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Abstract

Research on public goods provision in Africa suggests that local leaders' ability to mobilize the poor varies with the nature of the community. Yet there remains uncertainty about *why* local leaders are better in mobilizing the poor in some communities than others. In this paper, we address this question. We examine the relationship between the social density of local communities, the social proximity of authority figures to these communities (local or distant leadership), and leaders' ability to mobilize the poor to contribute to educational and burial funds, or vote for an endorsed candidate. To do so, we employ a conjoint experiment and utilize observational data from an original survey fielded in Kenya, Malawi and Zambia. We find that the poor respond more to neighbors and local leaders than to distant leaders, and that the social density of communities moderates this relationship. Moreover, examining the mechanisms, we find that the fear of sanctions or expected rewards, and the desire to bandwagon with others in the community appear to drive mobilization. These findings extend our understanding of how leadership and social ties facilitate mobilization, particularly among the poor.

Keywords: Local Authorities, Community Participation, Social Density, Poverty, Sub-Saharan Africa, Mobilization

1. Introduction

Local actors often play an important role in mobilizing community members' public participation. Brokers with connections to the local community effectively galvanize voters (Baldwin, 2016; Vicente, 2014; Kitschelt, 2000) and local leaders mobilize contributions to local schools, road construction projects, and other public goods (Barkan and Holmquist, 1989; De Weerdt and Dercon, 2006; Olken and Singhal, 2011). However, as we and others before us demonstrate (Rapaport et al., 2018; Cutter et al., 2016; Glendinning et al., 2003; Ziersch et al., 2009; Wilfahrt, 2021), local authorities' ability to mobilize the poor varies by the type of community. Thus, this paper asks why are local authorities able to achieve compliance from the poor in some neighborhoods, while in others they are not?

Specifically, we examine how the density of social ties affects mobilization, and we extend previous work by exploring the mechanisms that underpin the relationship between local leaders, community contexts, and mobilization. Scholars have long recognized that community social networks and, relatedly, social capital affect individuals' willingness to contribute to public goods (Sanditov and Arora, 2015; Putnam, 1993). Moreover, they have recently turned our attention to the importance of community social density in understanding clientelism and elections (Minaeva and Panov, 2021; Spater and Wibbels, 2021; Ravanillaet al., 2021). These findings are exciting, and yet they do not fully explain what mechanisms underpin the relationship between social contexts, leaders, and mobilization, or explore whether these vary given different types of leaders or activities.

We focus on the poor's willingness to comply with leaders' requests to contribute time or money towards public projects and vote in elections, since such community participation is particularly important for the needy, who help one another weather hardship (e.g., Pinkster, 2007; Pinkster and Völker, 2009; van Eijk, 2010; Kersting and Sperberg, 2003; Singerman, 1995; Scott, 1976). We examine their stated willingness to comply with requests using a conjoint experiment and observational survey data gathered in Kenya, Malawi, and Zambia. The household survey (Lust et al., 2020) includes over 14,117 respondents who have difficulties covering their needs (e.g., are needy, or poor), located in 631 communities,[2] and it was implemented to allow for the aggregation of community-level indicators of social ties. This massive data collection effort allows for an investigation of both individual and

[2] A community is defined as the individuals living within a 1.5 km radius of the center of a sampling square kilometer.

(observational) community-level measures of social density. In the conjoint experiment, we vary the nature of the authorities as well as the activities for which they make requests. We also include follow-up questions to the experiment in the survey that allow us to consider the effects of these attributes on respondents' expectations of community sanctioning, leader sanctioning, or bandwagoning, providing insights into the underlying mechanisms of compliance. Finally, we examine questions from the survey regarding individuals' past contributions and the authorities that requested them, which provides support for the external validity of the conjoint experiment.

Our findings lend important insights into how community social density moderates *which leaders* gain respondents' (stated) compliance over *which actions,* and *why*. We also consider how the findings generalize across these three African countries, and importantly, how dynamics of compliance differ across regions, contexts, and cultures. We find that the needy respond better to local leaders and neighbors than more socially distant leaders, and that community ties moderate this effect. Specifically, local leaders are much more capable than more distant leaders of mobilizing the poor in socially dense communities; this difference is not as profound in less socially dense communities. Moreover, we find that this is both because the poor expect individualized consequences for their actions, such as social sanctions or rewards for compliance, and because they bandwagon with others in their community. These findings also suggests that socially dense communities may support behavioral change where it is endorsed by local leaders or community members.

We proceed as follows. First, we outline theoretical expectations derived from integrating extant literatures on political participation, authority, and social networks. Second, we present our data and discuss why the cases of Kenya, Malawi, and Zambia provide important insights into the issues at hand. Third, we present the data analysis and results. We consider how authorities and social ties relate to compliance and then explore potential underlying mechanisms. Finally, we discuss the theoretical and substantive implications of these findings and future steps. We argue that the findings provide insights into how dense social ties facilitate mobilization among the poor and highlight the need to take more seriously the variation in behavior across poor communities.

2. Mobilizing Forces: The Roles of Leaders and Communities

In their seminal work, Verba et al. propose that individuals refrain from political or civic action when they cannot participate, when they do not want to, or when nobody asks them to (1995, 15). Most previous research has focused on the first condition, and consequently, emphasized differences between the poor and the wealthy (e.g., Gallego, 2007; Armingeon and Schädel, 2015; Verba et al., 1995; Brady et al., 1995). Prominent studies investigate, for example, how differences in available resources, such as civic skills or money (e.g., Armingeon and Schädel, 2015; Verba et al., 1995; Brady et al., 1995), or institutional features of the electoral system (Gallego, 2015) explain unequal levels of participation. These findings are based on research conducted in Western democracies, however, and focus solely at electoral participation. Moreover, this line of research does not pay attention to why individuals, and the poor in particular, *want* to engage in different modes of public participation, how much their willingness depends on *who* asks them, or how community contexts may moderate these factors.

We consider both *electoral participation*, as voting for an endorsed candidate, and *community participation*, i.e., contributing to local burial or educational funds, in this paper. Though these types of engagement are arguably very different,[3] they all require the individual to spend personal resources, like time or money, after being asked by an authority to do so. Moreover, these forms of public participation are critical to livelihoods in the Global South, including the poor in the communities we consider in this paper. People contribute substantial amounts of money and labor to help provide public goods, and they vote for local councilors and members of parliament in the hope of improving service provision (e.g., Barkan and Holmquist, 1989; De Weerdt and Dercon, 2006; Jibao et al., 2017; Njoh, 2003; Olken and Singhal, 2011; Titeca, 2012; Townsend, 1995). Voting is commonly perceived as an important way to reach political influence and access state funds, but as Olken and Singhal (2011) show, in much of the developing world, contributions to burial funds, road maintenance or schools, among other things, account for a greater proportion of public contributions than state taxation. Thus, we consider these as public actions and introduce them as being directly linked to the authority who is making the request. We expect that the

[3] Huckfeldt (1979) has introduced the differentiation between the notions of individually and socially based modes of engagement. While voting is often discussed as individually based mode of engagement, contributions to community goods could be seen as socially based. However, as Kenny (1992) has pointed out, these differences may not be as easily applicable as previously suggested as all acts of engagement may follow social discussions with peers.

mechanisms underpinning the mobilization of these types of contributions to be similar to those behind political support.

To make this connection between electoral participation and local-level contributions clearer, let us begin with *why* individuals might participate in both types of activities. Some literature suggests that people are driven to participate in the public arena because they expect rewards or sanctions from political leaders and the community, or because they bandwagon with other community members. Focusing on voting, research on developing contexts largely understands clientelism to be a key driver of political engagement in elections and political rallies. In this literature, clientelism is typically understood a *quid pro quo* exchange in the sense that monetary handouts or other goods are traded for electoral support. Some of this literature also shows that the poor are more likely to engage in a clientelistic exchange because the relative benefit from selling their votes is expected to be higher for the poor than the wealthy (Jensen and Justensen, 2014; Brusco et al., 2004; Dixit and Londregan, 1996). Following this, we argue that the underlying logic of this *quid pro quo* exchange intrinsically implies that clientelism creates positive incentives or benefits for the poor.

At the same time, individuals are more likely to contribute to community goods and services when they seek rewards and fear sanctions. Where communities establish expectations over participation, individuals may face fines, property loss, physical punishment, or social disapproval (De Weerdt, 2001; Bhattamishra and Barrett, 2008) if they fail to comply. These incentives may be immediate, but also, realized in the longer term. Moreover, the sanctions and rewards may be meted out by leaders or by other community members.[4] Individuals consider their reputations, or those of their families, when deciding whether to donate to community initiatives (Ambec, 2008; Mazzucato, 2009), not only because they value social approval but also because it can affect their likelihood of receiving material assistance in the future. As with clientelism, the impact of potential sanctions and rewards should factor more heavily into the calculus of the poor, who have greater need for community support.

Apart from rewards and sanctions, the literature also suggests that individuals may comply because they see supporting those around them as the 'right thing to do' (Barkan et al., 1991; Buckley and Croson, 2006; Fong and Luttmer, 2007). They recognize their interests as mutually bound with others in the community, or put differently, that they are part of

[4] See Baldwin et al. (2021) for further discussion.

"communities of fate" (Ahlquist and Levi, 2013). This feeling of belonging appears to explain, for example, why extraction takes place through kinship networks, even more than through villages (De Weerdt and Fafchamps, 2011; Fafchamps and Lund, 2003), and why people express willingness to pay taxes to benefit their community, even if not themselves (Bodea and LeBas, 2016; Lieberman, 2003), or vote if the candidate is endorsed by neighbors and local leaders even if she is not presenting their interests.

Given these mechanisms, local authorities and neighbors should be more effective than more distant (i.e., district or national) leaders at mobilizing support. Local leaders may seem more relevant focal points for communities, thus helping to spur participation based on feelings of solidarity. Local leaders also appear better able than more distant leaders to monitor citizens' contributions and distribute rewards and sanctions (Fafchamps and Gubert, 2007). Thus, for instance, scholars of clientelism find the poor are particularly responsive to activists and brokers from their communities who ask them to vote for a candidate (Vicente, 2014; Kitschelt, 2000).

We anticipate that community social ties influence the extent to which citizens are likely to participate. Increasingly, work on African politics has started to acknowledge and investigate differences across local communities (e.g., Boone, 2003; Paller, 2019; Wilfahrt, 2021). This more recent scholarship has examined how the nature of the communities affects the poor´s behavior and the provision of public goods within communities (Wilfahrt, 2021; Paller, 2019; Miguel and Gugerty, 2005), while focusing on shared social institutions and precolonial legacies (Wilfahrt, 2021), periphery-center relations and local communities' economic dependency and bargaining power (Boone, 2003), ethnic fractionalization (Habyarimana et al., 2007; Miguel and Gugerty, 2005) and the legal status of the communities (Paller, 2019) to better understand governance processes and outcomes.

The role of community social density underpins many studies on community participation, local policing, and public goods provision (Tellez et al., 2020; Fearon and Laitin, 1996; Wilfahrt, 2021). Those that examine participation and provision in ethnically diverse and ethnically homogeneous communities, for example, often assume that co-ethnics are more likely than non-co-ethnics to know each other or to interact (e.g., Habyarimana et al., 2007; Magee, 2008; Miguel and Gugerty, 2005). They argue that information flows and the ability to sanction peers should be higher in ethnically homogeneous communities which are

assumed to be denser and more socially cohesive (Fearon and Laitin, 1996; Miguel and Gugerty, 2005); yet they do not directly test this assumption. Similar assumptions are found in the literature that compares community participation in wealthy vs. poor communities (cf. van Eijk, 2010). Most often, the literature suggests that the poor rely on their neighbors as a safety net, as the poor possess fewer links to individuals outside their neighborhoods than wealthier individuals (Pinkster, 2007; Pinkster and Völker, 2009; van Eijk, 2010). Finally, studies comparing rural and urban communities suggest that social capital, group attachment and the participation in community activities is higher in rural communities (Sørensen, 2014; Stern et al., 2011; Ryan et al., 2005; Fischer, 1982). However, most these studies only assume social ties to be denser in rural, ethnically homogeneous, or poor communities, rather than directly testing this assumption.

Moreover, it is important to note that no academic consensus yet exists over the relationship between social density, public goods provision, and participation. The extant literature on social capital finds that communities with higher social capital also enjoy greater participation (Putnam, 2000; Dekker and Uslaner, 2001; Lake and Huckfeldt, 1998). Along similar lines, the recent literature tying cooperation and community engagement to social density or network "closure" (the number of connections to others in a community) remains mixed. Masterson (2018) finds that among refugee communities in Lebanon and Jordan, connections to other communities can facilitate access to external information and resources to overcome public goods problems. Siegel (2009) paints a complex picture, arguing that adding too many weak ties can discourage participation rates when increasing the size of the network. On the contrary, recent empirical studies on ethnic networks find that social density may not be conducive to the flow of information and the level of cooperation in the community (Larson and Lewis, 2017). Instead, these outcomes may be better explained by the individual's position within the network (Larson, 2017). In other words, scholars come to very different conclusions regarding the relationship between the strength of social ties and participation. We expect, however, that these contradictory results are due, at least in part, to limitations in the ability of these studies to separate community density from other factors.[5]

[5] For instance, relying on a field experiment in two villages in rural Uganda, Larson and Lewis (2017) show that although network density is higher in the ethnically heterogeneous village than the ethnically homogeneous village, the information flows more in the less dense, homogeneous village. They argue that people in heterogeneous villages will withhold sensitive information from others. Unfortunately, however, Larson and Lewis' reliance on data from two villages does not allow them to disentangle ethnic composition from social density, and although they run simulations to show that heterogeneous communities should be more likely to have denser networks, they are not able to test this empirically.

We expect that the density of social ties within communities moderates leaders' abilities to mobilize. By the density of social ties, we mean the extent to which individuals know each other in a community, regardless of whether these are 'strong' such as family or friendship ties or 'weak' ties between acquaintances. This is vital to leadership's ability to cultivate compliance with mobilization efforts, as socially dense communities should facilitate the spread of information and thus improve monitoring at the community level. Dense social connections may also facilitate the spread of information (Huckfeldt et al., 2004; Huckfeldt and Sprague, 1987), increase awareness, and encourage participation (McClurg, 2003; Tran et al., 2013). Early work on social capital by Coleman (1988) suggests that closed social networks (i.e., those in which everyone knows the others in a community) permit communities to monitor and effectively sanction misbehavior. Jackson et al. (2012) draw a similar conclusion, arguing that it is not the number of clusters, but the existence of 'social quilts' (e.g., "tree-like unions of completely connected subnetworks") that make people more likely to reciprocate.

We anticipate that the poor are more likely to respond to local authorities and neighbors than distant authorities, and that the social density of their communities moderates their willingness to do so. Community social density may shape participation through three mechanisms: bandwagoning, leader sanctioning, and community sanctioning. Social pressure may lead individuals to comply, for example, with existing social norms to vote or protest (Eubank et al., 2021; Eubank and Kronick, 2020; Gerber et al., 2008; Sinclair, 2012; Rosenzweig, 2018). Individuals in dense communities may also be more likely to identify with others, and thus be more likely to join with others in bandwagoning. We also expect that community social density, more than the strength of social ties, affects the flow of information, and thus the abilities of leaders or communities to monitor and sanction; one need not be a close friend or family member to spread information, monitor compliance, or impose sanctions and rewards. We expect that people should be more likely to believe that the community is aware of their actions, and thus more likely to respond to calls from local leaders, in communities where most individuals know many others.

3. Hypotheses

We consider three key hypotheses regarding when the poor are more likely to respond positively to calls to participate. Experimental hypotheses were pre-registered with EGAP (Registration ID: 20191122AA)

H1: The needy are more likely to express their willingness to participate when asked by their neighbors and village heads compared to more distant leaders (higher-level traditional authorities, local councilors, and MPs). (*pre-registered hypothesis*)[6]

H2: The needy in neighborhoods with dense social ties would be more willing to contribute than those in neighborhoods with less dense social ties. (*observational hypothesis*)[7]

H3: The needy in neighborhoods with dense social ties would be more willing than those in neighborhoods without such ties to contribute when asked by their neighbors or village heads. (*observational hypothesis*)

We further explore the mechanisms that explain why individuals in communities with dense social ties are more willing to respond to local leaders' calls than those in less dense ones.

H4a. **Community Sanctioning.** The needy in communities with dense social ties will be more likely than the needy in communities with less dense social ties to say they would contribute because they think others will sanction them if they do not contribute. (*pre-registered hypothesis*)[8]

H4b: **Leader Sanctioning.** The needy living in communities with dense social ties will be more likely to say that they contribute because they expect their leader to sanction them if

[6] The following hypothesis was pre-registered: "Poorer respondents are more likely to express their willingness to participate when being asked by their neighbors and village heads than more removed leaders (tribal leaders, local councilors, and MPs)."

[7] Our contextual variable for social density is measured observationally. We did not pre-register hypotheses H3, H4b and H4c.

[8] We pre-registered this hypothesis with an expectation that community sanctions should matter to respondents living in homogeneously poor communities: "Compared to poor respondents living in socioeconomically unequal communities, the effect of social sanctioning on expressed willingness to participate should be larger for poorer respondents living in villages or neighborhoods with a homogenous socioeconomic composition." Our expectations were based on the assumption that social ties should be denser in homogeneously poor communities than socioeconomically mixed or unequal communities.

they do not contribute than respondents living in communities with less dense social ties. (*observational hypothesis*)

H4c: **Community Bandwagoning.** The needy living in communities with dense social ties will be more likely than the needy living in communities with less dense social ties to say that they would contribute because others are doing so. (*observational hypothesis*)

4. Authorities, Social Ties and Compliance in Kenya, Malawi, and Zambia

We examine these hypotheses using data from more than 600 communities in Kenya, Malawi, and Zambia. These are countries with large populations of the poor, for whom participation in burial funds, education, and voting (our activities of interest) is widespread, and these activities are mobilized by a wide range of leaders. In short, they are good cases in which to examine how different local authorities, and the nature of the communities in which they are embedded, affect individuals' willingness to contribute to local development.

Kenya, Malawi, and Zambia are lower- and middle-income countries in sub-Saharan Africa with sizeable impoverished populations, our sample of interest. Thirty-seven percent (World Bank, 2020a) of Kenyans, 59 percent of Zambians (World Bank, 2020b), and 71 percent of Malawians (World Bank, 2020c) live below the international poverty line.[9] For many, accessing quality health services, ensuring passable roads, and even burying the dead are significant challenges. Schools and clinics often lack the necessary staff and supplies, and student drop-out rates are high.[10]

In these contexts, citizen participation is key to meeting community needs. In this study, we focus on individual contributions to burial funds and education. Especially for the poor, the costs of coffins, services, and transportation 'back home' exceed available income. As such, burial funds help community members weather the economic shocks caused by funeral costs (Kanyongolo and Mangani, 2011; De Weerdt, 2001). Education, too, is a community effort. Even in the poorest communities, citizens run community schools. These schools are often

[9] The percentage under the national poverty lines in Kenya, Zambia and Malawi are 36% (2015/16), 54% (2015) and 52% (2016), respectively. See World Bank (2020d).
[10] The primary school student-teacher ratio is 59:1 in Malawi (2018), 42:1 in Zambia (2015) and 31:1 in Kenya (2015). (See World Bank, 2020e) The pupil permanent classroom ratio in Malawi's primary schools reaches 119.5 (2019) (See Ministry of Education, Science and Technology, 2020, p. 82). On challenges in the health sector see Makwero (2018) for Malawi, WHO (2017) regarding Kenya, and Walter (2018) regarding Zambia.

free-of-charge and, with limited national budgets geared towards education, dependent on community contributions and local resources to stay afloat (Education Development Center, 2017). Indeed, studying the educational system in rural Malawi, Watkins and Ashforth (2019) conclude that "no matter how impoverished the community, their usual financial contribution to local schools exceeds that supplied by the state in the form of School Improvement Grants." Similarly, Kenyan schools remain reliant on household contributions even after the government announced that it would abolish school levies (Mackatiani et al., 2016; Miguel and Gugerty, 2005). Unsurprisingly, our surveys found that nearly 80 percent of poor respondents in Malawi and Zambia reported contributions of labor or money—even in Kenya, a more urban sample, the majority of respondents reported some form of contribution (See Figure H.1 in the online supplementary material).

Citizens also see voting as an important form of political engagement that improves everyday life. All three countries are multiparty democracies, holding both local and parliamentary elections. Constituents view elected officials, such parliamentarians and local councilors, as important service providers. In our sample, for instance, we find that 33.8 percent of Kenyans, 58.9 percent of Malawians, and 51 percent of Zambians consider soliciting funds to finance projects in their constituencies as the most important duty that their MPs and local councilors perform. Similarly, poor respondents think this is the most important task for local councilors (37 percent of Kenyans, 56 percent of Malawians and 48 percent of Zambians).

Elected leaders, however, do not encompass the full range of actors encouraging participation for local development. A range of authorities, from local elders and village heads to councilors and parliamentarians, call upon individuals to contribute to community-level initiatives. Kenyans, Malawians, and Zambians have both state and nonstate leaders at the local and national levels. In Kenya, state leaders are considerably stronger than traditional leaders; pre-colonial Kenyan communities were relatively acephalous, lacking strong traditional structures, and the post-colonial government continued to usurp the role of traditional authorities, incorporating chiefs into the bureaucratic administration. In Malawi and Zambia, hereditary, traditional authorities maintain greater significance. Thus, we find village heads (Malawi) and local chiefs (Zambia) at the most local level, and Traditional Authorities (Malawi) at a level more equivalent to a district. In all three countries, democratically elected local councilors (or MCAs, in Kenya) and parliamentarians also play

an essential role. Our survey finds evidence that leaders in all three countries ask citizens for their participation in burial funds, schooling, and elections. (See Table H.2 in the online supplementary material)

5. Data and Method

In this paper, we utilize real-world observational data and a conjoint survey from the Local Governance Performance Index (Lust et al., 2020) to test our hypotheses. This data comes from more than 600 villages and neighborhoods across Kenya, Malawi, and Zambia, and allows us to disentangle whether community density, social structure or ethnic composition is driving participation. We do not examine the spread of information in these villages, but we look more closely at what drives compliance with local leaders who are connected to these villages and neighborhoods as compared to more distant leaders. Moreover, although we discuss briefly and provide in the appendix comparisons with the less needy, this paper emphasizes how community social density shapes leaders' abilities to mobilize the poor. That is, we move beyond a focus on the resource-constraints and incentives of the poor to consider how leadership and context influence participation.

We focus on the needy, defined as those who say that they have difficulties meeting their needs, living in communities with sufficient data to measure social ties (See online supplementary material for questions and details). First, we use data from a conjoint experiment embedded in the LGPI survey to examine how leaders and social ties influence respondents' willingness to comply with calls for contributions. We randomly assigned the attributes of the authority, but the density of the neighborhood ties and the respondents' needs cannot be randomly assigned. Therefore, this analysis allows us to identify the effect of leaders, monitoring, and community participation on stated compliance, as well, observational data permits us to infer the density of social ties. We also examine questions that tap into respondents' previous actual contributions to community services, which heightens the external validity of the experiment.

5.1 Data

To compute our main variables of interest, we use data from the full sample, which includes individual survey responses from 23,954 respondents from more than 1,200 communities throughout Kenya (N=3,788; 152 communities), Malawi (N=10,302; 502 communities), and Zambia (N=9,864; 636 communities). In order for our analysis to aggregate household data

and create contextual-level variables, we first drop communities[11] with less than 20 respondents from our sample. This is because our main interest in this paper is community context, and we do not believe that we can draw valid conclusions about the community characteristics using aggregated data if we have surveyed less than 20 respondents per community. Thus, our sample retains 19,000 respondents from over 600 communities. We then calculate our contextual variables by aggregating individual-level responses on the density of social ties, poverty, and social inequality at the community level.

The density of social ties is our main contextual variable of interest. We measure the density of social ties in the community by the percentage of respondents that say that they know at least some or most others in the area. Communities in which at least 80 percent of respondents know others are considered to be communities with dense social ties. We choose a high threshold to define dense communities to account for the small number problem in our data. Our findings are robust using alternative thresholds, including a continuous variable representing the share of respondents who know most others in the neighborhood, as well as with thresholds of 70 and 85 percent. But as expected, there was a sharp drop-off in robustness among less dense communities below the 70% threshold. We report the findings in Tables D.6-D.9 of the online supplementary material.

Our measure of social density is different from how network density is typically measured in studies of social networks.[12] Instead of capturing individual links to others in the community, we ask whether our respondents know most, some, a few or none of their neighbors. We acknowledge that we are not able to draw individual connections between our respondents in the survey. This results from the study design as well as the overall aim of the survey, which is to be able to compare service provision and governance at the local level across a high number of villages and neighborhoods. Collecting data from over 1200 villages and neighborhoods did not allow for the inclusion of detailed social network questions, yet, at the same time, the design of the survey provides a unique opportunity to compare a large

[11] A community is defined as the individuals living within a 1.5 km radius of the center of a sampling square kilometer (sampling maps are added to the online supplementary material).

[12] Network density is the ratio of the number of the existing network links to the number of possible links among individuals in this network. Scholars of social networks often use survey questions that ask people, for example, to name up to three or five individuals with whom they spend time during the week, discuss politics or most often talk on the phone. To be able to capture the network structure, information on the full network is essential as missing nodes (individuals) and links between them can severely impact the results. Alternatively, researchers have also run analysis with only the closed networks included, meaning those individuals who were surveyed while excluding non-respondents (Larson and Lewis, 2017).

number of communities. We believe that our "proxy question" (Perry et al., 2018) represents a valid alternative measure of neighborhood ties and that we can draw inferences about the social density in the community from our aggregated measure.

To define our sample of the needy, we use a survey question on whether respondents can cover their needs.[13] Respondents are asked:

> I will read out a few statements about your income. Please tell me, which of the following statements is closest to your situation… <1> Our household income covers the needs well – we can save <2> Our household income covers the needs alright, without much difficulty <3> Our household income does not cover the needs, there are difficulties <4> Our household income does not cover the needs, there are great difficulties <98> Don't know/Refuse to answer.

The answer options were recoded with respondents who answered that they have difficulties or great difficulties to cover their needs as "needy" and those who did not report any difficulties as "non-needy". Given the low number of respondents who chose the "don't know and refuse to answer" option (1 percent), we excluded them from the analysis.[14]

We next drop all respondents who reported being able to cover their needs without difficulties or great difficulties from our initial sample. This leaves a sample of 14,117 needy individuals in 631 communities in Kenya, Malawi, and Zambia (see Table 1). We run all analysis on the poor sample, our population of interest.

[13] We had initially planned to use an asset index to measure poverty. Yet because this is a cross-national study with rural and urban areas in each country, the measure is not valid without additional manipulation. Moreover, the asset index measure also would not tell us anything about the neediness of the respondent which we argue should theoretically explain why the poor develop denser community ties with their neighbors.

[14] The survey question on whether respondents can cover their needs is constructed to present an objective measure of economic deprivation given that, in sub-Saharan Africa, the large informal sector and non-cash income draws into question the usefulness of direct income questions.

Table 1: Number of Communities and Respondents in the Poor Sample by Community Ties

	Kenya	Malawi	Zambia	Total
Communities with dense ties	18 (12.6)	93 (37.1)	85 (35.9)	196 (31.1)
Communities with less dense ties	125 (87.4)	158 (62.9)	152 (64.1)	435 (68.9)
Communities (Total)	**143 (100)**	**251 (100)**	**237 (100)**	**631 (100)**
Respondents in dense communities	267 (13.4)	2,812 (39.7)	2,032 (40.3)	5,111 (36.2)
Respondents in less dense communities	1,726 (86.6)	4,270 (60.3)	3,010 (59.7)	9,006 (63.8)
Respondents (Total)	**1,993 (100)**	**7,082 (100)**	**5,042 (100)**	**14,117 (100)**

Note: Percentages in Parentheses.

5.2 Conjoint Experiment

We employ a conjoint experiment embedded in the survey to examine how leadership type and communities' social density affects the likelihood that respondents say they will contribute to burial funds, education funds, or voting for a candidate endorsed by the leader. The conjoint experiment allows us to vary the type of leader and activity/contribution that the respondent must consider. The three activities were designed to be costly for the participants in our experiment; they require spending money that could have been used for other important purposes or spending a day waiting to vote and not getting pressing work done. It should be noted that the request for voting did not suggest the respondent would receive any benefit, either in the present or future, and thus was not presented as a clientelistic offer. The conjoint experiment also includes a number of other attributes that describe the situation. These attributes are described here and included in the analysis, but they are not the main interest in this study. All attributes, outlined in Table 2, are randomly assigned.

The experiment was administered only to respondents who had the randomly chosen authority that would be presented. Thus, before presenting the experiment, the respondents

were asked if the chosen authority existed in their context. Those who answered affirmatively were presented the vignette. We recognize that excluding individuals without the presented authority draws into question random selection but, in designing the experiment, we decided it was important that the vignette be equally realistic for all respondents. A balance test on the data (see online supplementary material) finds no reason for concerns that this exclusion led to significant selection bias.

The vignette reads as follows:
"Please now think about [leader A.] Could you tell me the name of [leader A] that you are thinking of?

"I'd like to ask you to imagine that [leader A] is asking you and other members of your village to [activity B]. [Leader A] thinks this is important. [Monitoring type C]. The last time people in your village were asked to [activity B], [baseline support D] of them did so. How likely are you to [activity B]?"

Table 2: Randomized Arms in the Conjoint Experiment

Dimension	**Randomized Arms**
A. Type of Leader	A1. Your village head (rural)/Neighborhood block leader (urban) A2. Your tribal chief (Zambia/Malawi)/Tribal elder (Kenya) A3. Your local councilor A4. Your MP A6. Your next-door neighbor
B. Activity/Service Requested	B1. Spend a day to go vote for a presidential candidate who does not reflect your interests, instead of getting your own pressing work done. B2. Contribute a day's wage to a local public-school fund, instead of saving that money for other pressing purposes. B3. Contribute a day's wage to a burial fund supporting families in need, instead of saving that money for other pressing purposes.

C. Monitoring	C1. No one is keeping track of whether or not you comply with this request and information on this will not be shared with anyone C2. [Leader A] will be keeping track of whether or not you comply with this request, but will not share this information with your community. C3. [Leader A] will be keeping track of whether or not you comply with this request and will share this information with your community.
D. Prior Level of Support for Activity in Village[15]	D1. 10 % D2. 10 % D3. 50 % D4. 90 %

Our main dependent variable – measuring respondents' compliance – is derived from the question:

I. "How likely are you to [Activity B]?" (Not at all likely, not likely, somewhat likely, very likely)

We also asked three follow-up questions to help us interrogate underlying mechanisms. These include whether respondents expect community sanctions for non-compliance and whether they would be more likely to comply when others are expected to do the same:

II. "How likely is your leader to sanction you if you do not comply?" (Not at all likely, not likely, somewhat likely, very likely)

III. "How likely are others in the village to sanction you if you do not comply?" (Not at all likely, not likely, somewhat likely, very likely)

IV. "If you knew that enough other people are participating in this activity to make it successful, would this make you more likely to comply?" (less likely, neither more or less likely, more likely)

[15] Prior level of support was presented to respondents in the following proportions: 50% of the time it was presented as 10%, 25% of the time as 50% and 25% of the time at 90%. This imbalance was employed to allow Baldwin et al. (2021) sufficient power to examine hypotheses over legitimacy. This arm is included in the analysis but not relevant for the study presented here.

Answers to most of these questions are coded on a 4-point scale with 4 as "very likely". Given the wording of the survey question about bandwagoning decisions, however, we code as 1 "less likely, 2 "neither more or less likely", and 3 "more likely". (See Question IV.)

We include two controls to address potential concerns that selection mechanisms drive our results. First, we control for whether respondents (empirically) reported having a village head, local elder, or chief in the first place. This helps address the potential problem that those without such leaders are systematically different (e.g., more urban, more educated) than those who have them. We also include the time the respondent has lived in the village to address similar concerns. We control for country effects by including fixed effects for the regions (Nairobi, Lilongwe, Malawi Border, Lusaka, Zambia border). We also include the other experimental arms as control variables. Finally, additional individual-level controls were added as robustness checks.

5.3 Multilevel Modeling

We analyze the data using a hierarchical model, which respects the nested structure of our data. In our data, respondents are nested within communities. We may expect respondents living in the same community to be more similar, which violates the assumption that observations are independent, required for classical linear regression models (Hox et al., 2010).[16] Using multilevel analysis to investigate the impact of social neighborhood context on individuals' compliance, we can adjust for the dependence of respondent observations from the same community. This allows us to correctly estimate the uncertainty of our estimates (Peugh, 2010).

As our basic model, we run the random slope model in which we allow the effect of the type of leader on compliance to vary across communities.[17] The full model specification of the random intercept model includes the cross-level interaction between the density of ties and the social proximity of the leader:

[16] We run OLS regression analysis and find widely robust effects for our main interaction models. Yet, when using community sanctioning as a dependent variable, the interaction term becomes insignificant when introducing additional control variables. The findings are reported in Tables D.4 and D.5 in the online supplementary material.

[17] We report findings running the null model and the random intercept model and the model fit statistics in the Appendix (see Tables A.1-A.3 in the Appendix).

$$\text{compliance}_{ij} = \beta_0 + \beta_1\text{leader}_{ij} + + \beta_2\text{individual\_controls}_{ij} + \beta_3\text{comunity\_ties}_{ij} + \beta_3\text{region}_{ij} + \beta_4\text{leaderxdensity}_{ij} + u_{0j} + u_{1j}\text{leader}_{ij} + e_{ij}$$

We exploit efforts by Baldwin et al. (2021) to design the experiment and test these mechanisms empirically. We thus specify the same model using alternative dependent variables: community sanctioning, bandwagoning, and leader sanctioning.

5.4 Observational Data

We also use observational data to explore the factors driving the poor's willingness to contribute. We examine contributions to educational and burial funds. To determine whether respondents partly participate because of expected social sanctions or rewards, we employ questions about potential sanctions and benefits in the survey. (See online supplementary material for question-wording.) Finally, we draw on questions that tap into individuals' attitudes toward different leaders: specifically, whether they think that they can have an influence over their leaders' decisions.

6. Analysis and Results

Our analyses reveal a great deal of variation in the density of social ties among communities (see Table 2 above). Looking at those communities in which at least some poor reside, we find that only about 13.4% of the poor respondents in our Kenyan sample reside in communities with dense social ties, as compared to nearly 40% in our Malawian and Zambian samples. We then interrogate, to what extent do poor individuals in communities with dense social ties respond differently to calls for participation than those in communities with less dense ties?

6.1 The Effect of Local Leaders and Strong Social Ties on Compliance

We begin by testing hypotheses H1-H2 regarding the effect of local leaders and dense social ties on poor respondents' willingness to participate in community efforts. Recall that we expect respondents to be more willing to contribute when asked by village heads or neighbors (H1) and when they reside in communities with dense social ties (H2). Moreover, we expect an interaction effect: that respondents state that they are more willing to contribute when being asked by their neighbors or village heads when they live in neighborhoods with dense social ties rather than neighborhoods with less dense social ties (H3).

Table 3 presents the findings from our main analysis of the poor sample.[18] We run linear multilevel models using the *mixed* command in STATA.[19] Model 1 shows the results from running the basic random slope model, in which we allow the effect of the leader type on compliance to vary across neighborhoods.

Table 3: Multilevel Analysis with Compliance as Dependent Variable and Density of Ties as Contextual Variable

	Model (1) Random Intercept Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Individual Level			
Local Authorities and Neighbors	0.170*** (0.018)	0.170*** (0.018)	0.141*** (0.023)
Community Level			
Neighborhood Social Ties		-0.027 (0.025)	-0.059** (0.030)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.077** (0.037)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.850*** (0.039)	1.861*** (0.040)	1.873*** (0.041)
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.024 (0.004)	0.024 (0.004)	0.024 (0.004)
Residuals (var)	0.926 (0.012)	0.926 (0.012)	0.925 (0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

[18] Additional models like the null model and the random intercept model are added to the Appendix. For details see Table A.1 in the Appendix. We also report test statistics to compare the different models as well as the intra-class correlation in the Appendix (see Tables A.2-A.3).

[19] We are unable to run multilevel ordered logistic regression models using the *meologit* command in STATA as the models do not converge when including random slopes.

*Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. For the full models with all values added, see Table A.4 in the Appendix.*

We estimate the effect of being asked by local leaders and neighbors versus by more distant leaders. The estimated coefficient is 0.17 ($p<0.01$), which can be interpreted as a 4.25 percentage points difference in individual compliance explained by the social proximity of the leader (local leaders and neighbors versus more distant leaders) who asked the respondent to participate. We find a constant positive and significant effect for local leaders in all our models.

Model 2 includes our second-level variable on the density of neighborly social ties – measured by the survey question asking whether people know most others in their neighborhood or not. The coefficient is negative but not significant in the model. Social density does not seem to impact poorer individuals' stated compliance with leaders more generally.

However, a cross-level interaction between neighborhood social density and our experimental variable on whether respondents were asked by local leaders and neighbors versus more distant leaders finds a positive and significant interaction coefficient ($p<0.05$). The marginal effect of being asked by neighbors or local leaders on compliance is 0.22 for communities with dense social ties compared to 0.14 for communities with less dense social ties. We also find that more distant leaders are significantly less likely to obtain compliance, especially in dense communities.

In short, the analysis of the conjoint experiment indicates that authority figure and community density affect compliance. Respondents are more likely to say they will comply when asked by village heads or neighbors than by more distant leaders, supporting H1. Social ties alone are not significantly related to participation, however, finding no support for H2. There is, though, support for H3. When living in socially dense neighborhoods, the poor will be more likely to comply only when asked to participate in an activity by their neighbors or local leaders. Moreover, they will be even less likely to comply with more distant leaders when living in socially dense communities.

We recognize that we are relying on reported willingness to participate and not actual participation as our dependent variable. Yet, we find considerable variation in the extent to which respondents report that they would be willing to participate in the activities, this

arguably cannot simply be 'cheap talk'. In addition, studies of voting behavior show, for example, that even though the intention to vote does not always translate into actual voting, the willingness to do so can be considered as an alternative measure where validated measures of voting behavior are not available (Achen and Blais, 2015).

Analysis of the observational survey data reveals further support for these conclusions. Respondents living in socially dense communities think that their traditional authorities have a higher influence on these communities than those living in communities without such social ties (see Table E.1 in the online supplementary material).[20]

6.2 Explaining Participation

We next test some of the potential mechanisms explaining the relationship between social ties, local leaders, and compliance. Recall our three possible mechanisms: sanctioning by community members, sanctioning by leaders, and bandwagoning. We test these mechanisms using the follow-up questions in the experiment. These include whether respondents expect *sanctions* in case of non-compliance and whether these expected sanctions originate from leaders[21] or community members;[22] as well as whether they would be likely to *bandwagon* if they knew enough others were participating in the activity for it to succeed.[23] We also draw upon observational questions regarding the extent to which respondents feel that following their leader is right and proper, whether they have a say in what various leaders do, whether they participate in education projects or burial funds, and if they do so because they feared sanctions or expected benefits.

We find evidence that sanctioning and bandwagoning help to explain individuals' willingness to contribute, and that the effect of community-based sanctioning and bandwagoning is

[20] We also run the models in Table 4 by the type of activity (see Tables D.10-D.12 in the online supplementary material). Our results show that the findings are robust for voting and the contribution to educational funds. Yet when looking at the sample of individuals who were asked to contribute to a burial fund, we find that respondents are more likely to comply if they are asked by local authorities and neighbors compared to more distant leaders. However, we do not find the interaction between the proximity of the authority and the density of communities to matter with the coefficient being negative and non-significant. Compliance with local authorities and neighbors does not seem to depend on the type of community in which people live. This may be explained by the fact that contributions to burial funds are perceived as a moral duty in many African countries which is not necessarily influenced by the density of the community network.

[21] Specifically, we ask "How likely is your {Leader A} to sanction you (speak badly about you, hurt you, etc. if you do not {Activity B}?"

[22] "How likely do you think it is that other members of your village will punish you if you do not {Activity B} when your {Leader A} asks you to do so?"

[23] Specifically, the question is: "If you knew that enough other people are participating in this activity to make it successful, would this make you more likely to comply? (Answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)"

greater in communities with dense social ties. When asked by local authorities or neighbors rather than more distant leaders, we find that individuals are more likely to think that they would be sanctioned by the community in cases of non-compliance when living in socially dense neighborhoods (see Table 4). The marginal effect of being asked by local leaders versus more distant leaders on the reported fears of being sanctioned by the community members in case of non-compliance is 0.11 for communities with dense ties compared to 0.05 for communities with less dense ties. Thus, the contextual effect of neighborhood social ties depends on the proximity of the authority (local leader and neighbor vs distant leaders). The same is true for bandwagoning. The marginal effect is 0.13 for communities with dense ties versus 0.07 for communities with loose ties. We do not find that they would fear being sanctioned by their leaders more when being asked to contribute by neighbors and local leaders. The marginal effect is 0.14 for communities with dense social ties and 0.15 for communities with less dense social ties.

Table 4: Random Slope Model with Alternative Dependent Variables

	Model (1) Community Sanctioning	Model (2) Community Bandwagoning	Model (3) Leader Sanctioning
Individual Level			
Local Authorities and Neighbors	0.049** (0.022)	0.065*** (0.018)	0.155*** (0.023)
Community Level			
Neighborhood Social Ties	-0.040 (0.029)	-0.017 (0.024)	-0.008 (0.032)
Interactions			
Local Authorities and Neighbors*Social Ties	0.061* (0.035)	0.062** (0.029)	-0.016 (0.036)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.928*** (0.040)	1.580*** (0.032)	1.904*** (0.044)
Community (var)	0.003 (0.007)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.030 (0.005)	0.017 (0.003)	0.039 (0.005)
Residuals (var)	0.801 (0.011)	0.547 (0.007)	0.873 (0.012)
Observations	11,966	11,866	11,858
Neighborhoods	631	631	631

*Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. For the full models with all values added, see Table A.5 in the Appendix.*

Observational data from the survey supports these findings. Table 5 shows multilevel regression results for whether individuals think they have a say in what their different leaders do. We run linear multilevel regression using STATA's mixed command. We report the

findings from the random intercept model in which we allow the intercepts to vary while the slopes are fixed. We find that respondents from our sample who live in socially dense neighborhoods were significantly more likely than those living neighborhoods with looser social ties to report that they think that they have a say in what their neighbors ($p<0.10$) or village heads ($p<0.01$) do. We find three percentage point and four percentage point differences in neighbors' and village heads' reported influence, respectively, that can be attributed to our contextual variable.

We find evidence that the relationship between local leaders and residents in communities with dense social ties differ in important ways from the relationship between these parties in communities with less dense social ties. Importantly, social density and the closeness of authority figures appear to drive the extent to which community sanctions are expected; therefore, more complex local leader-resident relations, more than community relations alone, appear to explain reported participation. We find that poor respondents living in socially dense communities are significantly more likely to report that their village heads and neighborhood block leaders treat their community members fairly (see Table E.3 in the online supplementary material). By contrast, we do not find them to perceive neighbors as more legitimate when living in socially dense communities. Our data shows small effects for village heads, MPs and council members' perceived legitimacy but not significant effects for chiefs, religious leaders, and neighbors (see Table E.2 the online supplementary material). Finally, we also do not find neighborhood social ties to affect whether people think they have a say in what their more distant leaders do.

Table 5: Influence on the Decisions of Leaders and Neighbors

	Chief	Village Head	Religious Leader	MP	Council Member	Neighbor
Individual Level						
Female	-0.064*** (0.009)	-0.092*** (0.009)	-0.069*** (0.009)	-0.093*** (0.009)	-0.105*** (0.009)	-0.057*** (0.008)
Education (some schooling)	0.042*** (0.014)	0.086*** (0.015)	0.073*** (0.014)	0.053*** (0.014)	0.065*** (0.014)	0.079*** (0.013)
Age (35-55)	0.018* (0.010)	0.046*** (0.010)	0.052*** (0.009)	0.041*** (0.010)	0.041*** (0.009)	0.032*** (0.009)
Age (55+)	0.011 (0.014)	0.025* (0.014)	0.003 (0.013)	-0.001 (0.014)	-0.010 (0.014)	0.014 (0.013)
Community level						
Dense Neighborhood Ties	-0.006 (0.014)	0.037*** (0.014)	-0.000 (0.013)	-0.007 (0.013)	-0.001 (0.013)	0.027* (0.014)
High Population	0.014 (0.012)	0.015 (0.013)	0.019 (0.012)	0.022* (0.012)	0.024** (0.012)	0.009 (0.012)
Region (Lilongwe as baseline)						
Lusaka	-0.028 (0.022)	-0.019 (0.022)	0.115*** (0.020)	0.146*** (0.020)	0.136*** (0.020)	-0.040* (0.022)
Zambia border	-0.014 (0.021)	0.077*** (0.022)	0.166*** (0.020)	0.198*** (0.020)	0.193*** (0.020)	0.058*** (0.022)
Nairobi	0.069** (0.022)	0.005 (0.022)	-0.019 (0.020)	-0.077*** (0.021)	-0.092*** (0.020)	-0.089*** (0.022)

Malawi border	0.033* (0.019)	0.032 (0.019)	0.062*** (0.018)	0.049*** (0.018)	0.043** (0.018)	0.015 (0.019)
Constant	0.373*** (0.024)	0.457*** (0.024)	0.498*** (0.023)	0.449*** (0.023)	0.473*** (0.023)	0.631*** (0.024)
Constant (var)	0.008 (0.001)	0.008 (0.001)	0.006 (0.001)	0.006 (0.001)	0.006 (0.001)	0.009 (0.001)
Residual (var)	0.229 (0.003)	0.236 (0.003)	0.225 (0.003)	0.233 (0.003)	0.231 (0.003)	0.202 (0.002)
Observations	13,379	13,476	13,676	13,597	13,581	13,692
Neighborhoods	631	631	631	631	631	631

*Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01.*

Responses to the additional survey questions on why respondents have contributed to burial funds and educational programs in the past show that rewards are relatively more important drivers of compliance than expected sanctions (see Figures F.1-3 and Table F.4 in the online supplementary material). We also find that in some cases, there are significant differences between the importance of these carrots and sticks in socially dense neighborhoods than in those which are less dense. Kenyans living in neighborhoods with dense social ties are more likely to report that they gain rewards when participating in educational initiatives than those living in neighborhoods with less dense social ties. Malawians are more likely to expect sanctions if they do not participate in educational initiatives or contribute to burial funds when living in socially dense neighborhoods than those living in neighborhoods with less dense social ties. Finally, Zambians are more likely to report that they partly participate in educational initiatives and donate to burial funds because they fear sanctions in case of non-compliance. They are also more likely to think that contributing to educational initiatives is the "right thing to do" when living in socially dense neighborhoods.

This indicates, once again, the importance of neighborhood social ties for compliance through social monitoring. Yet, it appears that the combination of leadership and social ties, rather than social ties alone, affects participation.

7. Discussion and Alternative Explanations

Analyses of the conjoint experiment and observational data presented demonstrate that variation in the density of community ties, and the nature of leaders, affects participation. We find that individuals are more likely to say they would contribute when asked by neighbors and local leaders than by more distant leaders, with community social ties moderating this effect. Individuals are more likely to respond to neighbors and local leaders—and less likely to respond to distant leaders—in communities with dense social ties as compared to less dense communities.

One may raise a number of objections to our interpretation that social density moderates the impact of leaders on participation. For example, one may argue that needy respondents who are more prosocial would move to communities with denser neighborly ties. However, we find no evidence that the self-selection of more prosocial individuals into communities with dense social ties drives our results. Our findings are robust after adding a control for individual social ties to our models (see Table D.1 in the online supplementary material). It appears to be the nature of engagement in communities with dense versus less dense social

ties, rather than the attributes of the individuals living in these communities, that affects participation.[24]

It also does not appear that other characteristics shaping the density of ties within communities explain our results. There is a strong underlying assumption that social ties should be denser among the poor and other communities with limited resources, such as racial minorities and the elderly (cf. van Eijk, 2010; Campbell and Lee, 1992; Logan and Spitze, 1994). These groups tend to be resource-poor and have fewer connections to others living outside their neighborhood, thus relying more on neighbors as a social safety-net (e.g., Pinkster, 2007; Pinkster and Völker, 2009; van Eijk, 2010). Early studies in sociology also suggested that social ties in rural communities would be both denser and stronger than in urban communities (cf. Bridge, 2002), as social relationships are often overlapping (e.g., neighbors may be co-workers and friends). Yet, Kasarda and Janowitz (1974) find the length of residence is associated with community density independent of the type of community (rural vs urban). Moreover, Wellman (1989, 12) suggests that kinship ties typically "extend beyond the neighborhood," and Henning and Lieberg (1996) show that weak neighborly ties are more important and easier to sustain among neighbors than stronger ties such as friendship ties. Finally, there is some reason to expect that socioeconomically and ethnically homogeneous communities are likely to have stronger ties, as similar individuals are more likely to interact socially (cf. McPherson et al., 2001). We may thus expect that ethnically homogeneous communities as well as homogeneously poor communities have stronger social ties.

[24] In future analyses we will also control for ethnic heterogeneity within the square kilometer. Preparing data for this analysis requires that we match elite level surveys with household surveys. This is currently on-going and expected to be completed later this year.

Table 6: Descriptive Statistics for Communities, by Density of Social Ties

	Dense Ties	Less Dense Ties	Total
Gender			
Female	62.45	62.58	62.53
Male	37.55	37.42	37.47
Age			
18-34	52.94	61.69	58.53
35-55	31.05	28.19	29.22
>55	16.02	10.12	12.25
Schooling			
At least some schooling	85.83	91.58	89.50
No schooling	14.17	8.42	10.50
Time lived in Community			
Less than one year	4.53	14.30	10.76
More than one year	54.14	66.44	61.99
All my life	41.33	19.27	27.26
High Population Areas			
Densely populated (urban)	15.05	51.14	38.07
Less densely populated (rural)	84.95	48.86	61.93

Note: We present percentages in the table. We present findings for the poor sample only.

We examine how differences in our communities – considering "time lived" in the community, age, class (here, so far, proxied by education), and population density (urban-rural differences) – drive our results. Descriptive statistics are reported in Table 6. We do find some differences between respondents living in more or less dense communities. Respondents who live in communities with dense social ties are, on average, older and less educated, and they have lived in their respective communities longer than those living in communities with loose social ties. We also find that 85 percent of the communities with denser social ties in our sample are less densely populated, which we use as a measure for

being a rural community, compared to 49 percent of the communities with less dense social ties. However, we run models with all of these variables as robustness checks to rule out that specific characteristics of the residents in our communities with dense or less dense social ties are driving our results rather than the social interactions between them (see Table 7).[25] Our results stay mostly robust after including these additional controls in our models. The interaction effect of social density and the social proximity of the leader on community sanctioning barely misses significance in Model (2).

Table 7: Random Slopes Models with additional Controls for Participation, Community Sanctioning, Bandwagoning and Leader Sanctioning

	Model (1) Compliance	Model (2) Community Sanctioning	Model (3) Bandwagoning	Model (4) Leader Sanctioning
Individual Level				
Local Authorities and Neighbors	0.139*** (0.023)	0.047** (0.022)	0.063*** (0.018)	0.152*** (0.023)
Female	0.029 (0.019)	0.022 (0.018)	-0.009 (0.015)	0.005 (0.018)
Education	-0.075** (0.031)	-0.129*** (0.029)	-0.036 (0.024)	-0.148*** (0.030)
Age ("18-34" as baseline)				
35-55	-0.007 (0.020)	-0.039** (0.019)	0.005 (0.016)	-0.038* (0.020)
> 55	-0.020 (0.029)	-0.156*** (0.027)	-0.017 (0.022)	-0.151*** (0.028)
Residency ("less than a year" as baseline)				
Residency ("more than a year")	-0.027 (0.032)	-0.046 (0.030)	-0.034 (0.025)	-0.069** (0.031)
Residency ("all my life")	-0.042 (0.035)	-0.079** (0.033)	-0.046* (0.027)	-0.097*** (0.035)
Community Level				
Neighborhood Social Ties	-0.091*** (0.031)	-0.046 (0.031)	-0.035 (0.025)	-0.012 (0.033)
High Population Density	-0.092*** (0.024)	-0.057** (0.025)	-0.064*** (0.020)	-0.048* (0.036)
Interactions				
Local Authorities and Neighbors*Social Ties	0.080** (0.037)	0.057 (0.035)	0.063** (0.029)	-0.019 (0.036)

[25] We run robustness checks with individual level controls including: Gender (female) and Education (some education). We further run separate analysis and the fully specified model including age (18-34; 35-55; >55), the number of years the respondent lived in the neighborhood (answer categories: "less than a year", "more than a year", "all my life") and population density ("densely populated", "not densely populated").

Controls				
Experimental Arms	✓	✓	✓	✓
No such Authority	✓	✓	✓	✓
Region	✓	✓	✓	✓
Constant	2.005***	2.135***	1.688***	2.151***
	(0.060)	(0.058)	(0.047)	(0.062)
Community (var)	0.000	0.003	0.000	0.000
	(0.000)	(0.007)	(0.000)	(0.000)
Constant (var)	0.022	0.028	0.016	0.036
	(0.004)	(0.004)	(0.003)	(0.005)
Residuals (var)	0.923	0.799	0.547	0.872
	(0.012)	(0.011)	(0.007)	(0.012)
Observations	11,971	11,881	11,785	11,773
Neighborhoods	631	631	631	631

*Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01.*

We also rule out that socially dense communities are very homogeneous communities where most poor individuals reside, where social inequality is particularly low or where ethnic fractionalization is low. We find that the share of poor individuals in a community is, on average, higher in socially dense neighborhoods (0.85) than in communities without dense social ties (0.69). Yet we only find a moderate correlation between socially dense and poor communities in our sample (Pearson's r=0.57, Spearman's r= 0.52, p=0.000, 14117 observations).[26] Thus, this is very unlikely to drive our results. We further control for socioeconomic composition in the analysis and find our results to be robust (see Table D.16 in the online appendix). Moreover, we test whether socially dense communities are communities with low levels of socioeconomic inequality. We calculate the Gini coefficient for the communities in our sample. We find no correlation between our social inequality measure and community social ties in our poor sample (Pearson's r=0.07, Spearman's r= 0.09, p=0.000, 14117 observations).[27] Again, there is considerable variation regarding the inequality levels in the communities with dense and less dense social ties.

Finally, we calculate the ethnic fractionalization index (ELF) on the community level. We find a moderate negative correlation between socially dense communities (continuous variable) and ethnically heterogeneous communities when calculating Pearson's correlation

[26] The correlation is slightly stronger in the whole sample (Pearson's r=0.61, Spearman's r= 0.58, p=0.000, 19047 observations).

[27] Social inequality was calculated using the *ineqdeco* command in STATA with values from the survey question on whether respondents can cover their needs (see online supplementary material for question-wording).

coefficient (r=-0.38) and a relatively strong correlation when calculating Spearman's rho (r= -0.56, p=0.000, 14117 observations). We show that findings presented in Table 4 are mostly robust when including ELF as control variable. The interaction effect stays positive and significant ($p<0.05$), while the independent negative effect of social density on participation reaches significance ($p<0.1$) in this model (see Table D.14 in the online appendix). Finally, we also run the models presented in Table 7 with ELF instead of the density of social ties (see Table D.15 in the online appendix). We do not find ethnic homogeneity to increase the poor's willingness to participate when being asked by neighbors or the village head.

One may also worry that the results are driven by certain activities or leaders. To empirically show this, we run separate analyses with voting and contributing to burial and educational funds as dependent variables (see Tables D.10-D.12 in the online supplementary material). We find similar and robust results for voting and the contribution to educational funds. The effects do not hold for the contribution to burial funds, which may be because Africans tend to view contributing to burial funds as a moral duty, in contrast to voting for an endorsed candidate or contributing to a school fund. They thus contribute to burial funds independent of leaders and community network density.

We also run separate analyses by village head versus more distant leaders and neighbors versus more distant leaders to rule out that our results are driven by the impact of village heads or neighbors only (see analysis for neighbor and village head in Tables D.2-D.3 in the online supplementary material). Even though the direction of our interaction effect is positive for neighbors, we only find it to be significant when controlling for other individual-level characteristics. When looking at village heads, we find the interaction to be non-significant. Missing significance in these models highlights how important a very big sample size is four our analysis. Our power is significantly reduced after dropping one type of leader from the analysis to compare the separate effects of neighbors and village heads with those of more distant leaders.

8. Conclusion

This study has turned our attention to the variation in the participation of the poor, focusing on the relationship between local leaders, community ties, and citizens' willingness to provide community goods. To do so, we have exploited a conjoint experiment and observational data from a large, unique dataset of over 14,000 poor Kenyans, Malawians and Zambians in 631

villages. This allows us to measure social ties at the community level and employ hierarchical models, examining the extent to which these ties combine with the nature of leaders to affect compliance.

We find that the needy do not always live in dense communities and that rural, ethnically homogeneous, and poor communities are necessarily also socially dense communities. Yet, where the poor do live in socially dense communities, this increases their participation in community programs and elections when being asked by local leaders and neighbors compared to more distant leaders. This suggests that local leaders may be particularly influential in these communities as they are part of the community structure itself. At the same time, we find that more distant leaders have less influence on the needy, especially when the poor live in dense communities. Our findings also suggest that community monitoring and sanctioning, as well as community bandwagoning, are increased in dense communities. They are particularly important in communities with dense social ties combined with calls by village heads, neighborhood leaders and neighbors. While these findings seemingly contradict those by Eubank et al. (2021), which hold that information by competing forces in the community may forcefully limit behavioral change, we instead suggest that dense communities can help to overcome these limiting influences when behavioral change is endorsed by the local community and important leaders.

There are, of course, limitations to this study, and work remains to be done. For instance, given constraints on our power, we cannot look at sanctioning by the type of leader. However, we expect community information mechanisms, and thus ability to sanction and reward community members, to be employed more often by neighbors and local leaders than by other national leaders. Further work should be designed to explore this and consider the underlying socioeconomic factors that may explain the density of neighborhood social ties. Our work indicates that there may be different mechanisms in place driving participation among those in need than those who are better off. A more systematic comparison of these subgroups could potentially help to uncover these differences in future work. How the strength of social ties affect compliance requires further study as well.

Nevertheless, these findings have important implications. Most broadly, they show the importance of local-level variation in governance, demonstrating limitations in the conclusions that we can draw from large, nationally representative surveys in the absence of

community-level measures. Moreover, they highlight limitations in the authorities' abilities to mobilize individuals. We find that MPs, local councilors and other authorities may be unable to mobilize citizens in the absence of local ties. This is consistent with earlier findings that these local leaders are important conduits between citizens and national leaders, whether in mobilizing development (e.g., Baldwin, 2016) or voting (e.g., Stokes et al., 2013). At the same time, we also find that social ties are not enough to mobilize individuals. Leadership in communities is still key to spurring participation, although it needs not be from recognized leaders. Neighbors and other community members are often more significant drivers of participation than more distant leaders. Future work not only needs to consider the nature of the context in which participation is called for, but the importance of local sources of mobilization that are too often overlooked.

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SUPPLEMENTARY ONLINE MATERIAL

A. Survey Questions used for the Analysis

Dependent variables:

Compliance: How likely are you to {Activity}?" (answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)

Community Sanctioning: How likely are others in the village to sanction you if you do not comply? (answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)

Community Bandwagoning: If you knew that enough other people are participating in this activity to make it successful, would this make you more likely to comply? (answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)

Leader Sanctioning: How likely is your leader to sanction you if you do not comply? (answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)

Additional Dependent Variables from the Experiment:

Legitimacy: How much do you think it is right and proper for your leader to ask you [to do this activity]? (answers: not proper at all, not proper, somewhat proper, very proper)

Success: How likely do you think this initiative is to succeed? (answers: somewhat likely, not likely, not at all likely, don't know/ refuse to answer)

Fairness: In general, how fair is your {leader} when dealing with you and other members of your village? (answers: answers: very fair, somewhat fair, not fair, not fair at all, don't know/refuse to answer)

Benefit: Do you think the community is better off if people listen to and follow your {leader}? (answers: yes, no, don't know/refuse to answer)

Interest of Leader: In general, do you think your {leader} is more interested in helping himself/herself and close friends, or in helping the village as a whole? (answers: Helping himself/herself and close friends, Helping the entire village, Don't know/Refuse to answer)

Knowing: Think about how many people in your village/neighborhood know your {leader} by name. Would you say that it is almost everyone, some people, a few people, or hardly anyone? (answers: everyone, some people, a few people, hardly anyone, don't know/refuse to answer)

Access: How difficult is it for you to access your {leader}? (answers: answers: very difficult, somewhat difficult, not difficult, not difficult at all, don't know/refuse to answer)

Wealth indicators:

I will read out a few statements about your income. Please tell me, which of the following statement is closest to your situation:
<1> Our household income covers the needs well – we can save
<2> Our household income covers the needs alright, without much difficulty
<3> Our household income does not cover the needs, there are difficulties
<4> Our household income does not cover the needs, there are great difficulties
<5> Don't know/Refuse to answer

Power relations:

Do you think that people like you can have a say in what each of the following people do?

For each of the following, please tell me if you agree or disagree that it is proper and right that everyone act according to decisions that they make, even when others disagree with the decisions?

Social ties within the village/neighborhood:

In this village/neighborhood would you say…<1> you hardly know anyone at all <2> you know few people <3> you know many people <4> you know almost everyone

Contributions to Education Funds:

Since {0} of last year, have people in this community...
- *Participated in construction/maintenance of school buildings or associated infrastructure (desks, chairs, etc.*
- *Donated any school supplies*
- *Assisted with the school feeding program*
- *Helped provide security for the school*
- *Offered additional contributions*

(answers: no, yes, don't know/refuse to answer)

Since {0} of last year, have you or anyone in this household…
- *Participated in construction/maintenance of school buildings or associated infrastructure (desks, chairs, etc.*
- *Donated any school supplies*
- *Assisted with the school feeding program*
- *Helped provide security for the school*
- *Offered additional contributions*

(answers: no, yes, don't know/refuse to answer)

Did your household contribute to schools in this village/neighborhood, elsewhere or both? (answers: This village/neigborhood, Another village/neigborhood, Both, don't know/ refuse to answer)

Was the expected amount of contribution publicly announced or posted? (answers; no, yes, don't know/refuse to answer)

Did you give labor, money, food, or other gifts to support any community initiative since {0} last year, other than that which we talked about earlier? (answers; no, yes, don't know/refuse to answer)

What was the initiative or initiatives? (answers:
<1> Community watch or other local non-governmental security service
<2> Health committee or health initiative
<3> School committee or education
<4> Church, mosque or other religious organization
<5> Road construction or ditch cleaning crew
<6> A wedding or burial
<7> Other (specify)¨
<8> Don't Know/Refuse to answer)

Thinking about the last time, what was the initiative? (answers:
<1> Community watch or other local non-governmental security service
<2> Health committee or health initiative
<3> School committee or education
<4> Church, mosque or other religious organization
<5> Road construction or ditch cleaning crew
<6> A wedding or burial
<7> Other (specify)¨
<8> Don't Know/Refuse to answer)

Was the expected amount of the contribution posted or publicly announced? (answers; no, yes, don't know/refuse to answer)

Full battery on social sanctions after participation questions:

Would you say that you participate, at least partly, because…

Rewards

… you can enjoy the event and company of others
… you hear news and gain information
… you or your household get goodies and gifts, or other material rewards

Sanctions

…others will think poorly of you or your household if you don't participate
…you or your household will have to pay fines, lose property or suffer other material loss if you don't attend
…people you fear would make you pay fines or suffer from material losses
…you will be physically punished if you don't

Right Thing to Do

…you personally think it is the right thing to do

(answers; no, yes, don't know/refuse to answer)

Do you think that if someone from your village/neighborhood openly supported a candidate that others in the village/neighborhood did not like they would risk…

Rewards

losing the enjoyment and company of others/Not hearing news and gaining information/ Their household not getting goodies and gifts

Sanctions

Others thinking poorly of them or their household/ Having to pay fines or losing property/ Being physically punished if they don't cooperate
(answers: no, yes, don't know/refuse to answer)

Additional Survey Questions:

Has your {leader/caul_q1} ever asked you to {text} in the past? (answers: yes, no, DK/RTA)

Do you think that people like you can have a say in what each of the following people do?

Your Traditional Authority/Tribal Chief/Chief
Your village head/neighborhood block leader/local elder
Your religious leader
Your member of parliament
Your local council member/member of county assembly
Your next door neighbor

(answers: No, Yes, Don't Know/Refuse to Answer)

Legitimacy: For each of the following, please tell me if you agree or disagree that it is proper and right that everyone act according to decisions that they make, even when others disagree with the decisions?

Your Traditional Authority/Tribal Chief/Chief
Your village head/neighborhood block leader/local elder
Your religious leader
Your member of parliament
Your local council member/member of county assembly
Your next door neighbor

(answers: No, Yes, Don't Know/Refuse to Answer)

Remove leaders from office: Please tell me, do you think that you and others like you can remove the following leaders from power, if they are not performing their job well?

Your Traditional Authority/Tribal Chief/Chief
Your village head/neighborhood block leader/local elder
Your religious leader
Your member of parliament
Your local council member/member of county assembly
Your next door neighbor

(answers: No, Yes, Don't Know/Refuse to Answer)

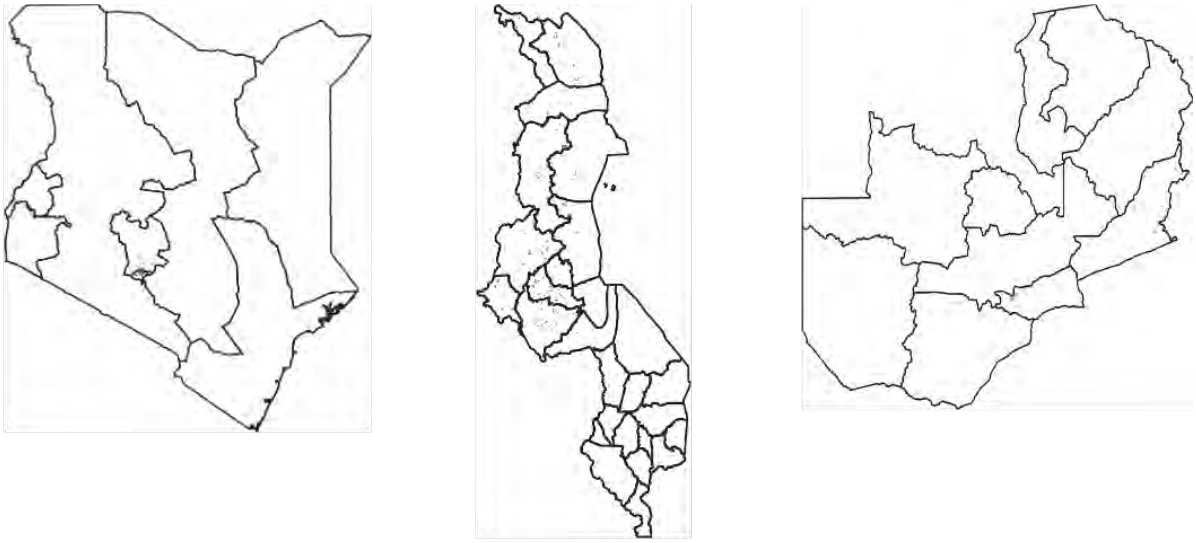
Influence: How much influence do clan elders or other traditional leaders currently have in governing your local community? (answers: none, a little, some, a lot, don't know/refuse to answer)

Fairness: Would you say that in general your Village Head/Neighborhood Block Leader is fair in their treatment of members of this community? (no, yes, don't know/refuse to answer)

B. Sampling and Ethical Considerations

B.1: Sampling for Kenya, Malawi and Zambia

Figure 1: Sampling Maps for Kenya, Malawi and Zambia



Note: Sampling map for the survey. The Kenya sample includes a Nairobi sample and no border sample. The Malawi sample includes two regional samples: Lilongwe and the border area with Zambia. The Zambia sample includes two regional samples: Lusaka and the border area with Malawi. Square-kilometer units are marked in green. Only communities with more than 20 respondents are included and communities with at least one poor respondent.

The sampling of the survey was performed independently in 5 regions across 3 countries: Kenya, Zambia, and Malawi. The regions included the capital cities of each country and two areas along the shared border between Zambia and Malawi. Samples were stratified. Border regions were divided into strata that were 0-50 km from the border and 50-100 km from the border, and each of these areas was divided into five subareas. Urban areas were divided into two concentric circles: 0-25 km from the urban center and 25-50 km from the urban center, and each was divided into four areas. The goal was to ensure that the respondents were distributed across the region and to include more and less urban and border areas. We aimed to divide the samples evenly across these regions and strata.

Satellite imagery data was employed for selecting sampling units. To do so, we divided the regions/bins into 1 sq km areas, and selected these areas using a randomized, probability proportionate to size (PPS) method based on WorldPop estimates of population density. We then divided chosen areas into hectares. The hectares were randomly numbered, and enumerators were asked to begin interviewing in the 1 km sq areas in the hectares, moving from those with the lowest to highest numbers. They were asked to complete not more than 5 interviews in the hectare before moving on to the next, and to complete 30 interviews in each square kilometer. The aim of this strategy was to ensure that enumerators spread out across the 1 km sq unit.

Enumerators were instructed to enter sampling units using tablets to track their locations and confirm they were in the correct area. They were asked to go to the center of each hectare and then to move outward, in separate directions to additional houses. Within each household, one participant was randomly selected using the Kish method. Survey weights

were designed to take into account sampling and to correct for imbalances between the sample and census demographics for the area.

B.2: Ethical Considerations

We are aware that conducting research with human subjects may create risks for the participants. In our case, we did not anticipate or encounter any major ethical challenges. In our study, we relied on questions on community ties and community participation from the survey and the survey experiment. These questions are commonly asked in surveys and discussed in public in all three countries. All survey question including potentially more sensitive questions on social sanctions and rewards by leaders and neighbors were asked in a safe environment with no one else listening. Respondents were also provided the option to refuse to answer to the survey questions. We were particularly interested in social ties among poor individuals but never presented the survey in a way that would foster social divisions between poor and wealthy individual in communities. Though, our analysis focuses on the needy, the survey did not target any specific social groups and the pool of respondents was diverse. The project surveyed in both rural, poor communities and urban localities. Therefore, we have no reason to believe that this study disproportionately benefited or harmed any particular social groups.

Informed consent was received for each survey and participants were reminded that they could stop the survey at any time if they were uncomfortable in anyway. Participants were not paid either as incentive in the experiment or for their participation in the survey more generally.

This study received research ethics and regulatory approval from the National Committee on Research in the Social Sciences and Humanities in Malawi. In Zambia, it received approval from the University of Zambia Humanities and Social Sciences Research Ethics Committee IRB.

B.3: Data Access

We will provide access to the experimental data and survey data used for the analysis of the paper. The data includes the IDs of our survey respondents that match individuals to sq kms. To protect the anonymity of our respondents, we do not provide GPS data.

C. Balance Tests/ Occurrence of Treatments

The following analysis was done by Erica Metheney.

As we only find differences in the occurrence of treatments at a very small magnitude in our data, and given the large probability of such results being due to the differences in sample sizes by regions or simply chance, we do not need to address this problem further in our analysis. The occurrence of treatments by various demographs also showed no significant differences in values.

Kenya

Type of Leader	Percentage
Local Elder	0.14
Chief	0.21

Member of County Assembly (MCA)	0.21
Member of Parliament	0.21
Next door neighbor	0.23

Lusaka

Type of Leader	Percentage
Local Elder	0.15
Chief	0.17
Member of County Assembly (MCA)	0.25
Member of Parliament	0.20
Next door neighbor	0.23

Zambia Border

Type of Leader	Percentage
Local Elder	0.19
Chief	0.20
Member of County Assembly (MCA)	0.20
Member of Parliament	0.20
Next door neighbor	0.21

Lilongwe

Type of Leader	Percentage
Local Elder	0.21
Chief	0.21
Member of County Assembly (MCA)	0.19
Member of Parliament	0.17
Next door neighbor	0.22

Malawi Border

Type of Leader	Percentage
Local Elder	0.21
Chief	0.20
Member of County Assembly (MCA)	0.19
Member of Parliament	0.20
Next door neighbor	0.21

D. Robustness Checks

Table D.1: Main Models with Individual Ties as Additional Control

	Model (1) Cross-level Interaction	Model (2) Cross-level Interaction with add. controls
Individual Level		
Local Authorities and Neighbors	0.140*** (0.023)	0.139*** (0.023)
Individual Social Ties	-0.021 (0.021)	-0.014 (0.022)
Female		0.029 (0.019)
Education (some schooling)		-0.075** (0.031)
Age ("18-34" as baseline)		
35-55		-0.005 (0.020)
>55		-0.019 (0.029)
Residency ("less than a year" as baseline)		
Residency ("more than a year")		-0.021 (0.033)
Residency ("all my life")		-0.034 (0.037)
Community Level		
Neighborhood Social Ties	-0.054* (0.030)	-0.089*** (0.031)
High Population Density		-0.092*** (0.025)
Interaction		
Local Authorities and Neighbors*Neighborhood Social Ties	0.077** (0.037)	0.080** (0.037)
Constant	1.885*** (0.043)	2.008*** (0.060)
Controls		
Experimental Arms	✓	✓
No such Authority	✓	✓
Region	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.024 (0.004)	0.022 (0.004)
Residuals (var)	0.925 (0.012)	0.924 (0.012)
Observations	12,056	11,968
Neighborhoods	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Random slope models with compliance as dependent variable. Multilevel models were calculated using STATA's *mixed* command for linear multilevel modeling.

Table D.2: Compliance with Village Head Compared to More Distant Leaders

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Individual Level			
Village Head	0.197***	0.197***	0.177***
	(0.024)	(0.024)	(0.031)
Female	0.038*	0.040*	0.040*
	(0.022)	(0.022)	(0.022)
Education (some schooling)	-0.085**	-0.080**	-0.080**
	(0.035)	(0.035)	(0.035)
Age ("18-34" as baseline)			
35-55	-0.010	-0.010	-0.009
	(0.023)	(0.023)	(0.023)
>55	-0.022	-0.018	-0.019
	(0.033)	(0.033)	(0.033)
Residency ("less than a year" as baseline)			
More than a year	0.034	0.036	0.036
	(0.037)	(0.037)	(0.037)
All my life	0.012	0.017	0.018
	(0.041)	(0.041)	(0.041)
Community Level			
Neighborhood Social Ties		-0.078***	-0.091***
		(0.029)	(0.032)
High Population Density		-0.093***	-0.093***
		(0.027)	(0.027)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.049
			(0.049)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.897***	1.960***	1.964***
	(0.066)	(0.067)	(0.068)
Community (var)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant (var)	0.025	0.022	0.022
	(0.005)	(0.005)	(0.005)
Residuals (var)	0.952	0.953	0.953
	(0.014)	(0.014)	(0.014)
Observations	9,331	9,331	9,331
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We dropped those respondents who were asked about their compliance with their neighbors from the sample bevor running the analysis.

Table D.3: Compliance with Neighbors Compared to More Distant Leaders

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Individual Level			
Neighbor	0.151***	0.150***	0.116***
	(0.022)	(0.022)	(0.028)
Female	0.030	0.032	0.032
	(0.021)	(0.021)	(0.021)
Education (some schooling)	-0.038	-0.034	-0.034
	(0.035)	(0.035)	(0.035)
Age ("18-34" as baseline)			
35-55	-0.002	-0.001	0.002
	(0.023)	(0.023)	(0.023)
>55	-0.032	-0.029	-0.029
	(0.032)	(0.032)	(0.032)
Residency ("less than a year" as baseline)			
More than a year	-0.045	-0.044	-0.044
	(0.035)	(0.036)	(0.036)
All my life	0.061	-0.058	-0.059
	(0.039)	(0.040)	(0.040)
Community Level			
Neighborhood Social Ties		-0.066**	-0.091***
		(0.030)	(0.033)
High Population Density		-0.079***	-0.079***
		(0.027)	(0.027)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.095**
			(0.046)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.956***	2.010***	2.019***
	(0.066)	(0.067)	(0.068)
Community (var)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant (var)	0.030	0.028	0.028
	(0.005)	(0.005)	(0.005)
Residuals (var)	0.938	0.939	0.938
	(0.014)	(0.014)	(0.014)
Observations	9,752	9,752	9,752
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We dropped those respondents who were asked about their compliance with their village head from the sample bevor running the analysis.

Table D.4: OLS Regression Models without Additional Controls

	Model (1) Compliance	Model (2) Community Sanctioning	Model (3) Bandwagoning	Model (4) Leader Sanctioning
Individual Level				
Local Authorities and Neighbors	0.138*** (0.023)	0.050** (0.022)	0.066*** (0.018)	0.153*** (0.023)
Community Level				
Neighborhood Social Ties	-0.055** (0.026)	-0.037 (0.024)	-0.026 (0.020)	0.001 (0.025)
Interaction				
Local Authorities and Neighbors*Neighborhood Social Ties	0.074** (0.037)	0.060* (0.035)	0.063** (0.029)	-0.013 (0.037)
Controls				
Experimental Arms	✓	✓	✓	✓
No such Authority	✓	✓	✓	✓
Region	✓	✓	✓	✓
Constant	1.874*** (0.0346)	1.931*** (0.034)	1.586*** (0.027)	1.907*** (0.036)
R^2	0.328	0.075	0.225	0.056
Observations	12,059	11,966	11,866	11,858

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We run OLS regression in STATA.

Table D.5: OLS Regression Models with Additional Controls

	Model (1) Compliance	Model (2) Community Sanctioning	Model (3) Bandwagoning	Model (4) Leader Sanctioning
Individual Level				
Local Authorities and Neighbors	0.137***	0.049**	0.165***	0.151***
	(0.023)	(0.022)	(0.018)	(0.023)
Female	0.029	0.019	-0.012	-0.001
	(0.019)	(0.017)	(0.015)	(0.018)
Education (some schooling)	-0.080***	-0.144***	-0.037	
	(0.031)	(0.030)	(0.024)	
Age ("18-34" as baseline)				
35-55	-0.011	-0.042**	0.001	-0.045**
	(0.020)	(0.019)	(0.016)	(0.020)
>55	-0.023	-0.159***	-0.017	-0.160***
	(0.029)	(0.027)	(0.023)	(0.028)
Residency ("less than a year" as baseline)				
More than a year	-0.024	-0.040	-0.032	-0.064**
	(0.031)	(0.030)	(0.024)	(0.032)
All my life	-0.040	-0.071**	-0.048*	-0.089**
	(0.035)	(0.034)	(0.027)	(0.035)
Community Level				
Neighborhood Social Ties	-0.090***	-0.048*	-0.046**	-0.011
	(0.027)	(0.025)	(0.021)	(0.026)
High Population Density	-0.104***	-0.070***	-0.075***	-0.068***
	(0.020)	(0.019)	(0.015)	(0.020)
Interaction				
Local Authorities and Neighbors*Neighborhood Social Ties	0.076**	0.054	0.063**	-0.018
	(0.037)	(0.035)	(0.029)	(0.037)
Controls				
Experimental Arms	✓	✓	✓	✓
No such Authority	✓	✓	✓	✓
Region	✓	✓	✓	✓
Constant	2.014***	2.152***	1.701***	2.182***
	(0.056)	(0.054)	(0.044)	(0.057)
R^2	0.330	0.081	0.228	0.062
Observations	11,971	11,881	11,785	11,773

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We run OLS regression in STATA.

Table D.6: Multilevel Regression Models using the Share of People Who Know Most Others as Continuous Variable (Density of Ties)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.170***	0.171***	0.036
	(0.018)	(0.018)	(0.059)
Neighborhood Social Ties		0.079	-0.000
		(0.060)	(0.069)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.200**
			(0.084)
Constant	1.850***	1.795***	1.849***
	(0.039)	(0.057)	(0.061)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant (var)	0.024	0.024	0.024
	(0.004)	(0.004)	(0.004)
Residuals (var)	0.926	0.926	0.925
	(0.012)	(0.012)	(0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We measure neighborhood social ties using the question "In this village/neighborhood would you say…<1> you hardly know anyone at all <2> you know few people <3> you know many people <4> you know almost everyone?." Responses are aggregated at the square kilometer level. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.7: Multilevel Regression Models with Knowing others as Social Ties using an 85% Threshold (Density of Ties)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.170*** (0.018)	0.170*** (0.018)	0.141*** (0.021)
Neighborhood Social Ties		0.002 (0.027)	-0.043 (0.032)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.112*** (0.041)
Constant	1.850*** (0.039)	1.849*** (0.040)	1.861*** (0.040)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.024 (0.004)	0.024 (0.004)	0.024 (0.004)
Residuals (var)	0.926 (0.012)	0.926 (0.012)	0.925 (0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We measure neighborhood social ties using the question "How often do you visit others in this neighborhood?"(see question wording in list below). Responses are aggregated at the square kilometer level. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.8: Multilevel Regression Models with Knowing others as Social Ties using a 70% Threshold (Density of Ties)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.170*** (0.018)	0.170*** (0.018)	0.113*** (0.027)
Neighborhood Social Ties		0.003 (0.025)	-0.040 (0.029)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.105*** (0.036)
Constant	1.850*** (0.039)	1.848*** (0.042)	1.872*** (0.043)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.024 (0.004)	0.024 (0.004)	0.024 (0.004)
Residuals (var)	0.926 (0.012)	0.926 (0.012)	0.925 (0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We measure neighborhood social ties using the question "How often do you visit others in this neighborhood?" (see question wording in list below). Responses are aggregated at the square kilometer level. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.9: Multilevel Regression Models with Knowing Others as Social Ties using a 60% Threshold (Density of Ties)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.170*** (0.018)	0.171*** (0.018)	0.139*** (0.032)
Neighborhood Social Ties		0.029 (0.027)	0.010 (0.031)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.046 (0.039)
Constant	1.850*** (0.039)	1.828*** (0.044)	1.841*** (0.045)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.024 (0.004)	0.024 (0.004)	0.024 (0.004)
Residuals (var)	0.926 (0.012)	0.926 (0.012)	0.925 (0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We measure neighborhood social ties using the question "How often do you visit others in this neighborhood?" (see question wording in list below). Responses are aggregated at the square kilometer level. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.10: Multilevel Regression Models with Voting as DV

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.022 (0.031)	0.021 (0.031)	-0.029 (0.039)
Neighborhood Social Ties		-0.075* (0.042)	-0.127** (0.049)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.131** (0.063)
Constant	1.796*** (0.061)	1.824*** (0.063)	1.845*** (0.064)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.001 (0.019)	0.004 (0.021)	0.002 (0.021)
Constant (var)	0.057 (0.011)	0.056 (0.011)	0.056 (0.011)
Residuals (var)	0.877 (0.021)	0.877 (0.021)	0.876 (0.021)
Observations	4,036	4,036	4,036
Neighborhoods	621	621	621

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Separate analysis with subsample of respondents who had voting as DV. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.11: Multilevel Regression Models with Contribution to Educational Fund as DV

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.225*** (0.033)	0.225*** (0.033)	0.165*** (0.042)
Neighborhood Social Ties		0.006 (0.039)	-0.057 (0.048)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			0.154** (0.067)
Constant	3.080*** (0.061)	3.078*** (0.063)	3.100*** (0.064)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.020 (0.010)	0.020 (0.010)	0.021 (0.010)
Residuals (var)	1.005 (0.024)	1.005 (0.024)	1.003 (0.024)
Observations	3,963	3,963	3,963
Neighborhoods	620	620	620

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Separate analysis with subsample of respondents who had contributing to an educational fund as DV. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.12: Multilevel Regression Models with Contribution to Burial Fund as DV

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Local Authorities and Neighbors	0.266*** (0.029)	0.266*** (0.029)	0.291*** (0.037)
Neighborhood Social Ties		-0.012 (0.038)	0.016 (0.046)
Interactions			
Local Authorities and Neighbors*Neighborhood Social Ties			-0.068 (0.061)
Constant	3.458*** (0.056)	3.463*** (0.058)	3.451*** (0.060)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.037 (0.009)	0.037 (0.009)	0.037 (0.009)
Residuals (var)	0.817 (0.019)	0.817 (0.019)	0.816 (0.019)
Observations	4,060	4,060	4,060
Neighborhoods	622	622	622

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Separate analysis with subsample of respondents who had contributing to a burial fund as DV. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.13: Alternative Dependent Variables for the Experimental Models

	Compliance of Neighbors	Fairness of Leader	Benefit	Interest of Leader	Knowing Leader	Access Leader	Leader Legitimacy
Individual Level							
Local Authorities and Neighbors	0.152*** (0.022)	0.357*** (0.022)	0.011 (0.011)	-0.050*** (0.012)	0.117*** (0.021)	-1.119*** (0.023)	0.304*** (0.023)
Community Level							
Neighborhood Social Ties	0.013 (0.030)	0.057* (0.031)	-0.021 (0.015)	-0.005 (0.016)	0.101*** (0.030)	-0.045 (0.032)	-0.065** (0.031)
Interaction Term							
Local Authorities and Neighbors* Social Ties	0.041 (0.036)	0.048 (0.035)	0.044** (0.018)	-0.054*** (0.018)	0.219*** (0.034)	-0.013 (0.037)	0.074** (0.037)
Controls							
Experimental Arms	✓	✓	✓	✓	✓	✓	✓
No such Authority	✓	✓	✓	✓	✓	✓	✓
Region	✓	✓	✓	✓	✓	✓	✓
Constant	2.138*** (0.041)	2.255*** (0.043)	0.477*** (0.021)	0.565*** (0.021)	3.000*** (0.042)	2.711*** (0.044)	1.562*** (0.042)
Community variance	0.000 (0.000)	0.000 (0.006)	0.000 (0.000)	0.000 (0.000)	0.010 (0.007)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.030 (0.004)	0.040 (0.005)	0.009 (0.001)	0.008 (0.001)	0.042 (0.005)	0.036 (0.005)	0.031 (0.005)
Residuals (var)	0.858 (0.011)	0.766 (0.011)	0.196 (0.003)	0.211 (0.003)	0.670 (0.009)	0.926 (0.012)	0.907 (0.012)
Observations	11,877	11,091	11,454	11,132	11,492	11,785	12,020
Neighborhoods	631	631	631	631	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We use alternative dependent variables for the experimental analysis (see list of DVs below). The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table D.14: Random Slopes Models with ELF as Control

	Model (1) Neighborhood Social Ties	Model (2) Cross-level Interaction
Individual Level		
Local Authorities and Neighbors	0.171***	0.140***
	(0.018)	(0.023)
Community Level		
Neighborhood Social Ties	-0.044*	-0.077**
	(0.026)	(0.030)
ELF	-0.064***	-0.065***
	(0.024)	(0.024)
Interaction		
Local Authorities and Neighbors*Neighborhood Social Ties		0.079**
		(0.037)
Controls		
Experimental Arms	✓	✓
No such Authority	✓	✓
Region	✓	✓
Constant	1.882***	1.895***
	(0.041)	(0.041)
Neighbor (var)	0.000	0.000
	(0.000)	(0.000)
Constant (var)	0.023	0.023
	(0.004)	(0.004)
Residuals (var)	0.925	0.925
	(0.012)	(0.012)
Observations	12,059	12,059
Neighborhoods	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01.

Table D.15: Random Slopes Models with ELF and Compliance, Community Sanctioning, Bandwagoning and Leader Sanctioning as DVs

	Model (1) Compliance	Model (2) Community Sanctioning	Model (3) Bandwagoning	Model (4) Leader Sanctioning
Individual Level				
Local Authorities and Neighbors	0.161*** (0.024)	0.090*** (0.023)	0.086*** (0.019)	0.133*** (0.024)
Female	0.027 (0.019)	-0.021 (0.018)	-0.009 (0.015)	0.004 (0.018)
Education	-0.075** (0.031)	-0.128*** (0.029)	-0.037 (0.024)	-0.148*** (0.030)
Age ("18-34" as baseline)				
35-55	-0.009 (0.020)	-0.040** (0.019)	0.004 (0.016)	-0.039* (0.020)
>55	-0.023 (0.029)	-0.158*** (0.027)	-0.017 (0.022)	-0.152*** (0.028)
Residency ("less than a year" as baseline)				
Residency ("more than a year")	-0.032 (0.032)	-0.050* (0.030)	-0.034 (0.025)	-0.072** (0.031)
Residency ("all my life")	-0.056 (0.035)	-0.089*** (0.033)	-0.047* (0.027)	-0.104*** (0.035)
Community Level				
ELF	-0.049* (0.027)	-0.055** (0.027)	-0.004 (0.022)	-0.052* (0.029)
High Population Density	-0.067*** (0.024)	-0.037 (0.024)	-0.061*** (0.019)	-0.034 (0.026)
Interaction				
Local Authorities and Neighbors*ELF	0.024 (0.041)	-0.052 (0.038)	0.004 (0.032)	0.031 (0.040)
Constant	1.981*** (0.060)	2.122*** (0.057)	1.675*** (0.047)	2.158*** (0.061)
Controls				
Experimental Arms	✓	✓	✓	✓
No such Authority	✓	✓	✓	✓
Region	✓	✓	✓	✓
Community (var)	0.000 (0.000)	0.002 (0.007)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.022 (0.004)	0.027 (0.004)	0.016 (0.007)	0.036 (0.004)
Residuals (var)	0.924 (0.012)	0.799 (0.011)	0.547 (0.007)	0.872 (0.012)
Observations	11,971	11,881	11,785	11,773
Neighborhoods	631	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Similar models are presented with social density measure in Table 8 in the main text.

Table D.16: Random Slopes Models with Poor vs. Wealthy Community as Control

	Model (1) Neighborhood Social Ties	Model (2) Cross-level Interaction
Individual Level		
Local Authorities and Neighbors	0.170***	0.141***
	(0.018)	(0.023)
Community Level		
Neighborhood Social Ties	-0.035	-0.066**
	(0.026)	(0.030)
Poor	0.031	0.031
	(0.028)	(0.028)
Interaction		
Local Authorities and Neighbors*Neighborhood Social Ties		0.077**
		(0.037)
Controls		
Experimental Arms	✓	✓
No such Authority	✓	✓
Region	✓	✓
Constant	1.835***	1.848***
	(0.046)	(0.047)
Neighbor (var)	0.000	0.000
	(0.000)	(0.000)
Constant (var)	0.024	0.024
	(0.004)	(0.004)
Residuals (var)	0.926	0.925
	(0.012)	(0.012)
Observations	12,059	12,059
Neighborhoods	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01.

E. Additional Analyses using Observational Survey Data

Table E.1: Influence on the Decisions of Leaders and Neighbors using Logistic Regression

	Chief	Village Head	Religious Leader	MP	Council Member	Neighbor
Individual Level						
Female	-0.278*** (0.038)	-0.389*** (0.038)	-0.308*** (0.038)	-0.396*** (0.038)	-0.454*** (0.038)	-0.288*** (0.041)
Education (some schooling)	0.189*** (0.064)	0.362*** (0.062)	0.317*** (0.062)	0.227*** (0.062)	0.279*** (0.062)	0.379*** (0.065)
Age (35-55)	0.080* (0.042)	0.197*** (0.041)	0.233*** (0.042)	0.178*** (0.041)	0.177*** (0.041)	0.159*** (0.045)
Age (55+)	0.047 (0.060)	0.106* (0.058)	0.015 (0.059)	-0.004 (0.058)	-0.041 (0.059)	0.070 (0.063)
Community level						
Dense Neighborhood Ties	-0.030 (0.061)	0.157*** (0.060)	-0.002 (0.057)	-0.032 (0.056)	-0.006 (0.056)	0.134* (0.070)
High Population	0.057 (0.055)	0.062 (0.053)	0.082 (0.051)	0.091* (0.050)	0.100** (0.050)	0.046 (0.061)
Region	✓	✓	✓	✓	✓	✓
Constant	-0.542*** (0.107)	-0.180* (0.103)	-0.014 (0.101)	-0.211** (0.099)	-0.107 (0.099)	0.565*** (0.116)
Constant (var)	0.156 (0.022)	0.147 (0.022)	0.114 (0.020)	0.109 (0.019)	0.106 (0.019)	0.230 (0.028)
Observations	13,379	13,476	13,676	13,597	13,581	13,692
Neighborhoods	631	631	631	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We used the melogit command for multilevel logistic regression in STATA.

Table E.2: Legitimacy of Leaders and Neighbors

	Chief	Village Head	Religious Leader	MP	Council Member	Neighbor
Individual Level						
Female	0.016** (0.008)	0.016** (0.007)	0.010 (0.007)	0.018** (0.007)	0.022*** (0.007)	0.009 (0.007)
Education (some schooling)	-0.050*** (0.013)	-0.057*** (0.012)	-0.051*** (0.012)	-0.051*** (0.012)	-0.046*** (0.012)	-0.035*** (0.012)
Age (35-55)	-0.021** (0.008)	-0.020** (0.008)	-0.020** (0.008)	-0.021*** (0.008)	-0.021** (0.008)	-0.019** (0.008)
Age (55+)	0.010 (0.012)	0.008 (0.012)	-0.003 (0.011)	0.013 (0.011)	0.013 (0.011)	0.004 (0.011)
Community Level						
Dense Neighborhood Ties	0.024 (0.017)	0.028* (0.015)	0.020 (0.015)	0.028* (0.015)	0.030** (0.014)	0.016 (0.014)
High Population	-0.013 (0.014)	-0.009 (0.013)	0.003 (0.013)	-0.013 (0.013)	-0.011 (0.013)	-0.012 (0.012)
Region	✓	✓	✓	✓	✓	✓
Constant	0.217*** (0.026)	0.208*** (0.025)	0.191*** (0.024)	0.194*** (0.024)	0.185*** (0.023)	0.148*** (0.022)
Constant (var)	0.017 (0.002)	0.014 (0.001)	0.013 (0.001)	0.013 (0.001)	0.013 (0.001)	0.011 (0.001)
Residual (var)	0.175 (0.002)	0.163 (0.002)	0.160 (0.002)	0.154 (0.002)	0.154 (0.002)	0.146 (0.002)
Observations	13,310	13,433	13,593	13,550	13,513	13,600
Neighborhoods	631	631	631	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We used STATA's *mixed* command for linear multilevel modeling. Respondents were asked the following survey question: "For each of the following, please tell me if you agree or disagree that it is proper and right that everyone act according to decisions that they make, even when others disagree with the decisions? (answers: No, Yes, Don't Know/Refuse to Answer)."

Table E.3: Fair Treatment of Community Members

	Traditional Authority
Individual Level	
Female	-0.030*** (0.007)
Education (some schooling)	-0.013 (0.012)
Age (18-34 as baseline)	
Age (35-55)	0.012 (0.008)
Age (55+)	0.170 (0.011)
Community Level	
Dense Neighborhood Ties	0.049*** (0.013)
High Population area	-0.019 (0.012)
Constant	0.807*** (0.022)
Region	✓
Constant (var)	0.009 (0.001)
Residual (var)	0.144 (0.002)
Observations	11,716
Neighborhoods	630

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Linear multilevel regression using the *mixed* command in STATA. Survey question on whether respondents think that the village head or neighborhood bock leader is treating the community members fairly as DV (see question wording in list below).

Table E.4: Influence of Traditional Leaders on Local Community

	Traditional Authority
Individual Level	
Female	-0.013 (0.022)
Education (some schooling)	0.052 (0.034)
Age (18-34 as baseline)	
Age (35-55)	0.009 (0.024)
Age (55+)	0.067** (0.032)
Community Level	
Dense Neighborhood Ties	0.088** (0.040)
High Population area	-0.069* (0.040)
Constant	3.355*** (0.291)
Region	✓
Constant (var)	0.053 (0.013)
Residual (var)	0.759 (0.013)
Observations	7,346
Neighborhoods	353

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Linear multilevel regression using the *mixed* command in STATA. Survey question on whether respondents think that the traditional authority has an influence on the community as DV (see question wording in list below).

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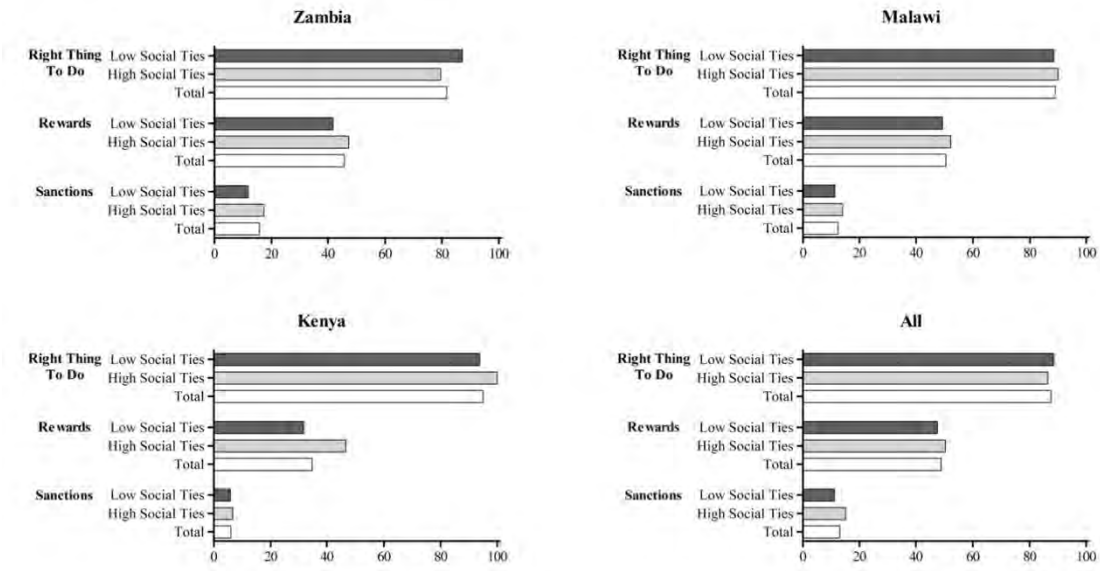
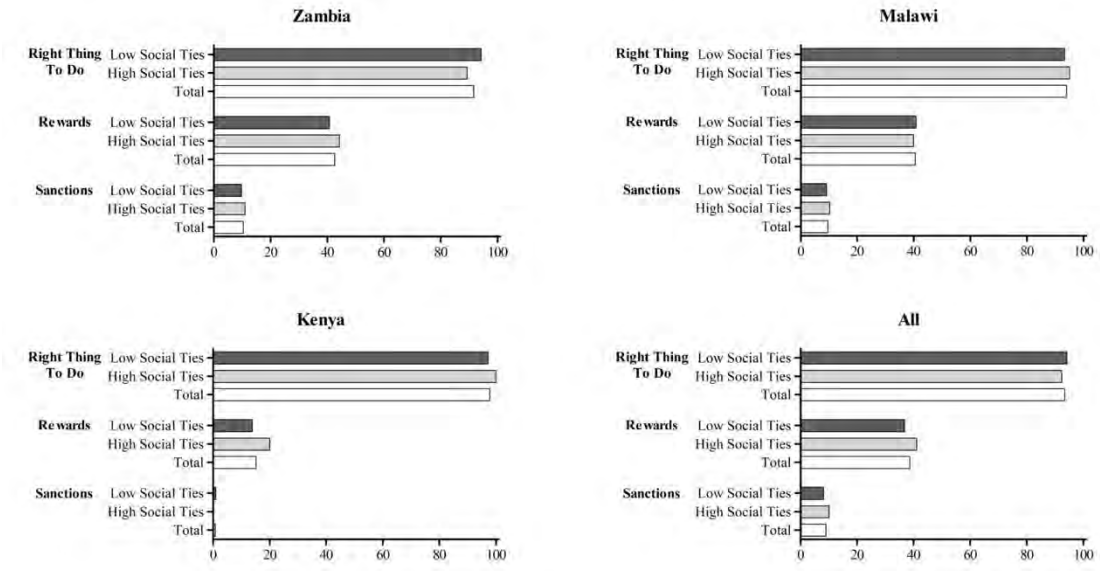
F. Motivations for Participation

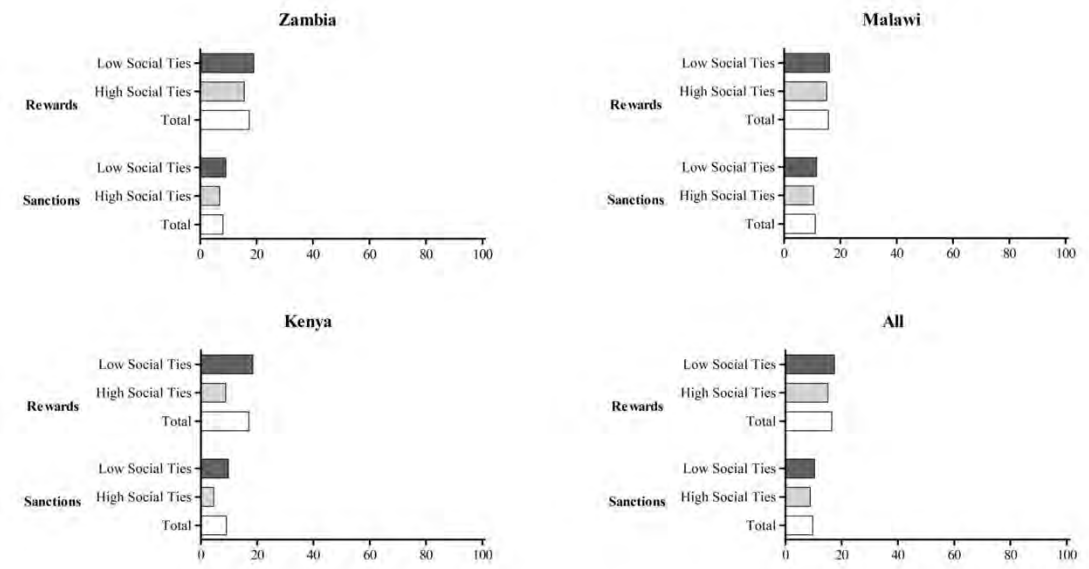
F.1: Reasons for Contribution to Educational Fund (in percent)



F.2: Reasons for Contribution to Burial Fund (in percent)



F.3: Risk of Being Sanctioned or Not being Rewarded when Voting for different Candidate than Community Members (in percent)



Note: Respondents were asked about a hypothetical situation. "Do you think that if someone from your village/neighborhood openly supported a candidate that others in the village/neighborhood did not like they would risk…(Rewards) losing the enjoyment and company of others/Not hearing news and gaining information/ Their household not getting goodies and gifts/ (Sanctions) Others thinking poorly of them or their household/ Having to pay fines or losing property/ Being physically punished if they don't cooperate."

F.4: Significance Tests

Rewards for Contribution to Educational Fund, Kenya
Pearson Chi2(1) = 5.30 (P= 0.021)

Sanctions for Contribution to Educational Fund, Kenya
Pearson Chi2(1) = 0.69 (P= 0.41)

Intrinsic Motivation for Contribution to Educational Fund, Kenya
Pearson Chi2(1) = 2.32 (P= 0.13)

Rewards for Contribution to Burial Fund, Kenya
Pearson Chi2(1) = 0.04 (P= 0.84)

Intrinsic Motivation for Contribution to Burial Fund, Kenya
Pearson Chi2(1) = 0.82 (P= 0.37)

Rewards for Contribution to Educational Fund, Malawi
Pearson Chi2(1) = 0.88 (P= 0.35)

Sanctions for Contribution to Educational Fund, Malawi
Pearson Chi2(1) = 10.22 (P= 0.001)

Intrinsic Motivation for Contribution to Educational Fund, Malawi
Pearson Chi2(1) = 2.52 (P= 0.11)

Rewards for Contribution to Burial Fund, Malawi
Pearson Chi2(1) = 0.90 (P= 0.34)

Sanctions for Contribution to Burial Fund, Malawi
Pearson Chi2(1) = 2.76 (P= 0.10)

Intrinsic Motivation for Contribution to Burial Fund, Malawi
Pearson Chi2(1) = 1.70 (P= 0.19)

Rewards for Contribution to Educational Fund, Zambia
Pearson Chi2(1) = 2.17 (P= 0.14)

Sanctions for Contribution to Educational Fund, Zambia
Pearson Chi2(1) = 13.73 (P= 0.00)

Intrinsic Motivation for Contribution to Educational Fund, Zambia
Pearson Chi2(1) = 10.87 (P= 0.001)

Rewards for Contribution to Burial Fund, Zambia
Pearson Chi2(1) = 1.37 (P= 0.241)

Sanctions for Contribution to Burial Fund, Zambia
Pearson Chi2(1) = 9.88 (P= 0.002)

Intrinsic Motivation for Contribution to Burial Fund, Zambia
Pearson Chi2(1) = 2.02 (P= 0.155)

G. Correlations (Individual Level)

Individual Ties to Neighbors and Time lived in the Neighborhood
Pearson's r = 0.40
Spearman's r = 0.39, p=0.000
Number of Observations = 14085

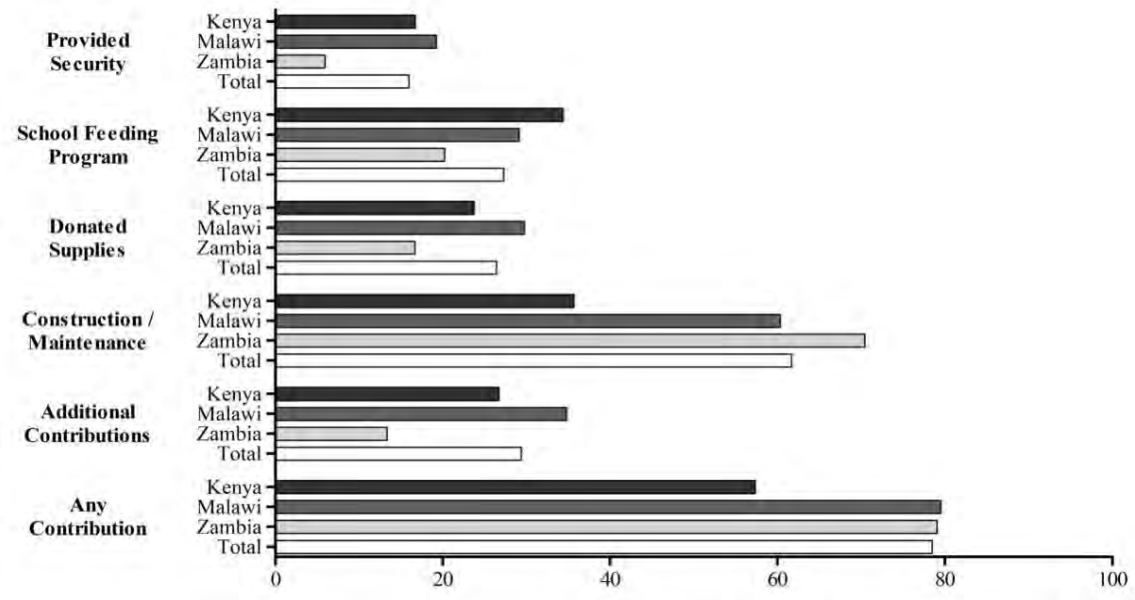
Individual Ties to Neighbors and Education
Pearson's r = -0.16
Spearman's r = -0.16, p=0.000
Number of Observations = 14106

Individual Ties to Neighbors and Gender
Pearson's r = -0.04
Spearman's r = -0.04, p=0.000
Number of Observations = 14106

Individual Ties to Neighbors and Age
Pearson's r = 0.18
Spearman's r = 0.18, p=0.000
Number of Observations = 14016

H. Observational Evidence

H.1: Individual Participation in Educational Programs and Funds



Note: Percentages based on data from the survey.

H.2: Percentage of Poor Who had been Asked to Contribute to Education Fund, Burial Fund or to Vote

Leader Type	Leader	Education Fund			Burial Fund			Voting		
		K	M	Z	K	M	Z	K	M	Z
Local	Neighbor	8.2	23.1	17.3	34.69	40.50	36.25	3.12	6.78	9.85
Local	Local Elder (K), Village Head (MZ, rural), Neighborhood Block Leader (M, urban), Neighborhood Leader (Z, urban)	8.5	60.7	39.6	22.22	60.56	51.69	10.00	6.26	13.79
Distant	Chief (K), Traditional Authority (M), Tribal Chief (Z)	5.9	36.6	29.2	2.34	19.86	28.27	0.82	7.06	9.63
Distant	Member of County Assembly (MCA, K), Local Councilor (M, Z)	0.9	8.9	13.0	5.36	3.96	13.03	8.09	17.16	13.75
Distant	Member of Parliament	3.1	6.9	13.7	3.67	5.14	6.72	6.35	20.56	16.14

Note: The titles of relevant leaders differ slightly across the countries. Those fielded in Kenya are denoted with a "K", in Malawi with an "M", and in Zambia with a "Z."

APPENDIX

A. Supplementary Analysis

Table A.1: Null Model, Random Intercept and Random Slope Model with Compliance as Dependent Variable

	Model (1) Null model	Model (2) Random Intercept Model	Model (3) Random Slope Model
Individual Level			
Local Authorities and Neighbors		0.197***	0.197***
		(0.022)	(0.022)
Constant	2.837***	2.757***	2.757***
	(0.013)	(0.016)	(0.016)
Community (var)			0.000
			(0.000)
Constant (var)	0.029	0.030	0.030
	(0.006)	(0.006)	(0.006)
Residuals (var)	1.383	1.373	1.373
	(0.018)	(0.018)	(0.018)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We report the null model, random intercept model and random slope model to the main models reported in the research paper. We use likelihood to comply with the leader as DV. Compliance is measured on a 4-point Likert scale. Models were calculated using STATA's *mixed* command for linear multilevel modeling. The covariance structure is independent.

Table A.2: Intra-Class Correlation based on the Null Model

Level	ICC	Standard Error
Community Level (sq km)	0.021	0.004

The intra-class correlation is very small in this case with only 2 percent of the variance in individual compliance being explained on the community level. Yet as we theoretically expect higher level variables to matter—in particular, the density and strength of neighborhood social ties—we are interested in understanding the role of these contextual effects in our model. We run multilevel models to account for the hierarchical structure of our data in which individuals are nested within communities.

Table A.3: Likelihood-Ratio Test for Random Intercept nested in Random Slope

LR chi2(2)	-0.00
P-value	1.00

Table A.4: Main Models with all Coefficient Values Added (Table 4 in Main Text)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Individual Level			
Local Authorities and Neighbors	0.170*** (0.018)	0.170*** (0.018)	0.141*** (0.023)
Community Level			
Neighborhood Social Ties		-0.027 (0.025)	-0.059** (0.030)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.077** (0.037)
Controls			
Activity (Voting as Baseline)			
Educational Contribution	1.289*** (0.217)	1.289*** (0.022)	1.289*** (0.022)
Burial Fund Contribution	1.510*** (0.022)	1.509*** (0.022)	1.510*** (0.022)
Monitoring (No Monitoring as Baseline)			
Community Monitoring	0.021 (0.021)	0.021 (0.021)	0.021 (0.021)
Leader Monitoring	0.024 (0.022)	0.023 (0.022)	0.024 (0.022)
Participation (50% as baseline)			
Few	-0.046** (0.022)	-0.046** (0.022)	-0.046** (0.022)
All	0.007 (0.025)	0.007 (0.025)	0.006 (0.025)
No Elder	-0.052 (0.048)	-0.054 (0.048)	-0.057 (0.048)
No Village Head	-0.012 (0.059)	-0.011 (0.059)	-0.012 (0.059)
No Chief	-0.165** (0.064)	-0.168*** (0.064)	-0.167*** (0.064)
LGPI Region (Lilongwe as Baseline)			

Lusaka	0.158**	0.152**	0.152**
	(0.075)	(0.076)	(0.076)
Malawi	-0.010	-0.010	-0.011
	(0.037)	(0.036)	(0.037)
Nairobi	-0.113**	-0.118**	-0.119**
	(0.051)	(0.051)	(0.051)
Zambia border	0.114***	0.123***	0.123***
	(0.040)	(0.041)	(0.041)
Constant	1.850***	1.861***	1.873***
	(0.039)	(0.040)	(0.041)
Community (var)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant (var)	0.024	0.024	0.038
	(0.004)		
Residuals (var)	0.926	0.926	0.922
	(0.012)	(0.012)	(0.012)
Observations	12,059	12,059	12,059
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Compliance is the dependent variable. Multilevel models were calculated using STATA's *mixed* command for linear multilevel modeling.

Table A.5: Full Models with Alternative Dependent Variables (Table 5 in Main Text)

	Model (1) Community Sanctioning	Model (2) Bandwagoning	Model (3) Leader Sanctioning
Individual Level			
Local Authorities and Neighbors	0.049** (0.022)	0.065*** (0.018)	0.155*** (0.023)
Community Level			
Neighborhood Social Ties	-0.040 (0.029)	-0.017 (0.024)	-0.008 (0.032)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties	0.061* (0.035)	0.062** (0.029)	-0.016 (0.036)
Controls			
Activity (Voting as Baseline)			
Educational Contribution	0.474*** (0.203)	0.816*** (0.017)	0.433*** (0.021)
Burial Fund Contribution	0.420*** (0.021)	0.850*** (0.017)	0.324*** (0.021)
Monitoring (No Monitoring as Baseline)			
Community Monitoring	0.010 (0.020)	-0.018 (0.017)	0.031 (0.021)
Leader Monitoring	-0.014 (0.021)	-0.002 (0.017)	0.012 (0.022)
Participation			
Few	-0.030 (0.020)	-0.012 (0.017)	-0.037* (0.021)
All	0.001 (0.023)	0.025 (0.019)	-0.018 (0.025)
No Elder	-0.028 (0.046)	0.008 (0.038)	0.008 (0.048)
No Village Head	-0.146*** (0.056)	-0.049*** (0.050)	0.075 (0.059)
No Chief	-0.072 (0.061)	-0.049 (0.050)	-0.107* (0.065)
LGPI Region (Lilongwe as Baseline)			
Lusaka	-0.323*** (0.074)	0.049 (0.059)	0.007 (0.078)
Malawi	-0.106*** (0.037)	-0.084*** (0.029)	-0.083** (0.041)

Nairobi	-0.451***	-0.205***	-0.353***
	(0.051)	(0.041)	(0.055)
Zambia border	-0.208***	0.040	0.020
	(0.042)	(0.033)	(0.046)
Constant	1.927***	1.580***	1.904***
	(0.040)	(0.032)	(0.044)
Community (var)	0.003	0.000	0.000
	(0.007)	(0.000)	(0.001)
Constant (var)	0.030	0.017	0.039
	(0.005)	(0.003)	(0.005)
Residuals (var)	0.801	0.547	0.873
	(0.011)	(0.007)	(0.012)
Observations	11,966	11,866	11,858
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Model reported in the main text.

B. Robustness Checks

Table B.1: Cross-Level Interaction Models for Compliance with Additional Controls

	Model (1) Random Slope Model with additional Controls	Model (2) Social Ties Model with additional Controls	Model (3) Interaction Model with additional Controls
Individual Level			
Local Authorities and Neighbors	0.170*** (0.018)	0.169*** (0.018)	0.139*** (0.023)
Female	0.027 (0.019)	0.028 (0.019)	0.029 (0.019)
Education	-0.081*** (0.031)	-0.081*** (0.031)	-0.075** (0.031)
Age ("18-34" as baseline)			
35-55	-0.008 (0.020)	-0.007 (0.020)	-0.007 (0.020)
>55	-0.023 (0.029)	-0.022 (0.029)	-0.020 (0.029)
Residency ("less than a year" as baseline)			
Residency ("more than a year")	-0.027 (0.032)	-0.025 (0.032)	-0.027 (0.032)
Residency ("all my life")	-0.043 (0.035)	-0.038 (0.035)	-0.042 (0.035)
Community Level			
Neighborhood Social Ties		-0.027 (0.026)	-0.091*** (0.031)
High Population Density			-0.092*** (0.024)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.080** (0.037)
Constant	1.936*** (0.058)	1.944*** (0.059)	2.005*** (0.060)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

Constant (var)	0.025 (0.004)	0.024 (0.004)	0.022 (0.004)
Residuals (var)	0.923 (0.012)	0.923 (0.012)	0.923 (0.012)
Observations	11,971	11,971	11,971
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. Compliance is the dependent variable. Multilevel models were calculated using STATA's *mixed* command for linear multilevel modeling.

Table B.2: Random Slope Models with Community Sanctioning as Dependent Variable

	Model (1) Null Model	Model (2) Random Slope Model	Model (3) Random Slope Model with Controls
Individual Level			
Local Authorities and Neighbors		0.083*** (0.018)	0.072*** (0.017)
Community Level			
Neighborhood Social Ties			-0.016 (0.026)
Constant	2.015*** (0.013)	1.981*** (0.014)	1.919*** (0.040)
Controls			
Experimental Arms	X	X	✓
No such Authority	X	X	✓
Region	X	X	✓
Community (var)		0.005 (0.008)	0.003 (0.007)
Constant (var)	0.051 (0.006)	0.050 (0.006)	0.030 (0.005)
Residuals (var)	0.850 (0.011)	0.847 (0.011)	0.801 (0.011)
Observations	11,966	11,966	11,966
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We use community sanctioning as the DV (see question wording in list below). The interaction model is reported in the research paper. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table B.3: Random Slope Models with Community Bandwagoning as Dependent Variable

	Model (1) Null Model	Model (2) Random Slope Model	Model (3) Random Slope Model with Controls
Individual Level			
Local Authorities and Neighbors		0.105*** (0.016)	0.089*** (0.014)
Community Level			
Neighborhood Social Ties			-0.009 (0.020)
Constant	2.090*** (0.010)	2.047*** (0.012)	1.570*** (0.032)
Controls			
Experimental Arms	X	X	✓
No such Authority	X	X	✓
Region	X	X	✓
Community (var)		0.002 (0.006)	0.000 (0.000)
Constant (var)	0.023 (0.004)	0.023 (0.004)	0.017 (0.003)
Residuals (var)	0.705 (0.009)	0.702 (0.009)	0.547 (0.007)
Observations	11,866	11,866	11,866
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We use community bandwagoning as the DV (see question wording in list below). The interaction model is reported in the research paper. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table B.4: Random Slope Models with Leader Sanctioning as Dependent Variable

	Model (1) Null Model	Model (2) Random Slope Model	Model (3) Random Slope Model with Controls
Individual Level			
Local Authorities and Neighbors		0.155*** (0.018)	0.149*** (0.018)
Community Level			
Neighborhood Social Ties			-0.015 (0.028)
Constant	2.109*** (0.013)	2.047*** (0.015)	1.907*** (0.043)
Controls			
Experimental Arms	X	X	✓
No such Authority	X	X	✓
Region	X	X	✓
Community (var)		0.000 (0.000)	0.000 (0.000)
Constant (var)	0.054 (0.006)	0.053 (0.006)	0.039 (0.005)
Residuals (var)	0.914 (0.012)	0.908 (0.012)	0.873 (0.012)
Observations	11,858	11,858	11,858
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We use community sanctioning as the DV (see question wording in list below). The interaction model is reported in the research paper. The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

Table B.5: Interaction Models with Alternative DVs and All Additional Controls

	Model (1) Random Slope Model with additional Controls	Model (2) Social Ties Model with additional Controls	Model (3) Interaction Model with additional Controls
Individual Level			
Local Authorities and Neighbors	0.170*** (0.018)	0.169*** (0.018)	0.139*** (0.023)
Female	0.027 (0.019)	0.028 (0.019)	0.029 (0.019)
Education	-0.081*** (0.031)	-0.081*** (0.031)	-0.075** (0.031)
Age ("18-34" as baseline)			
35-55	-0.008 (0.020)	-0.007 (0.020)	-0.007 (0.020)
>55	-0.023 (0.029)	-0.022 (0.029)	-0.020 (0.029)
Residency ("less than a year" as baseline)			
Residency ("more than a year")	-0.027 (0.032)	-0.025 (0.032)	-0.027 (0.032)
Residency ("all my life")	-0.043 (0.035)	-0.038 (0.035)	-0.042 (0.035)
Community Level			
Neighborhood Social Ties		-0.027 (0.026)	-0.091*** (0.031)
High Population Density			-0.092*** (0.024)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			0.080** (0.037)
Constant	1.936*** (0.058)	1.944*** (0.059)	2.005*** (0.060)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Community (var)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant (var)	0.025 (0.004)	0.024 (0.004)	0.022 (0.004)
Residuals (var)	0.923 (0.012)	0.923 (0.012)	0.923 (0.012)

Observations	11,971	11,971	11,971
Neighborhoods	631	631	631

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We use community sanctioning, bandwagoning and leader sanctioning as DVs (see question wording in list below). The analysis was conducted using STATA's *mixed* command for linear multilevel modeling.

C. Analyses using the Wealthy Sample

Table C.1: Multilevel Analysis with Compliance as Dependent Variable and Density of Ties as Contextual Variable (Wealthy Sample)

	Model (1) Random Slope Model	Model (2) Neighborhood Social Ties	Model (3) Cross-level Interaction
Individual Level			
Local Authorities and Neighbors	0.130*** (0.031)	0.132*** (0.031)	0.139*** (0.035)
Community Level			
Neighborhood Social Ties		0.121** (0.048)	0.133** (0.057)
Interaction			
Local Authorities and Neighbors*Neighborhood Social Ties			-0.032 (0.077)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.876*** (0.087)	1.854*** (0.087)	1.852*** (0.087)
Community (var)	0.003 (0.020)	0.001 (0.018)	0.001 (0.018)
Constant (var)	0.050 (0.011)	0.047 (0.011)	0.048 (0.011)
Residuals (var)	0.907 (0.022)	0.908 (0.022)	0.908 (0.022)
Observations	4,123	4,123	4,123
Neighborhoods	583	583	583

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We run similar analyses as the ones we present in table 4 in the main text for the poor sample.

Table C.2: Random Slope Model with Alternative Dependent Variables (Wealthy Sample)

	Model (1) Community Sanctioning	Model (2) Community Bandwagoning	Model (3) Leader Sanctioning
Individual Level			
Local Authorities and Neighbors	0.045 (0.033)	0.096*** (0.028)	0.147*** (0.035)
Community Level			
Neighborhood Social Ties	0.097* (0.058)	0.038 (0.045)	0.079 (0.058)
Interactions			
Local Authorities and Neighbors*Social Ties	0.068 (0.072)	0.030 (0.061)	0.043 (0.076)
Controls			
Experimental Arms	✓	✓	✓
No such Authority	✓	✓	✓
Region	✓	✓	✓
Constant	1.794*** (0.089)	1.603*** (0.068)	1.740*** (0.089)
Local Authorities and Neighbors (var)	0.013 (0.018)	0.002 (0.012)	0.000 (0.000)
Constant (var)	0.091 (0.013)	0.028 (0.007)	0.064 (0.012)
Residuals (var)	0.747 (0.018)	0.547 (0.013)	0.867 (0.021)
Observations	4,073	4,031	4,031
Neighborhoods	582	582	582

Standard errors in parentheses. *p<0.1 **p<0.05 ***p<0.01. We run similar analyses as the ones we present in table 5 in the main text for the poor sample.