

Does women's knowledge of voting rights affect their voting behavior in village elections? Evidence from a Randomized Controlled Trial in China

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Abstract

Officials in China claim that voting rates in rural village elections are high. Unfortunately, these rates are assumptions, not facts. The true voting rate is lower, and much lower for women. We postulate that this could be due to insufficient knowledge about their rights.

The objective of this paper is to test whether women and village leaders' knowledge about women's voting rights affects women's voting behavior. We report on the results of a randomized controlled trial (RCT) involving 700 women in China's Fujian and Liaoning Provinces. Villages were randomly assigned to either a control group or one of three intervention groups. One intervention provided voting training to women only, another provided training to both women and village leaders and the third provided training to village leaders only.

The data show that after women received training, their scores on a test of voting knowledge increased and they more fully exercised their voting rights. When only village leaders were trained, test scores and voting behaviors were not statistically different from the control villages.

Key words: rural women, political participation, village election, rural China, Randomized Controlled Trial, voting behavior

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Does women's knowledge of voting rights affect their voting behavior in village elections? Evidence from a Randomized Controlled Trial in China

While officials in China claim that voting rates in rural village committee elections are high, sample survey work by economists have cast doubts on the official figures. According to the White Paper on “Democracy Construction in China,” on average, more than 80 percent of adults of voting age in China voted during the latest round of village committee elections; in some regions the voting rates exceed 90 percent (State Council, 2005). However, based on a nationally representative data set and statistically rigorous analytic methods, it can be shown that, in fact, voting rates are much lower than reported.¹ Moreover, when rigorous definitions are applied to what constitutes actual voting (or, henceforth, actual/reported voting, since in this paper as in Pang and Rozelle, we rely on self reporting), the real voting rate drops even further. If “voting” is only counted when each individual marks his or her own ballot (or is consulted about his or her vote if someone else marks the ballot) and physically places it in ballot box, then the actual/reported voting rate is lower, at only 74 percent.¹

Moreover, this lower voting rate is not due to random gaps in the voting procedures. There is a systematic set of gaps. Some of the largest gaps occur in the case of women and migrants. Large shares of individuals in these groups are being systematically excluded from truly participating in the process of voting. Evidence

¹ Pang, X.P. and Rozelle, S. (2010), “Who Are True Voters? Village Elections and Women's Participation in Voting in Rural China,” in *Asien* (114-115), S. 68-87.

suggests that only 60 percent of women fully exercise their voting rights, and that this rate is even lower for young women and migrant women.² In contrast, nearly 90 percent of men voted. In other words, there is a nearly 30 percentage point difference between the voting rates of men and women in rural China.

This raises a fundamental question: Why do rural women vote less than men in village elections? Why are women less involved in the civic life of their villages? There are many possible reasons—most of which are founded on basic differences in women (versus men). Education levels among rural women are low and illiteracy rates among women are higher than among men.³ Women often do not have their own sources of income and, as a result, may be pressured to vote in a way dictated by their husbands.⁴ Traditional cultural norms are not always supportive of encouraging women to participate in the public affairs of rural communities.⁵

There is one more additional factor that may be affecting the true participation (actual/reported voting rate) of rural women in village elections: their knowledge

² Pang, X.P. and Rozelle, S. (2010), “Who Are True Voters? Village Elections and Women’s Participation in Voting in Rural China,” in *Asien* (114-115), S. 68-87.

³ Xiang, C.C. (2003) ,“Democracy and Independence: Factor Analysis of Rural Women’s Political Participation,” in *Socialism Studies* (04).

⁴ Shi, F.L., (2009), “Analysis of Chinese Rural Women s Political Indifference,” in *Journal of Shandong University (Philosophy and Social Sciences)* (01). (in Chinese)

⁵ Yang, C. P. (2002), “ Gender and Democracy: Women’s Participation in the Election of the Villagers Committee—The example of Caocun Village in Henan Province,” in *Journal of Central China Normal University* (06). Liu, Z.Y. (2001) , “Investigation of a Democratic Election—Analysis of Difficulties and Restriction Elements of Women’s Participation in Politics in the Course of Rural Political Democracy,” in *Collection of Women s Studics (SI)*. (in Chinese) Tang, H.R. (2009), “ Analysis of Rural Women’s Inadequate Political Participation—The Example of Hunan’s Weixin Village,” in *Management Observer* (14). (in Chinese)

about their rights to vote. According to Xiang⁶, women often do not realize that the right to participate in village elections is granted by Chinese law. Many women also lack an understanding of their rights in society and the importance of exercising these rights. Internationally, it has been shown that women in the United States living during or just after the era when women could not vote were less likely to engage in the electoral process between 1952 and 1988.⁷ Organizations, personal discussions and the media differentially impact the voting choices of both genders by shaping the political information they receive.⁸ Do women in China know what their rights are? If they were educated about their rights, would they vote more?

Alternatively, it could be that the problem lies in the understanding of those the run elections—the current leadership of the village (including those, like the party secretary, who are not running for reelection). How do leaders perceive the way women have been exercising their right to vote? Do village leaders know that women are supposed to be casting their own ballots? Would they be more inclined to consider issues that are of concern to women (such as drinking water, location and quality of schools, and access to child health care) if they knew more women voted?

Chattopadhyay and Duflo have shown that when women increase their participation

⁶ Xiang, C.C. (2003), “Democracy and Independence: Factor Analysis of Rural Women’s Political Participation,” in *Socialism Studies* (04).

⁷ Firebaugh, G. and Chen, K. (1995), “Voting Turnout of Nineteenth Amendment Women: The Enduring Effect of Disenfranchisement,” in *The American Journal of Sociology*, 100(4), 972-996.

⁸ Elder, L. and Greene, S. (2003), “Political information, gender and the vote: the differential impact of organizations, personal discussion, and the media on the electoral decisions of women and men,” in *The Social Science Journal*, 40(3), 385-399. Heith, D. J. (2010), “Reaching Women: Soft Media in the 2004 Presidential Election,” in *Journal of Women, Politics & Policy* (31), 22 – 43.

in local governance, the priorities of local leaders change.⁹ Beyond studies like those of Chattopadhyay and DuFlo, there are few if any studies that examine how well leaders understand election laws, the importance of participation in the exercise of civil/legal rights and the ways the elections are run.

There is one notable exception in China. Gao describes the attempts of her organization, the Shaanxi Research Association for Women and Family, in conjunction with the All-China Women's Federation, to increase the political participation of women.¹⁰ Although emphasizing a different type of political participation (Gao's groups were trying to encourage women to run for office and become an official in the elected committee—while we are interested in encouraging women to vote more, regardless of the gender of the candidate), the work in Shaanxi sought to increase the participation of women by training women in their rights and by promoting their model (and presumably trying to convince leaders at village, town and county levels that there is a benefit to have women more involved in electoral politics at the village level). Thus, while the approach of the two studies (our and Gao's) are different (we use a Social Experimentation approach and she more or less just uses demonstration villages) and while the exact targets of the two programs are different (ours is seeking to raise the voting rates of women and Gao's is seeking to

⁹ Chattopadhyay, R., and DuFlo, E. (2004). Women as Policy Makers: Evidence from a Randomized Policy Experiment in India. *Econometrica*, 72(5), 1409-1443.

¹⁰ Gao, X.X., (2010). From the Heyang Model to the Shaanxi Model: Action Research on Women's Participation in Village Governance. *The China Quarterly*, 204, 870–898.

increase the participation of women in elections and the political process through office-holding), the two studies have many parallels.

The overall goal of this paper is to understand if the knowledge of women and/or local leaders about women's voting rights affects women's voting behavior. Would more women vote if the various stakeholders (that is, women and local leaders) in village elections were more aware of the problem and of the fundamental right of women to vote? In this paper we report on the results of a randomized controlled trial that was designed and run by the authors to answer this question.

To meet this goal, we pursue two specific objectives. First, we measure the rate at which women in China's villages report that they are actually exercising their voting rights. Second, we seek to understand the reasons why women vote at the rates that they do. In particular, we will try to answer two questions. One: if women are trained in their voting rights and responsibilities, will their knowledge of their rights improve and will they more fully exercise those rights? And, two: If local leaders are trained in the rights of women to vote, will women in their village more fully exercise their right to vote?

In this paper we report on the results of a randomized controlled trial (RCT) involving 700 women from 70 randomly chosen villages in eighteen townships across six counties in China's Fujian and Liaoning Provinces. The three interventions in the RCT were focused on training sessions designed to improve the knowledge of women and village leaders about women's rights to vote. To our knowledge this is the first time that social scientists of conducted social experiments in the area of community

governance in China. We also supplement this quantitatively-based research with a rich set of qualitative interviews. In this way we also follow the lead of Gao in using mixed methods, both large scale surveys and detailed interviews.¹¹

The rest of the paper is organized as follows. The next section describes the sample, the interventions, the data collection efforts (including a description of our main outcome measures) and our methodological approach. The following section describes the results. We initially look at the descriptive results and then turn to the results from the multivariate analysis. The final substantive sections step back and reexamine the quantitative results using the findings of detailed interviews conducted by the authors. The last section of the paper concludes.

Sampling, Data and Methods

Sampling, the Process of Randomization and Masking

We conducted an RCT on the effect of training for women and village leaders on women's voting rights in rural China in 2009 and 2010. A total of 700 women and more than 200 village leaders from 70 villages in Fujian and Liaoning provinces participated in our study.

Rural village committee elections are typically held every three years, although election years vary due to different provinces' electoral schedules. Nationwide, there were four provinces in which the timing of the elections allowed us

¹¹ Gao, X.X., (2010), "From the Heyang Model to the Shaanxi Model: Action Research on Women's Participation in Village Governance," in *The China Quarterly*, 204, 870–898.

to conduct our intervention in 2009 and our evaluation survey in 2010. In choosing our sample we randomly chose two provinces—Fujian and Liaoning—from these four qualified provinces. Fujian is located in southern China and held village elections between August and September, 2009, while Liaoning is located in northern China and held village elections between April and May, 2010. Next, we randomly chose three counties per province, one from the richest tercile of counties; one from the middle tercile; and one from the poorest.

After choosing the sample counties, we then chose the sample towns and villages. To do so, we randomly chose 3 towns from each county, and 4 villages from each town. All towns in each county (and all villages in each town) were included in the sampling frame. Using the official household list, we randomly selected ten households from each village, and randomly chose one woman from each household who was over 22 years old and had permanent rural residency status.¹²

At the time of our baseline survey, our sample included a total of 72 villages and 720 women, but there was some attrition by the end of the study. Because elections were not held on schedule in two of the sample villages (by design the elections were supposed to be held after the baseline but before the evaluation survey), our final sample only included 70 villages. A total of 46 women were lost to follow-up in these villages between the baseline and evaluation surveys, mostly due to off farm jobs that took them away from the village. A smaller number of respondents were away visiting relatives and were not able to return for the evaluation survey. A

¹² Note that our sample of respondents ONLY included women. We did not survey men. Therefore, we do not have information on the way men vote or their knowledge of voting and elections in rural China.

total of 654 women participated in the evaluation survey. As Appendix Table 1 shows, total attrition from the baseline survey to the follow-up survey was 6.6 percent. The rate of attrition of women respondents and the characteristics of the women were balanced across the control group and experimental arms.

The first step of our study was to conduct a baseline survey to collect household data from the women respondents in the sample. Following the baseline survey, our research team randomly assigned study villages to a control arm or one of three experimental arms (described below under “Experiment Arms/Interventions”). Initially there were 18 villages assigned to each experimental arm (2 provinces x 3 counties x 3 towns x 1 village = 18). Because of the two villages that dropped out of the study, in the end there were 18 villages in the Control Group, 17 villages in the Women’s Training Group, 17 villages in the Dual Training Group and 18 villages in the Leaders’ Training Group. Figure 1 depicts the flow of participants through each phase of the study, as well as the project timeline.

Table 1 shows that study villages were largely balanced on observable characteristics at the time of our baseline survey. Only in the case of ethnic status was there any difference. The percent of women that reported being Han in the Women’s Training Group was slightly lower than in the Control Group (87.1% versus 93.3%—row 7). This slight difference is controlled for in our multivariate analysis.

Experiment Arms/Interventions

In addition to a control group that received no intervention, our experiment included three intervention arms:

Women's Training Group. This intervention provided training about voting to women only. There were two trainers from Renmin University, each one of whom was responsible for half of the training courses. Both of the trainers were trained by the PIs of the project. Most of the training was focused on presenting the training material in a clear and consistent manner so that to as great as a degree possible the presentations of the two trainers were identical.

While we were in the village, we also followed a standardized protocol. Shortly after completing the baseline survey (during which time no one had any idea that there would be a training session), the trainer gathered the women in the Women's Training Group villages together into meeting room or in the home of one of the women's homes. All ten women were trained together. Every woman involved in the training received a letter introducing the main purpose of the training that was written in simple language. Village and township leaders were not allowed in or near the training room, so they were unable to see or hear any part of the training.

The contents of the training included: a.) an overview of women's voting behavior in rural China and the importance of women's voting; b.) the basic rights of women and their voting responsibilities; c.) a description of the mechanics of correct voting behavior; and d.) encouragement to mark and cast their ballots themselves. The material included in the presentation to the women and village leaders all came from

one of three sources: official policy and legal documents (e.g., women's right to vote, according to national law); published academic literature (e.g., how women's voting and participation in local governance affected outcomes in India; how many women fully exercised their voting rights in China in the past); and instructional material from the Ministry of Civil Affairs. Great care was taken to rewrite the material in such a way that rural women with low levels of literacy could understand the concepts being communicated. At the end of the training session, each woman was given a 2009-2010 wall calendar which summarized the key points of the training program.

Leaders' Training Group. In villages that were part of this experimental arm we provided more or less the same training to village leaders as was given to women in the Women's Training Group, but did not give any intervention to women themselves. In carrying out the intervention in the Leaders' Training Group, three of the main leaders in the village were selected to participate in the training: the secretary of the village Party committee (*cunshuji*), the village chairman (*cunzhuren*) and either the women's director (*funuzhuren*) or the village accountant (*kuaiji*). We trained the village leaders in the village meeting room. After the training began, we shut the door and did not allow anybody else to enter the room.

The material presented to the village leaders during their training was similar to that given to the women, except the focus was on how to effectively enhance women's ability to fully exercise their participation in village elections—including fully exercising their voting rights—in all stages of the election process, from the campaign through the actual casting of ballots. Suggestions were also give to the

village leaders of ways to encourage women to more fully exercise their voting rights, including the use of various types of media, the mobilization and encouragement of women, and paying extra attention to women who have voting difficulties. The village leader training material all came from official policy and legal documents, published academic literature; and instructional material from the Ministry of Civil Affairs local governance training material. The trainers also gave village leaders a wall calendar.

Dual Training Group. In this set of villages our team trained both women and village leaders. The protocols, materials and approach for training the women were identical to those used in the Women’s Training Group. The protocols, materials and approach for training the village leaders were identical to those used in the Leaders’ Training Group.

Control Group. Women/leaders in the control villages were given no training. The control villages were visited the same number of times as the treatment villages.

Data Collection

Women’s Survey. We collected two rounds of data: a baseline and evaluation survey. The same women who completed the baseline survey also completed the evaluation survey. We conducted the baseline survey before the training/village election and conducted the evaluation survey after the training/village election. The survey was given to ten randomly chosen women in each village and no men.

The women’s survey for the baseline included two blocks. The first block was designed to collect information about household socio-economic characteristics and basic individual characteristics. The second block collected information about the

women's voting experience during the most recent election. The information on voting experience included three sections: a.) Whether she participated in the last election, marked the ballot by herself, and/or cast the ballot by herself; b.) Whether she designated anyone else to mark and cast her ballot; c.) Her understanding of the village election. The last part of the second block of the household survey was an 18-question test on voting knowledge, based on the contents of the training course. Enumerators filled out the questionnaires for the women.

During the evaluation survey, enumerators helped women fill out a questionnaire that was almost identical to that filled out during the baseline survey. In particular, the knowledge test was given again as a way to evaluate what women had learned from the training program. Once the survey forms were filled out and filed, qualitative interviews were carried out.

Village Leaders' Survey. In addition to the women's survey, we also conducted a multiple block survey to collect information about the village and village leaders. During the baseline survey the chief accountant of the village provided information on the socio-economic status of the village. Information such as the village's population, land area and infrastructure was obtained.

The village leaders were interviewed by enumerators during the baseline and evaluation surveys using a three-part questionnaire. The first section of the survey collected basic characteristics of the village leaders, including their age, gender and Party membership. The second section covered village policies related to women during elections. The third and final section was a test of leaders' knowledge, an exam

that was nearly identical to the one administered to women respondents in the Women's Training Group and Dual Training Group, but, which contained different questions and emphasized different aspects of the training. If the former leader had been replaced by another one at the time of the evaluation survey, we tried to interview both men.

Statistical Analysis

To improve estimation efficiency and control for any observable differences that existed between the treatment and control villages during the baseline survey, we run a series of multivariate double difference models in order to estimate the net effect of the treatments on changes in voting behavior and test scores before and after the interventions. Several models are used to check the robustness of the findings. In addition to including dummy variables of treatment arm to which each individual belonged, we also control for a.) the individual and household characteristics of the women;¹³ b.) a series of variables to control for the nature of each village in the sample;¹⁴ c.) and a control—dummy variable—for either the province or township in

¹³ To control of the characteristics of women, we include nine variables: the woman's age in years in 2009, age squared, years of educational attainment, and years of education squared. We include the per capita arable land holdings of her household (in *mu*). We also include a dummy variable equal to 1 if the woman is a member of the Communist Party (*party*), a dummy variable equal to 1 if the surname of the woman's husband is the majority surname in the village (*daxing*), a dummy variable equal to 1 if the woman has been employed as a worker outside the village (*employment*), and a dummy variable equal to 1 if the woman is of Han ethnicity (*ethnicity*).

¹⁴ To control for the characteristics of the village, we included six variables that control for village-level characteristics: the log of the village's population, the percent of village land that is irrigated, the distance to the nearest township (*km*) and per capita income. We also include a dummy variable equal to 1 if the village had any religious organizations in 2009 (*religion*). We also include an indicator for the competitiveness of the village's election (*competitiveness*), where 1 represents the most competitive elections and 4 represents the least competitive elections. The nature of the election's competitiveness was derived from a question asked of women during the evaluation survey about how competitive elections were in their village, where 1 = very competitive; 2 = somewhat competitive; 3 = there were two or more candidates but they did not seem to be competing very much; and 4 = not competitive at all. The competitiveness variable is a village-level variable that is created by averaging the responses of the ten women in each village.

which the experiments were being done (either Fujian or Liaoning). The full model is the one that controls for as many factors as possible, including, the treatments (the experiment effects), the characteristics of the women-respondents and their families, the characteristics of the village and a township dummy.¹⁵ We use voting behaviors and scores on our test of voting knowledge as the primary outcome variables.¹⁶

Quantitative Results

In this section we describe two distinct findings of our quantitative analysis. First, we analyze the impact of our interventions on the voting knowledge of women (and leaders) in the three experimental arms and control group. Next we analyze the effect of our interventions on women's voting behavior. In the next section we interpret and discuss our findings.

Impact of the Experiments on Women's Knowledge

Our descriptive statistics show that when the training programs included women, women increased their knowledge about their right to vote and the mechanics involved in exercising that right (Table 2). At the baseline, there was no significant difference in average test scores across the intervention groups and control (Panel A, row 1). Women in each of the groups, on average, answered between 65.2 and 68.7 percent of the questions correctly. At the time of the follow-up testing, however, the

¹⁵ When estimating our equations, we also control for village-level clustering in our standard errors (the method that modern economics believes is important).

¹⁶ Using estimates from our study of voting rights (see Pang and Rozelle, 2010), we calculated that we required 10 individuals per village and 18 villages per arm to detect a standardized effect size of 0.2 with 80 percent power at the five percent significance level. We assumed an intra-cluster correlation of 0.25, a pre- and post-intervention correlation of 0.5 and a 10 percent loss to follow-up.

percent of correct answers differ significantly among the groups (Panel A, row 2). The percentages range from a low of 68.4 (among women in the Leaders' Training Group) to 73.7 (among women in the Dual Training Group). The low P-values (0.00 for both indicators) suggest that both the evaluation test scores and the change in test scores from baseline to evaluation differ significantly across the groups (Panel A, rows 2 and 3). The descriptive statistics show that women who received training (in both the Women's Training Group and Dual Training Group) scored over 5 percentage points higher than women who did not receive training (in both the Control Group and the Leaders' Training Group), and that these differences are statistically significant. When we aggregate all women who received training (Aggregated Women's Training Group) and compare their test scores to the test scores of women who did not receive training (Aggregated Control Group), the increase in test scores is statistically larger (8.0 versus 2.7) when women received training (Panel B, row 6).

The results of the multivariate analysis are consistent with the descriptive results, showing that the impact on test scores of the experimental interventions that included women's training is positive and significant. These results hold in all models (Table 3). The results of the most basic model in column 1 of Table 3 (the model specified in equation 1) provides point estimates of the changes in test scores that are identical to those found in the descriptive results (Table 2, row 3, Treatment Group minus the Control Group).¹⁷ The coefficients on the Women's Training Group and the

¹⁷ To show the equivalency between the coefficients in Table 3 and the descriptive statistics in Table 2, note that the coefficient on the Women's Training Group variable in Table 3 (column 1, row 1) is 5.58.

Dual Training Group are also both positive and statistically different from the control group. When women received training as part of the intervention in either the Women's Training Group or the Dual Training Group, their test scores increased by 5.6 to 5.9 percentage points. When we control for individual characteristics (Table 3, column 2); individual characteristics and village characteristics (column 3 as specified in equation 3); individual characteristics, village characteristics and provincial dummy variables (column 4 as specified in equation 4); or individual characteristics and township dummy variables; or individual characteristics, village characteristics and township dummy variables, the coefficients on the Women's Training Group and Dual Training Group variables remain both robustly positive and statistically significant. According to both the descriptive and multivariate analyses, these interventions increased women's knowledge about their right to vote and the mechanics of how to exercise this right.

The coefficients on the Leaders' Training Group variable, in contrast, demonstrate that the intervention that trained only leaders did not have an effect on women's knowledge. The point estimates (both in the baseline and evaluation and the changes between the baseline and evaluation) in the descriptive statistics (Table 2, Panel A, column 3) are largely the same as those in the control group (column 4). The coefficients on the Leaders' Training Group variable in all columns of Table 3 are statistically indistinguishable from zero.

This is exactly the same as the difference between the changes in the percentage of correct answers between the baseline and evaluation knowledge tests for the Women's Training Group (7.81 as seen in Table 2, column 1, row 3) and the changes of the percentages correct for the control group (2.23 as seen in Table 2, column 4, row 3), or $7.81 - 2.23 = 5.58$. This is true by construction.

The implication of this result is that leaders were not willing or able to transmit the content of the training to the women in their village. It is impossible to tell the reason for this failure from Tables 2 and 3.

Tables 4 and 5 suggest that leaders' failure to increase women's voting knowledge may at least in part be due to the way that leaders absorbed the training material.¹⁸ Leaders' own scores on the test of voting knowledge are slightly lower in the Leaders' Training Group and Women's Training Group than in the Dual Training Group and Control Group (Table 4). The regression results in Table 5 support the descriptive statistics: the coefficients on the different intervention groups are all significantly indistinguishable from zero. In other words, even after receiving training, leaders' test scores did not increase from the baseline to the evaluation survey relative to those who did not receive training. When we look at the performance of village leaders who were women, there is no difference in performance of village leaders that were men (Appendix Table 2).¹⁹

¹⁸ Although the two tests (the one given to women respondents and the one given to leaders) were "similar," they did contain fundamental differences. Because of this (that is, because the exam given to leaders contained different questions and emphasized different aspects of the training than the one given to women), the results are not comparable. Therefore, there is nothing that we can really say about the low scores of the leaders compared to the scores of the women. We do not know if the leaders were not paying attention; or if the exam was inherently more difficult.

¹⁹ In the baseline, there were a total of 190 village leaders that took the survey (which included the knowledge examination). Of the 190 leaders, 30 were women, about 16% of the total. In the evaluation survey, there were a total of 234 village leaders that took the survey, including 38 women (also 16%). In total, 131 (24) male (female) village leaders took both the baseline and endline survey/examination). When using sample (n=131) of leaders that took the examination twice, there is no difference between men and women in the change of their knowledge. See Appendix Table 2 for details.

Impact of the Interventions on the Way Women Vote

The need for new ways of increasing women's voting rates can best be understood by considering the results of the baseline survey (Table 6, row 1). Fewer than 80% of women who participated in the election fully exercised their voting rights; the exact percentages ranged from 63.9 percent in the Dual Training Group to 76.7 percent in the control group. Although just by chance the rate at which women fully exercised their voting rights was higher in the control group, the rate is far from 100% in all groups. These rates are similar to those reported in Pang and Rozelle (2010), who used a separate set of data from an even larger, nationally representative sample. It can also be seen from the results of the baseline survey that the share of women who marked their ballots by themselves (row 4) and the share of women who cast their own ballots (row 7) are also quite low. Clearly, women were not fully exercising their voting rights at the time of the baseline survey.

The low voting rates of women in China make China special internationally. In Table 1 at the end of this letter, we have generated a paper that is from Norris.²⁰ This paper published differences by gender in voting rates in 19 countries (see Appendix Table 3 for a copy of the table, with China from our data added to row 1). China clearly stands out as an outlier. There is a 30 percentage point gap between women and men, according to our data (from this study's data and from Pang and Rozelle²¹). In contrast, the largest gaps in the

²⁰ Pippa Norris(2002), "Women's Power at the Ballot Box," in *IDEA Voter Turnout from 1945 to 2000: A Global Report on Political Participation*, 3rd ed. Stockholm: International IDEA.

²¹ Pang, X.P., and Rozelle, S. (2010) , "Who Are True Voters? Village Elections and Women's Participation in Voting in Rural China," in *Asien* (114-115), S. 68-87.

Norris paper for countries besides China are 8 percentage points (Romania country) and 7.8 percentage points (India). On average, the gap is only 2 percentage points.

The results from the evaluation survey indicate that the study's interventions (at least those that included training for women) are one way to improve women's voting behavior in China.²² Specifically, when examining the changes between the baseline and evaluation surveys, the number of women who fully exercised their voting rights in the Women's Training Group and the Dual Training Group increased by 14.6 and 10.1 percent, respectively (Table 6, columns 1 and 2, row 3). At the same time, the number of women who fully exercised their voting rights in the Leader's Training Group and the Control Group increased by only 2.9 and 3.0 percent, respectively (columns 3 and 4, row 3). The point estimates show that there is an effect of training women on their voting behavior. However, since the p-value of equivalency among the four groups was 0.11, we cannot make strong conclusions based on the descriptive statistics.

While the results based on the descriptive statistics are indeterminate, the multivariate analysis examining the impact of the interventions on the voting behavior of sample women is somewhat clearer (Table 7, rows 1 to 2). When we run equations 1, 2, 3 or 4 (columns 1 to 4), the coefficients on the Women's Training Group variable are positive, but not statistically significant from zero. However, when we

²² There are other ways, of course. See Gao, X.X., (2010). From the Heyang Model to the Shaanxi Model: Action Research on Women's Participation in Village Governance. *The China Quarterly*, 204, 870–898 for an alternative approach.

run equations 5 and 6, the coefficients on the Women's Training Group variable are positive and statistically significant from zero at the 10 percent level. The coefficient on the Dual Training Group variable is positive in all models, although not statistically different from zero at standard levels of significance—Table 7, row 2.

It is only when we aggregate the two groups in which women received training (the Aggregated Women's Training Group) that the effect of the experiments are positive and significant in all models (Table 7, row 4). Although we do not know for sure, it is perhaps because the sample size is larger in the aggregated groups that the measures of the positive and significant impacts of women's training on women's voting behavior are robust across all models.

Unsurprisingly, given the fact that there was no effect of leaders' training (the Leaders' Training Group) on the knowledge of either the women or the leaders, we also find no effect of leaders' training on the rate at which women fully exercise their voting rights. In both the descriptive statistics (Table 6, column 3 and 4, row 3) and the multivariate regressions (Table 7, row 3) there is no detectable difference in women's voting behavior between women in the Leaders' Training Group and women in the Control Group.

The rest of Table 6 summarizes the effect of the different experimental arms on women's voting behavior (rows 4 to 9). Although the p-values of equivalency across all arms of the intervention and control groups range between 0.10 and 0.16 (suggesting some statistical indeterminacy), the point estimates on the increase in voting between the baseline and evaluation indicate that women who received training

(in either the Women’s Training Group—column 1—or the Dual Training Group—column 2) increased their voting more than did women in the intervention groups that did not receive training (the Leaders’ Training Group or the Control Group). The higher rates of women fully exercising their voting rights are a function of women both being more vigilant in marking their ballots by themselves and casting their ballots by themselves.

Table 8 (columns 1 to 3, row 2) shows estimates for interactions between the Aggregated Women’s Training Group and three individual characteristics: an education dummy equal to 1 if the woman has at least 5 years of education (the average education of the sample), an age dummy variable equal to 1 if the woman is over 46 years old (the average age of the sample), and an employment dummy variable equal to 1 if the woman has been employed as a worker outside the village.

Table 8 (column 4, row 2) also shows estimates for the interaction between the Aggregated Women’s Training Group and the competitiveness variable. Both columns (row 2) show that the treatment effect does not differ across women with different levels of education, age, or employment, nor across different levels of election competitiveness. The last two rows of Table 8 also show that interactions between the Aggregated Women’s Training Group and education, age, employment, and election competitiveness are jointly significant.

Qualitative Discussion

Although the descriptive and multivariate analysis found statistically significant effects of women's training on women's knowledge about and exercise of their voting rights, qualitative interviews discovered other findings that were not addressed in the survey-based empirical work. First, there were a number of impacts beyond the quantifiable knowledge and voting mechanics. Second, while training—and the conveyance of knowledge about voting—did lead to greater exercise of women's voting rights, our interviews made it clear that there were other obstacles that were also holding back the exercise of voting rights.

In reporting on these results, we recognize that there is a fundamental difference between the nature of the information that is contained in this section and the material in the previous section. This section presents observations that are based on approximately 50 to 60 interviews. The interviews were carried out by the authors of the paper during both the baseline and evaluation parts of the survey. In total, we spent almost 20 to 30 person-days doing interviews. All interviews were done in private in the homes of women or in the offices of the village leaders. Each day they recorded their interview notes and summarized the conversations they had had with both the women and leaders in the villages in which we worked. Although detailed notes of the interviews were taken by the authors, the names of the respondents were coded in order to conceal the identity of the respondent.

Although the level of empirical rigor is necessarily less than the results based on the RCT in the previous section, the use of qualitative/interview-based

mixed methods is becoming more accepted by social scientists when conducting impact evaluation studies. For example, in the *Journal of Development Effectiveness* (the flagship journal of the International Initiative for Impact Evaluation, the leading impact assessment organization in the world today) mixed methods (rigorous RCTs that are supplemented by qualitative interviewing) is encouraged. In the past two years four papers in the journal use mixed methods. Two other papers are written in a way that promotes the use of mixed methods.²³ One paper cites a number of other papers that use mixed method.²⁴ Others (such as Gao, 2010, and others) make regular use of interviewing. However, since this is the first RCT to be done in rural China in the area of village governance, it is also the first application of mixed methods. Although we did try to only present information that arose repeatedly during the qualitative interviews and believe that in most cases this is more than just a single anecdote, the choice of what interview material to present and what not to

²³ Dan Levy and Jim Ohls (2010), “Evaluation of Jamaica’s PATH conditional cash transfer programme,” in *Journal of Development Effectiveness*, Vol. 2, No. 4, 421–441. Fiona Samuels and Sam McPherson (2010), “Meeting the challenge of proving impact in Andhra Pradesh, India,” in *Journal of Development Effectiveness*, Vol.2, No.4, 468-485. Sarah L. Barber and Paul J. Gertler(2010), “Empowering women: how Mexico’s conditional cash transfer programme raised prenatal care quality and birth weight,” in *Journal of Development Effectiveness*, Vol. 2, No. 1, 51–73. Eva Broegaard, Ted Freeman and Carsten Schwensen(2011), “Experience from a phased mixed-methods approach to impact evaluation of Danida support to rural transport infrastructure in Nicaragua,” in *Journal of Development Effectiveness*, Vol. 3, No. 1, 9-27.

²⁴ Jonathan Carter, Evaluate experiences (2009), “A qualitative technique to complement quantitative impact assessments,” in *Journal of Development Effectiveness*, Vol.1, No.1, 86-102. Marie M Gaarder and Bertha Briceño (2010), “Institutionalisation of government evaluation: balancing trade-offs” in *Journal of Development Effectiveness*, Vol. 2, No.3, 289-309. Howard White (2011), “Achieving high-quality impact evaluation design through mixed methods: the case of infrastructure,” in *Journal of Development Effectiveness*, Vol. 3, No.1, 131-144.

present is still under the control of the researcher (unlike the case of the statistical-based analysis).

Other Impacts

“You don’t know what you have given us. Hope. Respect. Confidence!” [FJ-C2-T2-V2-R3].²⁵

“After hearing the talk by our teacher from Beijing, I suddenly realized that voting was important. My vote could mean something. We talk about what is important for us and feel that we are more important now.” [FJ-C3-T1-V1-R1]

“No one has ever had a meeting just for us. We felt special. I did not understand everything that was said, but I know she was telling us that our vote and our opinion matter. I am not sure they do, but it is nice to think so.” [LN-C1-T2-V4-R1].

In our post evaluation interviews, if there was one theme that stood out above all others it was that women believed that at the very least the training program had been in some way special. At first we were surprised. In total, our enumerators filled out the form from the women respondents in less than an hour. The trainers also spent less than an hour with the women. But, after debriefing the women, it was clear that even though this one short meeting had occurred several months prior to the evaluation, the women felt that it had been convened for them and only them, which made them feel special. It was unique. There are few activities in rural China that are focused solely on women. Even fewer are created and delivered in a way that treats women as equals and tries to make them understand their rights and the value and/or power of those rights.

²⁵ In citing the interviews, we have recorded the interview numbers, which includes the reference to the province, county, town, village and respondent. All of the locations of the interviewees except the provinces have been randomized and de-identified to protect the anonymity of the respondent.

We also were told that part of the increased respect or confidence was due to the fact that the women actually appeared in public and voted on their own.

“I had never marked my own ballot in the past. I certainly had never put the ballot into the ballot box in front of the school. This time, after the training, I did. It made me feel special.” [LN-C2-T2-V1-R4]

“In the past, my husband voted for the whole family without asking our opinions. This time, after the training, I asked him to let me mark and cast my own ballot. He laughed at me and asked, ‘What is the difference between my marking and your marking? Aren’t we a family?’ I responded, ‘It is my right to express my own opinion, even though we are a family and our opinions are the same I should do it by myself and I can do it from now on.’ I was proud of myself. My friends said that I did right. I am going to vote in the future, too.” [FJ-C2-T2-V2-R2].

Perhaps this sentiment was best summarized by the following woman, who, when pressed on why the program made her feel special, responded:

“Nobody had ever called women to a meeting except to discuss family planning issues. Nobody ever told us that we are an important resource and can contribute to the development of the village. We only concerned ourselves with our own families and thought we had no business with the village. We women have not had an opportunity to come together to get to know each other even though we have lived in the same village for so many years. If we know a woman, we just call her “so-and-so’s wife”, and often do not even know her real name. Women’s lives are so boring in the village because we are 100% housewives and nothing else. We should know, contact and communicate with each other. We need a women’s organization or a group like yours to help us improve our knowledge and abilities, because only if we broaden our views can we really contribute to the village’s development. This program helped us see that we can be more. I was happy with the program.” [FJ-C1-T1-V2-R1]

In addition to this feeling of being special, a smaller number of women told us that, in fact, they felt empowered enough to take additional action. One respondent from one of the Women’s Training Group villages in Liaoning Province, said that women in her village took seriously the part of the training that taught them how to ask questions of candidates about their views on issues that involved them. The

woman told us that their questioning of the one of the candidates (about the competency of the local village clinician) turned into a long discussion about what could (and could not) be done about health care in the village. They said that they liked the answers they got from the candidate and ended up voting for him. Since the elections had just taken place, it was too early to tell if the candidate would follow through. Our interviewee said that the women had discussed together that they would make sure he did!

In the most extreme example, one of the women in a Dual Training Group village in Fujian actually decided to run for village leader and won at last:

“After the training, we frequently discussed whether a woman could be the village leader since there had never been a female village leader before. The more we discussed, the more we believed that it could happen, so with the encouragement of other trainees I made the decision to run for village leader. Although some men spread gossip around the village, most of women supported and voted for me. I won and became the first woman in our village to be village leader.” [FJ-C3-T2-V2-R1]

In the villages in our sample, this was the only case in which a woman ran for village leader and won. That means only around 1 to 2 percent of the villages have women as village leaders.

When asked what in the training material was most important in helping her make the decision, she said:

“It was something about that if women played a larger role in the village they could do things that affected what women wanted. I want our children to have better schools and better health care, and to improve our village’s sanitary conditions. I want someone to rebuild the primary school. Our village is so dirty and we would like someone to take away the village’s rubbish. I learned that we should think about what is important to us and then make this known to the candidates.” [FJ-C3-T2-V2-R1]

In thinking back on the post-evaluation survey interviews, what stood out the most for interviewers was that so many of the women said that they just felt good after the training session. We are not sure exactly why. Was it because this was an activity that was thought to be special for them in an environment (rural villages in China) in which few activities are organized for women? Or was it the message: Your vote counts. You have rights that are given by the government to all citizens of China, and these rights give you power, or at least a voice. Unfortunately, we could not quantify the empowerment or the level of increased satisfaction. If there were such tests we are not sure that they would pick up statistically significant changes. However, what is clear is that at least in the case of some women in some villages, the training program appeared to have an impact beyond the knowledge they gained and the way they voted (two metrics that we did quantify and show an impact on—see section above).

Constraints and Barriers in China's Villages

While the statistical analysis and the qualitative interviews did demonstrate that there was an impact of the training program in the study villages in which we trained women, the interviews also clearly showed that many barriers remain. In this section we look at three areas that repeatedly came up in the interviews: (1) remaining barriers inside the family and fellow villagers; (2) resistance from village leaders; and (3) indifference towards voting because of the inherent insignificance of the election itself.²⁶

²⁶ Without putting words in her mouth, Gao's paper would suggest an alternative explanation. If women become part of a movement at the grassroots level (like their efforts have promoted) and if the

By far the most common reaction to questions about why a woman did not fully exercise her vote even after she had participated in the training can be captured by the following quotes:

“My husband always votes for everyone in the family, because the man is the head of the household especially in these village issues, so I only get to vote if my husband is not at home.” [FJ-C3-T3-V2-R4]

“I could not even glance at the ballot because my husband took the ballots for the entire family and marked them by himself without telling us. He thought we did not need to know since even if we had known we would have chosen the same people, because a family should definitely be of one mind.” [LN-C3-T2-V1-R1]

“I was working outside our county when my father-in-law telephoned me telling me the election was being held. After I took the training course, I really wanted to express my own opinion even if I could not put the ballot in the box by myself, so I asked my father-in-law to help me vote for a different candidate than the one he recommended. He was not happy with my choice and questioned me angrily, “Why are you so headstrong? Why won’t you listen to me?” In the end, he voted for the candidate he wanted, instead of the one I had chosen. [LN-C3-T2-V2-R1]

In addition, to family pressures, there were also more subtle social pressures.

For example:

“I wanted to vote. I wanted to get the women who were in the meeting with me to try to get the candidates to talk to us, since we did not know the candidates and did not know which one we should vote for. But in the end a lot of people including my relatives in the village were laughing at us because they thought we were pretending to be concerned with the election, which we had never done before.” [FJ-C1-T2-V1-R4]

“When I asked the village leader what he was going to do about our village land and irrigation, someone said that I was getting too smart for my own good, and everybody laughed. The village leader ignored me. We are still too backward here.” [LN-C2-T2-V2-R1]

leaders are trained and encouraged to support the movement, women can be brought into the political process. If they become actual participants as elected officials, this would give them even more reason to feel proud of themselves. Perhaps our sessions—though carried out at a much lower degree of intensity compared to those of Gao—are providing women with the same degree of self-satisfaction.

One of the most interesting dynamics that we believed could be happening but was difficult to quantify was the reaction of village leaders in villages in which they received training (both the Leaders' Training Group and the Dual Training Group). Repeatedly during interviews with village leaders, we received cold or angry responses. In several cases they wanted to know why we were trying to "cause trouble" in the village; since most of the village leaders are male they thought we were encouraging women not to reelect them. Because of this one leader told us that they actually believed that the project would not help the village but hurt it. We asked him if it might hurt his own chances for reelection. Laughing, he admitted that it might. In many cases the officials used direct or indirect ways of letting us know that they thought women were not very smart and knew very little about village affairs.

Other emotions and feelings arose during our interviews and interactions with village leaders. One village leader accused us of being naïve students from Beijing who did not understand village life. Another of the most thoughtful village leaders told us that he was not going to use the training material. "Why should we? What would I get out of encouraging women to vote?" Another village leader echoed the same sentiment: "Upper levels of government only require that 50 percent of the village vote – they do not care about whether the voters are men or women. Why should we listen to you when it does not help us?" Local officials tended to disregard our project because we did not have an official directive of duty from upper level officials. Without the participation of upper level officials, local officials know that they will not receive any benefits to themselves. Finally, and perhaps most basically,

some officials complained to us that since they were candidates they were not allowed to be part of the election committee, and were thus excluded from the election planning process altogether. One village leader told us “In the month prior to the election, I am not allowed to have anything to do with planning the election. I’m not the one responsible for the election, so why should I trouble myself to make women vote?”

Women in some of the Leaders’ Training Group villages also felt the chill:

“I always voted by myself. But, my family did not know about this last election until it was already over. .Why didn’t they issue my family ballots? Is it because the leaders were afraid we would vote against them?” [LN-C2-T1-V3-R1]

“No one ever paid attention to whether we voted in the past. My husband [who is away at work] has always wanted his father to vote for him and for me. This year, the election committee made a special trip and seemed to make sure that my father voted but not me.” [FJ-C1-T3-V3-R1]

“I never heard either the former or present village leader tell us that we should vote this year. I missed it altogether.” [LN-C1-T2-V3-R2]

However, our interviews also showed us that it is not always unsupportive husbands, fellow villagers or village leaders that keep women from fully exercising their voting rights. In many cases women did not vote for the same reason that many men did not vote. It just was not worth it. Few scholars inside or outside of China have claimed village elections are always meaningful. Clearly many of our respondents believed they were not. And, because of this, they did not think the effort to vote was worth it.

“The election is important, but my crops are more important, so I won’t be waiting at home all day for the ballot box to come around. If I happen to come across the box I will vote, otherwise I will continue about my day.” [LN-C2-T1-V1-R1]

“Why did I not fully exercise my voting rights? Because it is a waste of time. Why should I vote at all? The village leaders give me nothing. I don’t care who will be the village leader because I just want to live my own life.” [LN-C3-T3-V2-R1]

“Everyone knows that village elections are meaningless. Just look at the candidates. Nobody is competent and it is also difficult for us to vote for someone other than the candidate standing right in front of us. Why should we vote? I don’t care if my husband votes for me or not. The election is ‘just for show.’ We are just marking some useless ticks.” [FJ-C1-T1-V3-R3]

“The government does not let the village decide anything. We are powerless. We know we should vote, but do you think the candidate you choose can really win? And if he wins, will it matter? If you think so you are definitely wrong!” [LN-C3-T3-V4-R3]

In other words, according to our interviews, even effective training programs may not be able to make women much more concerned about exercising their rights to vote. There are many barriers—in the house; in the village; and due to the system itself. For this reason it is important to understand the nature of the village before determining if the project is a success or not.

Conclusions

In this paper we have reported on the results of a Randomized Controlled Trial to assess the effectiveness of training women about their voting rights and teach them about some of the mechanisms that will help them fully exercise that right. In measuring the effect, we used a set of randomly chosen, randomly assigned villages in which some received the treatment and some did not. Since villages in the experimental arms were more or less identical to those in the control set, and since the treatment was randomly assigned, we are fairly certain that post intervention

differences in women's knowledge about their rights to vote and any observed differences in the patterns of voting behaviors will be due to the training program. In an alternative set of experimental arm villages, we trained village leaders.

The results were clear. The rate at which women vote in China is much lower than that of men. Our study shows that one of the barriers to higher voting rates is the knowledge of women about their rights and an understanding of the voting process. Women who received the training demonstrated in post-intervention evaluation tests that their understanding of the rights and process of voting had increased by more than that of women in the control groups (and in any village in which women did not get trained). The rate of women who fully exercised their right to vote also rose. Interestingly, women's scores on the knowledge test and the rate at which they voted in the elections did not change when we educated the village leaders about women's voting rights.

Interestingly, in the qualitative interviews we found many other possible effects far beyond those of scores on a knowledge test and the actually exercising of voting rights. The women appear to appreciate being told that they matter. There appears to be a new confidence that arose in some as they realized that they had a civic responsibility to exercise their rights in the village, even beyond voting. Villages can be stifling places for women. We discovered giving them a bit of attention seemed to mean a great deal. While these results are not based on systematic, survey-based observational data, they do help to inform our quantitative findings by giving a human snapshot of the social context in which the study took place. Moreover, the

insights gained during the qualitative interviews seem to suggest that future researchers should take care to include some measure of confidence and self-assurance as outcome measures, in addition to basic knowledge and voting behavior.

In assessing the importance of our findings, we believe they are the first anywhere that have been able to identify a causal link (using social, in-the-field experimentation) between knowledge of voting rights and the exercising of these rights.²⁷ To be sure, however, this only explains part of the gap in the voting behavior of men and women. More work is needed. As shown in the paper there are still many barriers to full voting equality. Cultural norms still work against women. Social standards seem to keep women out of the voting box—especially those women with less education. Perhaps the most important barrier is that women often did not believe that voting was important enough of an issue to stand up for. Because of this, it would be interesting to see if a similar voting training program would have a larger impact in areas where elections matter more.

Finally, we also understand, in part due to the special nature of China's village elections, that we need to be concerned about the external validity of the results. Would the results be the same if we did the project in different parts of China? Fujian and Liaoning share many similar characteristics. What would the results be if we did this in a poor mountainous Han region of the country? What would the results be if we did this in a place with a large minority presence, where social norms may be even

²⁷ In saying that we are the first paper to show the causal link between voting rights and training, we are not at all trying to diminish the importance of others (e.g., Gao, 2010). They have conducted pilots demonstrating how to increase the participation of women in the electoral process and such studies are equally (if not more) valuable.

less favorable towards allowing women to participate in public events? Would it have greater or lesser effects? In some sense, this is one of the shortcomings of Randomized Controlled Trials (and in any research that is not national in scope). The only solution, of course, is to repeat the research in other places. The same questions would arise in trying to establish external validity outside of China. Indeed, more research of this type is needed.

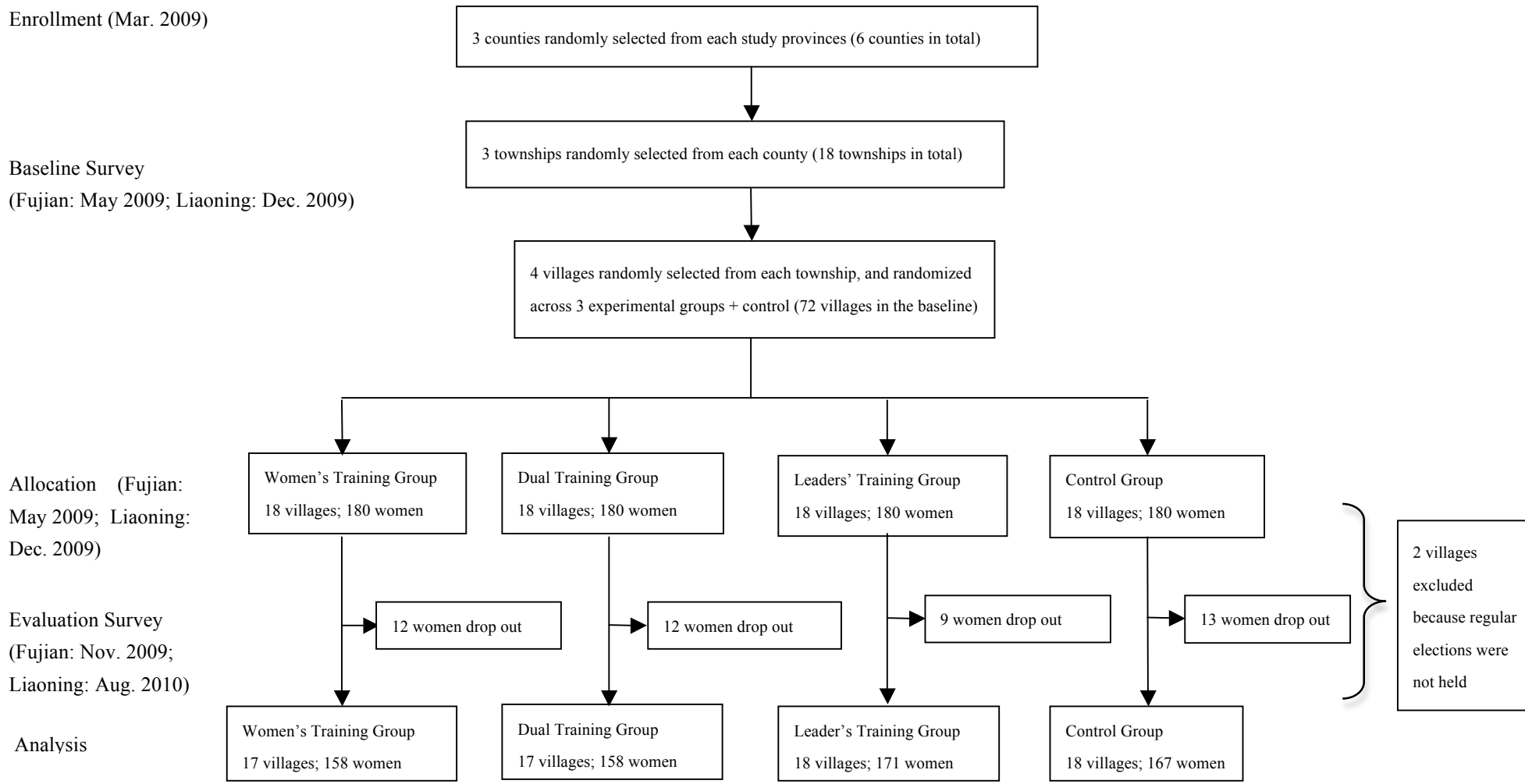


Figure 1: Trial Profile

Table 1. Baseline Individual Characteristics by Experimental Group

	Women's Training Group	Dual Training Group	Leaders' Training Group	Control Group	P-value (Test of Equality of Groups)
(1) Age (years)	46.6 (12.0)	44.5 (10.0)	45.6 (9.7)	46.8 (11.0)	0.18
(2) Years of education	4.8 (3.4)	5 (3.5)	4.7 (3.6)	5.4 (3.6)	0.25
(3) Years married	30.7 (15.9)	28.6 (14.4)	30.1 (15.0)	30.9 (14.8)	0.48
(4) Member of Party (%)	5.3 (22.4)	5.9 (23.6)	3.9 (19.4)	7.8 (26.9)	0.46
(5) Ever been village cadre (%)	2.4 (15.2)	2.4 (15.2)	6.7 (25.0)	3.3 (18.0)	0.10
(6) Off farm employment (%)	10 (30.0)	9.4 (29.2)	8.3 (27.7)	10.1 (30.2)	0.95
(7) Han (%)	87.1 (33.7)	97.6 (15.2)	93.3 (25.0)	93.3 (25.0)	0.00
(8) Dominant surname ^a (%)	71.2 (45.4)	70.6 (45.7)	68.9 (46.4)	69.4 (46.2)	0.97
(9) Baseline score on voting knowledge test ^b	65.5 (17.2)	65.6 (17.0)	65.1 (17.2)	68.6 (16.5)	0.18
	(17 villages, 170 women)	(17 villages, 170 women)	(18 villages, 180 women)	(18 villages, 180 women)	

Source: Authors' survey

Note: Percentages are of the total number of women in the experiment arm. Standard deviations are in parentheses.

^a Husband's surname is the dominant one in the village

^b Percent correct out of 18 questions.

Table 2. Women's Voting Knowledge Test Scores and Change from Baseline to Evaluation

Panel A. By Three Experimental Groups and One Control Group					
	Women's Training Group	Dual Training Group	Leaders' Training Group	Control Group	P-value (Equality of Groups)
(1) Baseline (%)	65.47 (2.52)	65.57 (2.20)	65.20 (2.55)	68.70	0.19
(2) Evaluation (%)	73.27 (2.03)	73.70 (1.93)	68.42 (1.86)	70.92	0.00
(3) Change (%)	7.81 (2.49)	8.12 (2.42)	3.22 (1.97)	2.23	0.00
	(17 villages, 158 women)	(17 villages, 158 women)	(18 villages, 171 women)	(18 villages, 167 women)	
Panel B. By Aggregated Treatment and Control Groups					
	Aggregated Women's Training Group ^a	Aggregated Control Group ^b	P-value (Equality of Groups)		
(4) Baseline (%)	65.52 (1.82)	66.93	0.28		
(5) Evaluation (%)	73.49 (1.48)	69.66	0.00		
(6) Change (%)	7.96 (1.70)	2.73	0.00		
	(34 villages, 316 women)	(36 villages, 338 women)			

Source: Authors' survey

Note: Percent correct out of 18 questions. Robust standard errors clustered at the village level are in parentheses.

^a Aggregated Women's Training Group includes observations from both the Women's Training Group and the Dual Training Group.

^b Aggregated Control Group includes observations from both the Leaders' Training Group and the Control Group.

Table 3. OLS Regression Analysis of Change in Women's Test Scores

		Dependent Variable: Change in Women's Test Scores (%)					
		(1)	(2)	(3)	(4)	(5)	(6)
Panel A: By Pure Experimental Group							
(1)	Women's Training Group	5.58 (2.24) **	5.02 (1.92) *	4.99 (1.84) *	5.03 (1.83) *	4.92 (2.52) **	5.30 (2.47) **
(2)	Dual Training Group	5.89 (2.43) **	5.83 (2.50) **	6.15 (2.90) ***	6.10 (2.88) ***	5.35 (2.90) ***	5.65 (3.08) ***
(3)	Leaders' Training Group	0.99 (0.50)	0.80 (0.41)	0.99 (0.52)	0.97 (0.50)	0.81 (0.49)	0.91 (0.55)
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial Dummies	No	No	No	Yes	No	No
	Township Dummies	No	No	No	No	Yes	Yes
	Observations	654	654	654	654	654	654
	R-square	0.02	0.04	0.06	0.06	0.11	0.11
Panel B: By Aggregated Experimental Group							
(4)	Aggregated Women's Training Group ^a	9.38 (1.99) *	8.17 (1.80) *	8.17 (1.84) *	8.16 (1.85) *	8.64 (2.37) **	8.06 (2.28) **
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial Dummies	No	No	No	Yes	No	No
	Township Dummies	No	No	No	No	Yes	Yes
	Observations	654	654	654	654	654	654
	R-square	0.02	0.04	0.05	0.05	0.11	0.11

Note: Robust t-statistics clustered at the village level are in parentheses. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

^a Aggregated Women's Training Group includes observations from both the Women's Training Group and the Dual Training Group.

Table 4. Change in Leaders' Test Scores, by Three Experimental Groups and One Control Group

	Women's Training Group	Dual Training Group	Leaders' Training Group	Control Group	P-value (Equality of Groups)
(1) Baseline (%)	44.32 (5.51)	49.43 (6.17)	44.46 (5.08)	48.54	0.59
(2) Evaluation (%)	43.18 (6.32)	47.73 (5.81)	42.32 (5.84)	49.58	0.30
(3) Change (%)	-1.14 (4.02)	-1.7 (4.4)	-2.14 (3.35)	1.04	0.90
	(17 villages, 33 leaders)	(17 villages, 33 leaders)	(18 villages, 35 leaders)	(18 villages, 30 leaders)	

Source: Authors' survey

Note: Percent is correct out of 16 questions. Robust standard errors clustered at the village level are in parentheses

Table 5. OLS Regression Analysis of Change in Leaders' Test Scores

		Dependent Variable: Change of Leaders' Test Scores (%)					
		(1)	(2)	(3)	(4)	(5)	(6)
Experiment Arm Dummy Variables							
(1)	Women's Training Group	-2.18 (0.54)	-2.06 (0.52)	-2.71 (0.60)	-2.56 (0.56)	-0.49 (0.17)	-2.70 (0.87)
(2)	Dual Training Group	-2.75 (0.62)	-2.40 (0.55)	-5.29 (1.24)	-5.41 (1.27)	-1.01 (0.29)	-3.29 (0.97)
(3)	Leaders' Training Group	-3.19 (0.95)	-3.15 (0.93)	-5.10 (1.42)	-5.19 (1.43)	-0.80 (0.22)	-4.32 (1.14)
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial dummies	No	No	No	Yes	No	No
	Township dummies	No	No	No	No	Yes	Yes
	Observations	131	131	131	131	131	131
	R-square	0.00	0.03	0.09	0.09	0.23	0.29

Note: Robust t-statistics clustered at the village level are in parentheses.

Table 6. Change in voting behavior, by 3 experimental groups and 1 control

	Women's Training Group	Dual Training Group	Leaders' Training Group	Control Group	P-value (Equality of Groups)
Panel A: Change in actual/reported voting					
(1) Baseline (%)	64.56	63.92	68.42	76.65	0.05
(2) Evaluation (%)	79.11	74.05	71.35	79.64	0.22
(3) Change (%)	14.56	10.13	2.92	2.99	0.11
Panel B: Change in marking ballot by herself					
(4) Baseline (%)	65.82	66.46	70.18	79.04	0.03
(5) Evaluation (%)	79.11	74.68	72.51	79.64	0.35
(6) Change (%)	13.29	8.23	2.34	0.6	0.10
Panel C: Change in casting ballot by herself					
(7) Baseline (%)	69.62	67.09	73.68	78.44	0.11
(8) Evaluation (%)	82.91	75.95	75.44	82.04	0.21
(9) Change (%)	13.29	8.86	1.75	3.59	0.16
	(17 villages, 158 women)	(17 villages, 158 women)	(18 villages, 171 women)	(18 villages, 167 women)	

Note: Percentages are of the total number of women in the experiment arm.

Table 7. OLS Regression Analysis of Change in Rate of Actual/Reported Voting

		Dependent Variable: Change in Rate of Actual/Reported Voting (%)					
		(1)	(2)	(3)	(4)	(5)	(6)
Panel A: By Pure Experimental Group							
(1)	Women's Training Group	11.56 (1.58)	9.42 (1.39)	9.79 (1.49)	9.71 (1.47)	9.82 (1.86) *	9.317 (1.92) *
(2)	Dual Training Group	7.13 (1.00)	5.44 (0.80)	6.21 (0.88)	6.31 (0.92)	6.08 (1.16)	6.76 (1.24)
(3)	Leaders' Training Group	-0.07 (0.01)	-1.49 (0.27)	-0.56 (0.09)	-0.52 (0.08)	-1.42 (0.29)	-0.18 (0.03)
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial Dummies	No	No	No	Yes	No	No
	Township Dummies	No	No	No	No	Yes	Yes
	Observations	654	654	654	654	654	654
	R-square	0.01	0.06	0.07	0.07	0.12	0.12
Panel B: By Aggregated Experimental Group							
(4)	Aggregated Women's Training Group ^a	9.38 (1.99) *	8.17 (1.80) *	8.17 (1.84) *	8.16 (1.85) *	8.64 (2.37) **	8.06 (2.28) **
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial Dummies	No	No	No	Yes	No	No
	Township Dummies	No	No	No	No	Yes	Yes
	Observations	654	654	654	654	654	654
	R-square	0.01	0.06	0.07	0.07	0.11	0.12

Note: Robust t-statistics clustered at the village level are in parentheses. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

^a Aggregated Women's Training Group includes observations from both the Women's Training Group and the Dual Training Group.

Table 8. Heterogeneous program effects, by individual and village characteristics

		Dependent Variable: Change of Rate of of Actually Voting			
		(1)	(2)	(3)	(4)
Experiment Arm Dummy Variables					
(1)	Aggregated Women's Training Group ^a	11.41 (2.03) **	11.92 (2.46) **	10.19 (2.75) ***	-20.46 (0.97)
Treatment*		Edu ^b	Age ^c	Employee ^d	Competitiveness ^e
(2)	Aggregated Women's Training Group ^a	-6.97 (0.84)	-8.28 (1.16)	-22.64 (1.57)	10.82 (1.42)
	Individual-level variables	Yes	Yes	Yes	Yes
	Village-level variables	Yes	Yes	Yes	Yes
	Provincial Dummies	No	No	No	No
	Township Dummies	Yes	Yes	Yes	Yes
	Observations	654	654	654	654
	R-square	0.11	0.09	0.12	0.12
	F-Statistic(2,69)	2.78	3.16	4.06	4.39
	P-value	0.07	0.05	0.02	0.02

Note: Robust t-statistics clustered at the village level are in parentheses are in parentheses. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

^a Aggregated Women's Training Group includes observations from both the Women's Training Group and the Dual Training Group.

^b Equal to 1 if the woman has at least 5 years education (average years of schooling in the sample), 0 otherwise.

^c Equal to 1 if the woman is at least 46 years old (average age of women in the sample), 0 otherwise.

^d Equal to 1 if the woman has an off-farm job, and 0 otherwise.

^e Indicator for the competitiveness of the village's election, 1 is most competitive, 4 is least competitive.

The last two rows report the results of the F-tests and p-value of the joint significance of the treatment and the interaction of treatment and women/village variables.

Appendix Table 1. Differences in individual-level characteristics between sample women and women lost to follow-up.

	All women (700 women)	Sample (654 women)	Lost to follow-up (46 women)	Difference between sample and drop-outs	P-value (Equality of sample and drop-outs)
Baseline Survey (2009)					
(1) Age (years)	45.9 (0.41)	45.8 (0.41)	46.8 (1.86)	-1 (1.64)	0.53
(2) Years of education	5 (0.13)	4.9 (0.14)	5.1 (0.54)	-0.2 (0.54)	0.76
(3) Years married	30.1 (0.57)	30.1 (0.59)	30.2 (2.32)	-0.1 (2.29)	0.97
(4) Member of Party (%)	5.7 (0.88)	6 (0.93)	2.2 (2.17)	3.8 (3.54)	0.29
(5) Ever been village cadre (%)	3.7 (0.72)	3.8 (0.75)	2.2 (2.17)	1.6 (2.89)	0.57
(6) Off farm employment (%)	9.4 (1.11)	8.9 (1.11)	17.8 (5.76)	-8.9 (4.50)	0.05
(7) Han (%)	92.9 (0.97)	93 (1.00)	91.3 (4.20)	1.7 (3.93)	0.67
(8) Dominant surname ^a (%)	70 (2.00)	70.3 (1.79)	65.2 (7.10)	5.1 (7.00)	0.46
(9) Baseline score on voting knowledge test ^b	66.2 (0.64)	66.3 (0.66)	65.8 (2.92)	0.5 (2.59)	0.87

Source: Authors' survey

Note: Percentages are of the total number of women in the experiment arm. Standard errors are in brackets.

^a Husband's surname is the dominant one in the village.

^b Percent correct out of 18 questions.

Appendix Table 2. OLS Regression Analysis of Change in Leaders' Test Scores (Including Interaction variables for Gender and Experimental Group).

		Dependent Variable: Change of Leaders' Test Scores (%)					
		(1)	(2)	(3)	(4)	(5)	(6)
Experiment Arm Dummy Variables							
(1)	Women's Training Group	-2.18 (0.54)	0.25 (0.05)	-0.28 (0.06)	0.00 (0.00)	2.54 (0.57)	0.97 (0.19)
(2)	Dual Training Group	-2.75 (0.62)	1.69 (0.32)	-1.62 (0.31)	-1.58 (0.31)	3.66 (0.79)	1.09 (0.21)
(3)	Leaders' Training Group	-3.19 (0.95)	0.47 (0.11)	-1.56 (0.37)	-1.55 (0.34)	4.12 (0.88)	-0.11 (0.02)
	Female		7.75 (0.90)	9.15 (0.79)	9.08 (0.79)	12.09 (0.96)	9.90 (0.67)
	Women's Training Group*Female		-14.00 (1.33)	-14.36 (1.17)	-14.72 (1.21)	(15.59) (1.26)	-15.89 (1.13)
	Dual Training Group*Female		-22.59 (2.05)**	-21.44 (1.63)	-22.64 (1.74)*	-23.66 (1.79)*	-20.76 (1.37)
	Leaders' Training Group*Female		-21.51 (2.09)**	-21.78 (1.72)*	-22.71 (1.81)*	(26.70) (1.90)*	-23.06 (1.41)
	Individual-level variables	No	Yes	Yes	Yes	Yes	Yes
	Village-level variables	No	No	Yes	Yes	No	Yes
	Provincial dummies	No	No	No	Yes	No	No
	Township dummies	No	No	No	No	Yes	Yes
	Observations	131	131	131	131	131	131
	R-square	0.00	0.07	0.12	0.13	0.27	0.32

Note: Robust t-statistics clustered at the village level are in parentheses.

Appendix Table 3. Proportion of Men and Women Who reported Voting by Countries

	Country	Male	Female	Difference	Data Source
(1)	China	90	60	30	our data
(2)	India	65.7	57.9	7.8	http://www.idea.int/gender/vt_by_country.cfm#india
(3)	Norway	84.3	87.8	-3.5	
(4)	Britain	82.5	82.9	-0.4	
(5)	Germany	92.7	92.8	-0.1	
(6)	Spain	89.7	89.5	0.2	
(7)	Taiwan	91.7	91.4	0.3	
(8)	Israel	83.1	83.5	-0.4	
(9)	New Zealand	95	94.5	0.5	
(10)	Japan	84.2	83.2	1	
(11)	Australia	96.4	94.5	1.9	Norris, 2002 (see full reference below)
(12)	Mexico	76.9	75	1.9	
(13)	Czech Republic	90.7	88.4	2.3	
(14)	Ukraine	78.1	75.8	2.3	
(15)	USA	78.2	75.3	2.9	
(16)	Netherlands	79.9	76.9	3	
(17)	Poland	59.6	55.4	4.2	
(18)	Hungary	76.1	71.3	4.8	
(19)	Romania	92.4	84.4	8	

Data Source: Norris, Pippa (2002), "Women's Power at the Ballot Box," in IDEA Voter Turnout from 1945 to 2000: A Global Report on Political Participation, 3rd ed. Stockholm: International IDEA.