OXFORD

Mobilizing women voters: experimental evidence from Pakistan

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Abstract

We provide the first estimate of a door-to-door political campaign by an incumbent politician targeting women on electoral outcomes in a developing country. Women voters are informed of the public service delivery work undertaken by the incumbent in his tenure. The campaign was randomized at the precinct level, allowing us to use official electoral data on vote shares and gender-disaggregated turnout. Our results suggest that in a highly competitive campaign, the vote share of the campaigning incumbent increased by 5%age points. This increase was primarily driven by women who were campaigned independently of their male relatives. In precincts where both men and women were mobilized, the effect is not statistically significant. However, women's turnout in the election was unaffected.

JEL classifications: C93, D72, D83, J16, K16

1. Introduction

In most developing countries, politics is clientelistic in nature (Stokes *et al.*, 2013) and dominated by men (Bjarnegård, 2013): male politicians (patrons) deliver patronage in terms of public service work to male household heads, who in turn are expected to ensure that all their household members (men and women) vote for that politician. While a lack of focus on the female electorate's needs is not confined to clientelistic setups, we believe that two specific things happen in such settings that marginalize women: first, the female vote is never directly courted by politicians because the male client is expected to deliver the female vote and second, due to a lack of communication and interaction with female voters, the public service work demands and preferences that get communicated to the politicians are

those of men, not women.[1] These two forces start a cycle of female exclusion from all stages of politics. Politicians do not campaign to seek the votes of women, resulting in a suppressed female turnout, which in turn emboldens the belief that women are not to be seen as a separate voting bloc, further reducing their importance in electoral politics. If politicians were to directly court female voters, it is possible that they would reward them in elections. In this article, we present the first estimates of a women-focused political campaign using official electoral data. We evaluate a randomly implemented political campaign that provides information about public service to women to understand what happens when a politician directly courts female votes in 151 precincts in Kasur, Pakistan.

Pakistan is a country with a wide gender gap in political participation. Female turnout in the general election of 2018, when we ran this experiment, was 47% compared with 58.3% for males.[2] Female participation in political events remains scarce, perfunctory, and often dependent on men (Rai *et al.*, 2007; Cheema *et al.*, 2019a). Unsurprisingly, this gap is seen at higher levels of participation too, with only 8 out of 272 parliamentarians being directly elected women, of which all but one belong to political dynasties. In such a context, which is equally prevalent in many other developing countries, it is important to understand the constraints on female participation in the electoral process.

Before the 2018 general elections, we partnered with an incumbent politician to evaluate his female-specific, door-to-door campaign run by female canvassers in one constituency of Kasur district. The campaign aimed to provide female voters information about the incumbent's record in office, delivered through a pamphlet read out by female canvassers. We argue that a campaign run by women for women, in a context where they are rarely treated as distinct voters from the men of the family, empowers female voters with information to make an informed decision about their vote choice.

Based on the randomization of 151 electoral precincts and using official electoral data, we are able to study if the campaign influenced observable female actions on the election day in terms of voter turnout and party choice. We find that the campaign did not increase female turnout: treatment areas saw a very small increase of 1.7%age points over control area turnout of 52.9%. This effect is not large enough to be statistically significant. But those who did come to the polling stations voted differently from the status-quo. The treatment increased the vote share of the campaigning incumbent by 3.6%age points (p-value = 0.055) in the areas that received a women-specific campaign over and above 40% in the control areas. These results suggest that women-specific campaigns are useful in providing females information to make an independent decision on who to vote for.

To further explore if it is indeed the case that male-oriented status-quo limits female access to information to make independent vote choices, polling stations were randomly assigned to either a women-only campaign or a women and men campaign. In the women and men campaign, women remain the primary target, but the information is delivered to them alongside a male member of the household. We find that the women-only campaign had the highest effect on the incumbent's vote share, increasing it by five percentage points over the control areas. The increase in vote share of the incumbent in the women and men

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1 Politicians are generally unaware of what their constituents want even when there is comparatively greater interaction (Liaqat, 2019).

2 Women are systematically disenfranchised by this exclusionary, male-focused political system at the very first step of voter registration as well. In the 2018 elections, there were 46.6 million registered female voters compared with 59.3 million male voters in the country.

treatment areas was only 2.3%age points, and not large enough to be statistically significant. However, the difference between the two campaigns is statistically significant and together with the first set of results, suggests that in order to improve female participation in politics as independent voters, politicians have to run specific women-targeted campaigns.

With these results, the article relates to a long line of academic studies that are focused on getting citizens out on the election day to vote. Gerber and Green (2017) review the literature in which, with few exceptions, the cited work is focused on the USA and Europe, randomizes interventions at the individual or household level, and conducts non-partisan campaigns. The first seminal paper to provide detailed evidence on a non-partisan get-out-the-vote campaign focused on women in a developing country was Giné and Mansuri (2018). They randomized the get-out-the-vote campaign based on clusters within villages (not precincts). They find that an importance-of-voting message has no effect, however, this message plus information about the voting process (such as secret balloting) increases female turnout. Recently, however, the focus has shifted to more aggregate level outcomes through precinct-level randomization, which allows measurement of outcomes through official electoral data, improves the quality of data on turnout, and allows analysis of vote shares. Pons (2018) is the first paper to randomize a door-to-door canvassing campaign at the precinct level (in France). This allows Pons (2018) to use official electoral data to measure turnout and vote shares. Pons (2018) finds no effect of the door-to-door campaign on turnout, but a small immediate and long-term effect on vote shares.

This article extends all aforementioned strands of literature by providing the first rigorous evaluation of a women-focused door-to-door campaign on turnout and vote shares. Unlike most work, we target and explore the effect of the campaign on female behavior. We run the campaign in a developing country, where comparatively little get-out-the-vote work has taken place. A developing country context adds important insight to the literature because of strong norms against female empowerment and public participation. Further, our treatment is a standard partisan political campaign. This is important because as these are standard campaigns run by male politicians for men before every election, they can easily be held for women as well. Hence, the amount of effort required from politicians would be minimal.[3] If such a campaign shows positive results for the campaigner, it sends a credible signal about the importance of women as a distinct bloc that politicians need to court. Finally, as we randomize our treatment at the precinct level, we can use official administrative data on female turnout and politician vote shares, thus measuring actual electoral outcomes and avoiding problems associated with self-reported voting behavior (Campbell, 2010; Gelman et al., 2016).

Based on previous research, ex ante, we expect no effect of campaigning on party choice. Using evidence from 49 rigorous field experiments in the USA, Kalla and Broockman (2018) show that the persuasive effects of in-person canvassing on party choice is zero. We can expect this effect to be stronger in a developing country because unlike developed countries, (i) voting decisions are often made collectively, which makes change harder (ii) women wield much less power to vote according to their preferences (Burns et al., 2001; Khan, 2021), and (iii) voters trust information less (Algan and Cahuc, 2013; Falk et al., 2018).

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3 There are no additional costs to recruit women because all political parties already have female members as they are required to work as female polling agents in women-only polling booths.

Furthermore, a politician directly courting the female vote may attract a backlash from male voters (Gottlieb, 2016a; Guarnieri and Rainer, 2018) as male voters may feel threatened that their public service delivery preferences would be comparatively neglected (Chattopadhyay and Duflo, 2004; Khan, 2021). Gottlieb (2016a) shows that a civic education program that brought women into the public sphere led to a male backlash and self-imposed constraints by women to withdraw from the public sphere in the future. In such a context, it is not unreasonable to expect that campaigns targeted at women may not deliver an increase in vote share, and potentially may lead to negative effects. In contrast, Khan (2021) shows that when get-out-the-vote campaigns campaign with both men and women, the couple discusses the issue within the household, which leads to better combined decisions and higher turnout for women.

There is emerging evidence on the direct constraints women face for political participation. Even in developed economies, for women to be more engaged and successful in politics, they have to have support from party superiors (Karpowitz *et al.*, 2017). Whereas in more gender-unequal places like Pakistan, men explicitly control the political decisions of women (Cheema *et al.*, 2019b). This article highlights the restraining nature of men's involvement in female political decisions and provides a silver lining that at least on the margins that are not public, such as vote choice, women do make independent decisions if provided the information that can help them make such decisions. In this sense, the article adds to the literature on forces that help women break the restraining barriers (Prillaman, 2016).

This article makes three distinct contributions to the field of gender participation in politics. First, it shows that even traditional political campaigns can take the leap toward courting female voters. Our partnership with an incumbent politician to study an organic effort on courting women voters is a testament to that. Second, women respond to the information provided through such campaigns by making more independent vote choices, even if such efforts are not enough to get more of them to the polling stations. And lastly, it highlights that such a leap will not have any benefits unless the design of the campaign is such that it either directly addresses the norms restricting female participation or helps females circumvent the restraining forces.

In the rest of the article, we first describe the experiment and lay out the implementation details. This is followed by a section on results and the associated discussion. Lastly, we report heterogeneous effects to tease out who may have responded to the treatment.

2. Context

The political campaign was run by Rana Hayat Khan, the incumbent in the constituency NA-140, in Kasur district, which is an hour away from the second-largest city of Pakistan—Lahore. As a parliamentary democracy, one national assembly constituency elects one member to the national assembly in Pakistan. Hence, the politician and performance are held constant as we randomize precincts within this one constituency.

Kasur is part of the most populous and developed province of Pakistan—Punjab. On average, Kasur is not too dissimilar to the rest of the country. In terms of literacy, 59% of people in Kasur are considered literate, which is almost the same as the national literacy rate of 60%. Health indicators present a more diverging picture as the district lags behind the rest of the country on some indicators while it leads on others. Immunization rates for children under the age of 2 are 60% across the country, but nearly 86% of children in Kasur have received full vaccinations. But it lags behind the country in terms of water

infrastructure, with only 15% of the households in Kasur having access to tap water compared with 27% of households across the country. Hence, economic development in Kasur is similar to the national average.

In terms of political context, the constituency is quite typical for Punjab, Pakistan. While there are around a dozen competitors in the field, the real race is between two big parties: Pakistan Muslim League-Nawaz's (PML-N) Rana Hayat Khan (the incumbent) versus Pakistan Tehreek-e-Insaf's (PTI) Sardar Talib Nakai (the challenger). It is divided into 408 precincts, where votes get tallied before the constituency-wide aggregation.

As the policy intervention, the evaluation is focused on treating women as equal participants in the political process, it is helpful to explain how women are treated in general vis-à-vis politics and their typical information set. Through surveys around the 2018 election in Lahore, Cheema et al. (2020) show that a third of the respondents—both men and women—believe that the very act of discussing politics is solely a man's job. Similarly, in another large city in Pakistan, Khan (2021) found that only about 53% of female respondents feel comfortable disclosing their support for a candidate that others in their household did not favor. This puts into focus our policy intervention that directly targets women and experiments with two arms—one in which only women are treated and the other in which they are treated in the presence of men.

Another feature of the policy intervention, we evaluate is that it is a door-to-door campaign. This is important because women are mostly not able to participate in political gatherings (Rai et al., 2007). Cheema et al. (2019a) show that women do not participate in political gatherings because their husbands/fathers do not consider it appropriate. The non-acceptance of women in the public sphere is put into focus by the fact that these women specifically mention that if a political gathering was to be covered by the media and the woman could be seen on television, it would ruin their reputation.

3. Research design

From a total of 408 precincts in the constituency, the research team randomly chose 151 precincts. This was done using national census data: we dropped the smallest precincts (less than 250 households), and then used stratified randomization to choose 151 precincts. This sample comprised five strata based on precinct population. The incumbent politician implemented the campaign in 103 precincts randomly chosen by the research team, with the remaining 48 precincts serving as a pure control group.

3.1 Treatments

The treatments focused on canvassing women voters with the help of female canvassers that provided information about the public service delivery performance of the incumbent politician. This was achieved through a door-to-door political campaign for women in 151 precincts, in which non-partisan female canvassers delivered brochures to female household members in treated precincts. We were able to reach 22,426 households across our treatment precincts. The brochures listed the actual public service delivery undertaken by the incumbent over the last 5 years in the whole constituency (which was verified by the research team). They covered public service delivery such as women-only parks, vocational courses for women, provision of natural gas in homes for cooking, construction of schools, provision of safe drinking water through water filtration plants, stable provision of electricity, and better sewerage systems. While the brochures were written in Urdu, the national

language of Pakistan, due to many people not being able to read, the brochures were also verbally explained. For clarity and to emphasize the focus on women, they featured photographs for all these services to make comprehension easier. The photographs showed only women engaging in related work. A copy of the brochure, including its English translation, is provided in the Online Appendix.

The canvassers randomly visited households in the treatment group to deliver the information. They were sent to a few selected precincts in the morning (along with monitoring teams). They would begin work from the center of the precinct and move in all directions to ensure that they covered all areas within the precinct. Within these areas, the households were visited randomly. The canvassers visited approximately 23,500 households in the month before the election. The campaign started on 1 July and ended on 19 July. The election was held on 25 July.

The treatment group was divided into two groups: women-only and women and men campaigns. In the women-only campaign, information was provided only to women. Whereas, in the women and men campaign, information was provided to women alongside men. In both cases, the canvassers would introduce themselves as members of the incumbent's campaign team. The respondent had to be a woman who wielded influence in the household (neither too young nor too old). A short survey is conducted first (in treatment areas only) and then the brochure is handed over and explained to the respondent. The canvassers and the brochure clearly mention the public service delivery as work that was conducted in the last 5 years by the incumbent and not future promises. Beyond providing this information to respondents, the canvassers do not engage in discussion with the respondents. As the canvassers themselves were all women, we faced no difficulty in providing information to women alone. For the women and men treatment group, the survey is still conducted only with the women, as they remain the focus of the campaign. However, the brochure is explained to the women alongside a man from the household (household head or someone who wields influence). In the situation that no man is present at home, the woman is asked to share the brochure with him when he gets home (this was rare: one of the father, or husband or adult son was nearly always present).

The purpose of differentiating the campaign on whether women receive the information alone or alongside a man was to ascertain whether women felt constrained on future, independent political decision-making when given information in the presence of a male household member. A substantial literature discusses the lack of agency of women in developing country contexts for a range of decisions such as employment, health, and politics (Begum and Sen, 2005; Beaman *et al.*, 2012; Jensen, 2012; Field *et al.*, 2019; Khan, 2021).

Finally, the analysis is performed at the precinct level because our treatment and outcomes are both at the precinct level. This allows us to observe aggregate voter behavior through official electoral data; hence, we can measure the effect of the political campaign on voter behavior without facing the difficulties of self-reported surveys (Campbell, 2010; Gelman *et al.*, 2016). By randomizing at the precinct level, we can use official electoral data to observe turnout (disaggregated by gender) and party/candidate vote share.

3.2 Sample details and summary statistics
In May 2018, 2 months before the general election, polling schemes of 272 national assembly seats were made available to the public by the Election Commission of Pakistan (ECP). A polling scheme (shown in the Online Appendix) contains information about each

Table 1. Summary statistics

Variable	Number of observation	Mean	Standard deviation	Median
Pre-election				
Male voters	107	1,853.72	1,336.98	1,384
Female voters	147	759.26	511.30	678
Households (HH)	151	861.72	700.23	618
Female polling stations	151	0.40	0.49	0
City	151	0.33	0.47	0
Coverage intensity	151	0.46	0.29	0.40
Post-election				
PML-N vote share	147	0.43	0.10	0.39
Female turnout	143	0.54	0.09	0.53
Male turnout	90	0.66	0.08	0.67

Note: Pre- and post-2018 election summary statistics.
Source: ECP.

national assembly seat and the associated polling stations, including details such as the number of voters by gender and types of polling stations (female-only, male-only, and combined). The experimental assignment occurred after the voter registration period, ensuring that registration was orthogonal to the treatment assignment.

We restrict our sample in two ways: (i) as we aimed to evaluate a women-centric campaign, we focus on female-only and combined (mixed-gender) polling stations only and (ii) we selected on population size (as measured by the Pakistan Census 2017) by choosing precincts that had at least 250 households. The restrictions were necessary due to logistical and time constraints as going to many small, remote areas would have been very resource consuming. Additionally, after creating this lower bound, we still had a lot of variance in household numbers across areas, and as size can determine political dynamics to a certain extent, we stratified on size by creating five equal strata.

Our effective sample was lower than the original sample of 151 precincts. We are missing data on female turnout from eight precincts and vote shares from four precincts due to administrative issues faced by the ECP. These data were not reported by the ECP. Furthermore, due to a communication error in the field, we treated four precincts that were assigned to the control group. Due to this, in the main body, we present intent-to-treat (ITT) estimates, and in the Online Appendix present instrumental variable results as well as an ITT estimates when we drop the four precincts from our sample.

Table 1 summarizes our sample based on data from the Pakistan Census 2017, ECP polling schemes, and official electoral results. There were 198,348 male and 145,471 female registered voters across 98,408 households. The average number of female voters per precinct is 759. The percentage of female-only polling stations is 40%. Only 33% of the precincts were urban. In the election in 2018, the incumbent politician's party vote share (PML-N) averaged 43%. In our sample, 54% of women and 66% of men turned out to vote.

To confirm that our randomization procedure worked as expected, we show balance tests for our full sample of 151 precincts in Table 2. We compare two treatments and one control group by looking at the number of male voters in a precinct, female voters, number of households, number of female-only polling stations, non-missing 2013 data, rural areas, and vote share of the incumbent in the last election of 2013. We conduct three tests, with the shown

Table 2. Balance table: full sample

Treatment Status	Male voters	Female voters	Total household	Female polling stations	Non-missing 2013 data	Rural Areas	Vote share, incumbent '13
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Women only	3,407.620	2,486.639	1,837.375	0.501	0.915	0.872	0.541
	(244.429)	(174.176)	(108.971)	(0.102)	(0.047)	(0.073)	(0.039)
Women + men	3,530.685	2562.242	1,927.157	0.414	0.955	0.874	0.531
	(296.274)	(219.487)	(147.148)	(0.098)	(0.054)	(0.078)	(0.037)
Control areas	3,261.222	2364.433	1,825.121	0.384	0.968	0.847	0.496
	(253.066)	(179.819)	(112.023)	(0.103)	(0.055)	(0.080)	(0.035)
Hypothesis tests p-values							
Joint orthogonality p-value (A = B = C)	0.31	0.27	0.42	0.48	0.68	0.95	0.45
A–C = 0	0.33	0.24	0.83	0.24	0.39	0.78	0.25
B–C = 0	0.14	0.13	0.20	0.76	0.83	0.77	0.35
Number of areas	151	151	151	151	151	151	138

Notes: This table shows balance for the full sample of 151 precincts. Uses robust standard errors and block-fixed effects.
Source: Author's calculations based on field data.

p-values corresponding to a joint test of equality and equality tests between the two treatment arms and the control groups. We find that randomization worked well and there are no statistically significant differences between the three groups. We show the balance tables for pooled treatments and other modifications in the Online Appendix Section 1.2.

4. Empirical strategy and results

4.1 Empirical strategy

We use official data from the ECP for the general elections of 2013 and 2018 in NA-140 (Kasur) at the precinct level (one sample is shown in the Online Appendix). We have electoral data on voter turnout (disaggregated by gender) and vote shares of each party (not disaggregated by gender). Both randomization and analysis are done at the precinct level. With the randomization built into the experiment, we show below the two main regression specifications that we use to analyze the impact of our treatments on voting behavior.

We start with the pooled specification to analyze the combined effect of both types of the political campaign on female voter turnout and the incumbent and his challenger's vote shares by estimating the following model:

$$Y_i = \alpha + \beta_1(\text{Treatment})_i + (\text{Block Fixed Effects})_i + \epsilon_i, \tag{1}$$

where Y_i is the outcome of interest in precinct i. We analyze the effect of the political campaign on female turnout and votes shares for the campaigning incumbent and the challenger. We pool both treatments together as we provided information about the incumbent's public service delivery to women in both treatment groups. Here, Treatment_i is a binary variable for either treatment, which is 1 when any campaign was conducted in the area and 0 where no campaign was conducted.

Table 3. Effect on turnout and vote shares—ITT

Treatment Status	Turnout Male	Turnout Female	Vote share Incumbent	Vote share Challenger
Combined campaigns	0.000	0.017	0.036*	−0.024
	(0.018)	(0.016)	(0.019)	(0.024)
	[0.017]	[0.018]	[0.023]	[0.026]
Women-only campaign	−0.011	0.018	0.050**	−0.031
	(0.022)	(0.018)	(0.021)	(0.026)
	[0.023]	[0.019]	[0.021]	[0.025]
Women + men campaign	0.010	0.017	0.023	−0.017
	(0.019)	(0.018)	(0.021)	(0.027)
	[0.019]	[0.017]	[0.022]	[0.027]
p-Value (difference in treatments)	0.309	0.942	0.097	0.462
Control mean	0.660	0.529	0.409	0.454
Number of precincts	90	143	147	147
Block-fixed effects	X	X	X	X

Notes: The dependent variables are male and female turnout and vote shares of the campaigning incumbent and the main challenger—all from official electoral data. The independent variables are assignment of precincts to women only or women and men treatment (two binary variables in disaggregated specification) or assignment to either of the two campaigns (one binary variable in pooled specification). We are missing data on female turnout from eight precincts and vote shares from four precincts due to administrative issues faced by the ECP, which did not report these results. Hence, the samples are of 143 and 147 precincts, respectively. We report robust standard errors in parentheses and bootstrapped standard errors in brackets. Uses block-fixed effects. 'P-value (difference in treatments)' performs a *t*-test to test whether the two treatments, women-only campaign and women and men campaign, are statistically different from each other. We are missing data on female turnout from eight precincts and vote shares from four precincts due to administrative issues faced by the ECP, which did not report these results. Hence, the samples are of 143 and 147 precincts, respectively. Uses robust and bootstrapped standard errors and block-fixed effects.
*$p < 0.1$,
**$p < 0.05$.
Source: Author's calculations based on field data.

Then, we estimate the disaggregated specification to analyze separately the effect of the women-only and the women and men treatments on female voter turnout and the incumbent and his challenger's vote shares by estimating the following model:

$$Y_i = \alpha + \beta_1(\text{Treatment})_{1i} + \beta_2(\text{Treatment})_{2i} + (\text{Block Fixed Effects})_i + \epsilon_i, \qquad (2)$$

where Y_i is the outcome of interest (female turnout, incumbent vote share, and challenger vote share) for precinct i. Here, Treatment$_{1i}$ is a binary variable for the women-only treatment, which is 1 for precincts where the women-only campaign was implemented and 0 otherwise. Similarly, Treatment$_{2i}$ is a binary variable for the women and men campaign, which is 1 for precincts where a combined women and men campaign was implemented and 0 otherwise. We include block-fixed effects because we stratified on precinct population size in the design phase.

4.2 Results

We show below how the campaigning incumbent's women-centric political campaign affected female turnout and candidate (party) vote shares. All tables below present

intention-to-treat estimates because we suffer from a small amount of non-compliance. However, in the Online Appendix, we present results wherein we drop the four non-compliant precincts, as well as an instrumental variable specification, and the results are qualitatively the same.

In Table 3, we show the ITT estimates for the campaign with the pooled specification in the top panel and the disaggregated specification in the bottom panel, reporting robust standard errors in parentheses and bootstrapped standard errors in brackets. While the point estimates are positive for female voter turnout, they are statistically indistinguishable from zero. The estimates are imprecise and we cannot confirm whether this is a precise zero because we lack the power to detect such a small effect. We have calculated the minimum detectable effect (MDE) using the level of uncertainty of the point estimates and the MDE is higher than the calculated estimates (the MDE is 0.045). Hence, we are unable to confirm whether an effect exists.

However, we see a statistically significant and economically substantial effect of the campaign on the incumbent's vote share: in areas where the campaign provided information to women alone, the incumbent's vote share increased by a substantial five percentage points. These are very large gains for any political campaign, particularly one focused on women in developing countries. Kalla and Broockman (2018) have shown in the US context that the persuasive effects of in-person canvassing on party choice are zero. While this is not always true, it is a rigorous finding in many settings. Second, we also estimate a positive effect of the women and men campaign, however, the point estimate is half the size of the women only campaign and is not statistically significant. The difference between the two estimates is, however, indeed statistically significant. Hence, for reasons we discuss below, women respond more strongly to the campaign when they are campaigned alone—with no male presence. When information is received alone, it clearly leads women to different decisions compared with when information is received in the presence of a male. Similarly, we find a positive and statistically significant effect for the pooled specification: the campaigns (women-only or women and men) together increase the vote share of the incumbent by 3.7%age points.

Additionally, as vote share is not disaggregated by gender, the fact that the difference between the women-only and women and men treatments is statistically significant is important as it establishes that women, the primary target of the campaign, were responsible for the increase in the vote share of the incumbent. Had the five percentage point increase in vote share been driven by male voters, we would not have seen half the effect for the treatment arm in which men are treated alongside women. To further test this, we run the same regressions on the female-only polling stations sample (where any change is by design due to women) and find results in the same direction (shown in the Online Appendix Section 1.4).

In any information campaign, spillovers are a relevant concern. However, it is not possible for us to measure spillovers with the given data. The spillovers could have occurred within between precincts. Within a precinct, our campaign was visible and would have led to discussions among people. In aggregate, this means that our treatment reached a larger number of potential voters. The within precinct spillovers would mean that our treatment was more intense than expected. This is reasonable because many precincts, particularly rural precincts, tend to be small and cohesive, where people will often meet and discuss events in the area. These spillovers do not bias our results because we estimate the effect of the campaign on a treated region in a binary sense without any differences between intensities.

The spillovers could also have occurred between precincts. Unfortunately, with such a geographically close sample, we cannot estimate the spillover effect between precincts. However, if precinct spillovers do exist, this would mean that the effects we estimate on the vote share of the campaigning incumbent were a lower bound and the real effects of the campaign may even be higher.

These results show that a political campaign focused on courting the female vote led to a substantial increase in the vote share for the campaigner, particularly when this information was delivered directly and solely to women. Hence, undertaking public service delivery and campaigning to inform women directly of this work can yield substantial returns for politicians. Based on the prior work (Gottlieb, 2016a; Guarnieri and Rainer, 2018), we may have expected a backlash from men due to a rare political campaign focused primarily on women. However, while we cannot directly detect whether a backlash occurred, it is clear that the incumbent did not lose electorally in any way as his vote share rose significantly. This increase happened in an environment where we would not have expected such results as this is an environment where (i) women are deemed generally to have low agency to make decisions and (ii) they are deemed generally to be less interested in politics. These effects are consistent with the idea of women being sensitive to campaigns and that they reward politicians who deliver public services and campaign to inform women of them.

The campaign could potentially operate through two main channels. It may have provided information to women that they did not previously possess (or made it more salient before the election). This is an information effect that tells the women about the candidate's public service performance. It may have made women feel elevated to a level more equal to men or made them see the campaign as a signal that the candidate cares about them—they were for the first time the direct target of a door-to-door campaign. This is an information effect that tells the women about the candidate's esteem for women. Both effects are plausible based on what we know about the context—women are less politically informed compared with men and are not treated as equals in the political sphere (Cheema *et al.*, 2019a). However, we believe that we can rule out the first effect. In both treatments, the same information is delivered in the same way to women. The only difference is that in the women and men treatment, the information is delivered in the presence of men. Hence, the information set remains constant in both cases. The only reason for it to differ would be if the brochure was taken by the men and thus the women were unable to read it. However, considering the low level of literacy and that fact that it is unlikely to be hard to keep the brochure away from the women if they wish to read it, we find it highly unlikely that in this setting the information set differed much. We ensured that in the men and women treatment, it was the women who were handed the brochure and the women to whom the information was given. However, it is reasonable to believe that the presence of men may have led women to see the men and women campaign as not exclusively focused on women and hence a weaker or non-existent signal of the candidate's respect for them.

4.3 Channels

To understand better what factors drive the campaign's effect on voter behavior, we analyze how the treatment effects are heterogeneous along social norms. Our hypothesis is that a political campaign that targets women in a context where voting costs are high and the intra-household bargaining power of women is low, a campaign will succeed where women

Table 4. Heterogeneous effects: female unemployment

	Turnout, female	Vote hare, incumbent	Vote share, challenger
Women only	0.025	0.023	−0.002
	(0.025)	(0.028)	(0.032)
Low female unemployment	−0.015	0.002	−0.027
	(0.047)	(0.052)	(0.067)
Women only * low female unemployment	−0.003	0.119*	−0.158*
	(0.052)	(0.063)	(0.080)
Women + men	0.041*	0.011	−0.011
	(0.023)	(0.028)	(0.033)
Women + men * low female unemployment	−0.021	−0.041	0.071
	(0.053)	(0.072)	(0.081)
Control mean	0.529	0.409	0.454
Number of precincts	97	98	98
Block-fixed effects	X	X	X

Notes: The dependent variables are female turnout and vote shares (not disaggregated by gender) of the campaigning incumbent and the main challenger—all from official electoral data. The independent variables are assignment of precincts to either treatment (women only or women and men treatments and their interactions with whether a precinct has higher than median unemployment). We are missing data because of difficulties in perfectly matching locations in the BISP and ECP datasets. Data on female turnout are a further unit smaller because the ECP did not report separate female turnout for a particular unit due to administrative issues. Uses robust standard errors and block-fixed effects.
$^*p < 0.1$.
Source: Author's calculations based on field data.

can be more independent. We know that both education and income can empower women (Duflo, 2012; Field *et al.*, 2019). Hence, we look at treatment effect heterogeneity for low female unemployment and high female education. Both these variables allow us to measure different types of female empowerment, which can drive female behavior.

To measure education and income, we use a large dataset from the Benazir Income Support Program (BISP), which is Pakistan's largest cash transfer program. The government runs a census-like survey to collect data on incomes and assets to create a poverty index on which it bases its decision for cash transfer eligibility. However, while not everyone is surveyed because the target is the poor, the data collection is so extensive that we estimate that we have data for 90% of the population in our sample. We use the individual-level data to create precinct-level dummies, which are equal to one if an area has higher than median education or income and zero otherwise.

In Table 4, we run a disaggregated specification to explore the effect of the two different campaigns and how they interact with female empowerment measured through low female unemployment. We interact the treatment campaigns with a dummy variable for each area where the dummy is one if the area is over median female unemployment. We find that the precincts in which female employment is higher and precincts that were treated with the women-only campaign had an increase in the campaigning politician's vote share. We find a substantial and statistically significant increase in the vote share of the campaigning politician of 11.9%age points. As expected, we see this mirrored in a substantial decline in the vote share of the main (but not sole) opponent.

Table 5. Heterogeneous effects: female education

	Turnout, female	Vote share, incumbent	Vote share, challenger
Women only	0.034	0.030	−0.011
	(0.025)	(0.028)	(0.033)
High female education	0.048**	0.029	−0.022
	(0.024)	(0.047)	(0.055)
Women only * high female education	−0.086***	0.127**	−0.105*
	(0.032)	(0.054)	(0.061)
Women + men	0.053**	0.012	−0.005
	(0.023)	(0.029)	(0.034)
Women + men * high female education	−0.133***	−0.021	−0.010
	(0.034)	(0.053)	(0.068)
Control mean	0.529	0.409	0.454
Number of precincts	97	98	98
Block-fixed effects	X	X	X

Notes: The dependent variables are female turnout and vote shares (not disaggregated by gender) of the campaigning incumbent and the main challenger—all from official electoral data. The independent variables are assignment of precincts to either treatment (women only or women and men treatments and their interactions with whether a precinct has higher than median female education). We are missing data because of difficulties in perfectly matching locations in the BISP and ECP datasets. Data on female turnout are a further unit smaller because the ECP did not report separate female turnout for a particular unit due to administrative issues. Uses robust standard errors and block-fixed effects.
*$p < 0.1$,
**$p < 0.05$,
***$p < 0.01$.
Source: Author's calculations based on field data.

In Table 5, we run a disaggregated specification to explore the effect of the two different campaigns and how they interact with female empowerment measured through high female education. As in the previous regression, we interact the treatment campaigns with a dummy variable for each area where the dummy is one if the area is over median female education. We find that the precincts in which female education is higher and precincts that were treated with the women-only campaign, had an increase in the campaigning politician's vote share. We find a substantial and statistically significant increase in the vote share of the campaigning politician of 12.7%age points.

As mentioned above, we believe that social norms drive this effect. The effect of our treatment depended substantially on the social norms of the areas. In areas where women are more empowered either through being employed and being earners or through being more educated, our treatment has substantial returns. An alternative explanation would be that it is not social norms themselves that drive the increase in vote share. Rather, income and education directly empower women, which drive the increase in vote share. However, as we can see, in areas where female employment and female education are higher, we find null effects. It is also important to note the limitations of these freedoms. In both results, we find that the women-only treatment drives an increase in vote share. Hence, when women are informed alongside men, it is likely that either through intra-household bargaining over politician choices, or more coercive means, the male members of the household can shape the behavior of the female members.

5. Conclusion

In this article, we provide evidence on female responsiveness to information campaigns. The article extends the literature on female voting participation with the aim of reducing the gender gap in voting on election day. Existing efforts have focused on non-partisan get-out-the-vote campaigns and civic education. While these are important avenues of increasing female turnout, the literature has a gap on what could be done within the organic political campaigns of parties and candidates to achieve the goal of equality in politics. In this article, we contribute to filling that particular gap.

Women have different policy preferences than men in many developing countries. However, the conventional assumption is that they vote according to the preferences of the men of their families. This understanding latently assumes that women do so with the full knowledge of what they want and what their representatives provide. In the paper, we provide evidence that women may not be completely informed about their representatives. When they are provided information about the women-specific policy actions and development projects of the incumbent, female voter turnout increases on the election day.

We consider this to be an important finding, especially from a policy perspective. It will help address at least one of the structural reasons behind the gender gap. The politicians and parties follow the conventional wisdom that women are not independent voters and that households act as a unitary agent when deciding whether to vote or not. However, that appears not to be the case. Women do appear to make an independent decision about voting and it is not just the decision to take the costly action of traveling to a polling station, but also how they vote. If the incumbent takes actions that are generally in line with issues the women care about then highlighting them in an election campaign helps the candidate.

We believe this article also provides an important avenue for future research. At present, one limitation of the article is that it cannot separate the effect of campaigning from a campaign that provides information. It also provides suggestive evidence that norms matter since the effect is bigger in areas where men and women can vote in the same polling station. In all, this article extends the important literature on bridging the gender gap in politics and also opens up avenues for potential research.

Supplementary material

Supplementary material is available on the OUP website. These are the data and replication files and the Online Appendix.

Funding

Acknowledgements

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