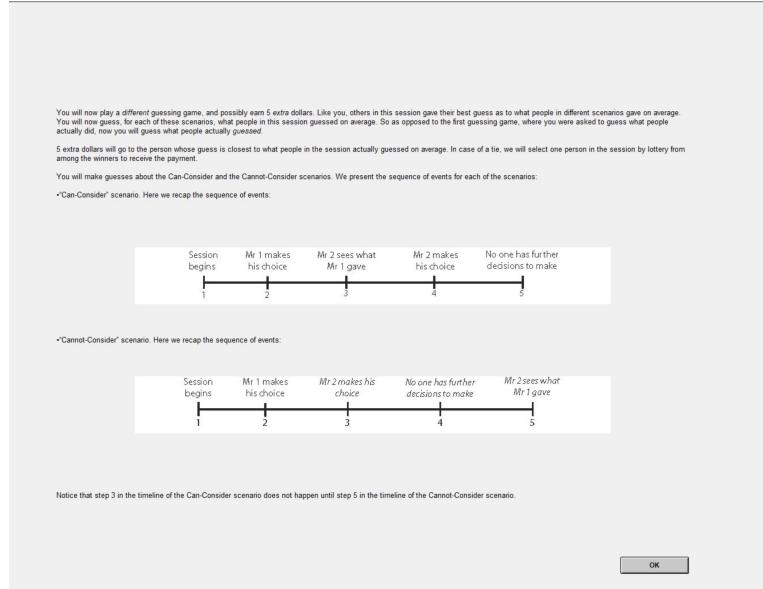


Figure 10: Screen Explaining Second-Order Guessing Game

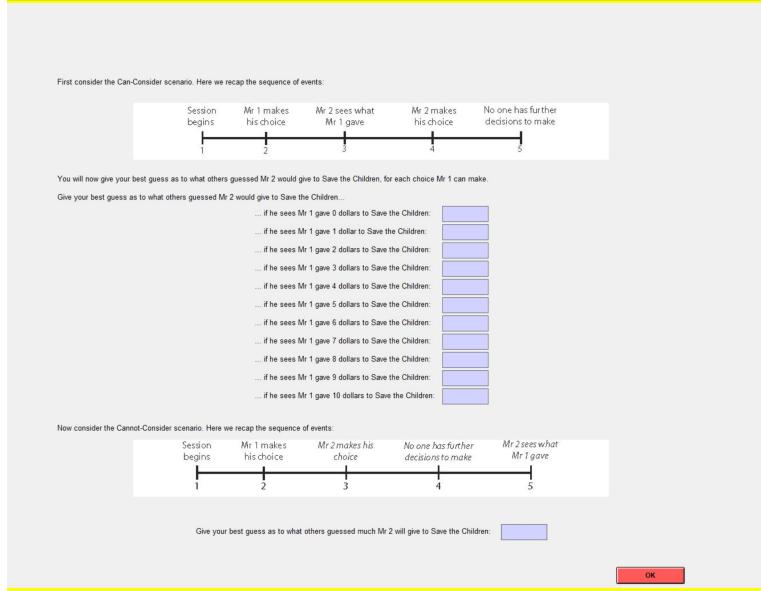


Figure 11: First Input Screen For Second-Order Guessing Game

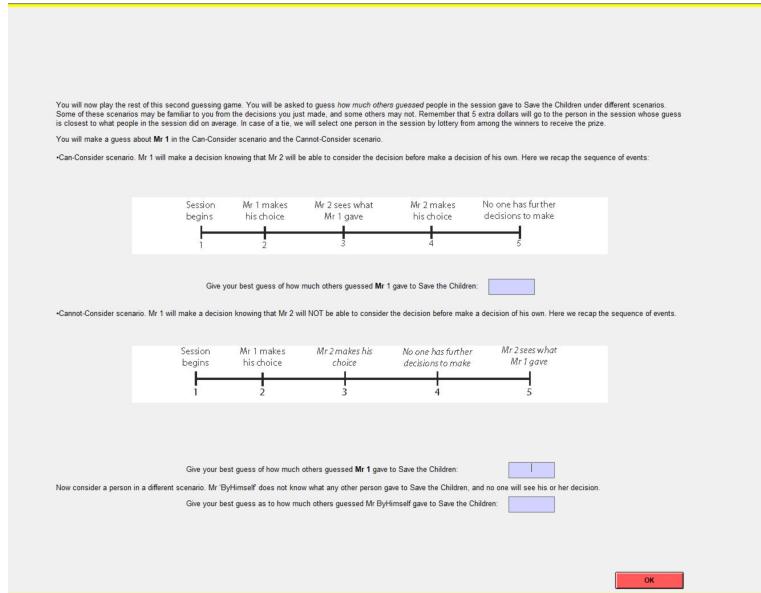


Figure 12: Second Input Screen For Second-Order Guessing Game

Please answer the following questions:

- 1) What is your age?
- 2) What is your sex? Male Female
- 3) What is the highest level of education you have completed? Primary Middle School High School College or above
 Yes No
- 4) At any time in the last 3 months, have you attended school or college? Yes No
- 5) Are you studying or did you study a Bachelor's degree in economics? Yes No
- 6) How many experiments have you participated in the past?
- 7) On a scale of 1 to 10, where 1 is 'none at all' and 10 is 'perfectly', how well would you say you know what the objective of Save the Children is?
- 8) On a scale of 1 to 10, where 1 is 'not at all' and 10 is 'perfectly', how well would you say Save the Children fulfills its objective?

Figure 13: First Socio-Demographic Characteristics Screen

Please answer the following questions:

- 9) Have you ever taught a course to a group of people? Yes No
- 10) If you have siblings, are you the oldest? I am the oldest I am not the oldest I do not have siblings
- 11) Do you have children? Yes No
- 12) Have you ever been the captain of a team? Yes No
- 13) If you are employed, are there people where you work who answer directly to you? Yes No
- 14) How willing are you to take risks, in general? Answer on a scale of 1 to 10, where 1 is 'Not willing at all' and 10 is 'Very willing'.

Figure 14: Second Socio-Demographic Characteristics Screen

This screen contains a number of statements with which some people agree and others disagree. Please rate how much you personally agree or disagree with these statements-how much they reflect how you feel or think personally. Use the following scale:

(1) totally disagree
 (2) generally disagree
 (3) somewhat disagree
 (4) somewhat agree
 (5) generally agree
 (6) totally agree

1) I enjoy having control over other people.
 2) People are only motivated by personal gain.
 3) I talk about my most important values and beliefs.
 4) I generally don't trust others.
 5) I am hesitant about taking initiative in a group.
 6) I am accurate in predicting how people will behave.
 7) I look out for the personal welfare of group members.
 8) I can inspire enthusiasm for a project.

OK

Figure 15: Attitude Screen

As the final part of the guessing game, you are asked to guess how many people participated in this room and the other room.

Guess how many people that are taking the experiment are in this room:
 Guess how many people that are taking the experiment are in the room that began the session earlier:

OK

Figure 16: Guess Number Of Subjects Screen

C Detailed Description of the Experimental Design

In this section we present a description of the experimental design that is more detailed than the one presented in section 2 in the main text. The instructions read out loud at the beginning of each session, as well as screenshots of the computer terminal prompts can be found in Supplementary Materials B.

Participants were recruited through the Harvard Decision Science Lab subject pool. They were paid a \$5 show up fee. A session is composed of two sign up times, twenty minutes apart. The first group is composed of first-movers, the second of second-movers. Note that random assignment between these groups was not necessary, since the comparison will be between followers. Subjects are received in a lobby, where they are asked to sign a consent form with the experimenter’s contact information as well as that of the Committee on the Use of Human Subjects in Research at Harvard University. Once all subjects finish filling out the consent forms, they draw a piece of paper and a key. The paper assigns them to their cubicles, while it is explained to them that the key opens a personal locker in a private room where they would pick up the payment at the end of the session.

First-movers and second-movers are in separate rooms. Each room has twelve cubicles, and 15 slots are offered per room during recruitment to account for attrition. Once seated, the introductory instructions are read out loud. The introductory instructions explain that they will divide ten dollars between themselves and a charity, and can be found in Supplementary Materials B.

All subjects are endowed with \$10 and asked how much they would like to allocate to a charity. The charity they divided the money with is the East Africa Food Crisis Relief Fund of Save the Children, addressing a drought in East Africa. We purposefully chose a charity that for subjects was remote geographically and addressed a temporary problem. Doing so allows us to rule out behavioral motivations that are indirectly self-interested. For example, if subjects were playing a public goods game and acted cooperatively, they may be doing so out of reciprocity or gratitude.

Although some subjects will see others’ contributions, the identity of the contributor is anonymous. By separating first- and second-movers into different rooms starting at different times, we were able to keep contributions anonymous to other subjects. We further assigned them an identifier randomly and paid them via numbered lockers in a private room, with the objective of keeping contributions anonymous to the experimenter.

The introductory instructions also made it clear that their decisions were anonymous, and they would not be asked for their name at any point on the computer prompts. The instructions avoid

using words that would lead to desirability bias, such as ‘leadership’, ‘followership’ or ‘influence’, and associated words.

First-movers decide how much to contribute first, and then second-movers make their decision. What we will vary across second-movers is *when* they see the contribution of the first-mover, and who sees the amount contributed.

Before making their contribution, second-movers are asked to play the first part of a ‘guessing game’, in which they are asked to predict how much a first-mover gives if he knows that a second-mover will see the contribution before making her own contribution. Subjects are told that they are incentivized for accuracy. The guessing game is pre-treatment: subjects’ instructions differ only after this part of the guessing game is finished.

Second-movers are randomly assigned to one of three treatments. In the *private and uninformed (PrU)* treatment, second-movers make a decision without knowing what the first-movers contributed, and without any subject knowing what they contributed. Second-movers will end up seeing what their matched first-mover contributed, but only after the second-mover makes her own contribution. In the other two treatments, which we call the ‘Follow treatments’, the second-mover makes a decision after observing the first-mover’s contribution. In the *private and informed (PrI)* condition, no participant will see what the second-mover gave. In the *public and informed (PuI)* condition, the second-mover knows that an audience will observe the contributions of her own and her matched first-mover. The second-mover knows that the audience is composed of three other first-movers who had no more contributions to make. To highlight the second-mover’s sense of being judged by the audience, she was told that the audience had guessed how much she would contribute given the matched first-mover’s contribution.

To be more specific, second-movers are told that they are making a decision in a scenario with four stages. In the first stage, the first-mover decides how to divide his ten dollars between himself and Save the Children. In the second stage, second-movers are asked to guess how much the first-mover gave. In the third stage, the second-mover makes a decision of their own of how to divide their ten dollars between themselves and Save the Children. Depending on their treatment, they are told whether they will know what their first-mover gave. In the fourth stage, only subjects in the public and informed condition are told that three first-movers other than the one whose contribution they saw had guessed what their choices would be and would be informed of that choice. Other than that exception, subjects were told that no one will know what they gave, and that no one will make any further decisions.

The prediction of what the first-mover did was framed as part of a ‘guessing game’ that would continue after the second-mover made his choice. They were told that the person with the closest guess to what subjects did on average won an extra five dollars.

Once the second-movers made their contribution decision, they had to guess how much people in different scenarios gave to Save the Children on average. For purposes of the instructions, it was explained when the first and second-movers made their choice and what each player learned about the other player. The first-mover was described as ‘Mr 1’ and the second-mover as ‘Mr 2’. Although this is not gender-neutral, it made keeping track of who we were referring to in the text easier. We tried a gender-neutral version in the pilot, but in the debriefing session subjects had a hard time with comprehension. We also avoided assigning different genders to different roles to avoid gender stereotypes affect subjects’ guesses.

We included a questionnaire screen after the guessing game instructions. After they answered the questionnaire, a screen with the answers would appear, specifying which questions they answered correctly or incorrectly. From there, they would see the original instructions one last time before moving on.

Subjects were asked to guess what second-movers contributed after seeing what the first-mover contributed, for each integer amount between 0 and 10 dollars that the first-mover could have contributed. They were also asked to guess what a second-mover would do if she contributed without seeing what a first-mover contributed, and with no one seeing what she contributed. We asked this question in two ways. We asked the second-mover’s contribution if she saw the first-mover’s contribution after her own contribution (as in the private and informed condition), and if she did not see the first-mover’s contribution at all. After they had made their guesses, they were asked to make guesses about what others had guessed, for each of the scenarios we described. These guesses of others’ guesses were meant to get at what subjects thought others thought subjects did on average.

After the guessing game, second-movers are asked two types of questions. The first type are sociodemographic questions (including age, gender, education). We also asked about experience with past experiments and familiarity with Save the Children. The second are personality questions. Some of these questions ask about past experiences of leadership positions, such as being the captain of a team, being the oldest brother or having children. Other questions were taken from the psychology literature on leadership. Questions front the Machiavellianism instrument (Christie and Geis (1970), used in Gunnthorsdottir et al. (2002)), the modified Machiavellianism instrument

(Dahling et al., 2009), the leader behavior description questionnaire (Stogdill and Coons, 1957) and the multifactor leadership questionnaire (Avolio and Bass, 1995) were used.

Finally, second-movers filled out an exit survey that asked open questions about what was going through their minds when they were making the decisions and playing the guessing game.