# Supporting Information for From Chatter to Action: How Social Networks Inform and Motivate in Rural Uganda

## Contents

# 1 Village Characteristics

We implemented our intervention in a rural village in Uganda. Table 1 shows basic demographic information for the village. The modal respondent is female, married, and Catholic. According to the village health team's 2013 Village Register, the village population is 1408, comprised of 221 households.

Table 1: Descriptive Statistics

| Statistic | Mean | St. Dev. | Min | Max |
|---|---|---|---|---|
| Gender (1 = female) | 0.73 | 0.44 | 0 | 1 |
| Age | 38.81 | 16.90 | 18 | 92 |
| Educ. (3 = some primary, 4 = finished primary) | 3.29 | 1.59 | 1 | 8 |
| Married | 0.85 | 0.35 | 0 | 1 |
| Catholic | 0.65 | 0.48 | 0 | 1 |
| Working full time | 0.14 | 0.35 | 0 | 1 |
| Working part time | 0.46 | 0.50 | 0 | 1 |
| Unemployed | 0.03 | 0.17 | 0 | 1 |
| Retired | 0.37 | 0.48 | 0 | 1 |
| Housing material (1 = cement, 0 = mud) | 0.13 | 0.33 | 0 | 1 |
| Hear | 0.82 | 0.39 | 0 | 1 |
| Attend | 0.42 | 0.49 | 0 | 1 |
| Minutes travelled | 50.29 | 37.19 | 2 | 180 |

# 2 Intervention Design

## 2.1 Randomizing Seeds

We randomly selected 8 households in the village to be seeded with information.[1] Household locations were not available beforehand. In order to ensure that the seeds were the only source of novel information in the village, we could not send teams to create a mapped census since their movement through the village would be visible and novel, and we could not reach out to local officials who know household information without making them a seed

[1] We simultaneously seeded information with 10 households in one other village. Because information spread poorly there and attendance was low, we restrict attention in this article to the village where it spread.

as well. Instead, we performed randomization by road segments, maximizing geographic dispersion.

Specifically, we used a detailed map of the region from the Ugandan Bureau of Statistics to first divide the village into 8 regions of equal size, and then randomize over equal lengths of road segments within each region. We identified the road segments on the map and cross-verified them with Google satellite images.

Two enumerators from Uganda with no prior connection to the villages performed the seeding. Maps with the randomly chosen road segments indicated were distributed to the enumerators. On the day of seeding, each enumerator used the map to locate the selected road segment, arrive at its approximate midpoint, and then randomly select a house in view according to the following procedure: identify all houses in view (often about 4), orient a printout of a clock face so that noon faces the direction the enumerator was walking, then use a table of random digits to choose an "hour" at random, then visit the house in view closest to a walk in the direction of the randomly chosen clock hour. The enumerator was told to perform the seeding and then leave. This method obtained randomization while maximizing geographic dispersion and minimizing conspicuous movement through the area.

During each seeding, an enumerator would personally visit the randomly selected household and speak with the first adult available, share the news about the event that would be held in three days, provide a sheet of paper with the same information written on it, and record basic information about the household and the identity of the seed.

Each of the seeds were chosen at random from within one of the 8 equally-sized geographic regions of the village. Each enumerator seeded four households in the village, visited in random order; all seeding was completed within a day. One seed refused to receive the information after two attempts, reducing the number of seeds in the village to 7.

## 2.2 Event Details

The day of the event was chosen to not be a day of religious observance or a market day. The event was held at a Catholic church just outside of the village. The church had held public (non-religious) events on previous occasions; conversations with local religious figures and government officials indicates that this church would be a location that local villagers would know and would feel comfortable visiting, irrespective of their religious background.[2] The event was held over the course of three days. On the second event day, more attenders arrived than could be surveyed, so some were given coupons to return the third day; only

[2]The village we studied is 63% Catholic, and attenders at the event were 69% Catholic.

those with coupons were surveyed on the third day. A team of eleven enumerators, all Ugandan with the local languages (Ateso or Kumam) as their native language but none with prior connection to the village, administered the surveys at the event.

### 2.3 Post-Event Details

After the event was completed, a team of ten enumerators visited households in the village to conduct surveys. The team included nine of the enumerators from the event plus an additional enumerator. The day following the completion of the event, all households in view of the seeded households were visited and surveyed to ensure that those geographically proximate to the seeded households would be included in the sample. For the following six days, all other households were visited and at least one adult in each was invited to take the survey. The order of the households visited by each enumerator was randomly determined each day. Surveys were administered from about 9am to about 7pm each day.

## 3 Networks Data

### 3.1 Survey

The exact text (translated into English) of the social networks questions from the event and the post-event survey can be found in Table 2. The questions were designed to capture opportunities for word-of-mouth communication, and asked about concrete activities or events.

### 3.2 Network Characteristics

Table 3 shows information for each of the seven constituents of the social network as well as the aggregate social network. Nodes and Links are the number that appear in our data. Sampled Nodes are the individuals whom we surveyed. Links among Sampled are the links that connect two people who were surveyed. Unless otherwise indicated, node-level network measures are averaged over all nodes in the column's network, surveyed or not, using only links present in the column's network. The modifier "for Samp" indicates that the values come from network measures calculated in the above way but the average is reported for only those nodes that were surveyed. The modifier "among Samp" indicates the values are calculated from network measures of the closed network– the network containing only links

Table 2: Social Networks Survey Questions

| Label | Survey Question (Translated from Ateso) |
|---|---|
| Time | Name up to 5 adults with whom you spend the most time during a typical week. |
| Religion | Who are the adults with whom you are most likely to discuss religion? |
| Secret | Imagine that you have a secret that you wanted to remain secret- for example, imagine that you are considering standing in an election for local office (such as LC3 Chair), but you do not yet want everyone to know that you are considering to do so. Name up to five adults whom you would trust to keep a secret for you. |
| Meal | Name up to five adults- not including those who live in your homestead- with whom you have shared a meal or drink in the past week. |
| Visit | Name up to five adults whose homes you have visited in the past week- meaning that you intended to visit them; this does not include just passing by. |
| Politics | Who are the adults with whom you are most likely to discuss national politics? |
| Phone | Name up to five adults with whom you most often speak on the phone during a typical week. |

among surveyed respondents, discarding any link to someone we did not survey.

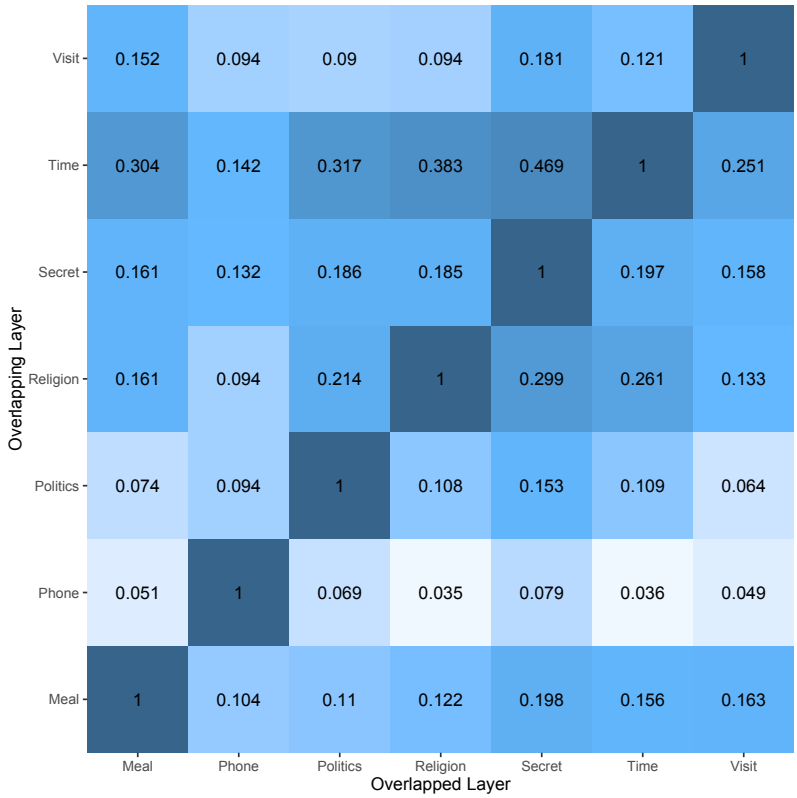
### 3.3 Overlap of Closed Networks

Figure 1 replicates the heat map of overlap between network types in the main article, using only the closed network. That is, only links between two surveyed respondents are included. Since respondents were free to list not only others in the village whom we did not survey, but also people outside the village, the overlap is generally greater in this restricted version of the network. The exception is the phone network, in which the proportion of the phone ties among villagers contained in other networks is lower in the closed version for some networks. Since respondents reported using phones primarily to contact individuals outside the village, this relationship makes sense.

## 4 Robustness Tests for Contagion

The main article reports the results of tests for contagion that relate the outcome of interest to the proportion of peers exhibiting the outcome. The relationship between hearing about the event and the proportion of peers who heard is substantively and statistically significant; the relationship between attending the event and the proportion of peers who attended is not. We show that the difference in statistical significance is not due to a difference in sample size (a consequence of conditioning the attending regressions on hearing about the event).

Figure 1: Heatmap, using networks constructed from only those links among surveyed respondents.




Note: we define overlap as the percentage of links of the overlapped layer (x-axis) contained in the overlapping layer (y-axis). Percentage values reported in parentheses.

Table 3: Descriptive Statistics of Abalang Networks

| | Time | Phone | Politics | Religion | Meal | Visit | Secrets | Agg. Social |
|---|---|---|---|---|---|---|---|---|
| Nodes | 878 | 623 | 453 | 714 | 675 | 627 | 589 | 1957 |
| Links | 1160 | 581 | 460 | 879 | 688 | 615 | 549 | 4932 |
| Sampled nodes | 322 | 215 | 221 | 303 | 268 | 276 | 273 | 328 |
| Links among sampled | 422 | 106 | 145 | 287 | 217 | 203 | 177 | 1557 |
| Avg. Neighb. Size | 2.64 | 1.87 | 2.03 | 2.46 | 2.04 | 1.96 | 1.86 | 3.85 |
| | (2.24) | (1.48) | (2.47) | (2.26) | (1.59) | (1.55) | (1.4) | (5.97) |
| Avg. Neighb. Size for Samp. | 4.91 | 3.2 | 2.74 | 3.85 | 3.38 | 2.96 | 2.66 | 14.72 |
| | (2.07) | (1.77) | (3.04) | (2.29) | (1.75) | (1.76) | (1.67) | (7.46) |
| Avg. Eigen Cent. | 0.05 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 |
| | (0.1) | (0.09) | (0.07) | (0.1) | (0.1) | (0.09) | (0.07) | (0.05) |
| Avg. Eigen Cent. for Samp. | 0.1 | 0.05 | 0.04 | 0.07 | 0.06 | 0.06 | 0.02 | 0.07 |
| | (0.13) | (0.14) | (0.09) | (0.11) | (0.14) | (0.11) | (0.09) | (0.1) |
| Avg. Transitivity | 0.08 | 0.02 | 0.04 | 0.07 | 0.02 | 0.02 | 0.04 | 0.06 |
| | (0.19) | (0.12) | (0.13) | (0.21) | (0.12) | (0.1) | (0.16) | (0.17) |
| Avg. Dist. | 6.08 | 5.47 | 4.18 | 5.45 | 6.81 | 5.57 | 6.35 | 3.82 |
| | (1.5) | (4.11) | (2.39) | (1.85) | (3.37) | (3.11) | (4.35) | (0.33) |
| Avg. Dist. to Seed | 2.93 | 4.94 | 3.29 | 3.22 | 4.56 | 4.44 | 4.66 | 1.97 |
| | (1.43) | (2.83) | (1.54) | (1.45) | (2.13) | (2.09) | (2.62) | (0.74) |
| Diameter | 17 | 23 | 18 | 14 | 24 | 18 | 23 | 8 |
| Number of Comp. among Samp. | 40 | 112 | 91 | 72 | 74 | 89 | 102 | 6 |
| Size of Lgest Comp. among Samp | 270 | 70 | 99 | 204 | 4 | 161 | 110 | 323 |
| Prop. Sampled with Path to Seed | 0.95 | 0.59 | 0.72 | 0.89 | 0.78 | 0.73 | 0.64 | 1 |

Note: standard deviations in parentheses.

Analyses throughout the article continue to robustly show the statistical insignificance of the relationship between attendance and the proportion of peers attending, even when conditioning on other network and demographic attributes. Here we provide further evidence that the relationship between peers hearing and hearing is robustly significant– evidence of straightforward contagion– and that the relationship between peers attending and attending is robustly insignificant– evidence against straightforward contagion.

## 4.1 Robustness to demographic controls

Not only do the relationships persist when controlling for demographic and network attributes (shown in the main article), they persist when only controlling for demographic attributes as well. Table 4 shows the results of including a battery of demographic controls for each ego and for egos and alters for hearing about the event. Table 5 shows the same two specifications for attending.

Once again, the marginal effect of HearAlter, the proportion of one's peers who heard about the event, is statistically significantly related to hearing about the event. The magnitude is substantively large as well– someone with all peers informed would be 33% more

Table 4: Peer Effects on the Probability of Hearing About the Event for Agg. Social Network (conditional on other network characteristics and Ego/Alter demographics)

| | P(Hear About the Event) | |
|---|---|---|
| | (1) | (2) |
| HearAlter | 0.663*** | 0.669*** |
| | (0.116) | (0.129) |
| Gender | 0.089* | 0.109* |
| | (0.053) | (0.063) |
| Age | 0.0001 | −0.001 |
| | (0.001) | (0.001) |
| Catholic | 0.018 | 0.010 |
| | (0.042) | (0.045) |
| Educ | 0.006 | 0.005 |
| | (0.015) | (0.014) |
| Married | 0.050 | 0.044 |
| | (0.064) | (0.061) |
| WallMat | 0.083* | 0.089** |
| | (0.043) | (0.042) |
| GenderAlter | | −0.046 |
| | | (0.078) |
| AgeAlter | | 0.001 |
| | | (0.003) |
| CatholicAlter | | −0.023 |
| | | (0.080) |
| EducAlter | | −0.034 |
| | | (0.029) |
| MarriedAlter | | 0.039 |
| | | (0.145) |
| WallMatAlter | | −0.152 |
| | | (0.121) |
| Adj. R-Squared | 0.172 | 0.201 |
| Observations | 310 | 306 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 5: Relationship between peers attending and attendance, conditional on demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | −0.048 | 0.077 |
| | (0.254) | (0.271) |
| Gender | 0.029 | 0.084 |
| | (0.078) | (0.100) |
| Age | −0.002 | −0.003 |
| | (0.002) | (0.002) |
| Catholic | 0.047 | −0.007 |
| | (0.068) | (0.073) |
| Educ | −0.031 | −0.031 |
| | (0.024) | (0.026) |
| Married | −0.178* | −0.202** |
| | (0.093) | (0.095) |
| WallMat | 0.055 | 0.062 |
| | (0.093) | (0.103) |
| GenderAlter | | −0.252 |
| | | (0.197) |
| AgeAlter | | 0.0002 |
| | | (0.005) |
| CatholicAlter | | 0.292** |
| | | (0.134) |
| EducAlter | | −0.024 |
| | | (0.058) |
| MarriedAlter | | −0.099 |
| | | (0.236) |
| WallMatAlter | | 0.012 |
| | | (0.211) |
| Adj. R-Squared | 0.019 | 0.044 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

likely to have heard than someone with only half her peers informed (and of course 66% more likely to have heard than someone with no peers who heard). The marginal effect of AttendAlter continues to be statistically insignificant, substantively small in magnitude, and the direction is highly sensitive to controls.

## 4.2 Robustness to alternate meaning of contagion

We may worry that contagion operates more simply than the earlier tests assume. It could be that contagion works by a single exposure, so that the difference to look for is between those with any tie to someone exhibiting the outcome and those without any such tie.

Tables 6 tests this simpler version of contagion for hearing about the event. Having a tie to someone who heard about the event is, once again, is both statistically and substantively related to hearing about the event. Someone with a tie to a peer who heard is 82% more likely to have heard, regardless of her neighborhood size.

Table 6: Relationship between having a peer who heard and hearing about the event

| | P(Hear About the Event) | |
|---|---|---|
| | (1) | (2) |
| Tie to Peer Who Heard | 0.822*** | 0.829*** |
| | (0.021) | (0.022) |
| Neighborhood | | 0.008*** |
| | | (0.003) |
| Adj. R-Squared | 0.011 | 0.034 |
| Observations | 326 | 326 |

*p<0.1; **p<0.05; ***p<0.01
Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 7 tests this simpler version of contagion for attending the event. Here, as with the more complex version, we see no evidence of contagion. Given that a person heard about the event, having a tie to a peer who attended is statistically unrelated to attendance, and small in substantive magnitude as well. Even using a simpler test for contagion, hearing appears contagious while attending does not.

Table 7: Relationship between having a peer who attended and attending the event, conditional on hearing about it

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| Tie to Peer Who Attended | 0.075 | 0.048 |
| | (0.098) | (0.102) |
| Neighborhood | | 0.005 |
| | | (0.005) |
| Adj. R-Squared | 0.002 | 0.005 |
| Observations | 268 | 268 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

# 5 The Role of the Social Network in Motivating Attendance

Next we explore the role of other network attributes in explaining attendance. Table 8 shows the marginal effects from a logistic regression of attendance on various combinations of network attributes. Note that, even conditional on other network features, the proportion of one's neighbors who attended—PropPeersAttend—continues to be insignificantly related to attendance. First, note that the proportion of peers who attended—PropPeersAttend—continues to be insignificantly related to attendance.

Second, the measures of network centrality hint that the least central were more likely to attend. The average number of steps through the network between a person and everyone else – AvgDist– is positively related to attendance, though often insignificantly so. The farther a person is from all others in a network sense, the more likely the person is to attend. Relatedly, a person's eigenvector centrality – Eigen– which captures the extent to which a person is highly connected and the extent to which those connections are to highly connected people is negatively related to attendance. The more eigenvector central a person is, the less likely she is to attend. The analyses below corroborate this relationship.

As Table 8 shows, the distance to an early attender is consistently negatively related to attendance; that is, the farther a person is in the network from any early attender, the less likely a person is to attend. The closer she is to an early attender, the more likely she is

Table 8: Attendance Conditional on Network Attributes

| | P(Attend the Event) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| PropPeersAttend | 0.086 | 0.166 | −0.143 | 0.102 | 0.139 | −0.155 | 0.168 | 0.015 |
| | (0.225) | (0.227) | (0.278) | (0.226) | (0.225) | (0.261) | (0.228) | (0.245) |
| NumPeers | 0.005 | | | | | | | 0.018** |
| | (0.005) | | | | | | | (0.008) |
| DistSeed | | 0.087** | | | | | 0.086* | 0.090* |
| | | (0.044) | | | | | (0.046) | (0.051) |
| DistEarlyAttend | | | −0.115** | | | −0.151*** | | −0.152*** |
| | | | (0.047) | | | (0.050) | | (0.053) |
| AvgDist | | | | 0.069 | | 0.192* | 0.012 | 0.321** |
| | | | | (0.097) | | (0.106) | (0.101) | (0.163) |
| Eigen | | | | | −0.881** | | | −0.916* |
| | | | | | (0.393) | | | (0.512) |
| Adj. R-Squared | 0.005 | 0.012 | 0.017 | 0.002 | 0.017 | 0.026 | 0.012 | 0.071 |
| Observations | 268 | 268 | 268 | 268 | 268 | 268 | 268 | 268 |

*p<0.1; **p<0.05; ***p<0.01
Note: Reported values are the marginal effects for the average observation. Network statistics calculated for undirected aggregate social network. Data include all respondents who heard about the event.

to attend. A person directly connected to an early attender is at least 11.5% more likely to attend than a person whose closest connection to an early attender is a friend-of-a-friend. A person as close as possible to an early attender is 34% more likely to attend than a person as far as possible in this network from an early attender. Interestingly, proximity to an early attender is more precisely related to attendance than proximity to a seed. Being farther from a seed can even correspond to a *greater* likelihood of attending, though the relationship weakens when controlling for a person's distance from other people in general (AvgDist).

# 6 Robustness Tests for Distance from Early Attenders

In the main article, we show that greater distance from an early attender is consistently negatively related to attending. That is, being socially closer to an early attender is consistently positively related to attending.

Table 9: Results of placebo tests for distance results.

| | | Spec 1 | Spec 2 | Spec 3 | Spec 4 |
|---|---|---|---|---|---|
| 11 Attenders | Prop. $\leqslant .05$ | 0 | 0 | .88 | .73 |
| | Prop. $\leqslant .01$ | 0 | 0 | 0 | .04 |
| | Avg. Marginal Effect | .02 | .03 | .02 | .02 |
| 11 Anyone | Prop. $\leqslant .05$ | 0 | 0 | .80 | .83 |
| | Prop. $\leqslant 0$ | 0 | 0 | 0 | .04 |
| | Avg. Marginal Effect | .24 | .22 | .25 | .28 |
| 11 Non-Attenders | Prop. $\leqslant .05$ | 0 | 0 | .80 | .72 |
| | Prop. $\leqslant 0$ | 0 | 0 | 0 | .09 |
| | Avg. Marginal Effect | .37 | .34 | .38 | .35 |

## 6.1 Placebo Test

We may worry that the the distance from early attenders result is artifactual, either due to the structure of the network, or due to connections to any attenders, whether or not they were the early ones.

To address these concerns, we conduct a series of placebo tests which vary the set of eleven people to whom distances are calculated in our observed network.

In the first, we randomly select a different set of 11 attenders from those who attended on days 2 or 3 (not early attenders). In the second, we randomly select a different set of 11 people who were not early attenders. These 11 could include both attenders and non-attenders. In the third, we randomly select a set of 11 non-attenders. These 11 neither attended on day 1 nor on a later day.

In each of the three sets of placebo tests, we redraw the set of 11 at random according to the criteria for that test 10,000 times and rerun four regression specifications each time. The first specification (Spec 1) conditions on average distance in the network. Spec 2 conditions on the proportion of peers who attended. Spec 3 conditions on both average distance and the proportion of peers who attended. Spec 4 conditions on the full set of ego demographic attributes as well as the network attributes average distance, eigenvector centrality, neighborhood size, distance to a seed, and the proportion of peers who attended.

Table 9 reports the outcomes of the placebo tests. These results supports the distance to early attenders findings in two ways. First, in most specifications, the relationship between distance to a placebo set of 11 individuals and attendance would not be statistically significant even at the .05 level. This is always true in the simple specifications that control for either average distance or the proportion of peers who attended, and is also always true at

the .01 level for the specification that controls for both average distance and the proportion of peers who attended. That we do find a relationship significant at the .01 level for this specification when using distance to the 11 early attenders is meaningful. It is also rare to find a highly statistically significant result in the full specification (Spec 4) when using any of the placebo types, though distance to the placebos would appear significant at the .05 level in this specification between 72 and 83% of the time. If distance to early attenders were only statistically significant in the full specification, we would have cause to worry. Since it is also significant in the more streamlined specifications, the result is more likely to be attributed to a genuine effect of proximity to an early attender.

Second, the average marginal effect estimated in each of the placebo regressions is also telling. When using 11 attenders as the placebos, distance to them can produce statistically significant results in the specifications with more controls; the average marginal effect is about .02. On average, we would recover a positive marginal effect of distance to the placebos. When using anyone as the placebos so that the 11 can contain attenders and non-attenders, on average we would recover a larger positive effect of distance to them. And when using 11 non-attenders as placebos, on average we would recover an even larger positive effect of distance to them.

Interpreting just the substantive magnitude (since these values are often imprecisely estimated), being farther from a randomly-selected non-attender is more related to attendance than being farther from a randomly selected other who may have attended or not, which is more related to attendance than being farther from a randomly selected other who did attend. And distance from the 11 who did in fact attend on day 1 fills out this ranking; distance to an early attender is more related to attendance than any of these categories.

# 7 Who Are the Early Attenders

Given the importance of those willing to attend on the first day to others' motivation to attend, we next explore: who are the eleven early attenders? Table 10 compares the eleven early attenders with the 127 others who attended on days 2 or 3. Notably, the early attenders are not significantly different from later attenders in terms of any measured demographic characteristic. The group is made up of gender, age, marital status, religion, approximated wealth, and employment status that is statistically indistinguishable from the later attenders.

The early attenders *do* differ from later attenders in terms of network characteristics. Later attenders have network neighbors with smaller neighborhoods (AvgNumPeersPeers),

Table 10: Comparison of the 11 people who attended the event on the first day and the 127 who attended on the second or third day.

| | Early Attenders | Later Attenders |
|---|---|---|
| Female | 0.82 | 0.79 |
| Age | 43.27 | 37.07 |
| Married | 0.91 | 0.83 |
| Catholic | 0.64 | 0.69 |
| WallMat | 0.18 | 0.13 |
| Educ | 3.09 | 3.24 |
| Unemp | 0.09 | 0.04 |
| PartTime | 0.45 | 0.46 |
| FullTime | 0.09 | 0.18 |
| Retired | 0.36 | 0.32 |
| NumPeers | 17.55 | 15.65 |
| AvgNumPeersPeers | 11.81 | 9.32** |
| PropPeersHear | 0.94 | 0.91 |
| PropPeersAttend | 0.32 | 0.17** |
| DistSeed | 1.27 | 2.09** |
| DistEarlyAttend | 0.00 | 1.90*** |
| DistOtherEarlyAttend | 1.09 | 1.90*** |
| AvgDist | 3.69 | 3.81 |
| Eigen | 0.09 | 0.06 |
| Number of People | 11 | 127 |

*p<0.1; **p<0.05; ***p<0.01

Note: WallMat scores housing material with Brick = 1, anything else = 0. DistOtherEarlyAttend is the minimum distance to an early attender who is not one's self.

are farther from the seeds (DistSeed), and are substantially farther from other early attenders (DistOtherEarlyAttend). While day 1 attenders are distance 0 from an attender (themselves) by construction, they are also closer to the other early attenders as well. In fact, ten of the eleven early attenders have a direct connection to another day one attender. In contrast, later attenders are on average almost two steps removed, meaning they are on average tied to an early attender via a tie-of-a-tie and no closer.

The early attenders formed a relatively cohesive group within the social network. The average distance between any early attender and every other early attender is 2.1. By contrast, the average distance between anyone and anyone else in the network is 3.8. In short, early attenders are not different in demographic attributes from those who attended later. They are distinguished by their network position. They occupy a close-knit community within the network that is near the seeds.

Table 11: Comparison of the 2 early attenders who were seeds and the 9 early attenders who were not seeds.

| | Early Attenders (seeds) | Early Attenders (non-seeds) |
|---|---|---|
| Female | 0.50 | 0.89 |
| Age | 60.50 | 39.44*** |
| Married | 1.00 | 0.89 |
| Catholic | 0.50 | 0.67 |
| WallMat | 0.00 | 0.22 |
| Educ | 3.00 | 3.11 |
| Unemp | 0.00 | 0.11 |
| PartTime | 0.50 | 0.44 |
| FullTime | 0.00 | 0.11 |
| Retired | 0.50 | 0.33 |
| NumPeers | 19.00 | 17.22 |
| AvgNumPeersPeers | 12.54 | 11.65 |
| PropPeersHear | 0.98 | 0.93 |
| PropPeersAttend | 0.34 | 0.32 |
| DistSeed | 0.00 | 1.56*** |
| DistEarlyAttend | 0.00 | 0.00 |
| DistOtherEarlyAttend | 1.50 | 1.00 |
| AvgDist | 3.79 | 3.67 |
| Eigen | 0.18 | 0.07 |
| Number of People | 2 | 9 |

*p<0.1; **p<0.05; ***p<0.01

Note: WallMat scores housing material with Brick = 1, anything else = 0. DistOtherEarlyAttend is the minimum distance to an early attender who is not one's self.

Are these differences driven by early attenders who were also seeds? Table 11 compares the two early attenders who were seeds with the nine others who also attended on day 1 but were not seeds. Keeping in mind the tiny $n$, the only significant difference —beyond distance to seed which is by construction— is age, with non-seed early-attenders being significantly younger.

# 8 Who Are the Non-Attending Seeds

Two out of the seven seeds did not attend the event. How do non-attending seeds compare to attending seeds and what if any differential influence did they have on their peers? Table 12 compares attending and non-attending seeds. The only significant difference —keeping

in mind the small sample size— lies in that non-attending seeds are more likely to be part-time employed while attending seeds are more likely to be full-time employed. Importantly, there's no significant difference in the proportion of peers that heard or attended the event.

Table 12: Comparison of the 2 seeds that did not attend the event and the 5 that did. DistOtherSeed is the minimum distance to a seed who is not one's self.

| | Attending Seeds | Non-Attending Seeds |
|---|---|---|
| Female | 0.60 | 0.50 |
| Age | 40.20 | 51.50 |
| Married | 1.00 | 1.00 |
| Catholic | 0.50 | 1.00 |
| WallMat | 0.00 | 0.00 |
| Educ | 4.00 | 3.00 |
| Unemp | 0.00 | 0.00 |
| PartTime | 0.20 | 1.00** |
| FullTime | 0.60 | 0.00* |
| Retired | 0.20 | 0.00 |
| NumPeers | 17.40 | 24.00 |
| AvgNumPeersPeers | 10.52 | 10.80 |
| PropPeersHear | 0.97 | 0.85 |
| PropPeersAttend | 0.22 | 0.23 |
| DistSeed | 0.00 | 0.00 |
| DistOtherSeed | 1.80 | 1.50 |
| DistEarlyAttend | 1.00 | 2.00 |
| AvgDist | 3.81 | 3.85 |
| Eigen | 0.16 | 0.10 |
| Number of People | 5 | 2 |

*p<0.1; **p<0.05; ***p<0.01
Note: WallMat scores housing material with Brick = 1, anything else = 0.

# 9 Clan Membership

In this section we analyze the degree of overlap between our measured social networks and clan membership. For each listed tie in each of our seven social networks we can identify whether said tie belongs to the same clan as the respondent. To evaluate the degree of overlap between clan membership and the recovered social networks we use the chi-squared test. Table 13 lists the number of ties with and without shared clan membership. In all cases except for the phone network —no significant difference—, the overwhelming majority

of ties are between individuals of different clans. In sum, our effects are unlikely to be driven by shared clan membership.

Table 13: Comparison of social and clan networks. Significance refer to a $\chi^2$ test.

| Layer | Different Clan | Same Clan |
|---|---|---|
| Time | 188 | 88*** |
| Phone | 98 | 88 |
| Politics | 129 | 54*** |
| Religion | 183 | 77*** |
| Meal | 161 | 55*** |
| Visit | 150 | 78*** |
| Secret | 174 | 72*** |

*p<0.1; **p<0.05; ***p<0.01

# 10 Robustness Tests for Intimate Ties

In this section we provide additional tests for the result reported in the main article that if there is a contagion effect for attendance, it is present only in those networks with the most intimate ties– the visits and meals networks.

## 10.1 Additional specifications for disaggregated networks

First, we consider whether the contagion of hearing about the event is also only present in the hearing and meals network. Table 14 reports the results of the same specifications as reported in the article text, this time looking at the outcome of hearing about the event. It is not the case that contagion is only present among only the most intimate ties. Here five of the seven networks exhibit highly statistically significant and substantively large relationships between the proportion of peers who heard about the event and hearing about the event: the networks of those with whom one spends time, discusses politics, discusses religion, shares meals, and confides secrets.

The phone network functions as a rough placebo for the outcome of hearing. As reported in the main article, we asked respondents by what means they learned about the event and exactly zero learned over the phone. That the proportion of one's phone contacts hearing is unrelated to hearing about the event is reassuring. That the proportion of contacts with whom one shares homestead visits that heard is unrelated to hearing is suggestive of these intimate relationships. Perhaps visits are spent not sharing idle chit chat but discussing and

Table 14: Relationship between hearing about the event and neighbors in each network type who heard

| | P(Hear About the Event) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time | Phone | Politics | Religion | Meal | Visit | Secret |
| Prop. Peers Who Heard | 0.352*** | 0.090 | 0.306*** | 0.239*** | 0.241*** | 0.078 | 0.262*** |
| | (0.072) | (0.090) | (0.086) | (0.061) | (0.066) | (0.086) | (0.067) |
| Adj. R-Squared | 0.091 | 0.006 | 0.102 | 0.058 | 0.062 | 0.004 | 0.087 |
| Observations | 305 | 147 | 167 | 262 | 227 | 229 | 226 |

*p<0.1; **p<0.05; ***p<0.01
Note: Each network is the undirected network comprised of a single tie type. Reported coefficients represent the marginal effects for the average observation.

passing judgment on what is already known. More deeply investigating the informational role of visits is a potentially fruitful topic for future research.

Next, we consider both the proportion of peers who attended and the distance from an early attender in each separate network. Table 15 confirms the importance of distance from an early attender for attendance, though shows that even accounting for this role of networks, having a larger proportion of peers with whom one shares meals is still related to attendance. That the visit network no longer exhibits a statistically significant relationship between proportion of peers attending and attendance suggests that some of the role of peers whom one visits could be explained by their access to early attenders.

Table 15: Relationship between attending the event and neighbors in each network type who attended

| | P(Attend the Event) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time | Phone | Politics | Religion | Meal | Visit | Secret |
| Prop. Peers Who Attended | −0.195 | 0.007 | 0.154 | 0.112 | 0.329** | 0.125 | −0.063 |
| | (0.181) | (0.204) | (0.149) | (0.162) | (0.150) | (0.151) | (0.143) |
| DistLeaderLayer | −0.056* | −0.047** | −0.030 | −0.080*** | −0.020 | −0.074*** | −0.035** |
| | (0.029) | (0.022) | (0.031) | (0.029) | (0.021) | (0.023) | (0.017) |
| AvgDistLayer | 0.077 | 0.020 | 0.008 | 0.070 | 0.009 | 0.059** | 0.026 |
| | (0.055) | (0.020) | (0.036) | (0.048) | (0.029) | (0.028) | (0.020) |
| Adj. R-Squared | 0.021 | 0.031 | 0.015 | 0.036 | 0.031 | 0.063 | 0.023 |
| Observations | 248 | 112 | 137 | 222 | 173 | 170 | 150 |

*p<0.1; **p<0.05; ***p<0.01
Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

### 10.2 Nonparametric tests by network type

Next we take a nonparametric approach to more naturally account for the dependencies in these network data. If the outcomes are contagious in any of the separate networks, then individuals who are tied to one another in these networks should also cluster with respect to the outcome. In other words, if we compare those who heard to a randomly selected set of nodes of the same size in terms of the extent to which they are linked to one another in the network, those who heard should be more connected.

Figure 2 shows the sampling distributions of the density among sets of people the same size as the number of hearers in each network, with the aggregate social network displayed for comparison. The vertical line indicates the observed density among the set of those who did hear. Figure 3 shows the same for attending.

Table 16 summarizes these figures. In the case of attending, the density among attenders is statistically anomalous relative to the density among randomly selected groups of the same size in only two of the individual networks: the visit and meal network. In these networks comprised of particularly intimate ties, those who attended are particularly clustered together.

Table 16: Links Among Hearers and Attenders Relative to Random Samples of Nodes

| | Links Among Hearers | Prop. Rnd <Links | Links Among Attenders | Prop. Rnd <Links |
|---|---|---|---|---|
| Agg. Social | 1,155 | 1.00 | 305 | 0.83 |
| Time | 310 | 0.99 | 65 | 0.12 |
| Phone | 75 | 0.68 | 25 | 0.90 |
| Politics | 116 | 0.98 | 29 | 0.65 |
| Religion | 210 | 0.96 | 52 | 0.56 |
| Meal | 156 | 0.88 | 52 | 0.98 |
| Visit | 153 | 0.98 | 50 | 0.98 |
| Secret | 135 | 0.99 | 32 | 0.54 |

## 11 Robustness of Centrality Result

In this section we verify the set of results presented in the main article suggesting that while network centrality is positively related to access to information, it is in fact negatively related to attending.

Figure 2: Density Plots, Hearing about the event

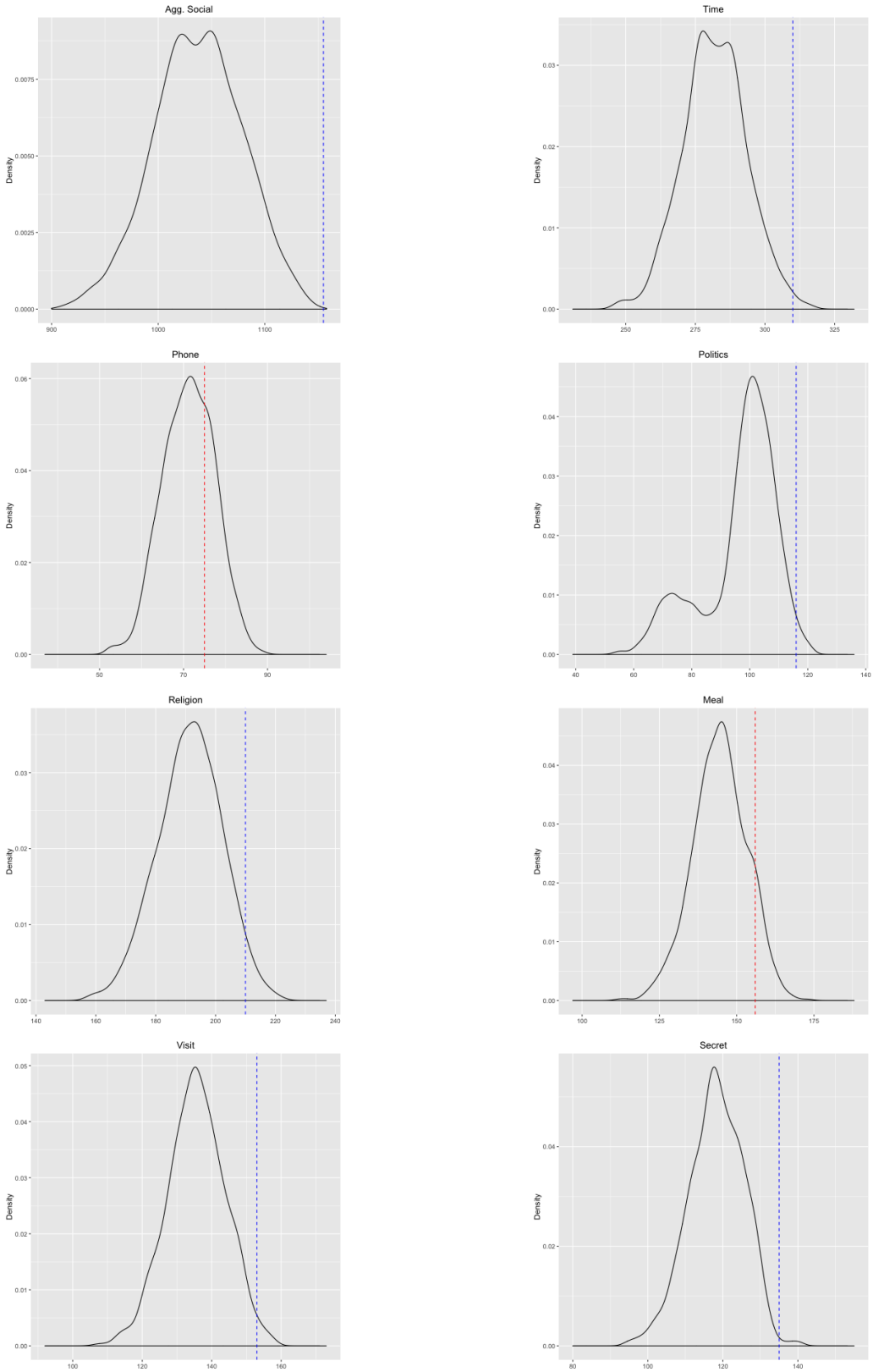
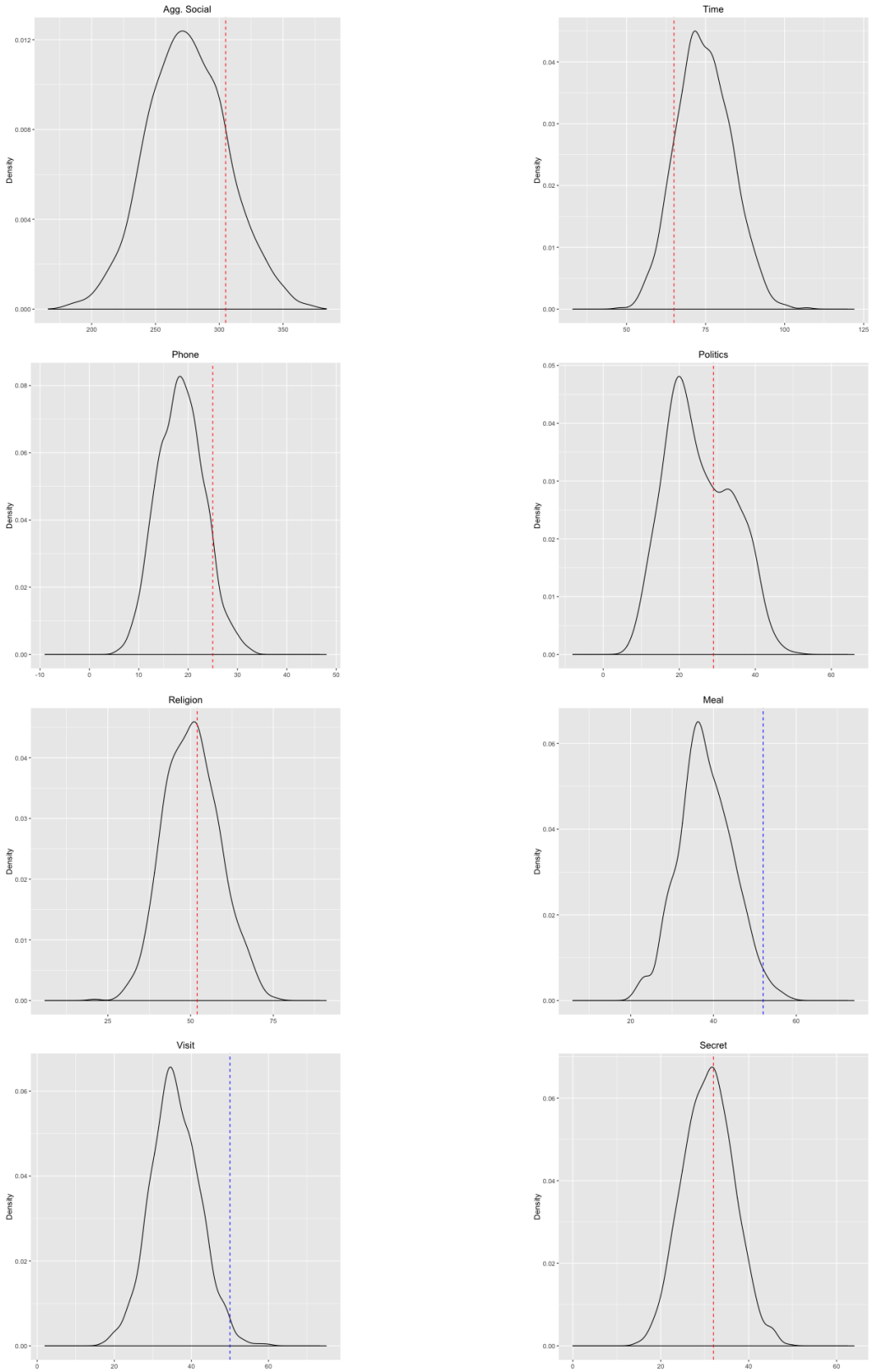


Figure 3: Density Plots, Attending the event



## 11.1 Centrality and hearing about the event

Table 17 shows the relationship between various measures of network centrality and hearing about the event. Table 18 replicates the full specification from the main article with the outcome of hearing about the event.

Table 17: Relationship between network centrality and hearing about the event

| | P(Hear the Event) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Neighborhood | 0.008*** | | | | 0.005 | 0.006** | 0.009*** | |
| | (0.003) | | | | (0.004) | (0.003) | (0.003) | |
| NeighborhoodAlter | | 0.005 | | | | | 0.006 | |
| | | (0.006) | | | | | (0.005) | |
| AvgDist | | | −0.164*** | | −0.096 | | | |
| | | | (0.058) | | (0.085) | | | |
| Eigen | | | | 0.721* | | 0.388 | | |
| | | | | (0.375) | | (0.339) | | |
| UnweightedEigen | | | | | | | | 0.579** |
| | | | | | | | | (0.267) |
| Adj. R-Squared | 0.024 | 0.002 | 0.024 | 0.016 | 0.028 | 0.028 | 0.027 | 0.019 |
| Observations | 327 | 327 | 327 | 327 | 327 | 327 | 327 | 327 |

*p<0.1; **p<0.05; ***p<0.01
Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Both Tables 17 and 18 suggest that greater centrality in a network is positively related to hearing information spreading through it. Moreover, the patterns that specific measures of centrality exhibit suggests that what matters for hearing information is access. Specifically, having more neighbors and being close to more people make a person more likely to learn information.

Eigenvector centrality is robustly positively related to hearing, though its precision varies based on which other network features are included.

## 11.2 Consistency of centrality result across measures

We can get a better sense of what about eigenvector centrality matters for attendance by including different combinations of network measures. Table 19 suggests that the feature of centrality that matters most for attendance (and so what eigenvector centrality captures in the other specifications) is not one's neighborhood size, but the size of one's neighbors'

Table 18: Relationship bewteen peers who heard and hearing about the event, conditional on other network attributes and ego and alter demographic characteristics

| | P(Hear About the Event) | |
|---|---|---|
| | (1) | (2) |
| HearAlter | 0.500*** | 0.502*** |
| | (0.116) | (0.123) |
| Neighborhood | 0.003 | 0.002 |
| | (0.004) | (0.004) |
| DistSeed | 0.003 | 0.013 |
| | (0.027) | (0.028) |
| DistLeader | −0.069** | −0.066** |
| | (0.033) | (0.033) |
| AvgDist | 0.026 | 0.009 |
| | (0.092) | (0.091) |
| Eigen | 0.763** | 0.783** |
| | (0.316) | (0.328) |
| Gender | 0.143** | 0.171** |
| | (0.061) | (0.068) |
| Age | 0.0002 | −0.001 |
| | (0.001) | (0.001) |
| Catholic | 0.032 | 0.012 |
| | (0.040) | (0.041) |
| Educ | 0.003 | 0.002 |
| | (0.013) | (0.013) |
| Married | 0.053 | 0.045 |
| | (0.068) | (0.066) |
| WallMat | 0.077** | 0.082** |
| | (0.035) | (0.034) |
| GenderAlter | | −0.043 |
| | | (0.067) |
| AgeAlter | | 0.001 |
| | | (0.002) |
| CatholicAlter | | 0.007 |
| | | (0.066) |
| EducAlter | | −0.032 |
| | | (0.024) |
| MarriedAlter | | 0.072 |
| | | (0.117) |
| WallMatAlter | | −0.152 |
| | | (0.099) |
| Adj. R-Squared | 0.232 | 0.261 |
| Observations | 310 | 306 |

*p<0.1; **p<0.05; ***p<0.01



Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

neighborhoods. Having larger average neighbors' neighborhoods is negatively associated with attending. Likewise, Table 20 suggests that average distance is doing some of the work as well. In general, being far from everyone else in the network is associated with being more likely to attend.

Whereas hearing is about access– having large neighborhoods and being close to lots of people, attendance is about seclusion. Having lower eigenvector centrality, being far from everyone, and having neighbors who are not very well connected are all positively related to attending.

## 11.3 Accounting for Sampling

Because those who were surveyed had the opportunity to be listed by others *and* to list others, they could appear more central in the network than those who were not surveyed as an artifact of the sampling procedure. For this reason, we only include those surveyed in any of the regressions. However, it could still be that those who happen to have more of their ties included among those sampled appear more central in our measured network than they are in the true network.

To address the concern that sampling from a larger network introduced a false association between centrality and attendance, we test for robustness in three ways.

First, we test whether the relationship between eigenvector centrality and attendance persists when we include a control for the number of one's alters who happened to be sampled. Second, we recalculate eigenvector centrality on the aggregate social network, trimmed so that if two people are linked in multiple subnetworks, they are considered the same as two people who are linked in just one subnetwork. Finally, as the strongest test for robustness to sampling concerns, we recalculate eigenvector centrality for the closed network– the subnetwork induced by those surveyed, i.e. the network that only keeps links that are present between two people where surveyed. Any link mentioned by a respondent to someone who was not surveyed is discarded for the purpose of this statistic.

Table 21 shows the results of regressing attendance on each of these different versions. Strikingly, the negative relationship persists across them all, almost always with high precision as well. Most notably, the marginal effect of eigenvector centrality calculated for the full network (WeightedEigen) and that for the closed network (WeightedEigenCl) is similar not only in precision, but also in magnitude. The marginal effect of trimmed eigenvector centrality calculated for the full network (UnweightedEigen) is actually *smaller* than that calculated on the closed network (UnweightedEigenCl). Sampling may in fact be masking

Table 19: Relationship bewteen peers who attended and attendance, conditional on other network attributes and ego and alter demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | 0.134 | 0.553 |
| | (0.353) | (0.407) |
| Neighborhood | 0.004 | 0.006 |
| | (0.005) | (0.005) |
| NeighborhoodAlter | −0.040*** | −0.059*** |
| | (0.013) | (0.014) |
| DistSeed | 0.088 | 0.107 |
| | (0.056) | (0.067) |
| DistLeader | −0.163*** | −0.208*** |
| | (0.057) | (0.063) |
| Gender | 0.021 | 0.177 |
| | (0.087) | (0.111) |
| Age | −0.001 | −0.002 |
| | (0.002) | (0.003) |
| Catholic | 0.008 | −0.055 |
| | (0.073) | (0.080) |
| Educ | −0.035 | −0.034 |
| | (0.026) | (0.028) |
| Married | −0.148 | −0.163 |
| | (0.094) | (0.101) |
| WallMat | 0.031 | 0.048 |
| | (0.096) | (0.105) |
| GenderAlter | | −0.523** |
| | | (0.249) |
| AgeAlter | | 0.006 |
| | | (0.006) |
| CatholicAlter | | 0.294** |
| | | (0.147) |
| EducAlter | | 0.026 |
| | | (0.070) |
| MarriedAlter | | 0.089 |
| | | (0.282) |
| WallMatAlter | | −0.139 |
| | | (0.272) |
| Adj. R-Squared | 0.103 | 0.167 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 20: Relationship bewteen peers who attended and attendance, conditional on other network attributes and ego and alter demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | −0.166 | 0.062 |
| | (0.303) | (0.340) |
| Neighborhood | 0.018** | 0.025*** |
| | (0.008) | (0.008) |
| DistSeed | 0.072 | 0.086 |
| | (0.055) | (0.065) |
| DistLeader | −0.162*** | −0.208*** |
| | (0.056) | (0.061) |
| AvgDist | 0.332** | 0.505*** |
| | (0.166) | (0.190) |
| Eigen | −0.862 | −0.992 |
| | (0.524) | (0.629) |
| Gender | 0.003 | 0.147 |
| | (0.089) | (0.110) |
| Age | −0.002 | −0.003 |
| | (0.002) | (0.002) |
| Catholic | −0.003 | −0.058 |
| | (0.074) | (0.082) |
| Educ | −0.038 | −0.036 |
| | (0.026) | (0.028) |
| Married | −0.161* | −0.178* |
| | (0.094) | (0.099) |
| WallMat | 0.050 | 0.065 |
| | (0.095) | (0.102) |
| GenderAlter | | −0.455** |
| | | (0.223) |
| AgeAlter | | 0.006 |
| | | (0.006) |
| CatholicAlter | | 0.269* |
| | | (0.142) |
| EducAlter | | 0.021 |
| | | (0.066) |
| MarriedAlter | | 0.182 |
| | | (0.259) |
| WallMatAlter | | −0.060 |
| | | (0.256) |
| Adj. R-Squared | 0.089 | 0.134 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01



Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

an even larger effect than the one we report in the article.

Table 21: Testing robustness to four different measurements of eigenvector centrality

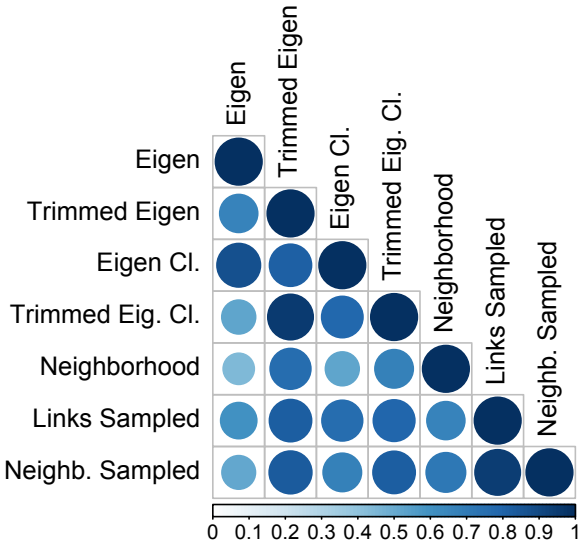
| | P(Attend the Event) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| WeightedEigen | −0.857** | −1.020** | | | | | −0.881** | |
| | (0.386) | (0.485) | | | | | (0.393) | |
| SampledAlterLkCount | | 0.002 | | | | | | |
| | | (0.004) | | | | | | |
| UnweightedEigen | | | −0.566** | −1.035* | | | | −0.607** |
| | | | (0.285) | (0.543) | | | | (0.290) |
| SampledAlterCount | | | | 0.010 | | | | |
| | | | | (0.009) | | | | |
| WeightedEigenCl | | | | | −0.718*** | | | |
| | | | | | (0.274) | | | |
| UnweightedEigenCl | | | | | | −0.775** | | |
| | | | | | | (0.340) | | |
| AttendAlter | | | | | | | 0.139 | 0.171 |
| | | | | | | | (0.225) | (0.234) |
| Adj. R-Squared | 0.016 | 0.017 | 0.01 | 0.013 | 0.02 | 0.014 | 0.017 | 0.011 |
| Observations | 268 | 268 | 268 | 268 | 268 | 268 | 268 | 268 |

*p<0.1; **p<0.05; ***p<0.01
Note: Network statistics calculated for the social network– the undirected union of all seven social network tie types. Reported coefficients represent the marginal effects for the average observation.

Each of these versions of eigenvector centrality are highly but imperfectly correlated, as shown in Figure 4. The high correlations between Eigen and Eigen Cl., and Trimmed Eigen and Trimmed Eig. Cl., the values calculated on the network including every tie offered and the values calculated on the network including only ties between two respondents, is particularly reassuring that sampling is not driving our results.

In fact, the direction of the correlations suggests reaffirms the finding that if we are biasing our results due to sampling, it is in the conservative direction. The intuition is as follows: people who are sampled are more likely to appear central in the network– they have the chance to not only be named by others, but to name ties themselves. These nodes are likely to have larger neighborhoods in the measured network. Moreover, to the extent that attendance clusters in the network, perhaps due to social proximity to the seeds or a process of vetting and reassuring among intimate ties, attenders are more likely to have their ties included in the sample (since we surveyed all attenders at the event). The more of a person's ties that are sampled, the larger their neighborhoods will appear in the data relative to the ties that are not sampled, and hence the more eigenvector central the person will appear. Our sampling procedure could have the effect of inflating the eigenvector centrality of attenders.

Figure 4: Correlations between each of the four calculated eigenvector centrality measures.



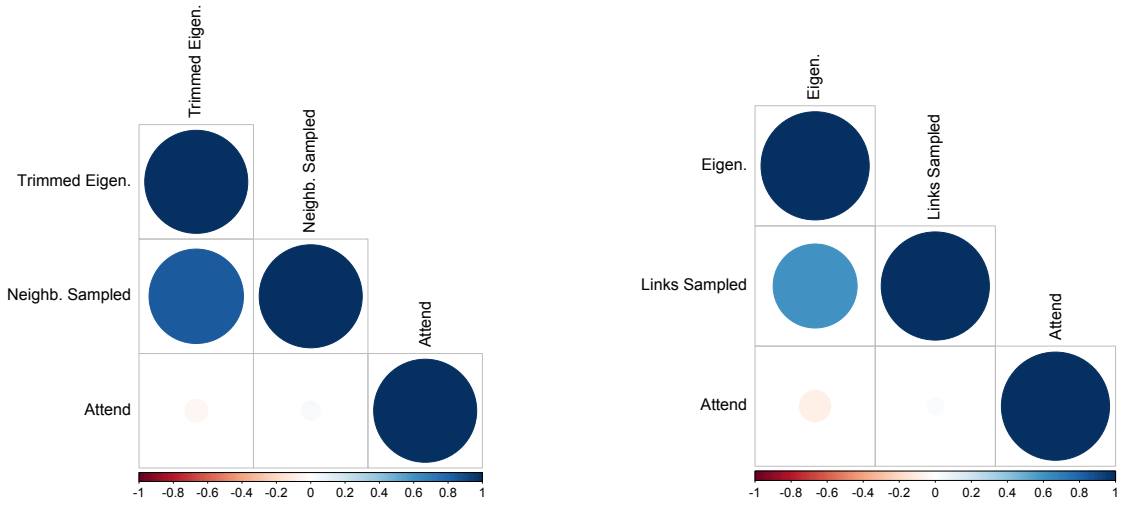

This inflation should bias our results in the direction of finding a positive association between eigenvector centrality and attendance. That we nonetheless find a robustly *negative* association means that the true association may in fact be even larger in magnitude. This source of bias due to sampling from a network make our estimates conservative.

Figures 5 shows the raw relationships contributing to our results. Although eigenvector centrality is in fact highly correlated with the number of alters that we surveyed, and the number of alters we surveyed is positively correlated with attendance, eigenvector centrality is nonetheless negatively correlated with attendance. In short, since some enter our sample by attending the event, and since attenders may influence their network neighbors attend as well, we introduce a bias in our data that should overestimate a positive relationship between eigenvector centrality and attendance. The the negative relationship that we do detect is likely a conservative estimate.

Finally, we confirm that the full specification reported in the main article is not sensitive to which of these differently calculated eigenvector centrality measures that are included. Table 22 shows the results for the trimmed version, Table 23 shows the results for eigenvector centrality calculated on the closed network, and Table 24 shows the results for trimmed eigenvector centrality calculated on the closed network.

The centrality result is robust to all measures of eigenvector centrality: the trimmed version that does not weight, the version calculated on just the closed network among respon-

Figure 5: Although the number of links (alters) sampled is highly positively correlated with (trimmed) eigenvector centrality, and the number of links (alters) sampled is positively correlated with attending, (trimmed) eigenvector centrality is negatively correlated with attendance.




dents, and the trimmed version calculated on just the closed network among respondents.

## 11.4 Disaggregating centrality

Finally, we explore whether the negative relationship between network centrality and attendance varies by subnetwork.

Table 25 shows that the relationship is negative even when calculated on only one type of tie. The relationship is in general imprecise except in the time network. It appears that to the extent that network centrality matters, it is a function of centrality in the social network in general and not with respect to a particular type of tie.

However, when we zero in on one potentially crucial aspect of eigenvector centrality– the size of one's neighbors' neighborhoods– we do find precise negative relationships with attendance, even when calculated for only one type of tie. The larger one's neighbors' neighborhoods are in the time, religion, meal, and secret networks, the less likely one is to attend. Perhaps all of these network types can convey peer pressure that dissuades one from taking novel actions.

Table 22: Relationship bewteen peers who attended and attendance, conditional on other network attributes and ego and alter demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | −0.026 | 0.249 |
| | (0.311) | (0.355) |
| Neighborhood | 0.029*** | 0.037*** |
| | (0.009) | (0.009) |
| UnweightedEigen | −2.348*** | −2.968*** |
| | (0.661) | (0.733) |
| DistLeader | −0.133** | −0.172*** |
| | (0.054) | (0.058) |
| Gender | −0.008 | 0.141 |
| | (0.091) | (0.112) |
| Age | −0.001 | −0.002 |
| | (0.002) | (0.002) |
| Catholic | 0.040 | −0.019 |
| | (0.073) | (0.081) |
| Educ | −0.037 | −0.035 |
| | (0.025) | (0.028) |
| Married | −0.156* | −0.172* |
| | (0.094) | (0.101) |
| WallMat | 0.056 | 0.070 |
| | (0.089) | (0.100) |
| GenderAlter | | −0.511** |
| | | (0.230) |
| AgeAlter | | 0.003 |
| | | (0.006) |
| CatholicAlter | | 0.325** |
| | | (0.147) |
| EducAlter | | 0.008 |
| | | (0.069) |
| MarriedAlter | | 0.200 |
| | | (0.273) |
| WallMatAlter | | −0.020 |
| | | (0.242) |
| Adj. R-Squared | 0.1 | 0.152 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 23: Relationship bewteen peers who attended and attendance, conditional on other network attributes and ego and alter demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | −0.130 | 0.078 |
| | (0.307) | (0.339) |
| Neighborhood | 0.014** | 0.017*** |
| | (0.006) | (0.006) |
| WeightedEigenCl | −1.277*** | −1.449*** |
| | (0.440) | (0.476) |
| DistLeader | −0.123** | −0.156*** |
| | (0.053) | (0.056) |
| Gender | −0.006 | 0.116 |
| | (0.090) | (0.107) |
| Age | −0.001 | −0.002 |
| | (0.002) | (0.003) |
| Catholic | 0.007 | −0.047 |
| | (0.072) | (0.078) |
| Educ | −0.039 | −0.039 |
| | (0.025) | (0.027) |
| Married | −0.147 | −0.162 |
| | (0.094) | (0.100) |
| WallMat | 0.056 | 0.077 |
| | (0.091) | (0.100) |
| GenderAlter | | −0.443** |
| | | (0.213) |
| AgeAlter | | 0.001 |
| | | (0.005) |
| CatholicAlter | | 0.224 |
| | | (0.138) |
| EducAlter | | −0.021 |
| | | (0.064) |
| MarriedAlter | | 0.122 |
| | | (0.251) |
| WallMatAlter | | 0.030 |
| | | (0.236) |
| Adj. R-Squared | 0.08 | 0.117 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 24: Relationship bewteen peers who attended and attendance, conditional on other network attributes and ego and alter demographic characteristics

| | P(Attend the Event) | |
|---|---|---|
| | (1) | (2) |
| AttendAlter | −0.063 | 0.171 |
| | (0.307) | (0.344) |
| Neighborhood | 0.024*** | 0.029*** |
| | (0.007) | (0.008) |
| UnweightedEigenCl | −2.426*** | −2.801*** |
| | (0.650) | (0.709) |
| DistLeader | −0.148*** | −0.183*** |
| | (0.055) | (0.059) |
| Gender | 0.023 | 0.172 |
| | (0.089) | (0.110) |
| Age | −0.001 | −0.001 |
| | (0.002) | (0.002) |
| Catholic | 0.045 | −0.014 |
| | (0.072) | (0.079) |
| Educ | −0.041* | −0.040 |
| | (0.025) | (0.027) |
| Married | −0.167* | −0.187* |
| | (0.095) | (0.100) |
| WallMat | 0.048 | 0.067 |
| | (0.090) | (0.099) |
| GenderAlter | | −0.489** |
| | | (0.228) |
| AgeAlter | | 0.003 |
| | | (0.006) |
| CatholicAlter | | 0.293** |
| | | (0.144) |
| EducAlter | | −0.004 |
| | | (0.067) |
| MarriedAlter | | 0.092 |
| | | (0.270) |
| WallMatAlter | | −0.018 |
| | | (0.240) |
| Adj. R-Squared | 0.102 | 0.146 |
| Observations | 256 | 252 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 25: Relationship between attending the event and eigenvector centrality in each network type

| | P(Attend the Event) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time | Phone | Politics | Religion | Meal | Visit | Secret |
| Eigenvector Centrality | −0.678** | −0.244 | −0.356 | −0.039 | −0.262 | −0.188 | −0.722 |
| | (0.285) | (0.277) | (0.343) | (0.275) | (0.258) | (0.314) | (0.467) |
| Adj. R-Squared | 0.021 | 0.004 | 0.003 | 0 | 0.003 | 0.001 | 0.01 |
| Observations | 263 | 175 | 183 | 251 | 225 | 229 | 226 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.

Table 26: Relationship between attending the event and eigenvector centrality in each network type

| | P(Attend the Event) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time | Phone | Politics | Religion | Meal | Visit | Secret |
| NeighborhoodLayerAlter | −0.088*** | 0.012 | 0.001 | −0.027** | −0.050** | −0.026 | −0.061** |
| | (0.020) | (0.030) | (0.004) | (0.011) | (0.024) | (0.022) | (0.028) |
| Adj. R-Squared | 0.056 | 0.001 | 0 | 0.018 | 0.015 | 0.004 | 0.017 |
| Observations | 263 | 175 | 183 | 251 | 225 | 229 | 226 |

*p<0.1; **p<0.05; ***p<0.01

Note: The aggregate social network is the undirected combined network of all seven social subnetworks. Reported coefficients represent the marginal effects for the average observation.