



Participation of charity beneficiaries

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ABSTRACT

Anecdotal evidence suggests that involving beneficiaries in charity decision-making ensures better governance processes. This paper provides the first experimental test of the effects of beneficiaries' participation in the decision of how to spend a charity's funds. We consider four different mechanisms for choosing the funds destination: delegating the decision to the group leader, deciding through a public discussion, voting (one-head-one-vote), and weighted voting. We test the effectiveness of these mechanisms through an artefactual field experiment in a South African slum. We show that beneficiaries' participation entails significantly higher contribution levels with respect to a control treatment where the decision is exogenous. Contributions are greater when the group delegates to the leader with respect to discussion and both types of voting. We examine possible implications and best practices for charities. Overall, our results highlight that beneficiaries' involvement improves commitment, but the results depend strictly on the form of participation adopted.

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1. Introduction

Charitable giving is a pervasive phenomenon that persists through good and bad economic times (List, 2011), and it has become a subject of growing interest in economic research. However, donors are typically considered the most important stakeholders in research on charities, and an extensive analysis of the role of beneficiaries still needs to be carried out. In particular, the effect of the participation of beneficiaries in the decision-making process of a charity has so far been almost entirely neglected. The literature on beneficiaries' participation is scarce, but the few works available agree on the potential benefits of their involvement in a charity's decision-making. A very relevant contribution is from Simmons and Birchall (2005), who claim that beneficiaries' participation improves charity performance by producing better-informed decisions and by ensuring that resources are used to meet beneficiaries' priorities. Wellens and Jegers (2011) suggest that implementing participatory governance mechanisms helps across several dimensions: obtaining better services, achieving organizational goals, increasing legitimacy, enhancing decision-making, and improving the understanding of the needs of beneficiaries. In a similar vein, Rathgeb Smith (2010) argues that implementing participatory mechanisms could improve program sustainability and organizational performance. Finally, Hyndman and Jones (2011) posit that the involvement of beneficiaries can encourage a much sharper focus in the charity and guard against the danger of mission drift.

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Collecting and using beneficiary feedback has allowed pursuing significant advancements in effectiveness in the domain of education and health care (Twersky et al., 2013). The experience of YouthTruth, an initiative that has funded efforts to solicit students' voice in domestic education, shows that creating a culture in which student voice is valued increases commitment: better student experiences—as reflected by selected student perceptions—have been associated with more positive academic outcomes. Another example is represented by “patient-centered” health care, which was increasingly implemented after the publication of the Institute of Medicine report in 2010 that stressed the importance of “ensuring that patient values guide all clinical decisions”. Consequently, effort was devoted to improve patient experiences, which were shown to be directly related to better health outcomes. When patients have good communication with providers, and when they understand treatment options and feel that they have some say in their own care, they are more likely to follow a treatment regimen and improve their health. As emphasized by Twersky et al. (2013), in bypassing the beneficiaries' voice charities miss the chance to make them feel empowered and take responsibility for maintenance of the project. By testing whether and how participation changes beneficiaries' commitment, this paper focuses specifically on this aspect.

A context that presents several traits in common with beneficiaries' participation is direct democracy of local and regional governments making decisions over taxes. Studies such as Feld and Kirchgässner (2001) argue that direct democracy tends to be associated with sounder public finances, better economic performance and higher satisfaction of citizens. Geschwind and Roesel (2021) observe that, in forms of direct democracy like town meetings, citizens are inclined to deliver policies for the many and not for special interest groups, choosing measures that are more tailored to the local needs.

Further interesting findings on the effects of participation arise from the domain of development policy, where the attention to community-based and/or community-driven projects has grown incredibly in the last two decades, mainly due to the idea that involving funds recipients can create “a closer connection between development aid and its intended beneficiaries” (Mansuri and Rao, 2012, p. 21). Such connections appear to be effective because they exploit social ties and the potential for peer monitoring and social pressure within the recipient community (*ibidem*). Applying these insights to philanthropic interventions opens the way to increasing the engagement of beneficiaries in exerting voice and control over how the collected funds are spent and to developing stronger participation and accountability (Connolly and Hyndman, 2017). In this way, the participation mechanism is also likely to foster long-term maintenance of projects that are financed through the charity, thus increasing both the extent and duration of its social returns. Voors et al. (2018) find that local elites, if compared to randomly selected villagers, are better managers of participatory development projects, resulting in a higher number of hours villagers reported working on the project, an increase in overall satisfaction of villagers with the project, and a favorable change in attitudes towards the implementing NGO.

In a related vein, we study the effects of participation on beneficiaries' commitment to the charity project, that we measure through subjects' contribution levels in a Voluntary Contribution Mechanism framework as common in the experimental literature (e.g., Sutter et al., 2010). The peculiarity of our design is that the same subjects are charity beneficiaries (since they receive a donation), but also donors in a public good that is used to capture their commitment to the investment made with the money received. Our setup thus shares features that typically characterize participants in “impure” public goods (Cornes and Sandler, 1984), and presents similarities with Balafoutas et al. (2013), where participants decide about how to redistribute the benefits from a public good. We provide a capillary survey on subjects' socio-demographic characteristics, living conditions, participation in the everyday life of the group, and indicators of social capital, together with very detailed information on the groups' features (mission, frequency of interactions, start date, etc.) and test for possible heterogeneity effects of individual and group characteristics.

Our paper provides the first experimental test of the effects of beneficiaries' participation in the decision of how to spend a charity's funds. We consider four different mechanisms for choosing the funds destination out of a list of three alternatives. The four mechanisms are *a*) the choice is delegated to the group leader; *b*) the group decides after a public discussion; *c*) group members vote privately about the destination they prefer (with two possible ways of weighting votes: a “one-head-one-vote” system, or a weighted vote system where the weights are the contribution levels of each group member). Our mechanisms entail forms of participation that are characterized by different levels of agency. When the leader decides, the power of the decision is concentrated in the hands of one person, who is delegated from the group. By reducing conflict and coordination problems, an effective leader may guide the group through a more efficient use of resources. On the other hand, in the more “participative” forms of decision (Discussion and Voting), all subjects have the chance to influence the decision, but coordination issues and conflict may arise undermining the efficiency of the entire process.

The effectiveness of these mechanisms is tested through an artefactual field (or lab-in-the-field) experiment (Harrison and List, 2004) that enrolls participants living in deprived conditions in a South African slum and who belong to naturally occurring groups.

Using a lab-in-the-field experiment is essential to our purposes. Indeed, our goal is to detect the effects of participation in a controlled environment. Laboratory experiments, where group members are strangers who meet in the experimental session only and then divide the earnings at the end of the experiment, do not represent the most appropriate setting for this purpose. In contrast, in a lab-in-the-field experiment, we can use naturally existing groups who will actually invest the amounts provided by the charity into a project of their choice.

Our results show that the level of contribution is significantly higher when the group members participate in the choice of funds destination with respect to a control in which this choice is imposed exogenously. In particular, contribution increases when the group delegates the decision to the leader with respect to the other mechanisms (discussion, one-head-one-vote, weighted vote), which exhibit no significant differences between each other in this respect. The analysis of sub-

jects' beliefs suggests that, while the Leader condition is effective in raising cooperation *per se*, cooperation levels in the Discussion and Voting conditions are high only when expectations on peers' contributions are high. We discuss possible implications and best practices for charities' engagement of beneficiaries and intervention effectiveness.

The rest of the paper is structured as follows. In [Section 2](#), we briefly review the literature, while in [Section 3](#), we describe the experiment, both in its design and its procedure. [Section 4](#) reports the results of the experiment. In [Section 5](#), we discuss possible implications and provide our conclusions.

2. Related literature

This paper is related to the strand of experimental literature that studies the impact of endogenous institutional choice on individual behavior in social dilemma situations.¹ This literature shows that people exhibit preferences not only over outcomes but also over procedural features, such as the institution where they operate and its mechanisms and characteristics. Among others, [Hansson \(1996\)](#) argues that these “procedural features” are likely to affect individuals' levels of effort and commitment to the institution itself.

Various experimental works have shown that direct participation in an institution's choices is associated with higher contribution levels (e.g., [Frey et al., 2004](#); [Tyran and Feld, 2006](#)). Similar results have also been observed when subjects decide not about the institution itself but about specific features of the institution, such as the preferred contract design ([Brandts et al., 2016](#)) or the mechanisms to enforce cooperation ([Ertan et al., 2009](#); [Sutter et al., 2010](#); [Botelho et al., 2019](#)), rather than being constrained by exogenous, predetermined rules. Participation entails higher commitment because of the “democracy participation rights premium” that arises when an institution is introduced by an endogenous decision stemming from the group members rather than being imposed exogenously ([Sutter et al., 2010](#)).

In the context of social dilemmas, since the seminal work by [Ostrom \(1990\)](#) and [Ostrom et al. \(1994\)](#) on the design of cooperative institutions governed by the resource users, the benefits of participation in deciding on the appropriation and provision rules in Common Pool Resources has been largely discussed. Ostrom's work suggests that communities can cooperate to self-manage limited common pool resources in a way that benefits all community members and leads to the sustainability of the resource.

[Dal Bò et al. \(2010\)](#) consider subjects participating in prisoners' dilemma games who may choose, by simple majority, to establish a policy that could encourage cooperation. The policy could emerge endogenously (being democratically chosen by the subjects) or exogenously (being randomly chosen by the computer). The results show that effect of the policy on the percentage of cooperative actions was significantly higher when democratically chosen than when imposed by the computer.

Other works investigate the value of keeping control of tasks, such as selecting a favorite project (e.g., [Fehr et al., 2013](#)), answering a quiz ([Owens et al., 2014](#)), or choosing the correct option in a test leading to potential losses or gains ([Bobadilla-Suarez et al., 2017](#)). Also in this context, the literature confirms the finding that people are willing to pay to retain decision-making power.

A few recent works (e.g., [Font et al., 2015](#); [Landwehr and Harms, 2019](#); [Harms and Landwehr, 2020](#)) highlight the relevance of two categories of motives in shaping the preferences for an institution or mechanism: the expected personal gain associated with a procedure (instrumental motive) and the intrinsic value of having a decision right (intrinsic motive).² We label both categories as “self-centered” because each is related to reasons for preferring a mechanism or an institution independently of what they expect peers to do. Among instrumental motives, a fundamental reason why people prefer a certain institution is that they expect it will entail a more efficient use of resources.

An alternative explanation shifts the perspective from the individual's own benefit to peers' behavior (e.g., [Dal Bò et al., 2010](#)): an endogenous choice or modification of the institution gives subjects information about what their peers agreed upon and, in turn, this affects their preferences (belief-based motive). In other words, in the belief-based motive, the institution affects subjects' beliefs about their peers' commitment to the institution and ultimately shapes their own.

Our contribution to this literature is threefold. First, to the best of our knowledge, there is no previous experimental work addressing the role of endogenizing the decision on group funds destination. Second, our investigation not only allows us to determine whether making the choice endogenous is effective in raising beneficiaries' contributions, but it also offers some insights into the role of self-centered versus belief-based motives.³ Third, we provide the first comparison of four mechanisms entailing different forms of participation: voting (with two ways of weighting votes), delegation to the leader, and face-to-face discussion.

In the literature mentioned above, the institutional choice is typically made by asking group members to vote privately. Voting procedures have been intensively studied in the context of jury decisions (e.g., [Goeree and Yariv, 2011](#)) or in teams' collective action (e.g., [Auerswald et al., 2018](#)). We compare the effect of choosing the destination of funds through voting with other decision mechanisms. In this respect, we attempt to disentangle the self-centered motive from the belief-based one by introducing a second voting mechanism, in which the weight associated with each subject's vote is proportional to

¹ See [Dannenbergh and Gallier \(2019\)](#) for an excellent review.

² An important contribution about the intrinsic value of holding a decision right is the paper by [Bartling et al. \(2014\)](#).

³ Participation can also have a self-selection effect (see, e.g., [Dal Bò et al., 2010](#); [Gallier, 2020](#)): people can choose the institution they prefer, with unobservable factors explaining both the decisions made and the responses to decisions. Since our subjects cannot decide between participating or not, but take decisions in a set of situations where the form of participation varies from absent to direct, this work abstracts from the self-selection effect.

the amount they contributed, rather than being equal across individuals (one-head-one-vote weight). In this case, higher contribution levels would be associated with a stronger willingness to influence the voting outcome, thus providing support in favor of the self-centered motive.

While voting is the classic mechanism of direct democratic decision-making, delegation to representatives is typical of indirect democracies. Accordingly, we consider a second mechanism in which the decision on the allocation of funds is delegated to the group leader. In experimental games, delegating typically translates into assigning the decision right to an interested party, to a third party, or to a non-human device. The experimental evidence on the effect of delegation on prosocial behavior is mixed: [Charness et al. \(2012\)](#) show that delegating wage choice to employees significantly increases effort levels, providing evidence in favor of delegation entailing an increase of responsibility. However, delegation can also be associated with lower levels of generosity when delegation allows for a responsibility shift ([Bartling and Fischbacher, 2012](#)). A series of experimental articles on “leadership by example” show that leadership significantly raises the average contribution, where the leader's behavior acts as a signal for the other group members (e.g., [Gueth et al., 2007](#); [Brandts et al., 2015](#)). [Potters et al. \(2007\)](#) find that leading by example is beneficial when the leader has private information about the returns of the public good. In this respect, an important channel through which leadership decreases free-riding behavior is thus information provision. Indeed, in real-life settings, the leader might be better informed or equipped with more adequate skills to make the “right” decision than other group members who are likely to have less information ([Komai et al., 2007](#)). Alternatively, better accomplishments could depend on leaders having the authority to achieve coordination amongst people ([Woods, 2016](#)) and to guarantee that people stick to the agreement previously made. People may be more committed in the presence of a leader because of instrumental reasons related to higher efficiency. In this respect, whether the leadership is distributed or centralized has been shown to affect leader effectiveness ([Jones, 2014](#)). Together with the many benefits associated to distributed leadership⁴ (such as group cohesion and group members' satisfaction), some researchers have suggested it can negatively affect group outcomes. As [Hargreaves and Fink \(2006\)](#) point out, distributed patterns of leadership are often just “bad leadership”, and contribute to inefficiencies within the group. We exploit the information we collect about the leadership style of each group to test whether a positive effect of leadership on group members' commitment may derive from expectations about efficiency as affected by the leadership style that characterizes each group.

Note that often in experimental games, the leadership position is assigned exogenously, for example after a random selection among the subjects. In contrast to these studies, we do not assign the leadership role; rather, we use naturally existing groups with their own leaders. Therefore, our paper is more in line with endogenous forms of leadership, such as those emerging from electoral voting or volunteering. Electoral selection of leaders has been shown to lead to higher cooperation levels because groups elect prosocial leaders and replace those who do not implement full contribution outcomes ([Hamman et al., 2011](#)). In public goods games where group members volunteer to act as leaders—e.g., contribute before the other members—contributions are significantly higher ([Rivas and Sutter, 2011](#)).

Finally, we consider a decision mechanism that is frequently used in real-life groups—i.e., face-to-face discussion among group members. In general, communication has been shown to enhance cooperation strongly ([Ledyard, 1995](#)), even in the form of “cheap talk” ([Zelmer, 2003](#)), but particularly when it is specifically “dealing with the problem at hand” ([Chaudhuri, 2011](#), p.48). [Ostrom and Walker \(1991\)](#) show that, although arranging the institution for communication was costly and could create a barrier, groups succeeded in providing it and this significantly improved the efficiency of resource allocation decisions. We contribute to this literature by considering one specific type of communication, namely face-to-face communication”. In face-to-face communication, participants meet physically and communicate verbally with each other ([Brandts et al., 2019](#)). Despite experiments on within-group communication being abundant (e.g., [Charness, 2000](#); [Brandts et al., 2016](#)), face-to-face discussion has rarely been considered in economic experiments. The psychological literature shows that face-to-face discussion increases cooperative behavior in social dilemmas if group members perceive a certain consensus among peers on how to respond to the dilemma ([Bouas and Komorita, 1996](#)). [Kerr et al. \(1997\)](#) posit that group discussion may increase cooperative behavior because the members honor the commitments made during the discussion. Some works have shown that the main reason driving the cooperative behavior is the willingness not to violate internal norms, being afraid of the social consequences of violating them. Since the seminal work by [Isaac and Walker \(1988a, 1988b\)](#), various papers in the domain of experimental economics have studied face-to-face communication in coordination games, finding support for its effectiveness in raising efficiency and cooperation. [Brosig et al. \(2003\)](#) suggest that the effectiveness of face-to-face communication may be due to cues from facial expression, tone of voice, body language, and removal of anonymity. Relatedly, [Bochet et al. \(2006\)](#) found that face-to-face communication has very strong effects on cooperation, showing that pre-play face-to-face communication increased contributions far more than opportunities to sanction, at a point that adding sanction opportunities to it led to no further improvements. To the best of our knowledge, our paper is the first study that introduces face-to-face discussion as a means of deciding how to spend group funds ([Brandts et al., 2019](#)).

The literature presented in this section suggests that endogenizing the choice about funds destination by allowing for agents' participation should have a positive effect on contribution levels with respect to an exogenous decision. Nonetheless, the studies discussed above do not indicate a clear prediction on which of the decision mechanisms entails higher contribution levels. If the papers described above emphasize a positive effect of delegating a choice to a leader with re-

⁴ The expression “distributed leadership” is used to describe any form of devolved, shared or dispersed leadership practice ([Harris, 2007](#)).

spect to operating in a decentralized manner, other works show the benefits of more direct forms of participation. Among them, [Olken \(2010\)](#) contrasts direct and indirect democratic decision-making processes. He finds that direct participation in political decision-making increases the satisfaction of participants with respect to a representative system, even when the outcome is the same. [Tyran and Mechtenberg \(2016\)](#) show that subjects' willingness to acquire costly information is higher after the group actively demands to make the decision by voting instead of delegating to an expert. In a similar vein, [Towfigh et al. \(2016\)](#) find that voters are more likely to accept decisions made by their representatives if the issue at hand is of minor importance to them personally; conversely, the more they care about a topic, the more they favor direct democratic procedures.

A further reason why people may favor more direct forms of participation relies on the possibility of exploiting the community knowledge or “wisdom of the crowd” ([Surowiecki, 2004](#)). Social groups can be remarkably smart and knowledgeable when their averaged judgements are compared to the judgements of individuals: this wisdom of crowd effect has been supported by examples from stock markets, political elections, and quiz shows. However, even mild social influence can undermine the wisdom of crowd effect in simple estimation tasks ([Lorenz et al., 2011](#)). In this respect, we consider two mechanisms where the “crowd” (namely, the group) decides, but with different degrees of social influence (potentially high in the discussion, null in the private voting). Our experimental investigation thus contributes to a rigorous understanding of a phenomenon of interest where the empirical evidence is largely mixed.

3. The experiment

3.1. Experimental design

The experiment consists of a one-shot, simultaneous, within-subjects pen-and-paper game employing a Voluntary Contribution Mechanism. The groups participating to the experiment were recruited with the help of a local NGO, which was engaged in a set of prosocial activities, namely projects and interventions aimed at improving the well-being of the local population and, as such, had relationship with the groups in the area.⁵ When arranging the time and the venue of the experimental sessions, the groups were informed that, conditional to showing up, each group would receive a specified amount of funds, to be used to buy a good or a service for the group's sake. To allow comparability across groups of different size, this amount was computed as 50 rands (corresponding roughly to U.S. \$15, 2014 PPP.) multiplied by the number of group members.⁶ The NGO also asked groups' chairpersons (leaders) to identify three goods or services the group could benefit from. Groups provided this information at the beginning of the session; the experimenters recalled it in front of all subjects at the beginning of the experiment.

The experiment lasted about two hours and a half and consisted of two phases. In Phase 1, subjects answered two questionnaires. Questionnaire A contained socio-demographic questions, while Questionnaire B was focused on the subject's relationship with the group and the township community, and on measures of social capital.⁷

In Phase 2, on top of the money the experimenters gave to the group, each subject received an individual endowment of 50 rands. Each subject was presented with five conditions. Each subject had to decide how many rands she wanted to keep for herself and how many rands she wanted to donate to the group in each condition.

The experimental conditions differ with respect of the mechanism for choosing what to buy with the funds. These are: (a) decision delegated to the group leader (“Leader” condition); (b) decision made by the group members through a face-to-face discussion (“Discussion” condition); (c) decision made by the group members' through private voting with a one-head-one-vote weight (“One-Vote” condition); (d) decision made by the group members' through private voting, where votes are weighted with the contribution level of the voter (“Weighted-Vote” condition). Our design includes also a control condition where the choice was exogenous and made by the NGO (“Control” condition). The NGO had ongoing relationships with the groups and was expected to be aware of each group's characteristics and needs, and so to make an efficient decision about the funds usage.

The order of the five conditions was randomized across sessions and each condition was played without disclosing the information on subjects' contributions and beliefs of the previous ones, following a procedure that can be classified as a “strategy method” ([Mitzkewitz and Nagel, 1993](#)). To assure anonymity, participants wrote their contributions choices in their decision sheet and immediately handed it to the experimenter or to the facilitators.

Right after making their contribution decision in each condition, subjects had to assess their belief on the average contribution level of the group in *that* condition. This belief elicitation was incentivized using the binarized scoring rule (BSR) introduced in [Hossain and Okui \(2013\)](#): each subject submits a guess for the average contribution of the other participants in the group. With the help of a computer, we calculated the squared error between the guess and the actual average and randomly draw a number, R , uniformly from the interval $[0, V]$. If the squared error was lower or equal than V , the subject received a fixed prize of 10 rands; otherwise, he/she received zero rands. Since this mechanism could be cumbersome for experimental subjects, the experimenters provided a further verbal, non-quantitative description during the sessions. This

⁵ A variable capturing the degree of involvement of each group in the NGO's prosocial activities has been used as a control, see [Table 7](#).

⁶ To prevent groups inflating the number of components, subjects were not made aware of the way the specific amount of money was calculated.

⁷ For details about the questionnaires, see [Appendix B](#).

Table 1
Groups' characteristics.

Session	Group name	Location of activities	Mission	Frequency of group meetings	Leadership and cohesion	Good/service chosen	Size
1	Ikamva Peace Marker	Philippi, Samora Machel, Kosovo and Sweet Home	Neighborhood watching (especially children when entering/exiting from school)	Monthly, the group has everyday activities	Distributed leadership, very cohesive group	Flashlights	29
2	Tsoga center Volunteers	Samora Machel	Social workers, youth group employed with grant from the Youth National Agency to do social activities from the community	Monthly, the group has everyday activities	Group members are selected by public call and get access to a subsidy to work for the community. Members change frequently. Leadership is centralized. The leader is in charge of coordination and is not chosen by the group.	Kitchen soup	27
3	Iqhayiya FM Radio Station	Samora Machel	Community radio	Monthly, the group has everyday activities	Distributed leadership, very cohesive group	Rent payment for the radio site	19
4	Khanyisa Youth Development	Samora Machel	Awareness and education activities in the community	Monthly	Centralized leadership	T-shirts with the group logo	21
5	Orlando Pirates Samora Machel Branch	Samora Machel	Orlando football team supporters	Depends on football matches	Distributed leadership, very cohesive group	Supporters' trip to Johannesburg	32

additional explanation has been shown in [Danz et al. \(2020\)](#) to help collecting accurate responses more than providing quantitative information.

3.2. Experimental procedure

The experimental sessions were run in the slum of Philippi, a large semi-urban area in the Western Cape, South Africa, in two different locations: the Tsoga Center in Samora Machel and the Beautiful Gate. We recruited 129 subjects who were part of five groups: group size ranged from 19 to 33 people. The subjects of each group shared mutual interests and activities: volunteers engaged in neighborhood watching or in education activities, social workers, youth involved in radio broadcasts, sports team supporters. Groups' characteristics (mission, location, frequency of meetings, type of leadership and degree of cohesion, good/service chosen at the end of the experiment, size of the group) are briefly described in [Table 1](#).

Before the experiment, three of the facilitators translated the instructions, the surveys and the material into local language (Xhosa). At the beginning of the experiment, participants were welcomed, assigned an identification number on a random basis and took a seat in the room. Subjects were asked to sign a consent form, which clarified that all submitted decisions were anonymous and that the experimenters were not able to associate their name with the identification number that was reported in the questionnaires and in any decision sheet. Each group's leader presented himself or herself as the "chairperson" of the group while giving a brief presentation of the group history and activities before the session started. This made him or her easily identifiable by the experimenters.

The experimenter read aloud the instructions in English. One facilitator repeated them in the local language, Xhosa. When necessary, the same mechanism was used to answer clarification questions publicly and in private. Communication among participants during the experiment was strictly forbidden.

After completing the questionnaires in Phase 1, participants received a sheet containing detailed instructions of Phase 2 and had to decide how many of the 50 rands they received as individual endowment they wanted to keep for themselves and how many they wanted to contribute to a public account to buy the good/service for the group.

As already explained in the previous subsection, participants had to make a choice on their contribution levels in five conditions. After all the participants had made their choices, only one condition – randomly selected by one of the subjects rolling a dice in front of others – was actually implemented. When the Leader condition was implemented, the experimenters asked the group leader to choose the good (or service) among the three indicated. When the Voting conditions

Table 2
Summary statistics of the experimental subject pool.

Description	Variable	Obs	Mean	Std Dev	Min	Max
Socio – demographic						
Age*	<i>Age</i>	120	33.75	12.26	18	70
Female*	<i>Female</i>	124	.51	.50	0	1
High educational level	<i>High_edu</i>	129	.12	.33	0	1
No formal earning	<i>No_wage</i>	129	.15	.36	0	1
Poor housing conditions	<i>Poor_housing</i>	129	.75	.44	0	1
Involvement in the community						
Reliance on the community	<i>Community reliance</i>	129	2.71	1.28	0	4
Involvement in the community	<i>Community involvement</i>	129	2.19	1.11	0	4
Time spent in the community	<i>Time spent in community</i>	129	2.35	1.67	0	4
Community like a family	<i>Community like a family</i>	129	.16	.36	0	1
Closest neighbors like a family	<i>Closest neighbors as family</i>	129	.41	.49	0	1
Values						
Trust in other people	<i>Trust</i>	129	.43	.49	0	1
Importance of determination	<i>Determination</i>	129	.23	.42	0	1
Importance of hard work	<i>Hardwork</i>	129	.37	.48	0	1
Importance of responsibility	<i>Responsibility</i>	129	.16	.37	0	1
Importance of saving	<i>Saving</i>	129	.15	.36	0	1
Importance of unselfishness	<i>Unselfishness</i>	129	.12	.33	0	1
Importance of good manners	<i>Goodmanners</i>	129	.52	.50	0	1
Importance of imagination	<i>Imagination</i>	129	.06	.24	0	1
Importance of independence	<i>Independence</i>	129	.28	.45	0	1
Importance of obedience	<i>Obedience</i>	129	.14	.36	0	1
Importance of faith	<i>Faith</i>	129	.19	.39	0	1
Importance of tolerance	<i>Tolerance</i>	129	.21	.41	0	1
Group Features						
Involvement in the NGO's activities	<i>Involvement_NGO</i>	5	1.83	1.49	0	4
Low cohesion	<i>Low cohesion</i>	5	0.30	0.46	0	1
Distributed leadership	<i>Distributed leadership</i>	5	0.60	0.48	0	1
Group with altruistic mission	<i>Altruistic</i>	5	0.40	0.52	0	1
Group size	<i>Group size</i>	5	26.90	6.05	17	34
Group with daily activities	<i>Everyday meetings</i>	5	0.40	0.52	0	1

*Nine subjects did not report their age, five subjects did not report their gender (three overlaps).

were implemented, the facilitators provided subjects with a sheet of paper where they could pick the good they preferred among the three options reported: in the One-Vote condition, the good was identified as the one that received more votes. In the Weighted-Vote condition, the experimenters used a simple algorithm that weighted each subject's vote with her contributed amount. When the Discussion condition was implemented, the experimenters let the group members' discuss freely about the good to select, asking them to find an agreement in 20 min at maximum.

Before proceeding to final payments, the experimenter read aloud the aggregate amount contributed by the whole group so that the specific contribution of each member was not recognizable. This communication was translated in Xhosa by one of the facilitators. In all the conditions, the experimenter publicly gave an envelope containing the money to the leader of the group. Then, private payments in opaque envelopes were carried out after calling subjects one at a time. The average individual earnings was about 41 rands, corresponding to roughly to U.S. \$12.3.

4. Results

In this section, we first present the main characteristics of the sample; then, we analyze the data using both non-parametric tests and regression analysis.

4.1. Main characteristics of the sample

All subjects in our sample belong to the Xhosa ethnic group (Black African). As shown in Table 2 below, the gender distribution is fairly balanced, having about 51% of women. Participants are heterogeneous for their age, ranging from 18 to 70 and an average of 34. About 12% has completed at least Grade 12 (high school). Only 14.7% of subjects could rely on a formal source of income; low income translates into very poor housing conditions, affecting the 74.4% of subjects.

Various questions on behavior and community life (where the community refers to other people living in the Philippi slum), have been set in a 0–4 range of integer numbers (with 0 corresponding to Never, 1 to Seldom, 2 to Sometimes, 3 to Often, and 4 to Everyday). Reliance on the community (measured as the frequency of asking other community members' opinion before taking decisions) is 2.7 on average. The average involvement in the community (measured as the frequency for other community members of asking the subject's opinion before taking decisions) is 2.1. Time spent in the community is measured as the frequency with which the subject chats, talks and spends time with other people of the community and

Table 3
Average contribution levels⁺.

Statistics	(a) Control	(b) Leader	(c) Discussion	(d) One-vote	(e) Weighted-vote
Average	3.10	14.55	8.26	8.70	7.94
Standard error	7.55	1.67	1.35	1.42	1.30
Min	0	0	0	0	0
Max	50	50	50	50	50
Obs	100*	129	129	129	129

* One session was run without Control condition due to technical problems. Observations are thus 616 instead of 645.

⁺ Monetary values in units of local currency (rands).

is on average equal to 2.3, with 39% of subjects spending time in the community every day and 19% every week. Only 16% of subjects consider their community like a family, but 41% of them consider their closest neighbors like a family.

Despite a relevant sense of neighborhood and community, the majority of subjects showed low levels of general trust: about 57% distrust other people and are very careful when approaching them.⁸ Since this measure may also capture individual trustworthiness, and not just the belief that others can be trusted (Glaeser et al., 2000), we also asked subjects which qualities they believed children should learn at home.⁹ The traits recognized as most valuable by the participants were good manners, hard work, independence, tolerance and faith, whereas obedience, determination, responsibility, savings, unselfishness and imagination appeared to be at the bottom of the participants' priorities. Since these measures of social capital may be positively correlated with cooperation levels and show a "cross-situational consistency" of prosocial behavior (e.g. Bouma et al. 2008, p. 157), they will be used as controls when testing the effectiveness of our treatments.

With regard to group features, the NGO provided some basic information on groups' involvement in the NGO's prosocial activities, namely projects and interventions aimed at improving the well-being of the local population. This involvement was classified in a scale from 0 (no involvement in prosocial activities) to 4 (very high), and the average was a score of 1.83. In detail, out of five groups, two have an altruistic mission, two have daily meetings, three are have a form of leadership that can be defined as "distributed" leadership, and one group is characterized by a low level of cohesion.

4.2. Contribution levels

Table 3 summarizes the average contribution levels in the five conditions.

Contribution levels are significantly lower in the Control condition, where the choice about the funds destination is exogenous: the average level of contribution is 3.10 out of an endowment of 50 rands (column a). Participants contribute significantly more when the decision is delegated to the leader (the average level of contribution is 14.55, column b) than in the other three conditions: 8.26 (condition "Discussion", column c), 8.70 ("One-vote", column d), 7.94 ("Weighted-vote", column e). Using Wilcoxon matched-pairs signed-rank test, the differences between these treatments and the Control are statistically significant: $Z = 5.657$ ($p < 0.001$), $Z = 2.426$ ($p < 0.001$), $Z = 2.443$ ($p < 0.001$), respectively.¹⁰

Moreover, there is no significant difference between the contribution levels when the good is selected *via* public discussion rather than *via* both types of voting procedures (Wilcoxon matched-pairs signed-rank test on individual averages, with $Z = 0.151$, $p = 0.880$, $Z = 0.015$, $p = 0.988$, respectively). Similar results emerge when comparing the contribution levels with votes weighted per capita and votes weighted by the subject's level of contribution ($Z = 0.667$, $p = 0.505$, Wilcoxon matched-pairs signed-rank test).

Fig. 1, showing the frequency of contribution levels in the five conditions, highlights three main results.

First, there is a relevant percentage of free riding in each condition (represented by the percentage of zero donations). Nevertheless, delegating to the leader the decision on the funds destination implies a significant reduction in full free-riding choices with respect to the Control ($Z = -3.773$, $p < 0.001$, Wilcoxon matched-pairs signed-rank test), the Discussion ($Z = -3.413$, $p < 0.001$, Wilcoxon matched-pairs signed-rank test), the One-vote ($Z = -3.656$, $p < 0.001$, Wilcoxon matched-pairs signed-rank test) and the Weighted-Vote ($Z = -3.124$, $p < 0.001$, Wilcoxon matched-pairs signed-rank test) conditions.

Indeed, null contributions are the most frequent choice in the Control: participation determines an increase in positive contributions from the 22% of the Control to the 40% of both Voting conditions, 41% of the Discussion and 58% of the Leader condition. Considering only subjects who make strictly positive contributions, the average contribution is equal to 14.09 in the Control and rises to 20.17 in the Discussion, 21.60 in the One-vote, and 19.17 in the Weighted-vote, up to 25.03 in the Leader condition, and the differences are significant (Discussion vs. Control: $Z = 2.521$, $p = 0.012$; One-vote vs. Control:

⁸ To measure trust we consider the same question that has been used in to the World Values Survey (WVS)/General Social Survey (GSS): "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" (question 5.8 in Questionnaire B).

⁹ For a discussion on this point, see Tabellini (2010).

¹⁰ We calculate Romano and Wolf (2005)'s step-down adjusted p-values. The Romano-Wolf correction is considered more powerful than earlier multiple-testing procedures, such as the Bonferroni and Holm corrections, given that it takes into account the dependence structure of the test statistics by resampling from the original data. We use a recently updated correction that allows for clustered standard errors.

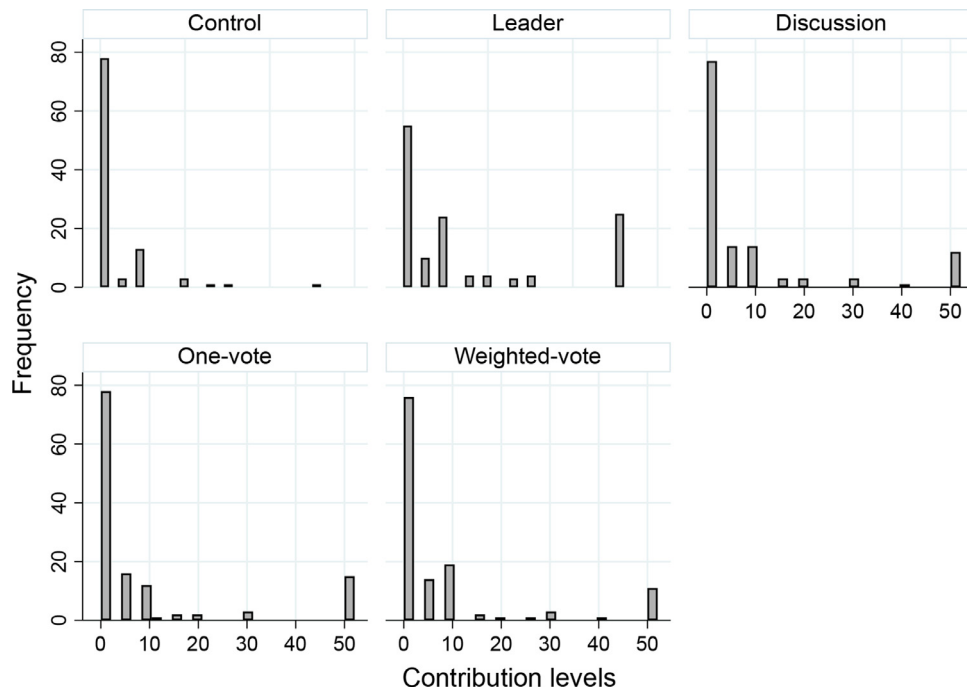


Fig. 1. Frequency of contribution levels.

$Z = 2.514$, $p = 0.012$; Weighted-vote vs. Control: $Z = 2.194$, $p = 0.028$; Leader vs. Control: $Z = 2.775$, $p = 0.005$, Wilcoxon matched-pairs signed-rank tests).

Secondly, participation into the funds decision raises full-contribution choices (50 rands): there are very few subjects contributing their whole endowment in the Control condition (1.0%), but this percentage increases across all the other conditions: 8.6% in the Weighted-vote conditions, 9.5% in the One-vote condition, 11.6% in the Discussion condition, reaching a peak of 19.4% in the Leader condition. The differences are significant (Weighted-vote vs. Control: $Z = 2.887$, $p = 0.003$; One-vote vs. Control: $Z = 3.500$, $p < 0.001$; Discussion vs. Control: $Z = 3.051$, $p = 0.002$; Leader vs. Control: $Z = 7.483$, $p < 0.001$, Wilcoxon matched-pairs signed-rank tests).

In sum, this preliminary descriptive evidence shows that beneficiaries' participation into the decision on the allocation of funds raises full-contribution choices and delegation to the leader causes a significant drop in full free-riding choices.

4.3. Beliefs on peers' behavior

The evidence provided above shows the effects on contribution of endogenizing the decision about funds destination, in particular when the choice is delegated to the leader, but it does not explain the mechanisms behind these increases of the average contribution levels. To explore them, we will analyze in Section 4.4 subjects' beliefs on peers' contributions. To this aim, in this subsection, we first show statistics on beliefs and on the correctness of group members' guesses, and explore the possible correlation between beliefs and contribution levels.

Table 4a shows the descriptive statistics about beliefs and enlightens that participation induces subjects to expect a large and significant increase in contributions with respect to the Control. Using Wilcoxon matched-pairs signed-rank tests, the differences between these treatments and the Control are statistically significant: $Z = 3.713$ ($p < 0.001$), $Z = 3.153$ ($p < 0.001$), $Z = 3.213$ ($p < 0.001$), $Z = 3.213$ ($p < 0.001$), respectively. Nonetheless, although contribution levels have been shown to be significantly higher in the Leader decision in Section 4.2 above, there is no significant difference between the beliefs in the Leader condition and the beliefs in the other participation conditions: $Z = 1.411$ ($p = 0.158$), $Z = 0.262$ ($p = 0.793$), $Z = 0.001$ ($p = 0.988$), respectively. The correlation between the beliefs and the contribution level is strong and significant in all the conditions, with particularly high coefficients in the Discussion and Voting Conditions (Spearman correlation test, with coefficient = 0.338, $p = 0.002$ in the Control, coefficient = 0.361, $p < 0.001$ in the Leader, coefficient = 0.590, $p < 0.001$ in the Discussion, coefficient = 0.563, $p < 0.001$ in the Voting, coefficient = 0.553, $p < 0.001$ in the Weighted-Voting). These results suggest that more direct forms of participation are associated to a stronger correlation between what subjects do and their expectations on peers, and not with higher contribution levels *per se*, while the Leader condition entails more commitment. This is probably due to the possibility to rely on the leader who guarantees with higher probability that the money is spent as decided and that collective agreements are respected.

Table 4

a: Beliefs in peers' contributions and correlation with contribution levels§.

Statistics	(a) Control	(b) Leader	(c) Discussion	(d) One-vote	(e) Weighted-vote
Average	1.86	5.58	4.77	5.95	5.58
Standard error	4.79	10.34	9.32	12.25	11.30
Min	0	0	0	0	0
Max	50	50	45	50	50
Spearman correlation coef.	0.338***	0.361***	0.590***	0.563***	0.553***
Obs	86	101	102	101	99

b: Distance between contribution levels and beliefs*+

Statistics	(a) Control	(b) Leader	(c) Discussion	(d) One-vote	(e) Weighted-vote
Average	1.28	6.12	2.97	2.00	1.84
Standard error	7.64	16.20	11.93	13.16	12.21
Min	−10	−20	−20	−45	−40
Max	50	50	45	45	45
Obs	86	101	102	101	99

§Several subjects in all the conditions failed to report their beliefs. Observations on beliefs are thus 489 instead of 616.

+As specified in Table 4a, we do not have the data of the Control condition in one session due to technical problems. Several subjects in all the conditions failed to report their beliefs. Observations on beliefs are thus 489 instead of 616.

*Distance is given by difference between the average contributions and the average beliefs in each condition.

*** $p < 0.001$.

Exploiting the information we collected about the groups' leadership style (see Table 1, sixth column), we observe that, in groups with a diffuse form of leadership, the distance between individuals' contribution levels in the Leader and in the Voting conditions is small (between 2 and 3 rands), while in groups with centralized forms of leadership this distance is significantly larger (between 10 and 11 rands, $Z = 7.483$, $p < 0.001$, Wilcoxon matched-pairs signed-rank tests). This evidence supports the interpretation that relatively higher contributions in the Leader condition are likely to be due to the expectations of higher efficiency, when leadership is centralized. In the similar context of a lab-in-the-field experiment with users of forest commons in Bolivia and Uganda, Andersson et al. (2020) document that participants' agreement can be significantly stronger in the presence of leaders who can help reduce the transaction costs related to the monitoring of users' compliance. The analysis below will provide some further suggestive evidence for understanding the rationale of this result.

For each decision, we measure subjects' correctness of beliefs on peers' contribution with the distance between the subject's incentivized guess and the actual average contribution made by the group in the same condition. In general, 68% of guesses are correct, whereas 20% of guesses underestimate the group's average contribution and a remaining 12% overestimate it. In terms of accuracy, there is a significantly smaller distance between beliefs and actual average contributions in the Control where free-riding behavior is pervasive, whereas the highest distance emerges in the Leader condition, where there is the lowest level of free-riding behavior. The details for each condition are reported in Table 4b.

Another interesting result is that individuals who cooperate more are the ones who expect their peers to contribute more. Indeed, we find a positive and significant correlation between a subject's belief and his/her own contribution (Spearman correlation test, with coefficient = 0.509, $p < 0.001$).

4.4. Determinants of voluntary contribution levels

The evidence provided insofar shows the effects of participation on contribution levels. In this sub-section, we complement the non-parametric tests with a more rigorous analysis of the determinants of cooperative behavior. The results of the regressions are in Table 5, where we report OLS estimates with condition and subject fixed effects and errors clustered at group level. In Table 5 below, column 1 differs from column 2 in excluding the leaders, in order to be sure that the better performance of the Leader condition is not due to higher contributions by the groups' leaders only.

Table 5 reports also p-values corrected for multiple hypotheses testing, see List et al. (2019) for a discussion on the importance correcting p-values when there are multiple treatments of interest and it is desired to determine which treatments have an effect relative to either the control or relative to each of the other treatments, as in our case.¹¹ Furthermore,

¹¹ This correction is intended to be used for obtaining accurate inference about the statistical significance of a parameter when the data are clustered with a small number of clusters, or a moderate number of clusters of uneven size. It is based on the idea that the data of each cluster can be seen as a random draw from the total possible observations of the data. The procedure runs the given model on the observations inside of each cluster and then draws statistical inference from the variance of the parameter estimates across all of the clusters. This provides a way for the model to obtain standard

Table 5
Determinants of contribution levels.

	(1)	(2)
Leader	9.803*** († † †) [1.917]	8.630*** († † †) [1.845]
Discussion	3.476** († †) [1.770]	2.758* († †) [1.430]
One-vote	3.958*** († †) [1.854]	3.355** († †) [1.824]
Weighted-vote	3.119** († †) [1.479]	2.483* († †) [1.493]
Observations	616	591
R-squared	0.681	0.688

The table shows OLS Robust Small Sample Corrected standard error estimations of the subject's contribution level (dependent variable) with condition and subject fixed effects. Errors are clustered at the group level. Column 2 excludes the five subjects who are the leaders of the five groups. We report (in brackets) the significance level corrected for multiplicity of treatments using the following notation: † † † $p < 0.01$.

† † $p < 0.05$.

† $p < 0.1$. We report uncorrected p-values using the following notation: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Leader is a dummy variable assuming value equal to 1 in the Leader Condition, and 0 elsewhere. Discussion is a dummy variable assuming value equal to 1 in the Discussion Condition, and 0 elsewhere. One-vote is a dummy variable assuming value equal to 1 in the One-vote Condition, and 0 elsewhere. Weighted-vote is a dummy variable assuming value equal to 1 in the Weighted-vote Condition, and 0 elsewhere. In both the regressions, the Control condition is taken as reference.

it provides a small sample correction based on bootstrap with asymptotic refinement that is needed because of the small number of clusters (five groups, in our case). We follow [Cameron and Miller \(2015\)](#) and [Cameron et al. \(2008\)](#) and use a bootstrap procedure called “wild cluster bootstrap-t procedure”, which is a bootstrap that relaxes some restrictions of the standard resampling with replacement procedures. They show, using Monte Carlo simulations as well as real data, that this procedure performs quite well even when the number of clusters is as few as six.¹²

Table 5 confirms the results of the non-parametric tests. The regression in column 1 shows that the group members' participation in the choice of funds destination entails a significantly higher contribution level, no matter the mechanisms. In addition, the Leader condition is associated with a significantly higher contribution level in comparison to other conditions, as follows from post estimation F-tests (Leader coefficient > Discussion coefficient: $F = 23.25$, $p < 0.001$; Leader coefficient > One-Vote coefficient: $F = 17.72$, $p < 0.001$; Leader coefficient > Weighted-vote coefficient: $F = 24.96$, $p < 0.001$). As shown in column 2, this result holds also when excluding the individuals who were leaders of their groups. Again, the Leader condition is associated with a significantly higher contribution level in comparison to other conditions (post estimation F-tests: Leader coefficient > Discussion coefficient: $F = 20.40$, $p < 0.001$; Leader coefficient > Voting coefficient: $F = 14.88$, $p < 0.001$; Leader coefficient > Weighted voting coefficient: $F = 21.96$, $p < 0.001$).

Table 6 provides some suggestive evidence about the role of beliefs in increasing individuals' contributions. In columns 1 and 2 we add beliefs to the specifications shown in **Table 5** and compare the results when the leaders are included (column 1) and excluded (column 2). In columns 3 and 4, we run two-stage least squares (2SLS) regressions where we instrument beliefs.

In both columns 1 and 2, not only the magnitude of the coefficients of the four conditions reduces dramatically, but also the dummies on three conditions (Discussion, One-vote and Weighted-vote) lose significance. As mentioned in the descriptive evidence above ([Section 4.3](#)), beliefs may help understanding the mechanisms behind the effectiveness of our treatments: accurately estimating the effect of beliefs is important for making comparisons to the effects of other variables, such as the condition variables themselves. However, the extent to which the relationship between contributions and beliefs is causal is unclear ([Smith, 2013](#); [Costa-Gomes et al., 2014](#)). Indeed, OLS regressions of contributions on beliefs may incorrectly estimate the causal effect of beliefs if “there is some tendency for contributions to cause beliefs or if there are

errors that are robust to clustering, even with a very small number of clusters. In order for the procedure to work, the model must be able to run in each cluster. This means that each cluster must contain a reasonable number of observations with variance on the dependent and independent variables, as happens in our case. Simulations by [Esarey and Menger \(2019\)](#) show that this procedure has good power characteristics for detecting statistically significant relationships and has the desired false positive rate for data grouped in even just a few clusters.

¹² The variable “Time spent in the community” refers to the frequency of the subject's interaction with other members of the community of the township, whereas the variable “everyday_activities” captures whether the group is engaged in activities that occur on daily bases. Thus, the two variables capture two distinct phenomena, and in fact are not correlated (Spearman correlation test, with coefficient = 0.028, $p = 0.534$).

Table 6
The role of beliefs.

	(1) OLS	(2) OLS	(3) 2SLS	(4) 2SLS
Belief	0.603*** [0.159]	0.584*** [0.162]	1.008*** [0.032]	1.010*** [0.031]
Leader	4.123***(† † †) [1.418]	4.055***(† † †) [1.430]	3.048***(† †) [1.416]	2.990***(† †) [1.454]
Discussion	0.382 [1.444]	0.224 [1.446]	−0.760 [1.791]	−0.910 [1.744]
One-vote	0.011 [1.440]	−0.135 [1.448]	−1.589 [1.865]	−1.762 [1.838]
Weighted-vote	−0.296 [1.227]	−0.456 [1.229]	−2.200 [1.748]	−2.388 [1.705]
Time spent in the community			1st stage 9.293*** [2.456]	1st stage 9.325*** [2.462]
Observations	489	464	489	464
R-squared	0.788	0.661	0.707	0.694
F-test	–	–	14.40	14.40

The table shows Robust Small Sample Corrected standard error estimations using OLS (columns 1 and 2) and 2SLS (columns 3 and 4) of the subject's contribution level (dependent variable) with condition and subject fixed effects. Columns 2 and 4 exclude the five subjects who are the leaders of the five groups. Errors are clustered at the group level. We report uncorrected p-values using the following notation: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. We report (in brackets) the significance level corrected for multiplicity of treatments using the following notation: † † † $p < 0.01$, † † $p < 0.05$, † $p < 0.1$. Leader is a dummy variable assuming value equal to 1 in the Leader Condition, and 0 elsewhere. Discussion is a dummy variable assuming value equal to 1 in the Discussion Condition, and 0 elsewhere. One-vote is a dummy variable assuming value equal to 1 in the One-vote Condition, and 0 elsewhere. Weighted-vote is a dummy variable assuming value equal to 1 in the Weighted-vote Condition, and 0 elsewhere. Time spent in the community is an ordinal variable ranging from 0 (never) to 4 (every day), as defined in Table 2. In all the regressions, the Control condition is taken as reference.

time-varying omitted variables which are positively correlated with beliefs" (Smith, 2013, p. 415). To this aim, we provide some suggestive evidence on the role of beliefs by running two-stage least squares (2SLS) regressions in columns 3 and 4 where we instrument beliefs.

In order to find an appropriate instrumental variable for beliefs, we follow Rustagi et al. (2010), who emphasized that in models of cultural evolution individuals rely on various forms of social learning mechanisms to form beliefs. To estimate the (causal) effect of conditional cooperation on the forest management outcome of 49 forest user groups in Ethiopia, Rustagi et al. (2010) instrument the share of conditional cooperators using differences with regard to clan affiliation.

Following this approach our instrument is the variable "time spent in the community", which measures the frequency with which the subject chats, talks and spends time with other people living in the same community.¹³ The idea is that the heterogeneity across individuals in the frequency of their interaction with other people living in the township leads to different levels of knowledge-sharing and consequently different beliefs on other people's behavior. Note that this variable "community" refers to the township and not to the group. In this respect, Wu et al. (2009) find that knowledge-sharing behaviors in the workplace improve employees' beliefs not only on colleagues' commitment, but also on other people belonging to the work environment in general. In this sense, our choice of the instrumental variable is in accordance with the literature showing that more frequent social interactions improve the attitudes towards others (e.g. Al Ramiah and Hewstone, 2013; Paluck, 2016).

In our context, valid instruments should have direct effects on beliefs, but not on contributions. To address this point we first find that there is a positive correlation between the time a person spends in the community, and her belief on the cooperation levels in group's members (Spearman correlation test, with coefficient = 0.138, $p = 0.002$). Secondly, the frequency of interaction of a group member with the whole community in the township is expected to be unrelated to the contribution level in favor of her group. The correlation between these two variables is low and not significant (Spearman correlation test, with coefficient = 0.056, $p = 0.162$), and thus not subject to reverse causality. In addition, there is no evidence that individuals spending every day in the community are different from individuals who spend less time in the community pertaining to contribution levels (Mann-Whitney test, $Z = -0.55$, $p = 0.582$).

The results with 2SLS are in columns 3 and 4, where, as before, we compare the results when the leaders are included (column 3) and excluded (column 4). Note that in both these regressions the coefficient of the instrumental variable on

¹³ This result is in line with Vollan et al. (2017)'s finding that Chinese students and workers cooperate the most in authoritarian environments when they accept authoritarian norms and values.

Table 7
Contributions: determinants by condition.

VARIABLES	(1) Control	(2) Leader (a)	(3) Leader (b)	(4) Discussion	(5) One-vote	(6) Weighted-vote
Belief	0.205 [0.200]	0.379 [0.315]	0.308 [0.229]	0.997*** [0.075]	0.655*** [0.097]	0.673*** [0.039]
High_edu	1.536 [2.042]	2.173 [4.470]	4.062 [4.144]	1.042* [0.214]	−0.363 [5.637]	0.539 [4.869]
No_wage	3.693 [3.159]	−3.819 [3.579]	−4.269 [3.370]	−0.468 [2.397]	−2.452 [2.876]	−0.740 [0.869]
Leader_person	−6.944 [9.698]	9.734 [9.030]		8.092 [3.797]	8.064 [4.645]	2.990 3.976
Trust	0.337 [0.717]	3.078 [2.803]	2.927 [2.399]	5.253** [1.843]	5.511** [1.921]	2.160* [1.135]
Determination	−0.737 [1.578]	0.635 [2.017]	1.921 [1.598]	−4.322 [3.854]	0.358 [2.867]	1.117 [2.552]
Hardwork	−0.253 [0.754]	0.290 [2.559]	−0.046 [2.443]	0.386 [3.363]	−3.847 [3.715]	−1.236 [2.689]
Group_size	0.499*** [0.079]	2.116*** [0.409]	2.142*** [0.431]	0.242 [0.417]	−0.233 [0.166]	−0.108 [0.173]
Involvement_NGO	2.862*** [0.264]	5.321 [15.559]	5.383 [5.537]	−4.421*** [0.772]	−4.846*** [1.001]	−5.082*** [0.729]
Altruistic_mission	3.563 [1.630]	15.793*** [2.819]	15.358** [3.353]	13.064* [6.115]	8.391** [2.497]	9.336** [2.194]
Everyday_activities	10.245* [4.012]	11.119* [4.501]	11.349* [4.974]	21.104*** [3.483]	21.213*** [2.844]	20.027*** [2.020]
Observations	81	94	92	95	94	92
R-squared	0.452	0.557	0.559	0.580	0.513	0.588

The table shows Robust Small Sample Corrected standard error estimations using OLS. The subject's contribution level is the dependent variable. High_edu is a dummy=1 if the subject has completed high school. No_wage is a dummy=1 if the subject has no labor earnings. Leader is a dummy=1 if the subject is the group leader. Involvement_NGO represents the dummy variable capturing the degree of involvement of the group in the NGO's prosocial activities and ranges from 0 (no involvement) to 4 (very high involvement). Controls (unreported because not significant and defined in Table 2): Age, Female, Poor_housing, Community reliance, Sense of community, Community like a family, Time spent in the community, Closest neighbors like a family, Goodmanner, Imagination, Independence, Obedience, Faith, Responsibility, Saving, Tolerance, Unselfishness. We also controlled for the order in which conditions were presented (randomized across session, unreported because not significant).

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

beliefs in the first stage is positive and strongly different from zero, thus satisfying the correlation condition. Moreover, the instrument is not weak, as shown by the value of the Kleibergen-Paap Wald F-test. Nonetheless, being the instrument a time-invariant variable, we acknowledge the need to be cautious when interpreting IV estimations (Greene, 2012), and we consider the results we present below just as suggestive evidence.

Moving to the second stage, beliefs have in both regressions a significant effect on the level of contributions, accounting for 1 unit increase in contributions for 1 unit increase in beliefs. Note that the coefficient is very similar across the two regressions, thus supporting the idea that the effect is not driven by the leader itself.

Table 6 helps understanding the reasons why delegating the choice to the leader is so effective. Indeed, adding beliefs the participation conditions other than the Leader's one (Discussion and the two types of Voting) do not perform significantly better than the Control. These findings are in line with those of Table 4a, which showed that beliefs are not significantly different across the four participation conditions; in other terms, subjects do not expect peers to contribute more in the Leader condition than in the other participation conditions. Thus, the Leader condition entails significantly higher contribution levels due to the subjects' intrinsic preference for this condition. It is important to note that subjects' contribution levels may reflect not only what they suppose on peers' contributions, but also their expectation on what will happen in each specific condition, like for instance which good or service will be chosen and how the process will be carried out.

In order to have a better understanding of how individual and group features shape individuals' preference for a specific condition, in Table 7 we report Robust Small Sample Corrected standard errors estimations of the determinants of the contribution levels in each of the five conditions separately. Column 1 refers to the Control condition. Both columns 2 and 3 refer to the Leader Condition but in column 3 we exclude the leader. Column 4 refers to the Discussion condition, while columns 5 and 6 to the One-vote and Weighted-vote conditions, respectively.

Table 7 confirms the findings on beliefs discussed above: in the Discussion and in the two Voting conditions, contributions increase in subjects' beliefs, whereas beliefs do not matter in the Leader condition and in the Control. The table also shows some interesting effects of other determinants. First, the larger the group size, the higher the contribution levels in the Control and in the Leader condition, suggesting that the delegating the decision to someone else, being the leader or the

NGO, is expected to make the decision process more efficient in larger groups, as found also in other studies (Callahan, 2007; Irving and Stansbury, 2004).

Second, groups with daily interactions (*Everyday_activities*) contribute significantly more in all conditions, reflecting that the frequency of interactions helps developing strong ties within the group members in all situations.

Third, the regressions show a positive effect of education in the Discussion condition, while subjects with higher levels of trust contribute more in the conditions where there is no delegation to the leader or the decision is taken by the NGO. All these findings help unraveling the complex relationship between cooperation and participation emerging in the literature, where better-networked and better-educated individuals appear to be more capable to play a role and benefit from the community-based projects (Casey et al., 2012). Our evidence suggests that (more) direct forms of participation are preferred by people that are highly educated or that have a higher level of trust.

Fourth, we also find that being more involved in the NGO's activities increases the contribution levels in the Control condition, where the NGO takes the decision; vice versa, it reduces contributions in the Discussion and Voting conditions. Although apparently counterintuitive, this result is in line with the fact that the group might find more efficient to delegate the decision on the funds to a third party (the NGO) instead of engaging in more complex decision processes (like discussing and voting), but this occurs only when they have a long-term relationship with the NGO itself. Finally, more altruistic groups contribute more.

5. Discussion and conclusions

This work sheds light on a collective-action problem where the beneficiaries choose the destination of the funds donated by a charity in the context of an artefactual field (or lab-in-the-field) experiment. We consider four conditions, in which the decision: a) is delegated to the group leader; b) is made by the group after a discussion; or c) is determined through private voting (with two ways of weighting votes). We compare all these mechanisms to a control condition where the choice of the funds destination is exogenous, namely where the group members do not take part in it but simply receive the good or service selected by the NGO that helped us arrange the experiment.

We offer a set of interesting insights on how involving the beneficiaries of charity funds in the allocation decision process may help to promote stronger commitment—in the form of higher cooperation levels—to the implementation and maintenance of a common good or project.

First, we find that subjects contribute significantly more when the choice is made by the group, no matter the specific decision mechanism, instead of being made by an external entity. This evidence is in line with previous works showing that cooperation levels increase when subjects can choose the contract design or the institution enforcing cooperation. Being able to decide, instead of being a passive recipient in this respect, typically results in a stronger commitment. This mechanism has been called the “democracy effect” by Dannenberg and Gallier (2020): individuals attach a value to the simple fact of being allowed to make a decision. Two main explanations for this effect have been suggested: a self-centered motive and a belief-based one. The former refers to the case where, by being involved in the decision, individuals may feel they have a personal return due to a possibly higher chance to influence the decision outcome. Among possible returns, a prominent role is played by expectations of a higher efficiency in reaching an agreement about how to spend the funds and of a larger probability of respecting it. In the latter, subjects expect higher commitment from peers who are perceived to be more involved in the project, and thus reciprocate by exerting more effort themselves. Our findings confirm both the self-centered motive and the belief-based explanation, with notable differences across conditions. The belief motive is corroborated because we observe a significant and positive relationship between individual contributions and beliefs about peers' contributions: that is to say that people's commitment is highly correlated with their expectation that other group members will commit. This effect is particularly strong in high participation conditions (Discussion and Voting), where the correlation between contribution levels and beliefs on peers' contribution is very high and significant. However, also the self-centered motive appears to hold because contribution levels differ significantly across conditions also when controlling for the role of beliefs. As for the Leader condition, expectations about peers' behavior are not particularly high in our sample. However, in the Leader condition, subjects' cooperation levels are larger than in the other decision mechanisms on average, and this happens no matter what they expect their peers to do. Our interpretation is that participants have an intrinsic motive for contributing more, and this motive is likely to be related to the higher efficiency in managing the decision process that they expect from a leader. The stronger commitment under the Leader condition sheds light on situations when the advantages of delegating outperform the benefits of being directly involved in a decision. If discussing and voting give each person the chance to express their own preference (publicly or privately, respectively), having a voice on a certain decision does not necessarily mean that the person is actually able to affect its outcome. In this respect, it is important to note that the decision on how much to contribute was taken before the discussion, in order to prevent this issue. It is however true that groups have their own history and this could have affected members' expectations on the discussion outcome. This is particularly evident in large groups and/or in groups where peers may have heterogeneous preferences over the good to be chosen. Indeed, our evidence reveals that subjects perceive a higher private return from a project chosen by the leader when the size of the group is larger, revealing some perceived efficiency cost of negotiating and/or coordinating over the choice with other group members. As emphasized in Callahan (2007) and Irving and Stansbury (2004), direct participation has social and economic costs that make it undesirable in some situations and with certain characteristics, such as community size, wealth, and homogeneity, which may predict the success or failure of participation. Similarly, Voors et al. (2018) observe that projects

managed by village elites are more likely to start and be completed on time, are better constructed and maintained, and provide more (perceived) benefits for the villagers with respect to projects managed by randomly selected villagers. Among possible explanations, the authors emphasize that this may result from the possibility to draw on complementary village resources by virtue of their formal authority. From a charity's point of view, this means that appointing the group's leader as the delegate of the group members' views might be effective when the group appears to be large, heterogeneous, and, as such, in need of coordination. In addition, the literature has shown that higher degrees of social influence in the discussion could make the group more inefficient than individuals (Lorenz et al., 2011). On the contrary, a highly cohesive group and/or a group of a smaller size might benefit from more direct participation of individuals in the decision process.

Our findings on the benefits of leadership coordination can be interpreted in light of the leadership style prevailing in African societies, which is typically non-authoritarian and based on consensus. African communities tend to be egalitarian within age groups but hierarchical or gerontocratic between age groups (Linguist and Adolph, 1996). Since consensus is highly valued, decision making *within* levels can take a long time (Cosway and Anankum, 1996), while *between* levels, observance of hierarchy implies that consensus can be achieved relatively quickly (Dia, 1994). These decision processes are similar to the ones used in their everyday bargains by groups typically operating in South African slums—like the one in this work—where individuals speak privately or in a small group to the leader (or “chairperson”), who collects all the opinions and takes a final decision. Decision making after a collective discussion takes place very rarely, and private voting is never used, consistent with the relatively large size of the groups we involved in our experiment (between 19 and 32 members) where taking decisions through a public discussion might be chaotic and ineffective. Consistently, we find that, in groups with a form of “diffuse” leadership, participants' contribution levels do not differ much between the Leader condition and the “more participative” conditions, shrinking the expectation of a more efficient management of resources that was attributed to centralized leadership.¹⁴ An interesting development would be eliciting participants' beliefs about the efficiency of the decision process and test whether they vary according to the group's leadership style. We leave this investigation to future researchers. In addition, future research should further probe the effectiveness of our mechanisms explaining differences in performance between leaders, discussion and voting, possibly recruiting a larger number of groups than ours and testing the generalizability of our findings to other fields and contexts. Involving charity beneficiaries remains too often the exception rather than the rule at nonprofits and foundations. However, as emphasized by Twersky et al. (2013), the fields in which beneficiary feedback is more difficult to collect are likely to be the areas in which the intended beneficiaries are especially lacking a voice.

Declaration of Competing Interest

Francesco Bripi declares that he has no conflict of interest. Daniela Grieco declares that she has no conflict of interest.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.jebo.2022.05.002](https://doi.org/10.1016/j.jebo.2022.05.002).

References

- Al Ramiyah, A., Hewstone, M., 2013. Intergroup contact as a tool for reducing, resolving, and preventing intergroup conflict: evidence, limitations, and potential. *Am. Psychol.* 68 (7), 527.
- Andersson, K.P., Chang, K., Molina-Garzón, A., 2020. Voluntary leadership and the emergence of institutions for self-governance. *Proc. Natl. Acad. Sci.* 117 (44), 27292–27299.
- Auerswald, H., Schmidt, C., Thum, M., Torsvik, G., 2018. Teams in a public goods experiment with punishment. *J. Behav. Exp. Econ.* 72, 28–39.
- Balaoutas, L., Kocher, M.G., Putterman, L., Sutter, M., 2013. Equality, equity and incentives: an experiment. *Eur. Econ. Rev.* 60, 32–51.
- Bartling, B., Fehr, E., Herz, H., 2014. The intrinsic value of decision rights. *Econometrica* 82 (6), 2005–2039.
- Bartling, B., Fischbacher, U., 2012. Shifting the blame: on delegation and responsibility. *Rev. Econ. Stud.* 79 (1), 67–87.
- Bobadilla-Suarez, S., Sunstein, C.R., Sharot, T., 2017. The intrinsic value of choice: the propensity to under-delegate in the face of potential gains and losses. *J. Risk. Uncertain.* 54 (3), 187–202.
- Bochet, O., Page, T., Putterman, L., 2006. Communication and punishment in voluntary contribution experiments. *J. Econ. Behav. Organ.* 60 (1), 11–26.
- Botelho, A., Harrison, G.W., Pinto, L.M.C., Ross, D., Rutström, E.E., 2019. Endogenous Choice of Institutional Punishment Mechanisms to Promote Social Cooperation. CEAR Working Paper 2019-04.
- Bouas, K.S., Komorita, S.S., 1996. Group discussion and cooperation in social dilemmas. *Personal. Soc. Psychol. Bull.* 22 (11), 1144–1150.
- Bouma, J., Bulte, E., Van Soest, D., 2008. Trust and cooperation: social capital and community resource management. *J. Environ. Econ. Manage.* 56 (2), 155–166.
- Brandts, J., Cooper, D.J., Rott, C., 2019. Communication in laboratory experiments. *Handbook of Research Methods and Applications in Experimental Economics*. Edward Elgar Publishing.
- Brandts, J., Cooper, D.J., Weber, R.A., 2015. Legitimacy, communication, and leadership in the turnaround game. *Manage. Sci.* 61 (11), 2627–2645.
- Brandts, J., Ellman, M., Charness, G., 2016. Let's talk: how communication affects contract design. *J. Eur. Econ. Assoc.* 14 (4), 943–974.
- Brosig, J., Weimann, J., Ockenfels, A., 2003. The effect of communication media on cooperation. *German Econ. Rev.* 4 (2), 217–241.
- Callahan, K., 2007. Citizen participation: models and methods. *Int. J. Public Admin.* 30 (11), 1179–1196.
- Cameron, A.C., Gelbach, J.B., Miller, D.L., 2008. Bootstrap-based improvements for inference with clustered errors. *Rev. Econ. Stat.* 90 (3), 414–427.
- Cameron, A.C., Miller, D.L., 2015. A practitioner's guide to cluster-robust inference. *J. Hum. Resour.* 50 (2), 317–372.
- Casey, K., Glennerster, R., Miguel, E., 2012. Reshaping institutions: evidence on aid impacts using a preanalysis plan. *Q. J. Econ.* 127 (4), 1755–1812.

¹⁴ This result is in line with Vollan et al. (2017)'s finding that Chinese students and workers cooperate the most in authoritarian environments when they accept authoritarian norms and values.

- Charness, G., 2000. Self-serving cheap talk: a test of Aumann's conjecture. *Games Econ. Behav.* 33 (2), 177–194.
- Charness, G., Cobo-Reyes, R., Jiménez, N., Lacomba, J.A., Lagos, F., 2012. The hidden advantage of delegation: pareto improvements in a gift exchange game. *Am. Econ. Rev.* 102 (5), 2358–2379.
- Chaudhuri, A., 2011. Sustaining cooperation in laboratory public goods experiments: a selective survey of the literature. *Exp. Econ.* 14, 47–83.
- Connolly, C., Hyndman, N., 2017. The donor-beneficiary charity accountability paradox: a tale of two stakeholders. *Public Money Manage.* 37 (3), 157–164.
- Cornes, R., Sandler, T., 1984. Easy riders, joint production, and public goods. *Econ. J.* 94 (375), 580–598.
- Costa-Gomes, M.A., Huck, S., Weizsäcker, G., 2014. Beliefs and actions in the trust game: creating instrumental variables to estimate the causal effect. *Games Econ. Behav.* 88, 298–309.
- Cosway, N., Anankum, S.A., Blunt, P., Warren, P.M. (Eds.), 1996. Traditional leadership and community management in Northern Ghana. Eds. *Indigenous Organizations and Development*.
- Dal Bó, P., Foster, A., Putterman, L., 2010. Institutions and behavior: experimental evidence on the effects of democracy. *Am. Econ. Rev.* 100 (5), 2205–2229.
- Dannenberg, A., Gallier, C., 2019. The choice of institutions to solve cooperation problems: a survey of experimental research. *Exp. Econ.* 23, 1–34.
- Danz, D., Vesterlund, L., Wilson, A.J., 2020. Belief elicitation: limiting truth telling with information on incentives. *Natl. Bureau Econ. Res. No. w27327*.
- Dia, M., 1994. Indigenous management practices: lessons for Africa's management in the '90s. In: Serageldin, I., Taboroff, J. (Eds.), *Culture and Development in Africa*. World Bank, Washington, DC, pp. 165–191.
- Ertan, A., Page, T., Putterman, L., 2009. Who to punish? Individual decisions and majority rule in mitigating the free rider problem. *Eur. Econ. Rev.* 53 (5), 495–511.
- Esarey, J., Menger, A., 2019. Practical and effective approaches to dealing with clustered data. *Polit. Sci. Res. Methods* 7 (3), 541–559.
- Fehr, E., Herz, H., Wilkening, T., 2013. The lure of authority: motivation and incentive effects of power. *Am. Econ. Rev.* 103 (4), 1325–1359.
- Feld, L.P., Kirchgässner, G., 2001. Does direct democracy reduce public debt evidence from Swiss municipalities. *Public Choice* 109 (3), 347–370.
- Font, J., Wojcieszak, M., Navarro, C.J., 2015. Participation, representation and expertise: citizen preferences for political decision-making processes. *Polit. Stud.* 63, 153–172.
- Frey, B.S., Benz, M., Stutzer, A., 2004. Introducing procedural utility: not only what, but also how matters. *J. Inst. Theor. Econ.* 1060 (3), 377–401.
- Gallier, C., 2020. Democracy and compliance in public goods games. *Eur. Econ. Rev.* 121.
- Geschwind, S., Rösel, F., 2021. Bürger wollen niedrigere Steuern als Parlamente (manchmal zumindest). *IFO Dresden Bericht* 28 (5), 7–9.
- Glaeser, E.L., Laibson, D.I., Scheinkman, J.A., Soutter, C.L., 2000. Measuring trust. *Q. J. Econ.* 115 (3), 811–846.
- Goeree, J.K., Yariv, L., 2011. An experimental study of collective deliberation. *Econometrica* 79 (3), 893–921.
- Greene, W., 2012. *Econometric Analysis*, seventh ed. Cambridge University Press, Cambridge.
- Gueth, W., Levati, M.V., Sutter, M., Van Der Heijden, E., 2007. Leading by example with and without exclusion power in voluntary contribution experiments. *J. Public Econ.* 91 (5–6), 1023–1042.
- Hamman, J.R., Weber, R.A., Woon, J., 2011. An experimental investigation of electoral delegation and the provision of public goods. *Am. J. Pol. Sci.* 55 (4), 738–752.
- Hansson, S.O., 1996. Social choice with procedural preferences. *Soc. Choice Welfare* 13 (2), 215–230.
- Harms, P., Landwehr, C., 2020. Is money where the fun ends? Material interests and individuals' preference for direct democracy. *Eur. J. Polit. Econ.* 61, 101818.
- Hargreaves, A., Fink, D., 2006. Redistributed leadership for sustainable professional learning communities. *J. School Lead.* 16 (5), 550–565.
- Harris, A., 2007. Distributed leadership: conceptual confusion and empirical reticence. *Int. J. Lead. Educ.* 10 (3), 315–325.
- Harrison, G.W., List, J.A., 2004. Field experiments. *J. Econ. Lit.* 42 (4), 1009–1955.
- Hossain, T., Okui, R., 2013. The binarized scoring rule. *Rev. Econ. Stud.* 80 (3), 984–1001.
- Hyndman, N., Jones, R., 2011. Editorial: good governance in charities—some key issues. *Public Money Manage.* 31 (3), 151–155.
- Irving, R., Stansbury, J., 2004. Citizen participation in decision making: is it worth the effort? *Public. Adm. Rev.* 64 (1), 55–65.
- Isaac, R.M., Walker, J.M., 1988a. Group size effects in public goods provision: the voluntary contributions mechanism. *Q. J. Econ.* 103 (1), 179–199.
- Isaac, R., Walker, J.M., 1988b. Communication and free-riding behavior: the voluntary contribution mechanism. *Econ. Inq.* 26, 585–608.
- Jones, S., 2014. Distributed leadership: a critical analysis. *Leadership* 10 (2), 129–141.
- Kerr, N.L., Garst, J., Lewandowski, D.A., Harris, S.E., 1997. That still, small voice: commitment to cooperate as an internalized versus a social norm. *Personal. Soc. Psychol. Bull.* 23 (12), 1300–1311.
- Komai, M., Stegeman, M., Hermlin, B.E., 2007. Leadership and information. *Am. Econ. Rev.* 97 (3), 944–947.
- Landwehr, C., Harms, P., 2019. Preferences for referenda: intrinsic or instrumental? Evidence from a survey experiment. *Polit. Stud.* 68 (4), 875–894. 0032321719879619.
- Ledyard, O., Kagel, J., Roth, A. (Eds.), 1995. Public goods: some experimental results. Eds., *Handbook of Experimental Economics*.
- Linquist, B.J., Adolph, D., 1996. The drum speaks—are we listening? Experiences in development with a traditional Garba institution—the Yaa Galbo. In: Blunt, P., Warren, P.M. (Eds.), *Indigenous Organizations and Development*. Eds. Intermediate Technology Publications Ltd (ITP), London (UK).
- List, J.A., 2011. The market for charitable giving. *J. Econ. Perspect.* 25 (2), 157–180.
- List, J.A., Shaikh, A.M., Xu, Y., 2019. Multiple hypothesis testing in experimental economics. *Exp. Econ.* 22 (4), 773–793.
- Lorenz, J., Rauhut, H., Schweitzer, F., Helbing, D., 2011. How social influence can undermine the wisdom of crowd effect. *Proc. Natl. Acad. Sci.* 108 (22), 9020–9025.
- Mansuri, G., Rao, V., 2012. Localizing development: does participation work? *Policy Re. Rep.* 73762.
- Mitzkewitz, M., Nagel, R., 1993. Experimental results on ultimatum games with incomplete information. *Int. J. Game Theory* 22, 171–198.
- Olken, B.A., 2010. Direct democracy and local public goods: evidence from a field experiment in Indonesia. *Am. Polit. Sci. Rev.* 104, 243–267.
- Ostrom, E., 1990. *Governing the Commons: the Evolution of Institutions for Collective Action*. Cambridge University Press, New York.
- Ostrom, E., Walker, J., 1991. Communication in a commons: cooperation without external enforcement. *Lab. Res. Polit. Econ.* 287–322.
- Ostrom, E., Walker, J., Gardner, R., 1994. *Rules, games, and Common-Pool Resources*. University of Michigan Press, Ann Arbor.
- Owens, D., Grossman, Z., Fackler, R., 2014. The control premium: a preference for payoff autonomy. *American Economic Journal: Microeconomics* 6 (4), 138–161.
- Paluck, E.L., 2016. How to overcome prejudice. *Science* 352 (6282), 147–147.
- Potters, J., Sefton, M., Vesterlund, L., 2007. Leading-by-example and signaling in voluntary contribution games: an experimental study. *Econ. Theory* 33 (1), 169–182.
- Rathgeb Smith, S., 2010. Nonprofits and public administration: reconciling performance management and citizen engagement. *Am. Rev. Public Adm.* 40 (2), 129–152.
- Rivas, M.F., Sutter, M., 2011. The benefits of voluntary leadership in experimental public goods games. *Econ. Lett.* 112 (2), 176–178.
- Romano, J.P., Wolf, M., 2005. Exact and approximate stepdown methods for multiple hypothesis testing. *J. Am. Stat. Assoc.* 100 (469), 94–108.
- Rustagi, D., Engel, S., Kosfeld, M., 2010. Conditional cooperation and costly monitoring explain success in forest commons management. *Science* 330, 961–965.
- Simmons, R., Birchall, J., 2005. A joined-up approach to user participation in public services: strengthening the “Participation Chain. *Soc. Policy Adm.* 39 (3), 260–283.
- Smith, A., 2013. Estimating the causal effect of beliefs on contributions in repeated public good games. *Exp. Econ.* 16 (3), 414–425.
- Surowiecki, J., 2004. *The wisdom of crowds: why the many are smarter than the few and how collective wisdom shapes business economies, society, and nations*. New York, Doubleday.

- Sutter, M., Haigner, S., Kocher, M.G., 2010. Choosing the carrot or the stick? Endogenous institutional choice in social dilemma situations. *Rev. Econ. Stud.* 77 (4), 1540–1566.
- Tabellini, G., 2010. Culture and institutions: economic development in the regions of Europe. *J. Eur. Econ. Assoc.* 8 (4), 677–716.
- Towfigh, E.V., Georg, S.J., Glöckner, A., Leifeld, P., Llorente-Saguer, A., Bade, S., Kurschilgen, C., 2016. Do direct-democratic procedures lead to higher acceptance than political representation? *Public Choice* 167 (1–2), 47–65.
- Twersky, F., Buchanan, P., Threlfall, V., 2013. Listening to those who matter most, the beneficiaries. *Stanford Soc. Innov. Rev.* 11 (2), 40–45.
- Tyran, J.R., Feld, L., 2006. Achieving compliance when legal sanctions are non-deterrent. *Scand. J. Econ.* 108, 135–156.
- Tyran, J.R., Mechtenberg, L., 2016. Voter Motivation and the Quality of Democratic Choice. University of Copenhagen. Institute of Economics, p. 16 Discussion Papers (Online)No.13.
- Vollan, B., Landmann, A., Zhou, Y., Hu, B., Herrmann-Pillath, C., 2017. Cooperation and authoritarian values: an experimental study in China. *Eur. Econ. Rev.* 93, 90–105.
- Voors, M., Turley, T., Bulte, E., Kontoleon, A., List, J.A., 2018. Chief for a day: elite capture and management performance in a field experiment in Sierra Leone. *Manage. Sci.* 64 (12), 5855–5876.
- Wellens, L., Jegers, M., 2011. Beneficiaries' participation in nonprofit organizations: a theory-based approach. *Public Money Manage.* 31 (3), 175–182.
- Woods, P.A., 2016. Authority, power and distributed leadership. *Manage. Educ.* 30 (4), 155–160.
- Wu, W.L., Lin, C.H., Hsu, B.F., Yeh, R.S., 2009. Interpersonal trust and knowledge sharing: moderating effects of individual altruism and a social interaction environment. *Soc. Behav. Pers.* 37 (1), 83–93.
- Zelmer, J., 2003. Linear public goods experiments: a meta-analysis. *Exp. Econ.* 6, 299–310.