No Representation without Information: Politician Responsiveness to Citizen Preferences*

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Abstract

Studies on the role of information in political accountability usually ask whether voters know enough about politicians. In this paper, I reverse this standard approach by asking instead whether politicians know enough about voters to adequately represent them. I develop and test a theory of how politicians acquire and respond to information about citizen preferences. Using original surveys of 4,578 citizens and 653 local politicians in Pakistan, I show that politicians have highly inaccurate beliefs about citizen preferences and high demand for more information. In collaboration with the second-largest political party in Pakistan, I conduct a field experiment to test the conditions under which local politicians are responsive to information about citizen preferences. Politicians who receive information make recommendations to their party leadership that are closer to what citizens prefer. Directly elected politicians are more responsive than indirectly elected ones. Politicians are more responsive to information about women's preferences compared to men's preferences. I construct a simple model of belief updating which suggests that greater responsiveness to women's preferences is driven by lower confidence in prior beliefs about women. This paper shows that our understanding of low accountability in developing democracies is missing an essential ingredient: politicians' inaccurate beliefs.

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1 Introduction

Under what conditions are politicians responsive? Politicians are considered responsive when they adopt the policies and provide the public services that citizens prefer. Existing work explores many of the reasons why politicians in developing democracies may not be responsive to citizen preferences. Politicians may be corrupt (see e.g. Ferraz and Finan, 2011; Olken and Pande, 2012; Banerjee et al., 2012), there may exist a clientelistic equilibrium (see e.g. Stokes et al., 2013; Anderson et al., 2015; Robinson and Verdier, 2013) or voters may not have enough information about politicians' actions in order to sanction them for not being responsive (see e.g. Dunning et al., 2019; Banerjee et al., 2011).

An even more elementary reason why politicians in developing democracies may not be responsive is that they may simply not know what citizens prefer. What politicians know about citizen preferences is important because even well meaning politicians cannot be responsive without this knowledge. Canonical models that examine constraints to democratic accountability such as Ferejohn (1986) and Fearon (1999) do not identify politicians' lack of information as a constraint. Evidence from the United States suggests that politicians systematically misperceive what their constituents prefer (Broockman and Skovron, 2018). This problem may be exacerbated in developing democracies due to the relative dearth of public opinion polling.

I develop a theory of how politicians form beliefs about citizen preferences and how these beliefs condition their responsiveness to new information. In Pakistan, as in many developing democracies, politicians primarily learn about citizen preferences through direct contact. The citizens they come into contact with are not representative of the population. This leads to politicians having inaccurate beliefs about what citizens care about. Contact is unrepresentative along many dimensions, even within subpopulations defined by gender and partisanship. Politicians' beliefs about men, for instance, are inaccurate on a similar level to beliefs about women because they are contacted by unrepresentative samples of both genders. Increased contact with an unrepresentative group of citizens does not lead to more *accurate* beliefs, but does lead to more *precise* beliefs. Consequently, since politicians come into contact with more men than women, they are relatively more confident in their beliefs about men.

I argue that politicians' responsiveness to new information about citizen preferences depends, among other factors, on the nature of their prior beliefs. Inaccurate prior beliefs imply that politicians update their beliefs in response to new information. This belief updating translates into a shift in behavior towards citizens preferences to the extent that politicians care about citizen preferences. The precision of beliefs also matters: belief updating and hence responsiveness is higher when politicians are less confident in their beliefs. This implies that politicians are expected to respond more to the preferences of women compared to those of men.

Using both voter and politician surveys, I first examine the extent to which local elected representatives in Pakistan - a developing democracy with competitive elections - possess accurate information about citizen preferences. My sample includes 653 local politicians and 4,578 voters across 89 Union Councils in the metropolitan city of Lahore. My first result is that politicians have highly inaccurate beliefs about citizen preferences and high demand for more information on citizen preferences. Politicians are only able to correctly guess which one of two policies is preferred by the majority 59 percent of the time. This is not much better than a random guesser who would correctly guess about half the time. I also introduce an original measure of accuracy that allows for more fine-grained comparisons to a random guessing benchmark across issues. When asked what citizens prefer, politicians score an average of 15 on this measure, which is far closer to the random guessing benchmark (0) than to perfect accuracy (100). This low level of accuracy is accompanied by a high demand for information: two-thirds (67%) of politicians signed up for a report about citizen preferences and customized it to their liking. This indicates that politicians do value information about citizen preferences.

Beliefs about local issues such as drainage and piped water are significantly more accurate, compared to beliefs about issues such as unemployment and infrastructure projects that are under the jurisdiction of higher levels of government. This may be because these politicians deal with local issues on a more regular basis. Politicians who face a more direct electoral link with voters are not more accurate than those who face a less direct link. Beliefs about the preferences of men versus women and about the supporters of their own party versus the general population are inaccurate to a similar extent. Despite being equally inaccurate about both men and women, politicians are thrice as likely to state that they know more about the preferences of men than women.

By conducting a field experiment in partnership with the second-largest political party in Pakistan, I test the conditions under which politicians respond to citizen preferences.[1] 653 local elected politicians belonging to the PML-N are randomized into receiving accurate information on citizen preferences in their national assembly constituency. Treatment politicians are further cross-randomized into receiving the preferences of (i) men only, women only or both men and women, and (ii) the supporters of their own party only or voting age citizens in general. Each treatment politician receives information on six out of nine issues while control politicians do not receive any information. This design allows me to estimate effects at the politician-issue level.[2]

Measuring responsiveness is challenging. Existing measures are either inapplicable in my context or inappropriate for deriving causal estimates at the politician-issue level.[3] My qualitative fieldwork

[1] I also estimate how receiving information on citizen preferences affects demand for information. I find that treatment increases politicians' demand for information, but only along dimensions that they do not consider important in the absence of treatment. Due to space constraints, I show the results in Appendix B.11

[2] In terms of my approach to estimation, this means that my dataset contains 9 observations for each politician. Treatment is assigned both at the politician level and at the issue level within politician.

[3] These measures include legislative voting (Butler and Nickerson, 2011), introduction of local policies (Callen

shows that local politicians primarily influence outcomes at both the local and higher levels by making recommendations to their party leadership. Under the status quo, recommendations are made on a frequent but informal basis. I partner with the PML-N to develop a formal "policy recommendation mechanism". Under this mechanism, the party sends its elected local politicians an official letter soliciting their recommendations and promises to use these recommendations in policymaking, hence ensuring that the stakes are real. Politicians make these recommendations in the form of a letter that is signed and sealed by the politicians themselves, hence ensuring that the outcome data is not observed by the person delivering treatment. To further account for the possibility of demand effects and to observe the longevity of effects, a random sub-sample of politicians receive an additional phone call on behalf of the party asking for their recommendations, a few days after the initial visit.

My second result is that politicians are responsive to citizen preferences. When presented with data on citizen preferences, they are 7.6 percentage points more likely to recommend the policies supported by the majority of citizens. This is a 14.5 percent improvement over the control group in which 52.5 percent of recommendations are in line with the majority's preference. Recommendations elicited by a party representative on the phone a few days after treatment are very similar to the recommendations elicited on the day of treatment.

Third, based on an analysis of heterogenous effects by politician type, I find that greater re-election incentives lead to greater responsiveness. Politicians who face a direct link with voters by virtue of being elected on a ward member or union council chair position are significantly more responsive than politicians who face a less direct link with voters, including appointed women councilors and union council vice chairs who run on a joint ticket with the chair.

The final two results are based on effects of sub-treatments under which politicians are provided with information on the preferences of particular subgroups. Both these results are causally identified since sub-treatments were randomly assigned. My fourth result is that politicians are not more responsive to the preferences of their own party's supporters versus the electorate at large. This is a weak test of discrimination towards the party's supporters, since the electorate at large also includes the party's supporters.

My fifth result is that politicians are nearly twice as responsive to the preferences of women compared to men. When presented with data on women's preferences, politicians are 10.9 percentage points more likely to recommend the policy supported by the majority, which is a 20.8 percent increase over the control mean. When presented with data on men's preferences, the corresponding increase is 5.8 percentage points, which is an 11.0 percent increase over the control mean.

et al., 2018; Tausanovitch and Warshaw, 2014) and responses to requests in audit experiments (see Costa (2017) for a metaanalysis of such studies in the United States).

This result is consistent with my model in which politicians respond more to women's preferences because their priors about women are less precise. I provide suggestive evidence for this channel using survey responses showing that politicians are three times as likely to state that they know the preferences of men better than they are to state that they know the preferences of women better. I rule out several other potential explanations. Politician beliefs about women are not less accurate, and politicians do not believe that responding to women might provide greater electoral returns or that the party expects greater responsiveness towards women.

These results indicate that politicians' inaccurate beliefs about citizen preferences are a constraint on democratic accountability. This constraint is further shaped by the gendered pattern of political contact in Pakistan, which leads politicians to become overconfident in their beliefs about men. These findings explain why politicians do not exert greater effort to acquire better information about citizen preferences when they value this information and are responsive to it. They believe they do not need more information about men, and social norms prevent them from acquiring more information about women.[4] A key implication is that returns to the removal of constraints to women's political participation can be quite high.[5]

This paper contributes to three main strands of literature. First, it makes a contribution to the rich literature on electoral accountability in developing democracies. This contribution is an empirical test of the idea discussed by Grossman et al. (2014, 2019) and others that politicians learning about voter preferences may improve outcomes for citizens, beyond the ways in which voters learning about politicians can. A large literature has somewhat conflicting findings about whether voters learning about politicians may or may not result in improved democratic accountability (Banerjee et al., 2011; Wantchekon, 2003; Fujiwara and Wantchekon, 2013; Dunning et al., 2019). More recent work examines that the effects of improved information may be enhanced when the issue is salient for voters (Boas et al., 2019) or when the sanctioning mechanism is more explicit or salient for politicians (Grossman and Michelitch, 2018; Banerjee et al., 2019). This paper complements these studies by showing that part of the distance between politician actions and citizen preferences can be bridged simply by providing politicians with better information about citizen preferences.

Second, this paper contributes to the literature on politician knowledge and responsiveness. In the United States, Butler and Nickerson (2011) find that providing legislators with public opinion data moves their voting behavior on a highly salient issue. A related set of papers including Miller and Stokes (1963) and Tausanovitch and Warshaw (2014) study responsiveness by observ-

[4] I document the high relative costs of engaging with women in a separate paper, which shows that political workers do not increase their campaign effort on women when the party monitors their effort, but do increase their effort on men (Liaqat, 2019)

[5] In a separate paper, I show that constraints to women's individual mobilization can be removed through non-partisan campaigns (Cheema et al., 2019)

ing correlations between enacted policies and public opinion data. Malesky et al. (2019) provide causal evidence on this question in an authoritarian context by showing that legislators in Vietnam respond to constituent preferences in aspects of their behavior in legislative sessions. This paper complements these studies by providing the causal measure of responsiveness to citizen preferences in a developing democracy. It also provides causal estimates for responsiveness to the preferences of different groups of citizens on different types of issues. While the above have been shown in audit studies of responsiveness to messages from constituents (Gaikwad and Nellis, 2018; Bussell, 2019; Bergan, 2009), this paper is the first to show responsiveness of politicians to the *average* citizen preferences of various subgroups.

Finally, this paper makes a methodological contribution to a nascent literature studying the consequences of beliefs outside the laboratory with an elite population in a realistic setting. Most studies involving belief elicitation take place in the laboratory (Schotter and Trevino, 2014) which has considerable costs in terms of ecological validity and the representativeness of subject pools. Many studies of responsiveness, on the other hand, are not able to capture elite beliefs. This paper joins a new set of papers including Hjort et al. (2019), Banuri et al. (2017) and Vivalt and Coville (2017) that capture policymakers' beliefs in a realistic setting and examine the relationship between these beliefs and behavior. It advances this literature by being among the first papers to study how prior beliefs shape policymakers' responsiveness to citizen preferences.

The rest of this paper proceeds as follows. In Section 2, I introduce my theory of politician information and responsiveness and set up a stylized model to formally state my theoretical predictions. In Section 3, I present relevant contextual details. In Section 4, I describe the data on citizen preferences and politician beliefs as well as the experimental design. In Section 5, I present results on the accuracy of politicians' beliefs and politician responsiveness to citizen preferences before concluding in Section 6.

2 A Theory of Politician Information & Responsiveness

Does information about citizen preferences affect the decisions that politicians make? The answer to this question depends on (i) how accurate and precise their prior beliefs about citizen preferences are and (ii) the extent to which they care about these preferences. In section 2.1, I describe the informational environment of politicians that determines how accurate and precise politicians' prior beliefs are and how they respond to new information. In section 2.2, I develop a simple model of belief updating to show how the informational environment and politician incentives affect the extent to which politicians respond to citizen preferences.

2.1 The Information Environment of Local Politicians

Politicians do not have perfect information about the policy preferences of their constituents and must form beliefs about what citizens care about through the imperfect information that they possess. To understand the beliefs of local politicians in Pakistan about what citizens prefer, we must consider the duality of their role. Their first role is that of elected representatives and the second is that of workers or brokers in a party machine that is at times clientelistic. Pakistani local politicians share this characteristic with politicians in other clientelistic democracies (Novaes, 2014).

Studies on the information environment of legislators in the United States (Miller and Stokes, 1963; Fenno, 1977) argue that knowing what citizens want is central to the role of a legislator. This aligns with the normative ideal of a delegate who acts in line with citizen preferences as opposed to a trustee who acts according to his own better judgment (Fox and Shotts, 2009). Yet, recent studies show that legislators (Broockman and Skovron, 2018) and congressional aides (Hertel-Fernandez et al., 2019) in the United States have systematically biased beliefs about citizen preferences. Legislators in the United States thus do not have the resources required to act as a delegate.

Brokers in clientelistic democracies are expected to have intricate knowledge about both the partisan affiliations and service delivery preferences of voters. Under the logic of clientelism, this knowledge is used to target individual gifts or targeted local services in exchange for votes. Central to this mechanism is the ability of brokers to monitor how individuals vote (**?**Kitschelt et al., 2007; Stokes et al., 2013). The first direct tests of the ability of local brokers to predict the vote choice of their constituents have found that local leaders in India and Ghana do not have good knowledge about the partisan preferences of voters (Schneider, 2019; Brierley and Nathan, 2019). In line with these findings, recent scholarship has begun to question the centrality of this mechanism in sustaining a clientelistic equilibrium (Muñoz, 2014; Mares and Young, 2016; Hicken and Nathan, 2019).

What accounts for these systematic misperceptions by legislators in the United States and brokers in the developing world? One primary vehicle for the transmission of information about citizens' policy preferences to politicians is direct contact and closeness with constituents (Fenno, 1977; Miler, 2009). If direct contact takes place in an unrepresentative manner, it may result in politicians having biased and inaccurate beliefs about citizen preferences (Butler and Dynes, 2016). These misperceptions may partly be explained by findings that politicians are much more likely to be contacted by constituents of their own race or partisan affiliation (Broockman, 2014; Broockman and Skovron, 2018). As a result, even in the absence of clientelism, corruption, vote buying or a preference for pork-barrel spending, representatives would end up making policy decisions that are not in line with average citizen preferences.

Any misperceptions that arise as a consequence of lack of representation in direct contact are even more likely to occur in young democracies such as Pakistan where large-scale polling is not the norm

and politicians must rely on direct contact with voters for information about the policy preferences of citizens. In other work, I document evidence of skewed representation in political contact. Using an original survey of 2,150, I show that those who are in contact with politicians have markedly different characteristics compared to the average voter (Liaqat et al., 2019b). These findings cover a broad typology of contact developed through interviews with politicians and voters. The preceding argument and existing evidence thus points to my first hypothesis:

H1: Local politicians have inaccurate beliefs about citizen preferences

Do we expect beliefs about local issues to be more accurate compared to beliefs about higher-tier issues? Regardless of whether local politics in Lahore is characterized as operating under clientelism or not, we should expect local politicians to have more accurate beliefs about preferences on local issues. Under a clientelistic equilibrium, brokers are required to know what targeted local services citizens would prefer even when they are not required to know individual vote choice. The targeted service delivery that emerges as a consequence of clientelism includes local services that are excludable at a lane or neighborhood level. For instance, a streetlight benefits the residents who live on or regularly walk through that street. Similarly, water filtration plants also primarily benefit those who live in close proximity to it, given the well documented costs that are imposed by distance to a clean water source (Kremer et al., 2011; Null et al., 2012; Devoto et al., 2012). A broker who negotiates a quid-pro-quo with a group of voters in exchange for a targeted service would therefore be expected by their party's leadership to have very good information about whether the voters in the area prefer water filtration plants or street lights. Since higher-tier services are not typically excludable, they are not part of clientelistic exchanges and hence we would expect brokers to know less about citizen preferences on such services.

A prediction based only on an assumption of a clientelistic equilibrium, however, is unsatisfactory. Consistent with literature from large cities in the developing world (Weitz-Shapiro, 2012; Gottlieb, 2019), I show in other work that clientelism holds limited appeal in Lahore (Cheema et al., 2018). Parties use a variety of non-clientelistic appeals to persuade voters to vote for them, including programmatic service delivery. In employing service delivery as a tool for electoral success, it is of essence to know how a constrained budget should be spent in order to appeal to the broadest possible voter base. This is where local politicians come in: the party turns to its agents at the neighborhood level for advice on what would appeal to voters in that neighborhood. This applies not only to locally targeted services but also to higher-tier policies and services insofar as they affect the local population. In an information-poor environment with little systematic polling, party leaders turn to local leaders for information on both local and higher-tier services.

Knowing citizen preferences on these issues in a programmatic setting requires knowing what the average inclination in a given area is. To have accurate beliefs, leaders must either speak to a rep-

resentative sample of citizens about their preferences, or self-correct for the non-representativeness of the sample they are in contact with. Given both their roles as local politician and local party worker, these leaders engage with citizens more explicitly on local service delivery issues and therefore we expect them to experience more equitable representation in their interaction on local issues than higher-tier issues. Both under a potential clientelistic or programmatic equilibrium, then, we reach the following second hypothesis:

> *H2: Local politicians have more accurate beliefs about local issues compared to higher-tier issues*

Women are much less likely to be in contact with politicians compared to men. Khan (2019) shows that there are sizable gaps in the level of politicians' contact with men and women in Faisalabad, a district close to Lahore in Punjab province. Similarly, I document that political representatives in Lahore are also significantly less likely to have had contact with women (Liaqat et al., 2019b). Evidence of a gender gap in contact does not, however, necessarily imply inaccurate beliefs since interactions with a small proportion of citizens that are representative of the population is sufficient to form accurate beliefs. In the same study, I also find that controlling for citizen gender, those who contact politicians are more likely to be migrants, more social and more trusting. Furthermore, these voters are meaningfully different from others in terms of the issues they care about and how they wanted local budgets to be allocated (Liaqat et al., 2019b). These disproportionate rates of contact combined with the divergent preferences of those in contact leads to the expectation that politicians have inaccurate beliefs about both men's and women's preferences.

It is important to consider not just the first-order beliefs (how accurate politician beliefs are), but also the second-order beliefs (how accurate politicians think they are). Given that gender is a far more salient and easily observable dimension than the dimensions along which men self-select into contact, it is expected that politicians are more aware of their lower contact with women than of the fact that they speak to a non-representative sample of men. In other words, the relatively higher rates of contact may lead them to overestimate how well they know the preferences of men.

> *H3: Local politicians have inaccurate beliefs about the preferences of both women and men, but are more confident in their beliefs about men's preferences compared to women's preferences*

Political contact is often thought to privilege those who share their partisan identity with those in power. Bussell (2019) shows that targeting of local patronage in India implies the 'local blocking' of citizens who are not their co-partisans, leading to such citizens being less likely to contact local leaders. In my context, I find mixed evidence on this question. While voters who support other parties are less likely to contact PML-N politicians in Lahore, it is also the case that undecided voters are more likely to contact them compared to PML-N supporters (Liaqat et al., 2019b). It is thus likely to be the case that there are not large differences in the accuracy of politicians' knowledge about the supporters of their own party versus the population at large.

H4: Local politicians have inaccurate beliefs about the preferences of their party's supporters and the general population - and they are not differentially confident about these beliefs

The prediction of large gaps in politicians' knowledge leads to the expectation that politicians will respond to new information by adjusting their beliefs towards true citizen preferences. The extent to which they update their beliefs is expected to depend not only on the accuracy of their beliefs, but also the precision. In other words, for a given level of accuracy, politicians will update their beliefs more if they are not very confident about their prior beliefs. The extent to which updated beliefs translated into increased responsiveness will depend on the weight that politicians place on these preferences. Even in the presence of objectives that run counter to citizen interest, it remains the case that politicians' future career prospects are linked to citizens' assessments to some extent. We expect, therefore that local politicians will place some positive weight on citizen preferences, hence allowing their updated beliefs to translate into responsiveness.

By "responsiveness", I refer to the relationship between the services or policies that local politicians attempt to deliver, and signals from citizens about what services or policies they prefer. Politicians are responsive if they implement or takes action to support the service or policy that citizens prefer, conditional on having received a signal about what citizens prefer[6]. With this definition in place and given my earlier theoretical expectations about belief updating, I can now state the following central hypothesis:

H5: Local politicians are responsive to information about citizen preferences

Politicians whose incentives are tied more closely to voters are expected to be more responsive to citizen preferences. The long tradition of work on electoral accountability through the sanctioning mechanism (see e.g. Barro, 1973; Ferejohn, 1986; Austen-Smith and Banks, 1989) predicts that elections solve the moral hazard problem in that politicians exert effort to perform up to the point where they cross a re-election threshold set by voters. This theoretical literature and even subsequent complications introduced in the sanctioning framework (for a review see Ashworth, 2012) do not take into account politicians' information about what citizen prefer. Notwithstanding this omission, it follows from this literature that if a politician's incentives are tied closely with voters' evaluation of their performance, they would place a greater emphasis on the preferences of citizens when taking decisions.

H6: Local politicians whose incentives are tied directly to voters are more responsive than local politicians whose incentives are tied indirectly to voters

[6]In adopting this definition, I follow Przeworski et al. (1999) except for two important deviations. One is a devolution down to an individual politician rather than the 'government' as a whole whose responsiveness they are broadly interested in. Second, I expand their definition beyond a consideration of policies by explicitly including preferences over public services. This is because far more often than advising on policy decisions, local politicians are concerned with and have influence over the provision of public services compared to the legislators that Przeworski et al. (1999) and other defining works before them such as Miller and Stokes (1963) and Eulau and Karps (1977) study. In Section 4, I describe in detail exactly how I operationalize this definition.

Since belief updating depends both on the accuracy and precision of priors, I expect that politicians will respond more to women's preferences since they have equally inaccurate but less precise priors about women's preferences.

> *H7: Local politicians are more responsive to information about women's preferences compared to information about men's preferences*

On the other hand, given similar levels of both accuracy and precision about the beliefs of their own party's supporters versus the population in general, we expect that:

> *H8: Local politicians are equally responsive to information about the preferences of their own party's supporters and the general population*

2.2 A Simple Model of Responsiveness through Belief Updating

To formally illustrate my theoretical expectations about politician responsiveness to new information about citizen preferences, I set up a simple model of belief updating. In this model, a local politician is making a decision about what to recommend to their higher-tier party leadership on a set of issues. They can recommend that the party pursue policy M which is preferred by the majority of citizens or policy N which is not. The politician's decision depends on their beliefs about citizen preferences and on their own preferences.

2.2.1 Prior Belief Formation

The politician acquires their prior belief about citizen preferences through interactions with an unrepresentative sample of citizens. They are trying to ascertain what share of the population prefers policy M over policy N. They form their beliefs entirely through direct interactions, by taking the average of the preferences expressed to them by the citizens who contact them. I assume that politicians are not aware that the citizens who come to them are not a representative sample of the population.[7] The mean and variance of these beliefs are denoted by μ_{0g} and variance σ^2_{0g} respectively, where g indicates the group that the belief is about. For instance, the politician has separate beliefs about men and women, or about the supporters of their own party or supporters of other parties. g could also denote the entire population.

Within g, there exist two sub-groups: A that contacts politicians at a higher rate r and B that contacts politicians at a lower rate τr where $0 \leq \tau \leq 1$. Sub-group A comprises proportion a of g while sub-group B comprises the remaining $1 - a$. From the members of group A and B, $m - \beta$ and m respectively prefer policy M to policy N, with $(m - 1) \leq \beta \leq m$ without loss of generality. The politician is not able to observe sub-group membership. The preferences of each of

[7] Enke (2015) shows in a laboratory setting that such 'selection neglect' is a fairly common phenomenon. This implies that this theory does not apply to beliefs across visible ascriptive characteristics such as gender. It applies within gender categories, to beliefs about men and beliefs about women respectively.

the sub-groups approximate a normal distribution by the Central Limit Theorem since they are a sum of many independent Bernoulli trials. The mean of the politician's prior belief is the average of the two subgroup preferences weighted by their contact with the politician. Since the politician's belief is a linear combination of two independent distribution of preferences that are each normally distributed, the beliefs follow a normal distribution with the following mean:

$$\mu_{0g} = \frac{ar}{ar + (1-a)(\tau r)}(m - \beta) + \frac{(1-a)\tau r}{ar + (1-a)(\tau r)}(m) \tag{1}$$

In comparison, the true proportion is:

$$\theta_{0g} = (a)(m - \beta) + (1-a)(m) \tag{2}$$

This leads to the following linear distance between true preferences and prior beliefs:

$$dist_{0g} = \frac{a\beta(a-1)(\tau-1)}{\tau a - \tau - a} \tag{3}$$

In the absence of any divergence in preference ($\beta = 0$), contact rates ($\tau = 1$), or grouping ($a = 0, 1$), the distance equals zero. The absolute rate of contact (r) does not enter into the expression for $dist_{0g}$ and therefore does not affect the accuracy of the prior. Similar to any sampling process from the same population, however, more contact implies that the mean belief is more precise. Whether the politician overestimates or underestimates support for the popular policy M depends on whether β is positive or negative. β is negative when the high contact group A supports the policy M more than the low contact group B, and is positive in the opposite case. A negative β implies a positive distance which corresponds to the politician overestimating support for policy M because they interacted disproportionately with group A that supports policy M more. A positive β implies the opposite. The extent to which the politician's belief is inaccurate depends on the extent to which the sample is representative (τ) and the extent to which preferences diverge (β):

Proposition 1a: Beliefs become less accurate with rising divergence in preferences. $\partial dist_{0g}/\partial\beta = a(a-1)(\tau-1)/(\tau a - a - \tau) < 0$. *Case 1:* $\beta < 0$. *A decrease in* β *implies higher divergence in preferences and an increase in the positive distance, hence less accurate beliefs. Case 2:* $\beta > 0$. *An increase in* β *implies higher divergence in preferences and a decrease in the negative distance, hence less accurate beliefs.*

Proposition 1b: Beliefs become less accurate with rising divergence in contact rates. $\partial dist_{0g}/\partial\tau = a\beta(a-1)/(\tau a - a - \tau)^2$. *Case 1:* $\beta < 0 \implies \partial dist_{0g}/\partial\tau < 0$. *Distance is positive (underestimate) and decreasing, which implies higher accuracy as* τ *increases. Case 2:* $\beta > 0 \implies \partial dist_{0g}/\partial\tau > 0$. *Distance is negative (overestimate) and increasing, which implies higher accuracy as* τ *increases.*

This simple setup shows that it is possible for politicians to end up with inaccurate beliefs by coming into contact with an unrepresentative sample of citizens, regardless of the number of citizens they

contact.

2.2.2 Belief Updating

In this model, when the politician receives an external shock to their prior beliefs about citizen preferences, they update their beliefs using Bayes' rule. Assuming that this external data is obtained using a representative survey of citizens, it is distributed as:

$$p_g(\mu_{Dg}|\mu_{0g}) \sim \mathcal{N}(\mu_{Dg}, \sigma^2_{Dg}) \tag{4}$$

If the prior and likelihood are both normally distributed as above, then the normal prior acts as a conjugate prior and the posterior is also normally distributed as follows:

$$p_g(\mu_{1g}|\mu_{Dg}) \sim \mathcal{N}(\mu_{1g}, \sigma^2_{1g}) \tag{5}$$

where

$$\mu_{1g} = \frac{\sigma^2_{Dg}\mu_{0g} + \sigma^2_{0g}\mu_{Dg}}{\sigma^2_{Dg} + \sigma^2_{0g}} \tag{6}$$

and

$$\sigma^2_{1g} = \frac{\sigma^2_{Dg}\sigma^2_{0g}}{\sigma^2_{Dg} + \sigma^2_{0g}} \tag{7}$$

The politician uses these posterior beliefs to decide which of two policy options to recommend to their higher tier leadership on a given issue. The policy that is in fact preferred by a majority is denoted M while the other option is denoted N. The politician's propensity to recommend policy M is increasing in his expected utility from recommending policy M, which can be characterized as:

$$EU_M = \alpha(\mathbb{1}[\sum_{g \in G}(\gamma_g(P_g(\mu_{1g}|\mu_{Dg}))) > 0.5]) + (1-\alpha)(z) \tag{8}$$

where γ_g is the weight the politician assigns to the preferences of those in group g, with $\sum_g(\gamma_g) = 1$. G could include various ways of dividing the population, but the two most relevant for this paper are gender and partisanship. P_g is the cumulative distribution function of the posterior beliefs about group g evaluated at 0.5, thus indicating the posterior probability that a majority of group g supports policy M. The politician derives utility z from a range of factors other than representing citizen preferences. These could include self-interest that runs counter to citizen interest (e.g. corruption), self-interest that is in line with citizen interest (believing that citizens do not know what is good for them but will realize later and will vote for the politician) or benevolence (doing what the politician thinks is right regardless of whether citizens will vote for the politician or not). Finally, α and $1-\alpha$ are the weights assigned to citizen preferences and z respectively.

I now analyze how changes in the prior mean and variance affect responsiveness. Doing so requires

evaluating the difference between the cumulative density function (CDF) of the prior and posterior distributions at 0.5. Since the CDF of the normal distribution does not have a general closed form solution, an analytical solution is not possible. I turn instead to simulations. Fixing $\mu_{Dg} = 75$ and $\sigma_{Dg} = 10$, I vary μ_{0g} and σ_{0g} to observe how updating varies by the first two moments of the prior distribution. Specifically, I am interested in the difference in the value of the prior and posterior CDF evaluated at 0.5, which is plotted on the y-axis in the Figures 1

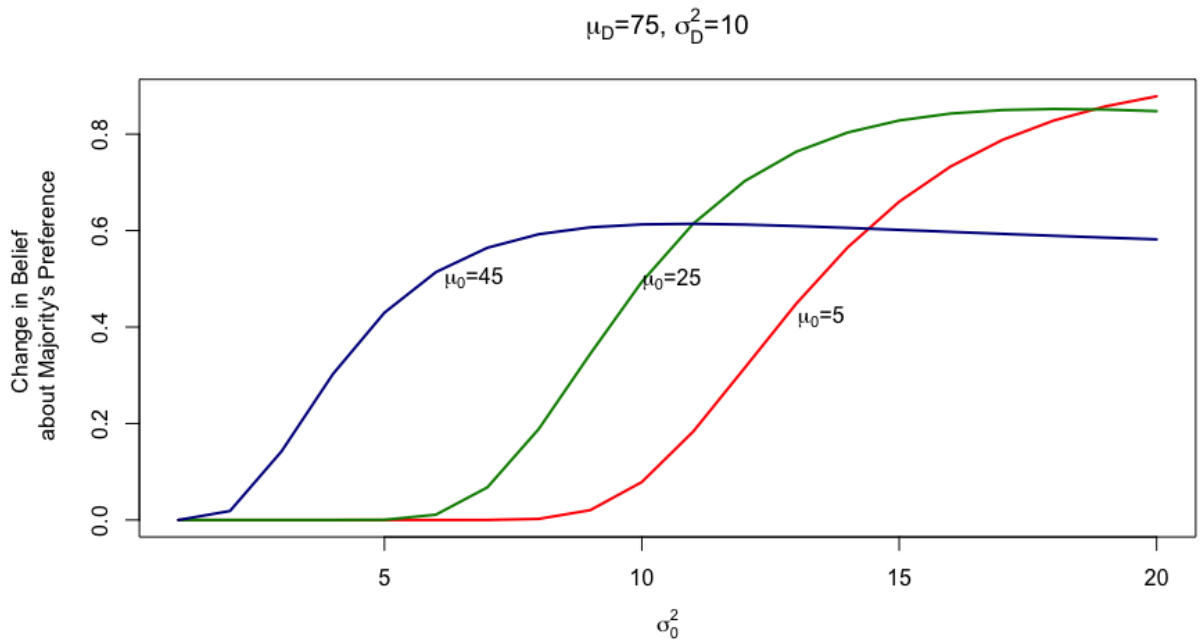
I find that in general, in both the overestimation and underestimation case, belief updating is positive. Secondly, updating (y-axis) generally increases with the imprecision of prior beliefs (x-axis). The curve corresponding to $\mu_0 = 45$ in Figure 1a shows, however, that updating can also decrease with an increase in σ_0^2. The intuition behind this is that as σ_0^2 increases, an increasing proportion of the prior distribution travels beyond the 0.5 threshold but with almost all of the posterior distribution lying beyond 0.5 already, there is a ceiling effect on updating. Hence, marginal responsiveness becomes slightly negative. This is only the case for priors with means very close to 0.5 or very high standard deviations. Third, updating is generally higher when the prior mean is closer to the 0.5 threshold, barring ceiling effects that come into play for less precise priors.

These simulations indicate my theoretical expectations about how politicians are expected to respond to new information about the preferences of citizens. First, I expect that politicians will update their beliefs and respond to new information. Second, they will do so even if the mean of their prior beliefs is accurate, as long as their prior belief is not very precise. Third, politicians are expected to respond more to new information when their prior beliefs are less precise. In particular, I expect them to respond more to women's preferences compared to men's preferences, because the standard deviation of prior beliefs is expected to be higher for women.

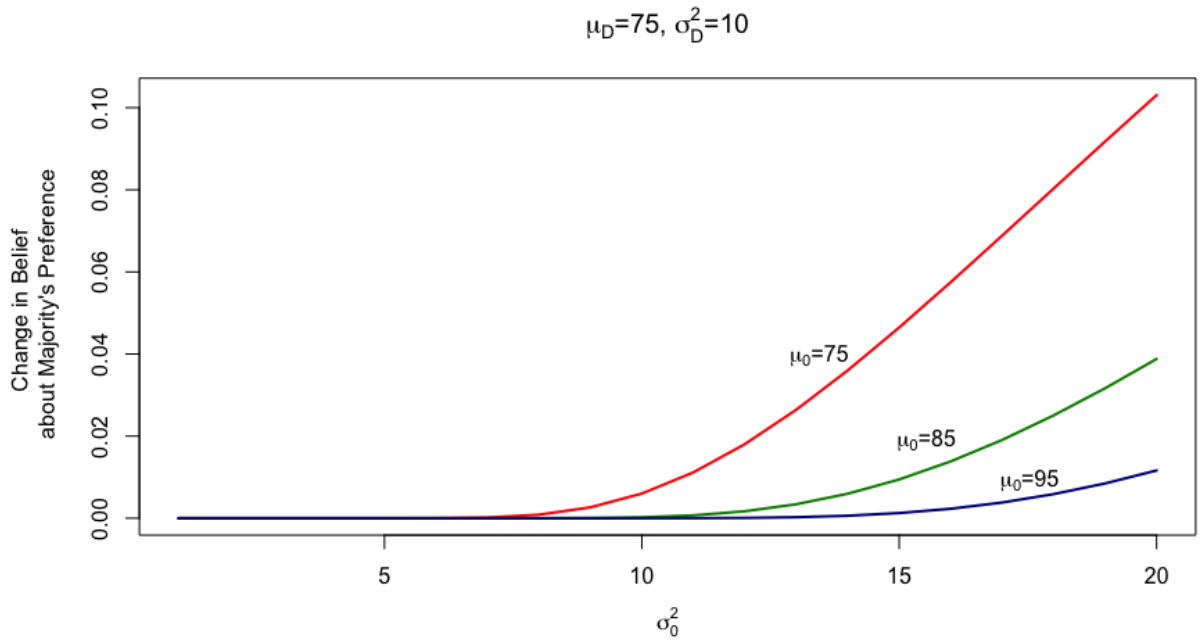
3 Context: Local Politicians in Lahore

In this section, I describe relevant details about the context that inform the research design and the interpretation of my findings. This study is based in Lahore, a mid-income metropolitan city which is the capital of the Punjab province in Pakistan and the 9th most populous city in the world. Local elections in Lahore take place at the level of the Union Council (UC) and the ward within the UC. There are a total of 274 UCs in Lahore which contains 6 wards each. The sample for this study consists of elected representatives in 89 geographically contiguous UCs, serving in the main four main elected positions at the UC level.[8] These positions are (i) directly elected politicians at the ward level known as 'Ward Councilors', (ii) directly elected Union Council chairpersons, (iii) Union Council vice-chairpersons on a joint ticket with the chairperson and (iv) woman councilors appointed on reserved seats by the party. The politicians in the first three categories are almost all men. Even though there is no such legal requirement, parties tend to award tickets for directly

[8] The study location was deliberately chosen to exclude areas close to the Indian border and high income residential societies where local government has limited responsibility.



(a) Updating with Underestimated Prior



(b) Updating with Overestimated Prior

Figure 1: Simulated Belief Updating

positions to men, using the reserved seats for women in every Union Council as an excuse to deny these positions to women.

Politicians in the first two categories (Ward Councilors and UC chairpersons) face a direct re-election incentive, while the incentives for the last two categories of politicians are tied less directly to voters. Much like the candidates for Vice-President in the United States, the career prospects for UC vice-chairpersons depend upon the preferences of the main ticket-holder.[9] Similarly, candidates for women councilors are appointed by each party at the union council level, and whether one or both reserved positions for women councilors go to a party is determined by the party's vote share for the UC chairperson candidate.

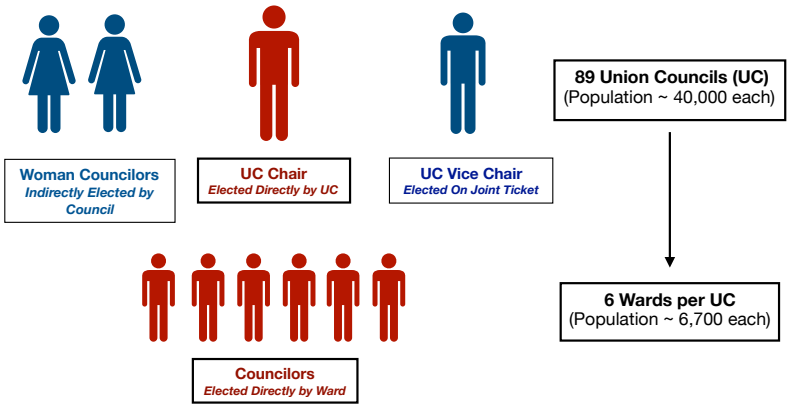


Figure 2: Structure of Union Councils in Lahore

Local politicians influence outcomes for citizens in two main ways: by directly influencing the provision of local services and by transmitting recommendations to higher tier politicians.[10] Direct influence over the provision of local services is not the primary way in which local politicians influence outcomes. This is because Union Councils receive a limited discretionary budget and often depend upon resource allocation decisions that are taken at higher levels. Second, while local politicians have *de jure* jurisdiction and decision making power over a range of local service delivery issues, the bureaucracy involved in delivering these services is often highly centralized. This implies that local politicians must channel their agenda through higher tiers of political leadership who are

[9] Devine and Kopko (2013) find that Vice-Presidential candidates in the US are not even able to affect the outcome of their home state in presidential elections in the United States

[10] Since local elections are partisan, there are often close connections between local and higher-level politicians within a given area. I show in other work that voters recognize these connections and consider them important in their voting decisions (Liaqat et al., 2019a)

the counterparts of senior bureaucrats at the provincial secretary level.

In cases where direct decisions made by local politicians are consequential for citizen welfare, it is empirically hard to isolate responsiveness at the individual politician level. These decisions are subject to group decision making processes within the Union Council, the political vision of the party in general, and a range of logistical and bureaucratic hurdles. An observed outcome cannot be cleanly attributed to an individual politician. The literature on responsiveness in the United States municipalities suffers from the same empirical issue (see e.g. Tausanovitch and Warshaw, 2014). My method of operationalizing responsiveness described in the next section provides a way of identifying an individual politician's responsiveness on a given issue.

The second, and more dominant, way in which local politicians influence outcomes for citizens is by transmitting their recommendations to a higher-tier decision maker. This is an important function that local politicians play within their party machine. These recommendations may be about (i) local services that are provided by local government but where some consequential decisions are taken at a higher tier or about (ii) public services or policies that are under the jurisdiction of higher tiers of government but where the decision making process is informed by the views of local politicians.[11] In the status quo, local politicians transmit their preferences to higher tier politicians in an informal manner through communication with the parliamentarians in their area or at party meetings or summits. In my sample, two-thirds of local politicians had met their area's parliamentarian to make recommendations at least once in the previous month and almost all had such meetings with their area's parliamentarian in the year leading up to the survey.

4 Data & Experimental Design

To test whether politician information is a constraint on democratic accountability, I first estimate how accurate politician beliefs about citizen preferences are, and then randomly provide politicians with accurate information on citizen preferences to test how politicians respond. The estimate of accuracy is based on comparisons between directly elicited citizen preferences and politician beliefs about these preferences, allowing me to test hypotheses 1-4. Next, to test whether politicians respond to citizen preferences, I partner with the second-largest political party in Pakistan to operationalize responsiveness as local politicians' high-stakes recommendations to their higher tier party leadership. Under this design, I experimentally provide local politicians accurate data on the preferences of citizens from sub-populations and observe effects on their recommendations to test hypotheses 5-8.

[11] These higher-tier decisions may be taken by a higher tier politician (such as the Chief Minister of Punjab or the the Minister of a particular provincial department) or a political body (such as the national or provincial parliament or the political party's executive committee). Anecdotal pictorial evidence of these two ways in which local politicians influence outcomes are presented in Appendix E

4.1 Citizen Preferences

As the first step in testing how well politicians know citizen preferences, I gather data on what citizens prefer on nine local and higher tier issues. These include three local service trade-offs and six higher-tier service or policy trade-offs. I pick these issues based on what citizens identify as issues that matter to them in a baseline survey.[12] The data comes from original surveys with 4,578 randomly selected voters living across 458 wards in 86 Union Councils, within the boundaries of 4 National Assembly constituencies in Lahore.[13] Each of the nine issues are coded as binary choices. I aggregate citizen preferences to the level of the National Assembly. Within each National Assembly, I also calculate the preferences of six sub-populations: (i) entire sample, (ii) all men in the sample, (iii) all women in the sample, (iv) supporters of PML-N, (v) men who support PML-N and (vi) women who support PML-N. For instance, on the local issue of solid waste versus drainage, a citizen's choice is coded as a binary variable for whether they think solid waste is a bigger issue or drainage is a bigger issue. These preferences are aggregated in the way described above, giving percentages of respondents in each of the six subpopulations who think solid waste or drainage is a bigger issue.

4.2 Politician Beliefs

Using original surveys with 653 local politicians elected from the same Union Councils, I estimate how accurate politicians are about citizen preferences. Each politician is asked what citizens in their National Assembly constituency prefer on each of the nine issues. To test whether beliefs are differentially accurate by the gender or partisan affiliation of citizens, I randomize which one of the six sub-populations each politicians is asked about. For instance, a politician randomized into being asked about the preferences of men in their National Assembly constituency is asked questions of the following form: "In your opinion, what proportion of men in your National Assembly constituency stated that solid waste is a bigger issue than drainage?" Politician beliefs are thus measured on a 0-100 scale, denoting the politician's belief about the percentage of citizens who stated that, for instance, solid waste is a bigger issue than drainage. Citizen preferences are also on the same 0-100 scale, denoting the actual percentage of respondents in that sub-population who stated that solid waste is a bigger issue than drainage.

I construct several measures to compare politician beliefs to aggregate citizen preferences. I start by calculating the simple linear and quadratic distances between politician beliefs and citizen preferences on sub-population i about policy issue j as follows:

$$distance_{ij} = belief_{ij} - truth_{ij} \tag{9}$$

$$distance.sq_{ij} = (belief_{ij} - truth_{ij})^2 \tag{10}$$

[12] One of the issues is an exception to this rule - a Punjab government scheme to provide subsidized motorbikes to women. All nine issues are listed in Appendix C.1

[13] I describe the sampling strategy in Appendix C.2

The linear distance penalizes each marginal deviation from the truth equally, while the quadratic distance penalizes each marginal deviation to a greater extent. These distance are not satisfactory measures of accuracy for two reasons. First, the maximum possible distance between politician beliefs and citizen preferences depends on the actual citizen preferences. If 40 percent of respondents in a sub-population think solid waste is a bigger issue than drainage, the maximum possible distance between these preferences and politician beliefs is 60 - which would occur if the politician stated that 100 percent of respondents think drainage is a bigger issue than solid waste. On the other hand, if 0 percent of respondents in a sub-population think solid waste is a bigger issue, the maximum possible distance is 100. The second reason why a simple distance is not a good measure of accuracy is that it does not provide us with a benchmark against which to adjudicate the accuracy of beliefs.

I introduce a novel measure of belief accuracy that solves both these problems. This measure normalizes the simple linear distance between politicians' beliefs and citizen preferences by the average distance between the true preferences and a randomly thrown dart k on the one dimensional 0-100 number line, when n such darts are thrown. This denominator ranges from 25 to 50. The lowest value of 25 occurs when the 'true' proportion is at 50 percent, and the highest value of 50 occurs when the 'true' proportion is at either of the two extremes of 0 or 100. This original measure of accuracy can be expressed as:

$$accuracy_{ij} = 100 - (\frac{distance_{ij}}{(\sum_{k=1}^{n} dart_k - truth_j)/n} * 100) \tag{11}$$

An accuracy score of 100 means that the belief about citizen preferences is perfectly accurate. An accuracy score of 0 means that the belief is only as accurate as a random dart thrown on the number line, while a negative accuracy score means that the belief is less accurate compared to the random dart.

4.3 Experimental Design

In partnership with the PML-N, the second-largest political party in Pakistan, I design and implement a field experiment to test how local politicians respond to data about citizen preferences. The experimental intervention involves providing politicians with accurate data on citizen preferences, with sub-treatments designed to test whether politicians respond differently to men's preferences versus women's preferences or the preferences of their party's supporters versus the general population. This experiment allows me to test hypotheses 4-6 listed in Section 2.2, relating to politician responsiveness to citizen preferences.

4.3.1 Two-stage Randomization

In the first stage, sample politicians are randomized into a control group or one of six treatment groups. This randomization is blocked on the National Assembly constituency the politician's UC is

situated in, and the position the politician serves in. Politicians placed in each of the six treatment groups receive the preferences of a different subpopulation.[14] In the second stage, I randomize the six issues on which each treatment politician receives information. I block this randomization on three issue categories, such that treatment politicians always receive data on two out of three issues within each of the three issue categories. This design yields 9 observations for each politician. For treatment politicians, 6 of these are treatment observations and 3 are within-treatment controls. For control politicians, all 9 are control observations.

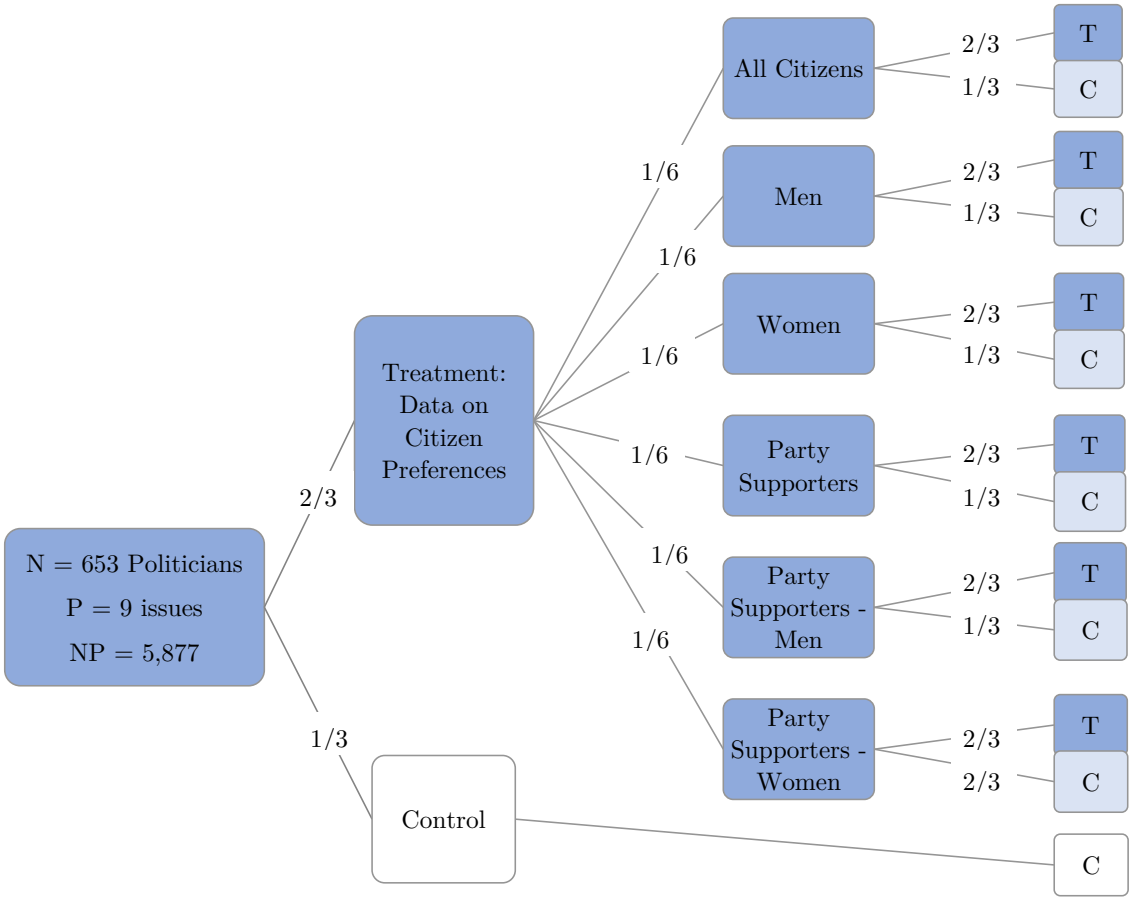


Figure 3: Two-Stage Randomization Design

4.3.2 Treatment: Data on Citizen Preferences

The experimental treatment involves providing politicians with a report on what citizens in their National Assembly constituency prefer. This report is provided during an in-person visit by a member of the research team, who explains both the data gathering process and the summary statistics included in the report. Appendix C shows such a sample report. The reports are customized for

[14] Table B2 in the appendix shows that the randomization achieved balance.

each politician based on data gathered through random surveys of 4,578 voters. This treatment mimics what a preference gathering exercise by the politician may look like.

4.3.3 Outcomes

The primary outcome of interest is politicians' policy recommendations to their party's higher-tier leadership. In order to credibly implement this outcome measure, I develop a partnership with the Pakistan Muslim League - Nawaz to create a formal "policy recommendation mechanism". This partnership is borne out of the desire within the party to develop better informational channels. Under this mechanism, the party leadership issues a letter to their party's local elected representatives in Lahore, asking them to make recommendations on each of the policy issues in question and stating that they will take these recommendations into account when making decisions. Politicians make these recommendations on a pre-formatted recommendation letter by indicating their preferred choice on a set of nine issues. Making each choice involves a trade-off between two options. Importantly, they make these recommendations in private and hand over their filled recommendation form in a sealed envelope. The party seeks local politicians' recommendations on both local and higher-tier issues. This mimics the status quo under which local politicians not only influence outcomes in their *de jure* role of local services, they also engage with the party leadership on higher-level services and policy.

This main outcome variable is carefully designed to capture a signal of policy support from the politicians that is consequential for future policy decisions taken by the party leadership. Despite these design features, however, the policy recommendations are a step removed from direct outcomes observed in the real world. This raises the question of how well these recommendations correlate with even higher stakes decisions taken by local politicians in the past on local issues. To answer this question, I show in Table B1 in the appendix that the recommendations on local issues are correlated with budgetary allocations made by local politicians in the past. To test robustness to a recommendation elicitation mechanism that does not take place in the same meeting, a random subset of politicians are asked for their recommendations a few days after the meeting, on the phone. This alternate measure is deployed to assuage potential concerns of experimenter demand effect given that the recommendation forms are filled by local politicians in the same meeting during which those in treatment are presented with data on citizen preferences. These phone calls are made a few days after treatment, on behalf of the party's district leadership. Recommendations elicited using both these mechanisms are very similar, as shown in the results section.

5 Results: Politician Beliefs and Responsiveness

In this section, I present results on the accuracy of politicians' beliefs about citizen preferences and the responsiveness of politicians to information about citizen preferences. Section 5.1 shows that citizen preferences follow expected patterns and Section 5.2 shows that local politicians hold

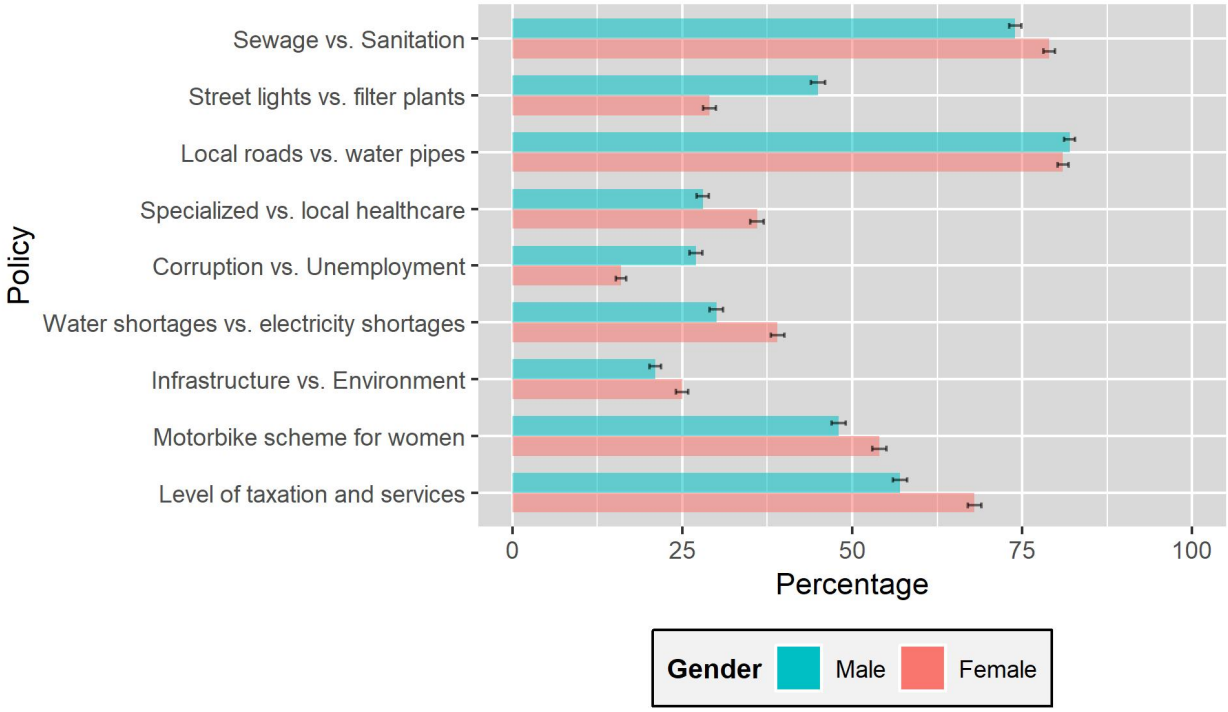
highly inaccurate beliefs about these preferences. Section 5.3 shows that politicians are responsive to new information about citizen preferences. Section 5.4 explores differential responsiveness by sub-treatments, politician types and issue types, showing that politicians respond significantly more to women's preferences compared to men's preferences. Section 5.5 provides evidence consistent with the theory that higher responsiveness to women's preferences is driven by less confidence in prior beliefs about women.

5.1 Citizen Preferences

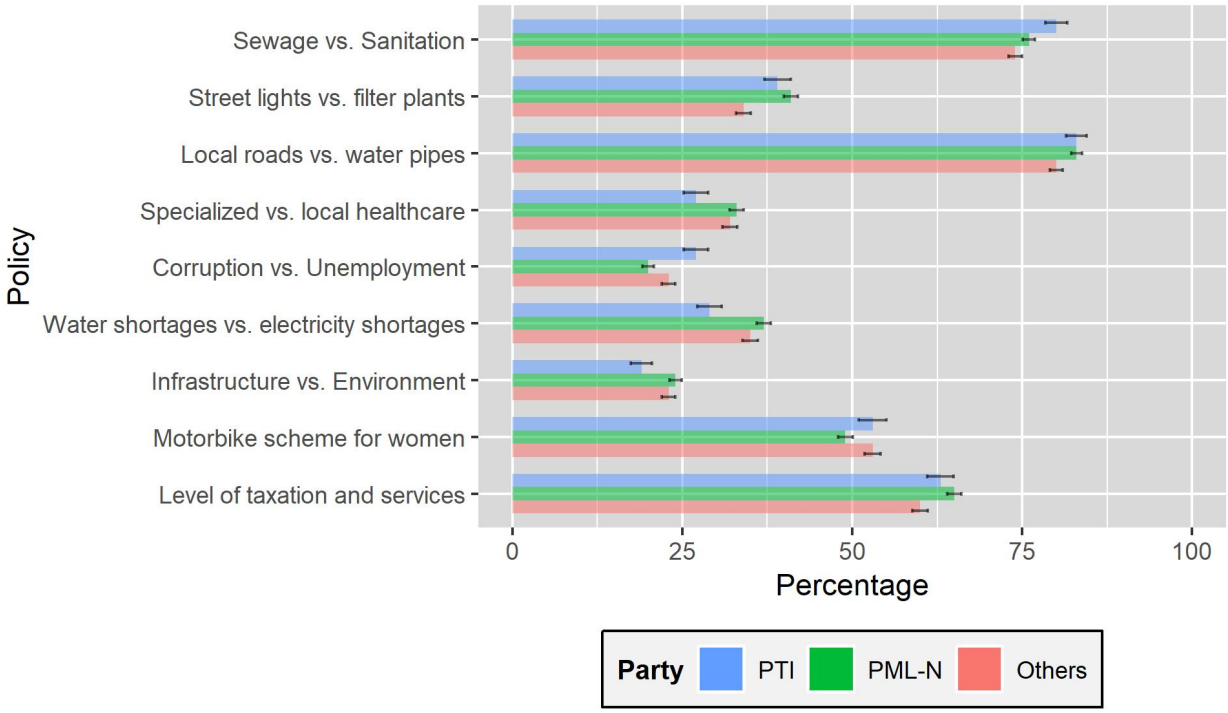
The partisan differences in preferences are small but statistically significant. The gender differences are larger, in line with expectations from the literature. Some of the issues being considered in this study show a high degree of polarization in public opinion, while others show fairly broad agreement. Given that these issues are framed as trade-offs or binary choices, polarization is indicated by how close the aggregated citizen preferences are to 50 percent. The most polarizing issue is that of whether women should be given subsidized motorbikes by the Government of Punjab, under a program known as "Women on Wheels", where overall support for the program is very close to 50 percent. The least polarizing issue is whether the supply of piped water or local roads is a bigger issue at the local level. More than 80 percent of respondents indicate that the supply of piped water is a bigger issue. This is likely a result of the large number of road projects undertaken in Lahore in the previous two tenures of the PML-N led Government of Punjab and the significantly higher quality of current road infrastructure compared to water infrastructure.

How different are the preferences of men and women? The answer to these varies considerably given the issue under consideration, as shown in Figure 4a. The smallest gender differential in preferences exists on the least polarizing issue: water supply versus local roads. The biggest gender differential is seen on the issue of whether street lights or water filtration plants are a bigger issue at the local level. Close to 45 percent of men as opposed to less than 30 percent of women prioritize street lights. The greater prioritization of drinking water among women is consistent with previous evidence from a similar context. Khan (2017) demonstrates that women in Faisalabad district in Punjab show a much higher preference for drinking water than men even though they are not usually responsible for actually carrying water. She argues that this gender differential in preferences in arises due to the greater burden of care that falls upon women when a child falls sick due to water-borne diseases.

Are preferences for these issues defined along partisan lines? Figure 4b shows that this is rarely the case. The largest difference in preferences between supporters of the two main parties PML-N and PTI is less than 10 percentage points. The two issues on which the largest differentials are seen are national level issues. The first is whether corruption or unemployment is a bigger national issue, and the second is whether water shortages or electricity shortages are a bigger national issue. PTI supporters are 7-8 percentage points more likely to indicate that corruption is a bigger issue, which is expected given that anti-corruption has been the main campaign slogan of the PTI since



(a) By Gender



(b) By Partisan Support

Figure 4: Citizen Preferences

its inception.

5.2 Accuracy of Politician Beliefs

This sub-section shows that politician beliefs about citizen preferences are highly inaccurate - but that their beliefs are significantly more accurate on local issues compared to higher tier issues. Politicians are equally inaccurate about men and women, and about the supporters of their own party versus the general population. This suggests that there is substantial potential for improvements in politicians' existing information about citizen preferences.

Politicians' beliefs about citizen preferences are not much more accurate than a random guessing benchmark. Politicians are only correct about which of two policies the majority prefers 59% of the time, which is only marginally better than the random guesser who would guess correctly half of the time. As shown in Panel A of Table 1, politicians score an average of 15 on the accuracy score introduced in equation 11. This score is far closer to the random guess benchmark (0) than complete accuracy (100). Politicians' beliefs are on average 25 percentage points away from citizen preferences on a 0-100 scale. Figure A2 in the appendix plots the raw data on politician beliefs against citizen preferences as visual evidence of how stark the information gap is. This shows that politicians do not know enough about citizen preferences to adequately represent them, confirming hypothesis 1.

This result is robust to several potential concerns. One such concern is that noise in the measurement of citizen preferences may contribute to the high degree of measured inaccuracy. To address this concern, I estimate the sampling distribution of the mean of citizen preferences and test what proportion of politician beliefs lie within a 95% confidence interval of the mean. I compute the confidence interval using the following:

$$CI_{isc} = \hat{p_{isc}} \pm \sqrt{\hat{p_{isc}}(1 - \hat{p_{isc}})/n_{sc}} \tag{12}$$

where $\hat{p_{isc}}$ refers to the proportion of citizens from subgroup s in constituency c who support the policy on issue i and n_{sc} refers to the number of citizens from subgroup s in constituency c who were interviewed. Since I consider the preferences of 6 subgroups in 4 constituencies on 9 issues, I am computing 216 distinct distributions. If my measure is biased against finding accuracy due to sampling noise, I would expect that a large proportion of politician beliefs would be within the 95% confidence interval. Instead, I find that only 9.4 percent of politician beliefs fall within the relevant confidence interval, while 90.6 percent do not.

If politicians typically deliberate amongst themselves before making a decision, then an individual politician's belief may matter less than the distribution of politicians' collective beliefs about a particular quantity. To test whether politicians are collectively accurate, I compute the sample mean

and standard error of politician beliefs about each of the 216 quantities politicians were asked to estimate. The mean number of politicians who report beliefs on each quantity is 30, with a standard deviation of 11. Using the mean and standard deviation, I compute the 95% confidence interval of politicians' collective beliefs about each of these 216 quantities. I find that for 64 percent of these quantities, the 95% confidence intervals of politicians' collective beliefs and citizen preferences do not overlap *at all*. This indicates that even if we allow for the possibility that politicians deliberate amongst themselves before reaching a decision, they are more likely than not to be substantially inaccurate.

Finally, this result is not driven by the fact that citizen preferences are aggregated at a higher level (parliamentary constituency) instead of the local politician's own constituency. There are two reasons why preferences are aggregated at the NA level. First, obtaining a precise estimate of citizen preferences at the Union Council or ward level would be prohibitively costly. Second, the NA constituency is a salient and meaningful unit for these politicians since they campaign for the higher-tier politicians running for parliament. Their natural 'cohort' is the other local politicians in the same national assembly constituency with whom they interact with on a regular basis.

To test if this decision has a cost in terms of measuring accuracy, I compute average citizen preferences in the actual constituency of each politician and compare their belief about citizen preferences in the larger national assembly constituency to the average citizen preferences in their own constituency. If politicians are systematically more accurate about their own constituency, then we would expect to see a higher accuracy score using this comparison. In fact, I find that the accuracy score is 13 when politician beliefs are compared to average preferences in their own constituency alone, which is not distinguishable from the accuracy score of 15 computed using citizen preferences in the larger national assembly constituency.

Collectively, the tests reported above point to politicians not being well informed about what citizens in their area prefer on important policy and service delivery issues - but they also highlight substantial variation in politician's knowledge of these issues. What explains variation in accuracy? I test whether the type of issue, the type of politician and the sub-populations whose preferences are being guessed explains variation in the accuracy of politician beliefs. First, I test whether politicians are more accurate about local issues compared to non-local issues using the following equation:

$$Y_{pi} = \beta_1 Local_i + \gamma_p \tag{13}$$

where Y_{pi} is a measure of the accuracy of politician i's belief on issue p, $Local_i$ is an indicator for local issues and γ_p are politician fixed effects. Secondly, to test whether certain types of politicians are more accurate, I estimate the following equation:

$$Y_{pi} = \beta_1 Chair_i + \beta_2 ViceChair_i + \beta_3 WomanCouncilor_i + \gamma_q \tag{14}$$

where $Chair_i$, $ViceChair_i$ and $WomanCouncilor_i$ are indicators for three of the four positions local politicians serve in, with general members as the omitted category. γ_q are National Assembly constituencies times issue fixed effects to partial out the effects of differential accuracy across issues and constituencies. Finally, to estimate whether beliefs about certain sub-populations are more accurate, I estimate the following two equations:

$$Y_{pi} = \beta_1 Women_i + \beta_2 Men_i + \gamma_q \tag{15}$$

$$Y_{pi} = \beta_1 OwnParty_i + \gamma_q \tag{16}$$

where $Women_i$, Men_i and $OwnParty_i$ are indicators for whether the politician was asked about the preferences of women only, men only or the supporters of their own party. These are run as two separate equations since the elicitation of beliefs was cross-randomized along these two dimensions and this approach allows me to pool observations.

Beliefs about local issues are significantly more accurate compared to beliefs about higher tier issues, as shown in Panel B of Table 1. The average accuracy score for higher-tier policies is 7.4 with a standard deviation of 65.8. The accuracy score for local policies is higher by 22.1 on average, which is a 0.33 standard deviation difference from higher-tier policies. This finding confirms hypothesis 2. While politicians know more about local issues, their beliefs about these local issues are also far closer to the random guessing benchmark than complete accuracy, indicating that there is considerable room for improvement. There are no stark differences in how accurate politicians serving in different positions are, as shown in Panel C of Table 1. Union Council Chairs and Woman Councilors are marginally more accurate than General Members, but these differences are only statistically significant at the 10% significance level. There are no differences in accuracy along the directly vs. indirectly elected dimension highlighted in Section 3.1.

Even though politicians interact with men on a far more frequent basis than with women, the accuracy of beliefs about women's preferences are not significantly different compared to beliefs about men, as shown in Panel D of Table 1. Similarly, Panel E shows that even though politicians interact more regularly with the supporters of their own party, their beliefs about the supporters of their own party are not differentially accurate.

Table 1: **Accuracy and its Correlates**

	A: Mean Accuracy		
	(1) **Accuracy Score**	(2) **Linear Distance**	(3) **Squared Distance**
Mean	14.59	-25.56	-1012.19
	(0.83)	(0.25)	(16.98)
	B: Accuracy by Issue Type		
	(1)	(2)	(3)
Local Policies	22.06***	6.27***	427.31***
	(1.67)	(0.52)	(33.71)
Mean for Higher-Tier	7.39	-27.60	-1149.63
	C: Accuracy by Politican Type		
	(1)	(2)	(3)
Chair	5.57*	1.78*	126.38**
	(3.16)	(0.92)	(61.38)
Vice Chair	-2.63	-0.82	-26.23
	(2.73)	(0.80)	(55.13)
Woman Councilor	4.42*	1.35**	81.84*
	(2.33)	(0.69)	(47.44)
Mean for General Members	13.76	-25.83	-1030.47
	D: Accuracy by Citizen Gender		
	(1)	(2)	(3)
Men	3.23	0.83	49.70
	(2.20)	(0.65)	(45.66)
Women	2.94	0.54	16.82
	(2.12)	(0.63)	(44.39)
Mean for All Genders	12.83	-25.94	-1028.01
	E: Accuracy by Citizen Partisanship		
	(1)	(2)	(3)
Own Party's Supporters	-2.15	-0.67	-46.56
	(1.76)	(0.52)	(36.61)
Mean for General Population	15.81	-25.19	-984.65
# Observations	5797	5797	5797

Notes: *All regressions are at the level of a politician's beliefs about citizen preferences on a particular policy. Panel A uses politician fixed effects while the remaining three columns used National Assembly constituency times issue fixed effects. Standard errors are clustered at the level of the individual politician. The outcome variable for Column (1) is an original 'accuracy score' constructed using the method described in Section 4. The outcome variables for columns (2) and (3) respectively are the negative linear and quadratic distance between the politician's prior and true citizen preferences (negatives are used for ease of comparison with the accuracy score).* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

The finding that politician beliefs about both men and women are equally inaccurate is in contrast with politicians' confidence in their beliefs about men and women, confirming hypothesis 3. A random 45% of sample politicians were asked whether they believed they knew more about the preferences of men, knew more about the preferences of women or knew both equally well. Almost thrice as many (46 percent) male politicians stated that they knew more about the preferences of men, compared to those who stated they knew more about the preferences of women (16 percent).[15] This disconnect between the accuracy of politician beliefs and their confidence in these beliefs is consequential for how they process new information about citizen preferences.

The low accuracy of politician beliefs raises the question of whether politicians think of this as a problem and in fact want more information on citizen preferences. I find that there is high demand for information about citizen preferences. After the elicitation of priors, sample politicians were asked whether they would like a report based on a future survey of citizen preferences. In order to sign up, the politicians had to provide and verify a phone number and had to make detailed selections about the nature of the report they wanted, which imposed a time burden. Despite these barriers that were in place to prevent any spurious sign-ups, two-thirds (67 percent) of control group politicians signed up for these reports. This indicates that these politicians do place value on information about citizen preferences.

5.3 Do Politicians Respond to Citizen Preferences?

5.3.1 Estimation Strategy

I estimate the pooled treatment effect on politician responsiveness using the following regression:

$$Y_{pi} = \beta_1 Treatment_{pi} + \beta_2 Within_{pi} + \gamma_s \tag{17}$$

where Y_{pi} is an indicator for whether politician p's recommended the policy preferred by the majority on issue i to their higher-tier party leadership, $Treatment_{pi}$ is an indicator for whether politician p received data on citizen preferences on issue i, $Within_{pi}$ is an indicator that takes the value 1 when politician p received data on citizen preferences on issues other than i but not on i itself, and γ_s are strata fixed effects, where the strata are defined by the National Assembly times politician position blocks on which treatment was stratified. Standard errors are clustered at the politician level, where treatment is first assigned. Alternatively, in Table 2, I also show results using politician fixed effects to focus on the differences between treatment and within-treatment control observations.

[15] In comparison, the majority of politicians (55%) stated that they know the preferences of their own party's supporters as well as those of other parties, indicating less of a disconnect between accuracy and confidence confirming hypothesis 4

5.3.2 Main Results

Politicians respond to citizen preferences. When provided accurate data on citizen preferences, politicians are significantly more likely to recommend the policies that the majority prefers. In the control condition, politicians recommend the policy that is supported by the majority 52.6 percent of the time. If politicians were randomly choosing which policy to recommend, we would expect them to recommend the policy preferred by the majority 48.1 percent of the time.[16] In the control condition, therefore, politicians are only marginally more likely to recommend popular policies in treatment than they are to recommend unpopular policies.

Receiving data on citizen preferences results in a 7.6 percentage point increase in the likelihood that politicians recommend the policy preferred by the majority. This is a 14.4 percent increase over the control mean of 52.6%, as shown in Column (1) of Table 2. This effect is statistically significant with a p-value of less than 0.001 across a range of empirical specifications. This finding confirms hypothesis 5.[17]

Table 2: **Experimental Results: Pooled Treatment Effects**

	Outcome: Recommended Majority's Preference		
	(1)	(2)	(3)
	No FE	Strata FE	Politician FE
Preferences Treatment	0.076***	0.076***	0.056***
	(0.015)	(0.015)	(0.017)
Within-Treatment Control	0.021	0.021	
	(0.018)	(0.018)	
Constant	0.525***	0.525***	0.539***
	(0.011)	(0.011)	(0.008)
# Observations	5797	5797	5797

Notes: *All regressions are at the politician-policy level. Column (1) does not employ any fixed effects. Column (2) employs strata fixed effects while Column (3) employs politician fixed effects. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens. Standard errors are clustered at the level of the individual politician.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

[16] Given that eight out of the nine policy issues are binary choices while the third is a three-way choice

[17] Politicians are not only responsive when they underestimate support but also when they overestimate support, as shown in Figure A4. Panel 1 of Table 7 shows that on average, overestimators' responsiveness is positive but not statistically distinguishable from 0, while underestimators respond significantly more than overestimators.

5.3.3 Threats to Validity

One possible concern about the validity of the primary outcome variable is that of experimenter demand effects. Many features of the experimental design are aimed at preventing or minimizing such effects. The core design feature that does so is that the recommendations are sought through a signed letter by the party's district president, which promises that the politician's recommendations will be taken into account in policymaking. This raises the outcome beyond a lab-in-the-field or survey measure of policy support, since the recommendations carry real stakes. In rare cases where sample politicians doubted the authenticity of this letter, they contacted the party leadership directly and received verbal confirmation of the authenticity of the letter and the genuine intent of the leadership to use the recommendations. Another feature that reduces the possibility of demand effects is that the recommendations are not observed by the research team member delivering treatment and politicians are clearly asked before making recommendations to seal their recommendation letter without showing it to the research team. Despite these features, I entertain the possibility that some demand effects may have crept into the recommendations made on the same day.

To test whether this concern may be affecting outcome data, I use an additional recommendation elicitation mechanism in a random subset of Union Councils (40 out of 89). A few days after treatment, politicians in these Union Councils received a phone call on behalf of the district office of PML-N asking them to answer a few questions that will assist the party leadership in their decision making. No connection was made to the team delivering data during this phone call and the questions were worded differently from the wording used in the recommendation form. The issues in question are quite commonplace and politicians have conversations about them on a daily basis. Policy recommendations elicited using phone calls show similar treatment effects, as shown in Table 6. Column 1 of Table 3 shows that receiving data on citizen preferences on a particular policy makes it 5.8 percentage points more likely that the politician will recommend the majority's preference on that policy. This is very similar to the treatment effect on recommendations given using the written form for the same sample, which is shown in Column (2) of Table 3. This indicates not only that treatment effects are not driven by experimenter demand effects, but also that the information is not forgotten in the matter of a few days, which is an encouraging finding.

A related concern is that presenting politicians with this data may either prime them to think that citizen preferences are important where they previously did not think so and thus impose an experimenter demand effect through a different channel. I use an explicit cross-randomized experiment to show that treatment effects are not driven by priming about the importance of citizen preferences. I explicitly cross-randomized attempts to either accentuate or dampen any such priming or social experimenter effects. This was achieved by explicitly reading out a scripted message about the importance of either citizen preferences (the 'citizen prime') or their own preferences (the 'politician prime') while handing them the recommendation form. If such priming has an effect

Table 3: **Experimental Results: Recommendations using Phone Calls**

	Outcome: Recommended Majority's Preference	
	(1) Call	(2) Written
Any Preferences	0.058***	0.065***
	(0.020)	(0.021)
Within-Treatment Control	0.006	0.019
	(0.024)	(0.024)
Constant	0.580***	0.570***
	(0.015)	(0.016)
# Observations	2749	2749

Notes: *All regressions are at the level of a politician's recommendation about a policy. Standard errors are clustered by the individual politician. Columns (1) and (3) use policies recommended during a phone call on behalf of the party as the outcome variable. Columns (2) and (4) use policies recommended using the written 'recommendation form' as the outcome variable.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

on responsiveness regardless of whether it is accompanied by new information, we would expect to see a positive average treatment effect of the citizen prime and a negative average treatment effect of the politician prime. If such priming has an effect only in the presence of new information, we would expect to see a positive interaction effect of the preferences treatment and the citizens prime.

As shown in Table 4, there is no evidence of either an average treatment effect of the citizens prime or a positive interaction effect. In fact, the interaction effect is negative and marginally significant. Using an equivalence test, we can go further and conclude that at the standard significance level of 0.05, we can reject any average treatment effect of the citizens prime above 2.4 pp. Within the preferences treatment group, we can reject any treatment effect of the citizens prime above 0.5 pp. The minimum effect we can reject within the preferences treatment group is lower since the interaction between the citizens prime and the preferences treatment is negative. Considering that the average treatment effect of the preferences treatment is 7.6, we can conclude that after accounting for potential priming, the average treatment effect is at least 7.1 pp.

The negative interaction effect between the preferences treatment and the citizens prime indicates that politicians are not a subject pool that are amenable to straight-forward priming or manipulation. If anything, attempts to guide them in a particular direction may backfire, which serves as suggestive evidence that the observed effect of the preference treatment may be an underestimate. During the pilot stage of this experiment, I observed a related phenomenon. The pilot involved testing the effect of explicitly telling politicians how accurate their prior beliefs were. Politicians, particularly those with inaccurate beliefs, were visibly upset after being told their accuracy score

and in some cases spent a long duration of time explaining why they believed their prior views were correct. Far from being obliging towards the surveyor and giving into any perceived experimenter demand, they did the opposite and refused to believe in the data on citizen preferences. After this pilot, I amended the preferences treatment to its current subtle form and discarded the treatment that involved explicitly providing politicians with an accuracy score.

A further test is whether politicians can be explicitly primed away from citizen preferences. If the preferences treatment is able to make politicians think that citizen preferences are more important than they are, then an explicit message saying that a politician's own preferences are important should depress the effect of the preferences treatment. I find no evidence that this cross-randomized message has such an effect, as shown in Column (1) of Table 4.

Table 4: **Sensitivity to Primes on the Importance of Preferences**

	Outcome: Recommended Majority's Preference			
	(1) Politician Prime	(2) Politician Prime	(3) Citizen Prime	(4) Citizen Prime
Primed	0.000	-0.004	-0.003	0.026
	(0.016)	(0.020)	(0.015)	(0.020)
Preferences Treatment		0.075***		0.091***
		(0.016)		(0.017)
Treat * Primed		0.006		-0.059**
		(0.030)		(0.029)
Within-Treatment Control		0.021		0.023
		(0.018)		(0.018)
Constant	0.564***	0.526***	0.564***	0.518***
	(0.008)	(0.012)	(0.008)	(0.012)
# Observations	5797	5797	5797	5797
Positive Effect Threshold	0.027	0.039	0.024	0.005
P-Value	0.049	0.047	0.045	0.046
Negative Effect Threshold	0.023	0.035	0.027	0.073
P-Value	0.045	0.046	0.045	0.048

Notes: *All regressions are at the level of a politician's recommendation about a policy. Strata fixed effects are included. Standard errors are clustered by the individual politician.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

Finally, responsiveness is not driven by a particular tier to which the recommendations are being sent. In the status quo, there is variation in the level at which politicians make their recommendations. Sometimes, recommendations are made in meetings with the district level party leadership while on other occasions, they are made at a higher forum in the party's central office. To test whether the level at which the recommendation is being made matters for the extent to which politicians are responsive, I randomize sample politicians into receiving either a generic letter stating that their party leadership is requesting their recommendations or a letter stating the party president is requesting their preferences. As shown in Table B4 in the appendix, the tier at which these recommendations are being made does not affect the extent to which politicians are responsive to citizen preferences.

5.4 Differential Responsiveness

In this section, I test whether responsiveness varies by the type of politician and the subgroup of citizens whose preferences are provided to politicians. In Appendix B.5, I test whether responsiveness varies by the type of issue on which they are making recommendations.

5.4.1 Are Directly Elected Politicians More Responsive?

First, I test whether politicians whose incentives are tied more closely to voters are more responsive to citizen preferences, as expected under hypothesis 6. The politicians that are part of this study's sample are serving in four different positions, two of which face direct elections (ward member and union council chairperson) and two face indirect elections (union council vice-chair and woman councilor). The differential incentives they face are discussed in Section 3. I estimate differential treatment effects on politician responsiveness using an equation of the following form:

$$Y_{pi} = \beta_1 DirectTreated_{pi} + \beta_2 IndirectTreated_{pi} + \beta_3 Indirect_i + \beta_4 Within_{pi} + \gamma_s \tag{18}$$

where $DirectTreated_{pi}$ and $IndirectTreated_{pi}$ are indicators that take on the value 1 when politician i is directly or indirectly elected respectively *and* receives treatment on policy p, and $Indirect_i$ is an indicator for whether politician i is indirectly elected, to capture whether there are differences in the control group among directly and indirectly elected politicians. γ_s are National Assembly constituency times issue-group fixed effects. To test any further differentials within the 'direct' and 'indirect' types, I estimate a similar equation, replacing 'direct' and 'indirect' with the four politician types.

Directly elected politicians are significantly more responsive than indirectly elected ones, as shown in Panel A of Table 5. Directly elected politicians who receive data on citizen preferences are 9.4 percentage points more likely to recommend the policy supported by the majority, which is an 18.4 percent change over the control mean of 0.510 and is statistically significant at the 1% level. The average treatment effect for indirectly elected politicians (i.e. vice-chairpersons and women councilors) is not statistically distinguishable from zero. The differences in treatment effects on directly and indirectly elected politicians is statistically significant, with a p-value of 0.028. This difference is robust to controlling for a range of demographic controls as well as the personality traits of politicians, as shown in Columns (2) and (3) of Table 5 respectively.

UC chairs are significantly more responsive (15.3 percentage points) than ward members (8.5 percentage points) and UC vice-chairs (2.8 percentage points) to treatment, as shown in Panel B of Table 5. The two categories of politicians that are indirectly elected (vice-chairs and woman councilors) show very similar treatment effects (2.8 percentage points and 2.7 percentage points respectively), with both being statistically indistinguishable from zero. Indirectly elected politicians are likely to recommend the majority's preference in the absence of treatment. This raises the

Table 5: **Experimental Results: Pooled Treatment Effects by Politician Type**

	Outcome: Recommended Majority's Preference		
	Panel A: By Type		
	(1) **No Controls**	(2) **Demographic Controls**	(3) **Demographic & Personality Controls**
Direct Treated	0.094***	0.095***	0.096***
	(0.016)	(0.016)	(0.017)
Indirect Treated	0.028	0.031	0.019
	(0.027)	(0.027)	(0.028)
Indirect	0.054***	0.062***	0.062***
	(0.020)	(0.020)	(0.021)
Within Treatment Control	0.021	0.022	0.029
	(0.018)	(0.017)	(0.018)
Constant	0.510***	0.548***	0.304***
	(0.012)	(0.041)	(0.065)
# Observations	5797	5788	5041
P-Value Direct = Indirect	0.028	0.031	0.014
	Panel B: By Position		
	(1)	(2)	(3)
Ward Councilor Treated	0.084***	0.086***	0.085***
	(0.017)	(0.018)	(0.018)
Chair Treated	0.153***	0.153***	0.160***
	(0.035)	(0.035)	(0.038)
Vice Chair Treated	0.028	0.030	0.012
	(0.048)	(0.047)	(0.050)
Woman Councilor Treated	0.027	0.030	0.020
	(0.032)	(0.032)	(0.033)
Chair	-0.007	-0.004	-0.009
	(0.026)	(0.028)	(0.031)
Vice-Chair	0.048	0.052	0.049
	(0.034)	(0.033)	(0.033)
Woman Councilor	0.056**	0.067***	0.067***
	(0.023)	(0.024)	(0.025)
Within Treatment Control	0.021	0.022	0.028
	(0.018)	(0.017)	(0.018)
Constant	0.512***	0.557***	0.317***
	(0.013)	(0.043)	(0.066)
# Observations	5797	5788	5041
P-Value: Chair = Vice-Chair	0.035	0.034	0.018
P-Value: Councilor = Chair	0.069	0.072	0.062
P-Value Councilor = Woman Councilor	0.103	0.110	0.078

Notes: *All regressions are at the politician-policy level, and employ strata fixed effects where a strata is a set of three issues within the same national assembly constituency. Standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens. Column (2) controls for demographics including age, education, language, assets, house ownership, and length of residence in the area. Column (3) controls for demographics and for big-5 personality traits. Sample size drops in column (3) since the big-5 was not administered in a random ninth of the Union Councils.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

question of whether the lower treatment effects among indirectly elected politicians may be driven by a ceiling effect. The significantly higher effects among UC chairs indicates that there is no such limit to responsiveness that may explain the lower responsiveness of indirectly elected politicians.

These results have two direct implications. First, being directly dependent upon voters for re-election is associated with politicians being more responsive to citizen preferences. Second, it is not the case that this direct dependence results in politicians being closer to citizen preferences in the absence of good data on what citizens prefer. In fact, it may be the case that when politicians do not have to be selected on the usual popularity dimensions, they may be more likely to be selected along some other desirable dimension of quality.

5.4.2 Whose Preferences are Politicians More Responsive To?

Second, I test whether politicians respond differentially based on whose preferences are being provided to them. This involves testing differential responsiveness to women's preferences compared to men's preferences (hypothesis 7) and differential responsiveness to the preferences of their own party's supporters compared to the general population (hypothesis 8). I perform these tests by estimating the following two equations:

$$Y_{pi} = \beta_1 TreatMen_{pi} + \beta_2 TreatWomen_{pi} + \beta_3 TreatBoth_{pi} + \beta_4 Within_{pi} + \gamma_s \tag{19}$$

where $TreatMen_{pi}$, $TreatWomen_{pi}$ and $TreatBoth_{pi}$ are indicators for whether politician i received data about men, women or both men and women respectively, and

$$Y_{pi} = \beta_1 TreatParty_{pi} + \beta_2 TreatAll_{pi} + \beta_3 Within_{pi} + \gamma_s \tag{20}$$

where $TreatParty_{pi}$ and $TreatAll_{pi}$ are indicators, respectively, for whether politician i received data on issue p about the supporters of their own party or regardless of partisan support.

Politicians are more responsive to the preferences of women compared to those of men, as shown in Column (2) of Table 6. When presented with the preferences of women in their national assembly constituency, politicians are 10.9 percentage points more likely to recommend the policies that women prefer - which is more than a 20 percent increase over the control group. In comparison, being presented with data on men's preferences results in a 5.8 percentage point increase in the likelihood of recommending policies that men prefer. The p-value on this difference is 0.033. There is no differential responsiveness by the partisan affiliation of citizens whose preferences are presented, as shown in Column(1) of Table 6.

Table 6: **Experimental Results: Sub-Treatment Effects**

	Outcome: Recommended Majority's Preference	
	(1)	(2)
	Party Sub-treatments	Gender Sub-treatments
Own Party	0.071***	
	(0.017)	
All Citizens	0.081***	
	(0.018)	
Within-T Ctrl	0.021	0.021
	(0.018)	(0.018)
Men		0.058***
		(0.020)
Women		0.109***
		(0.020)
Both Genders		0.062***
		(0.020)
Constant	0.525***	0.525***
	(0.011)	(0.011)
# Observations	5797	5797
P-value Own Party=All	0.593	
P-value Men=Women		0.033

Notes: *All regressions are at the level of a politician's recommendation about a policy. Strata fixed effects are included. Standard errors are clustered by the individual politician.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

5.5 Why do Politicians Respond More to Women's Preferences?

In this subsection, I explore potential mechanisms for why politicians respond more to women. I rule out the possibility that politicians respond more to women because of differential expectations of electoral rewards or because they are pandering to their party. Next, I explore whether differential responsiveness arises from the structure of politicians' priors. While accuracy is not differential by gender, politicians believe that they know more about men than they do about women. I conclude that this is the likely channel that explains greater responsiveness towards women.

The standard rational choice explanation of this result is that politicians respond more to women's preferences simply because they perceive greater electoral returns to this responsiveness. Given that women vote at lower rates in Pakistan and that parties mobilize women at lower rates (Cheema et al., 2019), it may be argued that politicians perceive that there is more room for women to reward responsiveness by turning out or that they expect women to appreciate responsiveness more since they do not often see attention from parties.

To test this mechanism, I ask a random subset of sample politicians the effect that they think responding to women's preferences would have on their electoral success among women, on a 1-5 scale. Another random subset is asked the same question about responding to men's preferences. In total, 292 out of the 653 sample politicians are asked this question. Figure 5 shows that politicians believe that responding to both men and women has high electoral returns - but do not have a belief that the returns are differential.

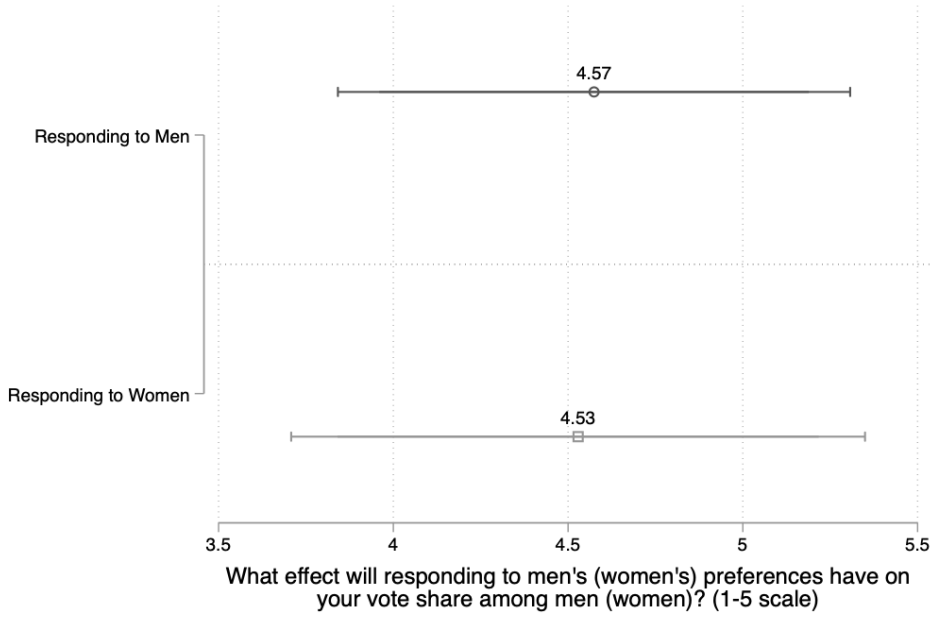


Figure 5: Perceived Effect of Responsiveness on Electoral Success

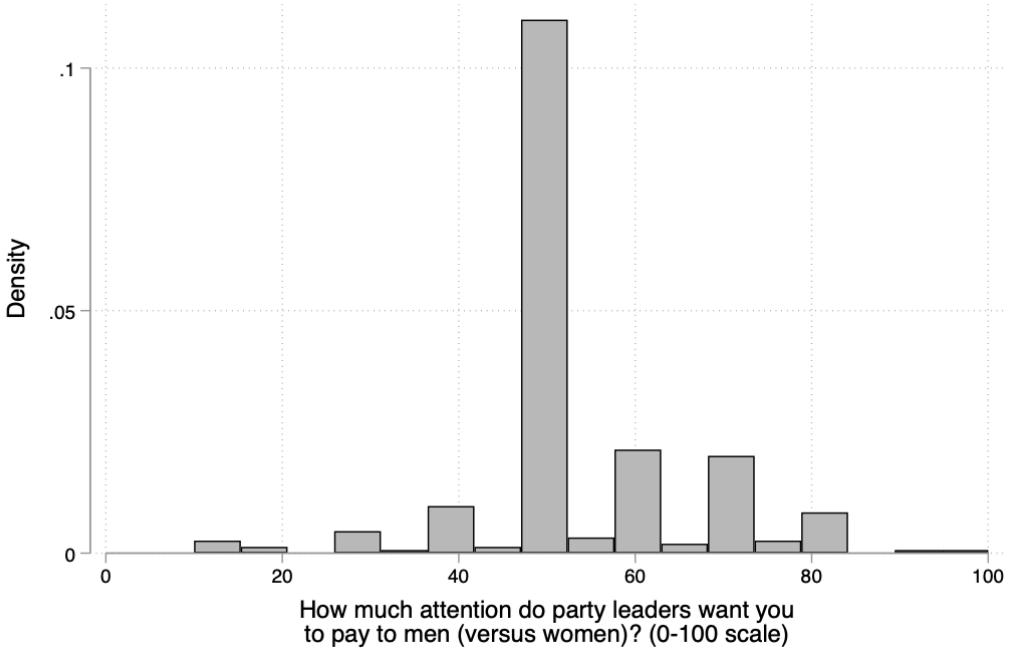
A second potential channel is that politicians think that their party wants them to pay more attention to women, and local politicians end up pandering to their party's wishes by responding more to women's preferences. To test this mechanism, I explicitly ask a random subset of sample politicians how they think their party leadership wants them to allocate their attention between men and women. Figure 6a shows the distribution of responses to this question, with higher numbers indicating that they believe the party wants them to allocate more attention to men. The modal response is 50, indicating that they believe the party does not want them to discriminate, with more people to the right of the modal response (indicating more attention to men) than the left. This result allows me to rule out this explanation, since even if they were to pandering to their perception of the party leadership's wishes, we would not see greater responsiveness to women.

Finally, I turn to explanations related to the prior beliefs of politicians about men's preferences versus women's preferences. The most straight-forward explanation would be that politicians know

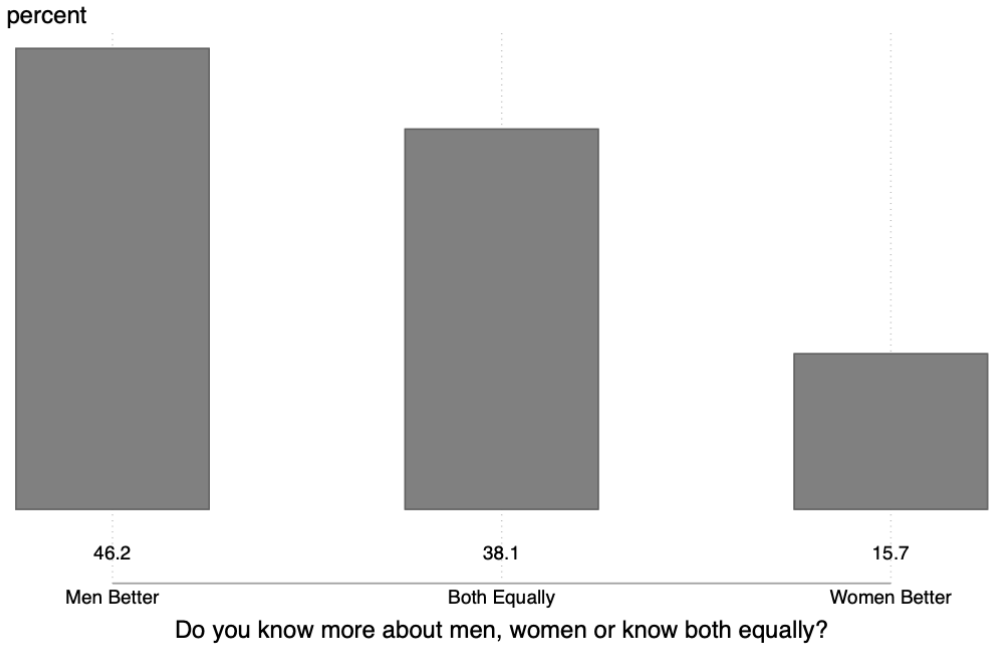
more about men than they do about women and hence are able to update more in response to new information. This explanation is not supported by the results already shown in Section 5.4, indicating that politician beliefs are equally inaccurate about men and women.

I find evidence for another belief-based explanation, one that is grounded in politicians' second order beliefs. Politicians *think* they know more about men than they do about women, and therefore place more weight on signals they receive about women's preferences compared to men's preferences. To test this explanation, I ask a random subset of politicians the simple question of whether they think they know more about men's preferences or women's preferences or whether they think they know both equally. The distribution of responses is given in Figure 6b. The modal response for male politicians is that they know men's preferences better, and this response is about three times as likely as responding that they know women's preferences better. The differential responsiveness to women's preferences is also driven by male politicians, as would be expected given this result. Given these results, I conclude that the likely explanation for greater responsiveness to women resides in these second-order beliefs of politicians.

Consistent with the explanation that politicians are less confidence in their beliefs about women than their beliefs about men, I find that politicians respond to women's preferences even when their prior beliefs overestimate true support. Column 2 of Table 7 shows that when presented with women's preferences, politicians in treatment who overestimated support for the policy are 8.7 percentage points more likely to recommend the majority's preference compared to overestimators in the control group. There is no effect on overestimators of being provided with information on men's preferences. These results are consistent with the model of responsiveness in section 2.2, where politicians respond more to women's preferences in both the overestimation and underestimation case.



(a) Politicians' View of Whether Party Wants More Attention to Men or Women



(b) Male Politicians' Perception of Whose Preferences They Know Better

Figure 6: Accuracy of Beliefs at the Politician Level

Table 7: **Experimental Results: Heterogeneity by Whether Prior was an Underestimate**

	Outcome: Recommended Majority's Preference	
	(1)	(2)
	Pooled Treatments	Sub-Treatments
Preferences Treatment	0.034	
	(0.024)	
Underestimate (0/1)	-0.298***	-0.298***
	(0.023)	(0.023)
Treat * Underestimate	0.053*	
	(0.030)	
Within-Treatment Control	-0.003	-0.003
	(0.029)	(0.029)
Within-C * Underest	0.030	0.030
	(0.036)	(0.036)
Treat: Men's Pref.		-0.002
		(0.031)
Treat: Women's Pref.		0.087***
		(0.030)
Treat: Both's Pref.		0.024
		(0.033)
T-M * Distance		0.075*
		(0.038)
T-W * Distance		0.030
		(0.039)
T-B * Distance		0.046
		(0.042)
Constant	0.738***	0.738***
	(0.019)	(0.019)
# Observations	5797	5797

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

6 Conclusion

Studies on the role of information in democratic accountability have tended to focus on the extent to which voters know about politicians. I reverse this standard approach by asking instead whether politicians know enough about voters to adequately represent them. The descriptive evidence in this paper shows that politicians are insufficiently informed about citizen preferences while the experimental evidence shows that this lack of information is a constraint on democratic accountability. In a setting where politicians primarily acquire information about citizen preferences through direct contact with voters, this paper shows that mere contact does not necessarily lead to substantive representation. Instead, higher levels of contact with an unrepresentative sample may even undermine representation as politicians become overconfident in their beliefs.

This study makes an important contribution by establishing the beliefs of politicians as an essential ingredient of accountability. How these beliefs are formed, the ways in which these beliefs are biased, and how they are updated is central to how citizen voice gets represented in political decision making. The central theoretical contribution of this paper is that even in the existence of corruption, voter misinformation and other accountability gaps, politicians are responsive to better information about what citizens care about to varying degrees depending on the nature of their beliefs.

The findings of this study have several direct policy implications. Informational failures on the part of politicians lead to the underrepresentation of marginalized populations and add to the perception of a disconnect between citizens and politicians, which adversely affects citizens' trust in democracy. To address these problems, parties should institutionalize better mechanisms for the flow of information from citizens to politicians. These mechanisms should pay particular attention to including those citizens that are underrepresented in existing channels. One such mechanism that complements existing informational channels is to introduce regular opinion polling and establishing think tanks within parties with the capacity of interpreting and using these opinion polls. Another mechanism that improves current informational channels is to increase the descriptive representation within parties of those who are less likely to directly contact politicians. Civil society organizations also have a role to play in promoting the dissemination of better information and creating platforms where marginalized citizens can engage with politicians. This role is especially important in cases where electoral incentives or institutional inertia discourages parties from engaging in internal reform.

Applying the findings to other contexts merits careful consideration. First, the design of this study yields measures at the level of the individual politician's behavior on a particular issue, which allows for considerable analytical leverage. In focusing on individual decision making, however, this study does not directly estimate the effect of consultations on decision-making. While the robustness tests in this paper demonstrate that politicians are responsive to information about citizen

preferences even after they have had the chance to consult with others, these findings must still be read together with studies including Zelizer (2019) that explicitly test such effects. Second, the politician behavior studied in this paper is not directly observable to citizens, and therefore the results do not directly apply to settings in which citizens have access to information about politician performance. Since Grossman and Michelitch (2018) and Banerjee et al. (2019) find that making information about politicians' performance public makes politicians more responsive, this paper's effects may be an underestimate. Third, this study takes place in a context where politicians primarily acquire information about citizens through direct contact. The finding that politicians misperceive citizen opinion and are responsive to new information about citizen preferences also replicate in the United States where politicians have access to other sources of information (Broockman and Skovron, 2018; Butler and Nickerson, 2011). Whether my other findings translate to such contexts remains a question for further research.

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Appendix

A Additional Figures

A.1 How does simulated belief updating vary by signal characteristics?

Figure A1 shows how belief updating varies by the mean and standard deviation of the signal. The prior mean is fixed at 25 while the prior standard deviation is fixed at 10. The signal mean varies from 55 to 95, with the standard deviation varying from 1 to 10. Results indicate that updating is higher when the signal is more precise, and when the distance between the prior mean and the signal mean is higher.

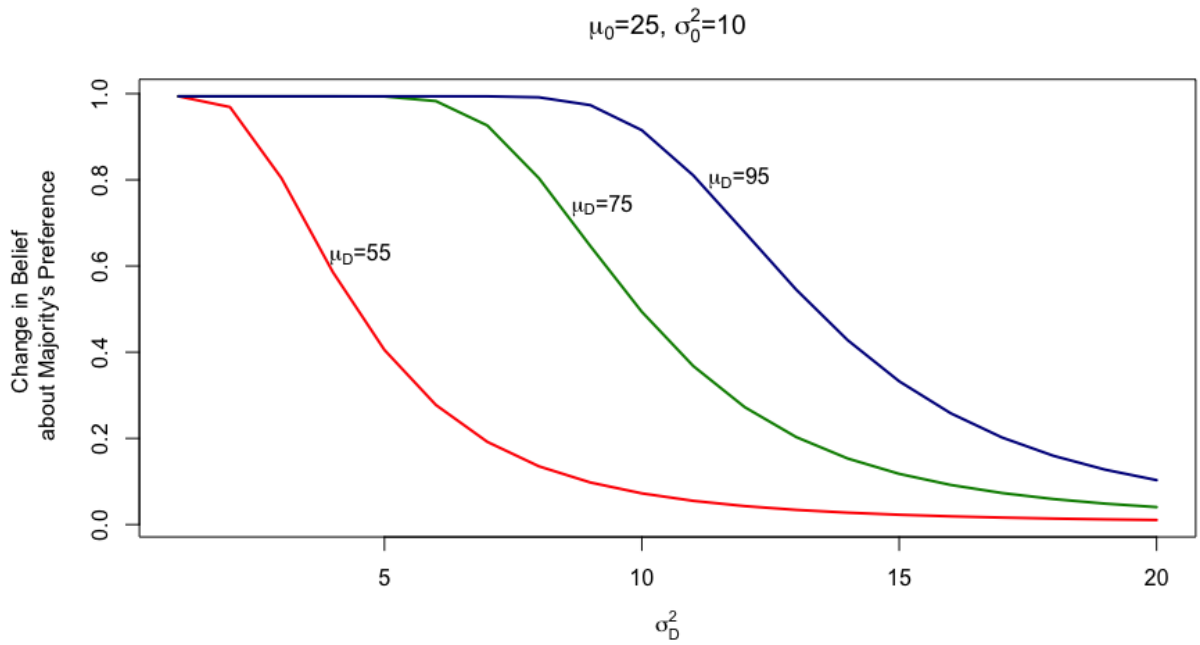


Figure A1: Simulated Belief Updating with Varying Signal Mean and Precision

A.2 Raw Data on Politician Beliefs and Citizen Preferences

Figure A2 plots the raw data on politicians' beliefs against the raw data on citizen preferences. The y-axis of each dot signifies a sample politician's belief about citizen support on a given issue, while the x-axis indicates against the proportion of citizens in that national assembly constituency who indicated support for that policy.[18] The dashed line indicates where perfectly accurate beliefs would lie, and the blue plus signs indicate how far an average random guess would be from perfect accuracy. Black dots thus indicate beliefs that are more accurate than a random guess, and red dots indicate beliefs that are less accurate than a random guess. Politician beliefs do not follow any systematic patterns of being close to citizen preferences.

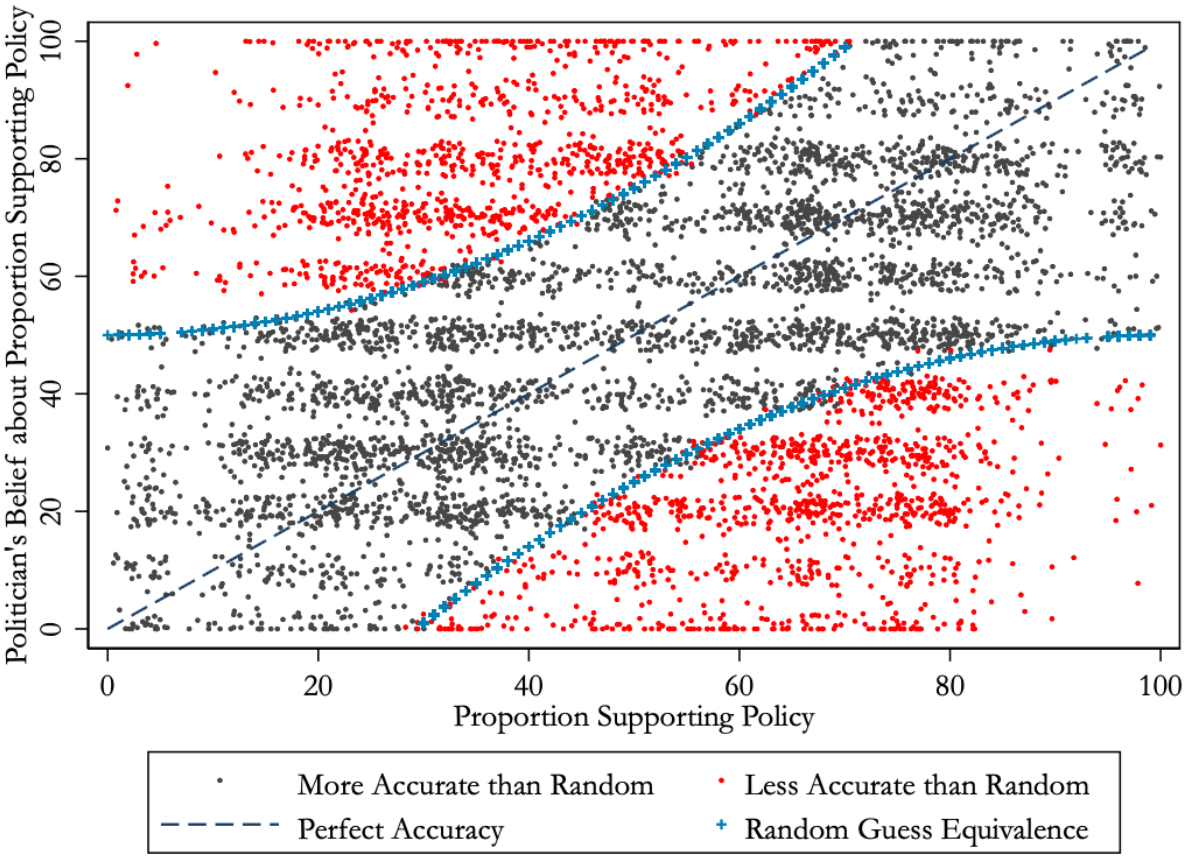
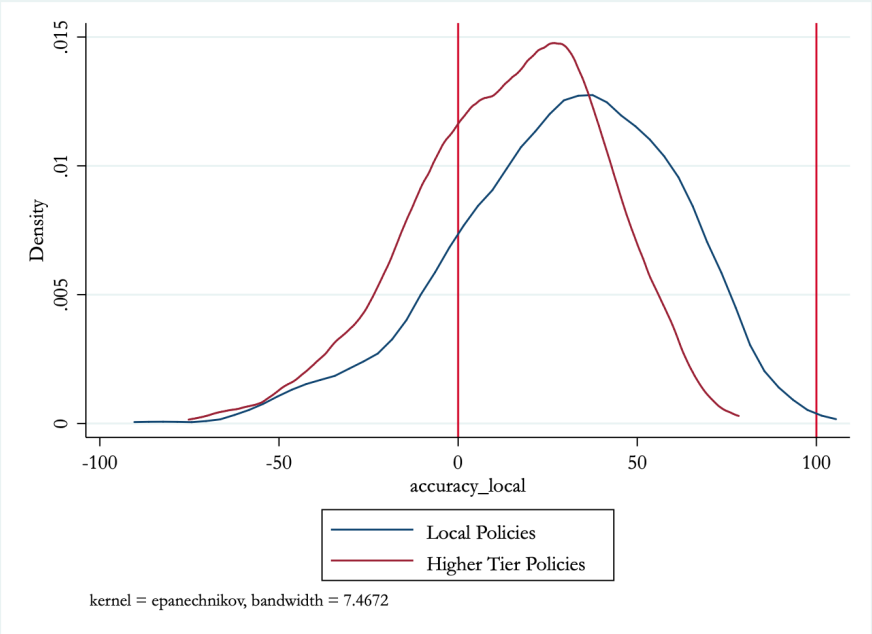


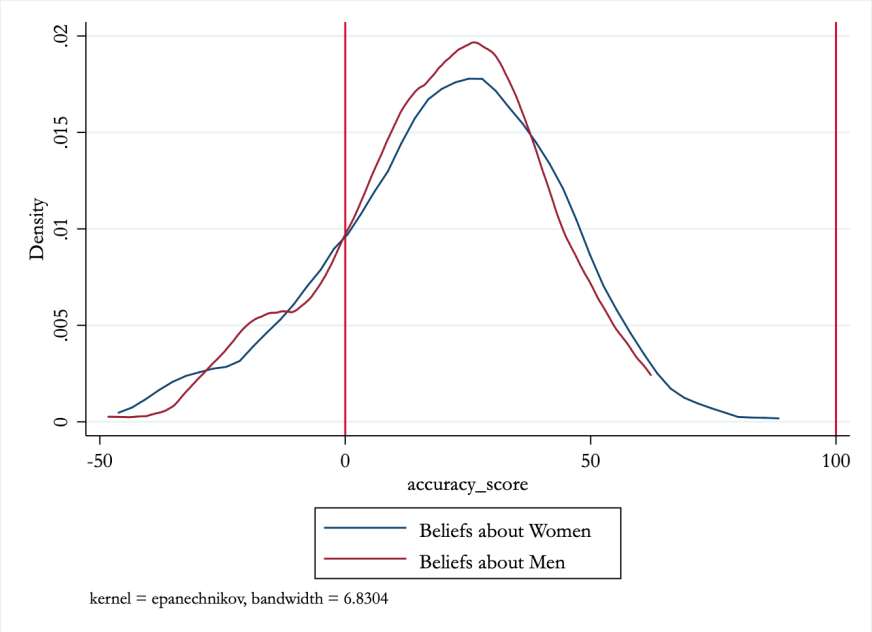
Figure A2: Citizen Preferences & Politician Beliefs

[18]Given that each issue is defined as having two policy options, to eliminate arbitrariness along the x-axis I randomize which of the two policy options is plotted. For example, on the local roads vs. water pipes issue I randomize whether each dot indicates support for and beliefs about local roads or water pipes. I also include random noise of 4 percentage points on average in order to better illustrate the clustering of beliefs.

A.3 The Distribution of Accuracy



(a) Local versus Higher-Tier Policies



(b) Men versus Women

Figure A3: Accuracy of Beliefs at the Politician Level

A.4 Responsiveness over Distribution of Prior Beliefs

The propensity to recommend the majority's preferred policy is strongly correlated with prior beliefs about the extent to which citizens support that policy, as shown in Figure A4. On average, treatment effects are higher among the underestimators compared to the overestimators (see Panel 1 of Table 7).

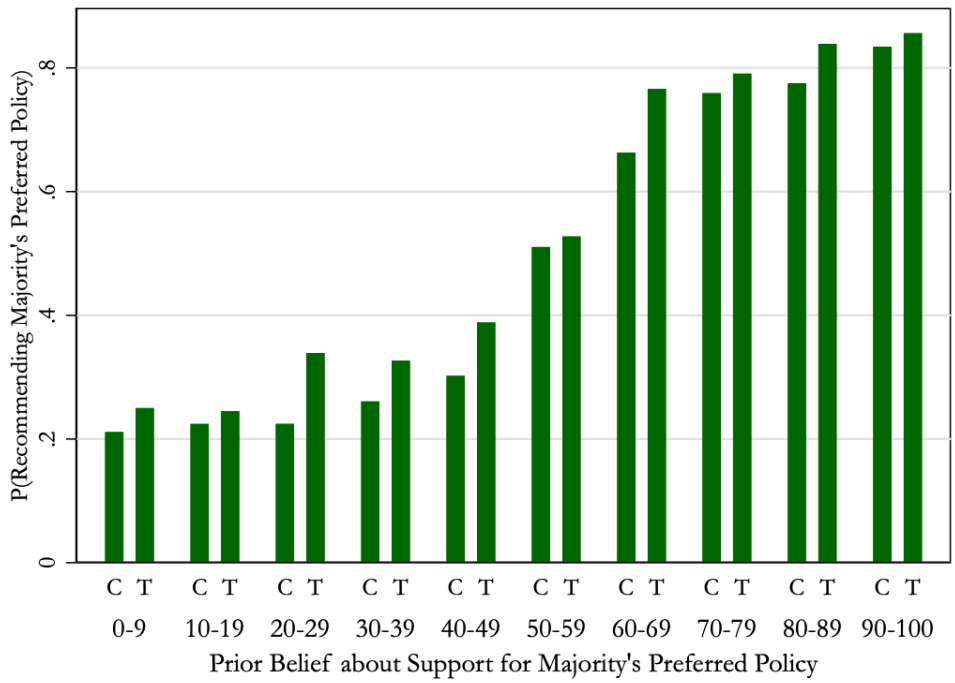


Figure A4: Responsiveness over Distribution of Prior Beliefs

B Additional Tables

B.1 Do Recommendations Correlate with Budgetary Allocations?

To ascertain whether recommendations made by local politicians correlate with even higher stakes decisions taken by local politicians in the past, I collect data from the Local Government Department, Government of Punjab on Union Council level projects initiated under the Local Government Development Program. These projects pertaining to local cemented roads and street lights, are the only decisions at the Union Council level involving real budgetary allocations for which data are available. Importantly, these projects were initiated in summer 2018, only one to six months before the experimental intervention took place.

I find that there is a strong correlation between whether a local politician recommended that a particular local service (roads or street lights) be given a higher share of resources and whether the politician's Union Council initiated a project on that same local service. In the control group, politicians in Union Councils that did initiate a project pertaining to the relevant service were almost twice as likely to prioritize that service in their recommendation forms. This is a strong indication that the recommendations map on to consequential real world outcomes.

Table B1: **Outcome Variable's Correlation with Budgetary Allocation**

	Service Prioritized on Recommendation Form			
	(1)	(2)	(3)	(4)
	Both Services	Both Services - Controls Only	Roads	Lights
Project Initiated Under LGDP	0.074***	0.085**	0.044	0.080
	(0.025)	(0.042)	(0.030)	(0.058)
Constant	0.128***	0.120***	0.126***	0.145***
	(0.021)	(0.034)	(0.023)	(0.054)
# Observations	1284	433	646	638

Notes: *All regressions are at the level of a politician's recommendation about a policy. Strata fixed effects are included. Standard errors are clustered by the individual politician.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

B.2 Statistical Balance

Table B2: Statistical Balance between Treatment and Control Groups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	T-test P-value					
	Pref Control	All	Female	Male	Party All	Party Female	Party Male						
Variable	Mean/SE	Mean/SE	Mean/SE	Mean/SE	Mean/SE	Mean/SE	Mean/SE	(1)-(2)	(1)-(3)	(1)-(4)	(1)-(5)	(1)-(6)	(1)-(7)
Age(Yrs)	46.422	46.930	47.957	47.111	46.264	45.822	46.514	0.729	0.609	0.851	0.903	0.879	0.823
	(0.684)	(1.153)	(1.196)	(1.040)	(1.111)	(1.030)	(1.187)						
High School	0.816	0.789	0.771	0.833	0.694	0.808	0.819	0.424	0.732	0.563	0.032**	0.944	0.988
	(0.026)	(0.049)	(0.051)	(0.044)	(0.055)	(0.046)	(0.046)						
College	0.139	0.225	0.114	0.139	0.167	0.164	0.208	0.080*	0.925	0.701	0.798	0.524	0.128
	(0.023)	(0.050)	(0.038)	(0.041)	(0.044)	(0.044)	(0.048)						
Urdu Spoken	0.448	0.338	0.414	0.431	0.403	0.548	0.472	0.150	0.653	0.864	0.261	0.239	0.676
	(0.033)	(0.057)	(0.059)	(0.059)	(0.058)	(0.059)	(0.059)						
Own House	0.749	0.803	0.729	0.736	0.667	0.808	0.819	0.181	0.368	0.741	0.266	0.090*	0.057*
	(0.029)	(0.048)	(0.054)	(0.052)	(0.056)	(0.046)	(0.046)						
Asset Index	2.457	2.563	2.500	2.667	2.437	2.644	2.764	0.538	0.264	0.039**	0.920	0.130	0.047**
	(0.080)	(0.131)	(0.146)	(0.130)	(0.128)	(0.138)	(0.130)						
Years in Locality	40.668	39.845	41.271	41.083	41.708	40.767	41.528	0.517	0.590	0.891	0.818	0.616	0.940
	(0.920)	(1.462)	(1.395)	(1.307)	(1.407)	(1.615)	(1.475)						
Extroversion	5.318	5.121	5.492	5.271	5.484	5.297	5.399	0.056*	0.059*	0.702	0.165	0.496	0.826
	(0.055)	(0.102)	(0.096)	(0.102)	(0.088)	(0.087)	(0.095)						
Agreeableness	5.049	5.114	5.282	5.093	5.111	5.000	5.080	0.826	0.028**	0.790	0.840	0.198	0.877
	(0.056)	(0.109)	(0.095)	(0.088)	(0.097)	(0.095)	(0.089)						
Conscienscious ness	5.227	5.098	5.306	5.085	5.206	5.195	5.254	0.232	0.601	0.093*	0.674	0.169	0.946
	(0.054)	(0.099)	(0.101)	(0.090)	(0.100)	(0.087)	(0.101)						
Emotional Stability	5.135	5.152	5.266	5.093	5.325	5.237	5.275	0.976	0.366	0.670	0.235	0.553	0.467
	(0.060)	(0.106)	(0.101)	(0.116)	(0.090)	(0.095)	(0.106)						
Openness	4.875	4.955	5.089	5.161	4.913	4.839	4.978	0.397	0.150	0.055*	0.731	0.538	0.816
	(0.067)	(0.111)	(0.111)	(0.106)	(0.101)	(0.111)	(0.126)						
N	223	71	70	72	72	73	72						
Clusters	223	71	70	72	72	73	72						
F-test of joint significance (F-stat)								1.963**	1.338	2.362***	1.147	1.164	1.117
F-test, number of observations								294	293	295	295	296	295

Notes: The value displayed for t-tests are p-values. The value displayed for F-tests are the F-statistics. Standard errors are clustered at variable uid. Fixed effects using variable na_block_pcygp are included in all estimation regressions. All missing values in balance variables are treated as zero.***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

B.3 Does the Order in Which Treatment is Delivered Matter?

Table B3: **Experimental Results: Order Effects**

	Outcome: Recommended Majority's Preference
	(1)
Treatment Order 1	0.11***
	(0.02)
Treatment Order 2	0.07***
	(0.02)
Treatment Order 3	0.10***
	(0.02)
Within-T Control Order1	0.01
	(0.02)
Within-T Control Order2	0.05**
	(0.02)
Within-T Control Order3	0.05*
	(0.03)
Control Order 2	0.02
	(0.02)
Control Order 3	0.02
	(0.02)
Constant	0.51***
	(0.01)
# Observations	5797
P-value Order 1 = 2	0.062
P-value Order 1 = 3	0.568
P-value Order 2 = 3	0.143

Notes: *All regressions are at the level of a politician's recommendation about a policy. Orders 1, 2 and 3 refers to the order in which data about the particular policy in question was presented to the politician. This order was determined randomly. Strata fixed effects are included. Standard errors are clustered by the individual politician.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

B.4 Does the Leadership Tier to Which Preferences are Delivered Matter?

The design includes random variation in the level at which politicians make their recommendations in the normal course of things. Some politicians make these recommendations in meetings with the district level leadership of their party while others are able to make such recommendations at a higher forum in the party's central office. To test whether the level at which the recommendation is being made matters for the extent to which politicians are responsive, I randomize the sample politicians into receiving either a generic letter stating that their party leadership is requesting their recommendations or a letter stating the party president is requesting their preferences. As shown in Table B4, the tier at which these recommendations are being made does not affect the extent to which politicians are responsive to citizen preferences.

Table B4: **Experimental Results: Letter from Party President vs. Leadership**

	Outcome: Recommended Majority's Preference
	(1)
Preferences Treatment	0.08***
	(0.02)
Received Party President's Letter	0.02
	(0.02)
Treat * President Letter	-0.03
	(0.03)
Constant	0.53***
	(0.01)
# Observations	5797

B.5 Are Politicians More Responsive on Local or Salient Issues?

The third dimension of differential responsiveness I test is the type of issue. The experimental design allows me to test differential responsiveness by issue on two dimensions: whether an issue is a local or non-local issue and how salient the issue is. I perform these test by using the following two equations that estimate heterogeneous treatment effects by issue type and salience respectively:

$$Y_{pi} = \beta_1 Treat_{pi} + \beta_2 Local_{pi} + \beta_3 Treat * Local_i + \beta_4 Within_{pi} + \gamma_s \tag{21}$$

$$Y_{pi} = \beta_1 Treat_{pi} + \beta_2 Salience_{pi} + \beta_3 Treat * Salience_i + \beta_4 Within_{pi} + \gamma_s \tag{22}$$

where $Local_{pi}$ is an indicator variable for whether issue i is one of the three local issues introduced in Section 3.1. $Salience_{pi}$ is a variable that takes on the values 0, 1/3, 2/3 or 1 based on how

salient the politician ranks the issue as in a separate set of pre-treatment questions, with a higher number indicating greater salience.

Table B5: **Experimental Results by Issue Type & Salience**

	Outcome: Recommended Majority's Preference	
	(1)	(2)
	By Issue Type	By Issue Salience
Preferences Treatment	0.065***	0.064***
	(0.015)	(0.016)
Local Issue	0.097***	
	(0.017)	
Treat * Local Issue	0.010	
	(0.026)	
Salience		0.208***
		(0.022)
Treat * Salience		0.018
		(0.033)
Constant	0.501***	0.475***
	(0.011)	(0.011)
# Observations	5797	5797

Notes: *All regressions are at the level of a politician's recommendation about a policy. Strata fixed effects are included. Standard errors are clustered by the individual politician.* $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Results show that politicians do not respond more to citizen preferences on local issues or more salient issues. Those in the control group, however, are more likely to recommend the majority's preferred policy on both the issues that are local and the issues that are salient, as shown in Table B5. Column 1 shows that on non-local issues, control politicians recommend the majority's preferred policy half of the time, and this propensity is 10 percentage points, or 20 percent, higher for recommendations made on local issues in the control group. This complements the finding that politicians know more about citizen preferences on local issues. Similarly, the propensity of control group politicians to recommend the majority's preferred policy increases from 47% for the least salient issues to 68% for the most salient issues. Taken together, these findings indicate that while the propensity to recommend the majority's preferred policy is higher for local and salient issues in the absence of treatment, more information does not lead to greater responsiveness on these issues.

B.6 Experimental Results by Individual Issue

Table B6: Experimental Results by Issue

	Outcome: Recommended Majority's Preference								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Preferences Treatment	0.151***	0.109***	-0.040	0.125***	0.065**	0.099**	0.029	0.092**	0.062
	(0.042)	(0.040)	(0.031)	(0.041)	(0.032)	(0.045)	(0.036)	(0.043)	(0.045)
Within Treatment Control	0.016	-0.002	-0.052	0.063	0.043	0.075	-0.006	0.045	-0.001
	(0.049)	(0.050)	(0.039)	(0.049)	(0.039)	(0.054)	(0.041)	(0.053)	(0.053)
Constant	0.272***	0.654***	0.876***	0.648***	0.826***	0.417***	0.183***	0.349***	0.508***
	(0.030)	(0.031)	(0.022)	(0.032)	(0.026)	(0.034)	(0.026)	(0.032)	(0.034)
# Observations	635	638	646	642	642	635	653	653	653

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual. The issues on which results are shown in each column are: (1) Sewerage vs sanitation, (2) Street lights vs. filtration plants, (3) Local roads vs. piped water, (4) Specialized healthcare vs. small general healthcare centers, (5) corruption versus unemployment as a national priority, (6) water shortages versus electricity shortages as a national priority, (7) environmental concerns over development projects, (8) support for Women on Wheels, (9) the level of taxation and services.* $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$

B.7 Responsiveness of Each Politician Type by Sub-treatment

Table B7: Experimental Results: Sub-treatment results by Politician Type

	Outcome: Recommended Majority's Preference				
	Panel A: Gender Sub-treatments				
	(1)	(2)	(3)	(4)	(5)
	All Politicians	Ward Councilors	Chair	Vice Chair	Women Councilors
Men's Preferences	0.058***	0.030	0.191***	0.062	0.068
	(0.020)	(0.026)	(0.054)	(0.061)	(0.051)
Women's Preferences	0.109***	0.119***	0.192***	0.059	0.056
	(0.020)	(0.024)	(0.057)	(0.076)	(0.047)
Both Genders' Preferences	0.063***	0.081***	0.141**	-0.036	-0.011
	(0.020)	(0.025)	(0.054)	(0.076)	(0.047)
Within-T Ctrl	0.021	0.003	0.067	0.034	0.055
	(0.018)	(0.022)	(0.050)	(0.067)	(0.040)
Constant	0.525***	0.518***	0.485***	0.558***	0.556***
	(0.011)	(0.014)	(0.028)	(0.042)	(0.026)
# Observations	5797	3629	590	532	1046
P-value Men=Women	0.033	0.003	0.990	0.969	0.836
	Panel B: Party Subtreatments				
	(1)	(2)	(3)	(4)	(5)
Own Party Supporters' Pref	0.071***	0.082***	0.168***	0.019	0.006
	(0.017)	(0.021)	(0.044)	(0.056)	(0.041)
All Citizens' Pref	0.081***	0.074***	0.175***	0.047	0.074*
	(0.018)	(0.023)	(0.052)	(0.074)	(0.043)
Within-T Ctrl	0.021	0.003	0.067	0.033	0.055
	(0.018)	(0.022)	(0.050)	(0.067)	(0.040)
Constant	0.525***	0.518***	0.485***	0.558***	0.556***
	(0.011)	(0.014)	(0.028)	(0.042)	(0.026)
# Observations	5797	3629	590	532	1046
P-value Party=All	0.593	0.735	0.909	0.702	0.148

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

B.8 Does the Gender Gap in Preferences Matter for Responsiveness?

Table B8: Experimental Results: Heterogeneity by Gender Gap in Preferences

	Outcome: Recommended Majority's Preference	
	(1)	(2)
Preferences Treatment (T)	0.074***	
	(0.023)	
Treat * Gap in Preferences	0.029	
	(0.164)	
Gender Gap in Preferences	-0.239**	-0.291***
	(0.112)	(0.111)
Within-Treatment Control	0.021	0.021
	(0.018)	(0.018)
Men's Preferences (T-M)		0.091***
		(0.032)
T-M * Gap in Preferences		-0.287
		(0.231)
Women's Preferences (T-W)		0.066*
		(0.034)
T-W * Gap in Preferences		0.420*
		(0.236)
Both Genders' Preferences (T-B)		0.070**
		(0.032)
T-B * Gap in Preferences		-0.059
		(0.237)
Constant	0.550***	0.555***
	(0.016)	(0.016)
# Observations	5797	5797
P-Value: T-M = T-W		0.538
T-M * Gap = T-W * Gap		0.014

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

B.9 Does the Partisan Gap in Preferences Matter for Responsiveness?

Table B9: Experimental Results: Heterogeneity by Partisan Gap in Preferences

	Outcome: Recommended Majority's Preference	
	(1)	(2)
Preferences Treatment (T)	0.065***	
	(0.020)	
Treat * Gap in Preferences	0.500	
	(0.557)	
Partisan Gap in Preferences	-1.840***	-1.839***
	(0.395)	(0.395)
Within-Treatment Control	0.021	0.021
	(0.017)	(0.017)
Party Supporters' Preferences (T-P)		0.057**
		(0.025)
T-P * Gap in Preferences		0.649
		(0.700)
Everyone's Preferences (T-E)		0.073***
		(0.025)
T-E * Gap in Preferences		0.358
		(0.678)
Constant	0.571***	0.571***
	(0.015)	(0.015)
# Observations	5797	5797
T-P * Gap = T-E * Gap		0.719

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens.* $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$

B.10 Does Polarization Matter?

Table B10: Experimental Results: Heterogeneity by Agreement of Opinion

	Outcome: Recommended Majority's Preference	
	(1)	(2)
Preferences Treatment (T)	0.087***	
	(0.019)	
Above-Median Agreement	0.116***	0.116***
	(0.017)	(0.017)
T * Above Median	-0.021	
	(0.026)	
Within-Treatment Control	0.018	0.018
	(0.018)	(0.018)
Men's Preferences (T-M)		0.064**
		(0.026)
T-M * Above Median		0.000
		(0.036)
Women's Preferences (T-W)		0.135***
		(0.029)
T-W * Above Median		-0.061
		(0.038)
Both Genders' Preferences (T-B)		0.072***
		(0.026)
T-B * Above Median		-0.013
		(0.038)
Constant	0.469***	0.469***
	(0.014)	(0.014)
# Observations	5797	5797
P-Value: T-M = T-W		0.033
P-Value: T-M*Above = T-W*Above		0.190

Notes: *The regression is at the politician-policy level. It employs strata fixed effects and standard errors are clustered at the level of the individual politician. The dependent variable is an indicator for whether the policy option recommended by the politician was the option preferred by a majority of the relevant subset of citizens.* $^{*}p < 0.10,^{**}p < 0.05,^{***}p < 0.01$

B.11 Does Treatment Affect Demand for Information?

How does receiving information on citizen preferences affect demand for information? The answer to this is important both for understanding the value politicians place on information and also for considering the policy implications of this study. If receiving information depresses future demand,

then policies should be designed to take maximum advantage of the limited window available before demand for information goes down. If receiving information increases future demand, then policy-makers should consider a more regular delivery of information to politicians. It is also important to consider details about the information to be provided to politicians. It is possible, for instance, that receiving information has a generally positive effect on demand for information, but has a counteracting negative effect on demand for information on the dimensions along with information is first provided.

To test these questions, I offered politicians the option of signing up for a report on the preferences of citizens in their national assembly constituency, to be delivered a few weeks after the initial visit. In order to sign up, politicians had to undertake three time-consuming tasks. One, they had to provide and verify a phone number on which they could receive the reports through the 'What's App' multimedia messaging platform. Second, they had to review four hard-copy versions of different report formats and make a choice about which one they would like. Third, they had to review a list of nine issues and choose five out of these nine issues on which their customized report would be based. As reported in Section 5.1, 67 percent of control group politicians signed up for a report, which indicates a high demand for new information in the absence of accurate prior beliefs about citizen preferences.

In comparison, 73 percent of treatment politicians sign up for the report. This difference of 6 percentage points (or 9 percent) is not distinguishable from zero at conventional levels of statistical significance, with a p-value of 0.12. When we break the choices down by the kind of report they signed up for, however, we see a pattern. The three dimensions on which demand was previously high (gender, class and partisanship) observe no differences in demand. The one dimension along with demand was lowest for the control group (age), sees a doubling of demand. This increase in demand for reports along the age dimension is statistically significantly with a p-value of 0.01. I take this as suggestive evidence that being exposed to new information about citizen preferences results in local politicians becoming more curious and open about information that they tend not to consider important under the status quo.

Table B11: **Experimental Results: Treatment Effects on Demand for Information**

	Outcome: Demand for Report				
	(1)	(2)	(3)	(4)	(5)
	Any Report	By Gender	By Class	By Age	By Party
Citizen Preferences Treatment	0.06	0.01	-0.01	0.06**	-0.00
	(0.04)	(0.03)	(0.03)	(0.02)	(0.03)
Constant	0.67***	0.22***	0.19***	0.06***	0.20***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
# Observations	653	653	653	653	653

C Data & Sampling

C.1 The Issues

The three local issues are common trade-offs that local politicians face: whether additional resources or attention should be diverted to (i) solid waste versus drainage, (ii) fixing local streets or local water fixtures, and (iii) installing new street lights or new water filtration plants for clean drinking water. These six services are ranked by both citizens and politicians as being critical at the local level.

The six higher tier issues comprise both particular services or programs and policy issues. The *higher-tier services or programs* include the question of whether the government should prioritize the establishment and improvement of small clinics or large hospitals that provide specialized care. Second, they include whether the government at the national level should focus more on addressing electricity shortages or water shortages. Third, it includes a recent program by the provincial government to subsidize motorbikes for women, titled 'Women on Wheels'.

The *higher tier policy issues* are: (i) whether the government should address corruption or unemployment on a prioritized basis, (ii) whether infrastructure development project should go ahead if they risk causing environmental damage and (iii) whether the level of taxation and services should be decreased, should stay the same or should increase.

C.2 Sampling Strategy for Voter Survey

C.2.1 UC's and Wards

The sampling frame for the voter survey includes all households in 86 Union Councils in 4 geographically contiguous National Assembly (NA) constituencies in Lahore, Pakistan. The household survey sample is the same one used for Cheema et al. (2019). For three of the four NA constituencies (NA-125, NA-126 and NA-127), the sampled UC's comprise the universe of UC's that are contained in the NA. These numbered 23, 32 and 23 Union Councils respectively. For the remaining NA-128, a total of 8 geographically contiguous UC's were sampled. Within each UC, either (i) all six wards were sampled, for a randomly selected 28 UC's, or (ii) 5 out of 6 wards were sampled, for a randomly selected 48 UC's.

C.2.2 Individuals Within Wards

We used GIS software to drop 5 pins at random locations within the ward, with a minimum distance of 50m between any two pins. A team of enumerators comprising one male and one female enumerator proceeded to the random point using Google Maps. After arriving at the pin, the enumerator team used the left hand rule to select a house to survey, which was described to enumerators as follows:

- Always follow the left-hand side of the street, such that houses are on your left-hand side and the street is on your right-hand side.
- From the start, leave the first four houses and knock on the door of the 7th house to survey. A house is defined as any building where people live, even if it has more than one families, it counts as one house.
- When you successfully survey a household, skip four houses and survey the 7th house on your left hand side.
- In the case when a household refuses or does not respond, do not skip houses. Go to the next house on the right. If that house also refuses, go to the house on the right of the house that originally refused. Once you are successful, then skip 6 houses again and survey the 7th household.
- If you reach the end of the street, turn left.
- If there are no more houses on the left-hand side or if you reach the ward boundary, cross the road/street and start walking in the opposite direction and follow the left-hand rule from there.
- If by following the left-hand rule you reach a house you already crossed, cross the road/street and start walking in the opposite direction and follow left hand rule from there.

Once a household has been selected using the left hand rule, the enumerators knock, introduce themselves to the person who opened the door and obtain consent. After obtaining consent, they note the number of adult men and women in the household. The survey software randomly selects male and female respondents from the household. The enumerators survey the selected respondents after obtaining consent.

C.2.3 Enumerator Training & Assignment

Experienced enumerators employed by the IDEAS in-house survey wing underwent an extensive in-office training session followed by an out-of-sample field pilot and a day of post-pilot debriefing. Following the training and piloting, the enumerators were assigned to teams comprising one female and one male enumerator each. Each team was randomly assigned a randomly picked set of 6-7 Union Councils. The order in which each team surveyed each Union Council was also randomly picked. Enumerators surveyed respondents of their own gender. A number of supervisors monitored each team on a rotating basis and data quality checks were applied on a daily basis as the enumerators uploaded surveys to the server.

C.3 Sampling Politicians

The sampling frame for the politicians includes all 776 PML-N elected local representatives in the 86 Union Councils elected in the 2015 Local Government Election. We were able to survey 653

local politicians, which constitutes 84% of all PML-N local elected representatives in the study area. This response rate compares favorably to other surveys of elite populations, which ranges from 15-20% in the United States (Butler and Dynes, 2016) to 15% in Canada, 25% in Israel and 75% in Belgium (Sheffer et al., 2018).

Table C12: **Response Rates by Politician Type**

Position	Universe	Surveyed	Percentage
General Member	475	411	86.5%
UC Chairman	77	66	85.7%
UC Vice-Chairman	77	60	77.9%
Woman Councilor	147	116	78.9%
Total	776	653	84.1%

The reasons for not being able to survey the remaining 123 includes death (14 politicians had passed away since their election), illness, migration, de facto retirement, and a lack of interest in being part of this study.

C.4 Randomization

The following is a complete list of randomizations performed for this study.

C.4.1 Politician Level

Politicians are divided into blocks defined by the National Assembly their Union Council is housed in and the position they serve in. All General Members in NA-125, for instance, constitute a block. Within each block, the following politician level randomizations take place:

- Preferences treatment: Each politician is assigned to one of six treatment groups ($p = 1/9$ each) or the control group ($p = 1/3$). The six treatments include receiving information on the preferences of (i) all citizens, (ii) men only, (iii) women only, (iv) all PML-N supporters, (v) male who support PML-N and (vi) women who support PML-N.
- Prior questions group: Each politician assigned to a treatment group is asked for their priors about that group. In the control group, each politician is randomized into being asked for their priors on one out of the six subgroups ($p = 1/6$ each).
- Letter Treatment: Each politician is assigned to receive the 'General Letter' or the 'President Letter' ($p = 1/2$ each).
- Priming: Each politician is assigned to receive the 'Citizens' Prime, the 'Own' prime, both of the primes or no prime ($p = 1/4$ each).

C.4.2 Issue Level

The nine issues are divided into three blocks of three issues each.

- For each treatment politician, the order in which treatment about each block is delivered is randomized. There are six possible permutations, and politicians are placed into each permutation with $p = 1/6$ each.
- Within each issue group, treatment politicians receive information about a particular issue with $p = 2/3$.

C.4.3 Union Council Level

Each Union Council is randomized into one of 9 'orders'. The experiment is conducted with all of the Union Councils in one order before moving on to the next. The alternate recommendations elicited through phone calls are elicited for order numbers 4, 5, 7, 8 and 9. While these orders were picked by the party based on availability, the collection of this outcome is uncorrelated with treatment since the orders were picked randomly.

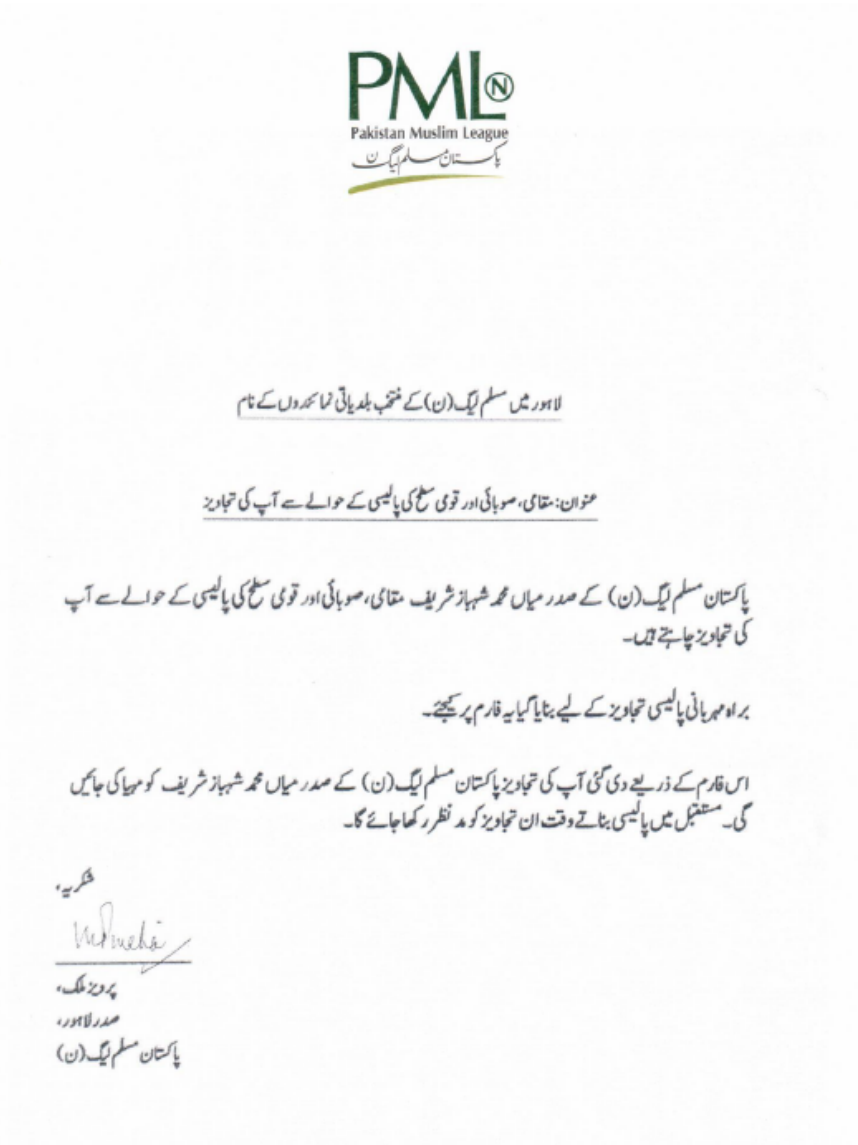
D Examples of Direct and Indirect Influences

These photographs provide anecdotal evidence of ways in which local politicians influence outcomes for citizens. The first picture shows an example of direct provision: a street light is installed directly due to the efforts of two local politicians, with their names being visible on the street light as a way to claim credit. The second picture shows an example of upward transmission of a local service delivery need to higher-tier party leadership. The filter plant mentions the "special effort" of local politicians elected from UC-32 who lobbied for the filter plant as well as the name of the Member of National Assembly (in this case, Hamza Shahbaz) who made it happen.

E Materials

E.1 Party Letter to Local Politicians

This letter is addressed to the local elected representatives of PML-N in Lahore District, and is signed by the Lahore District President of PML-N. It states that the party leadership is seeking the recommendations of the party's local elected representatives on a set of local and higher-tier service delivery issues and requests them to fill out the recommendation form. It states that these recommendations will be provided to the party leadership and will be considered when making policy decisions. There were two variants of this letter: one mentioning the party leadership generally and one mentioning the PML-N President Shehbaz Sharif directly.



PML(N)
Pakistan Muslim League
پاکستان مسلم لیگ ن

لاہور میں مسلم لیگ (ن) کے منتخب بلدیاتی نمائندوں کے نام

عنوان: مقامی، صوبائی اور قومی سطح کی پالیسی کے حوالے سے آپ کی تجاویز

پاکستان مسلم لیگ (ن) کے صدر میاں محمد شہباز شریف مقامی، صوبائی اور قومی سطح کی پالیسی کے حوالے سے آپ کی تجاویز چاہتے ہیں۔

براہ مہربانی پالیسی تجاویز کے لیے بنایا گیا یہ فارم پر کیجئے۔

اس فارم کے ذریعے دی گئی آپ کی تجاویز پاکستان مسلم لیگ (ن) کے صدر میاں محمد شہباز شریف کو مہیا کی جائیں گی۔ مستقبل میں پالیسی بناتے وقت ان تجاویز کو مد نظر رکھا جائے گا۔

شکریہ،

پرویز ملک،
صدر لاہور،
پاکستان مسلم لیگ (ن)

E.2 Sample Page from Data Report

This is a sample of the citizen preferences treatment, providing politicians with data on what citizens prefer on a set of two local service delivery issues. It starts by stating the population whose preferences are being provided and giving some details about the survey. It then provides the proportions of citizens who preferred one option over the other in a set of three binary issues. The overall treatment consisted of three such pages.

حالیہ سروے پر مبنی عوام کی ترجیحات

کچھ پالیسیوں پر ہم آپ کو آپ کے وارڈ اور یونین کونسل سمیت قومی اسمبلی کے حلقے میں

مسلم لیگ (ن) کی حمایت کرنے والے مرد حضرات

کی رائے سے آگاہ کریں گے۔

یہ معلومات ہمارے حالیہ سروے پر مبنی ہیں جو کہ آپ کے حلقے سمیت لاہور کے مختلف حلقوں میں کیا گیا۔

یہ سروے الیکشن کے دو مہینے بعد اکتوبر ۲۰۱۸ میں کیا گیا، یعنی کہ شہریوں کی ترجیحات کے بارے میں یہ جدید ترین سروے ہے۔

سروے بین الاقوامی سٹینڈرڈز کے مطابق کیا گیا۔ آپ کو دی گئی معلومات صرف آپ کے حلقے کے سروے سے لی گئی ہیں۔

گلیوں کی صفائی یا نکاسی؟	
فیصد کا کہنا تھا کہ نکاسی زیادہ بڑا مسئلہ ہے	NA
فیصد کا کہنا تھا کہ گلیوں کی صفائی زیادہ بڑا مسئلہ ہے	NA

فلٹر پلانٹ یا سٹریٹ لائٹ؟	
فیصد کا کہنا تھا کہ سٹریٹ لائٹ زیادہ بڑا مسئلہ ہے	37
فیصد کا کہنا تھا کہ فلٹر پلانٹ زیادہ بڑا مسئلہ ہے	63

پانی کی سپلائی یا مقامی سڑکیں اور گلیاں؟	
فیصد کا کہنا تھا کہ مقامی سڑکیں اور گلیاں زیادہ بڑا مسئلہ ہے	14
فیصد کا کہنا تھا کہ پانی کی سپلائی زیادہ بڑا مسئلہ ہے	86

E.3 Sample Template for Future Preferences Report

منتخب بلدیاتی نمائندگان کے لیے شہریوں کی ترجیحات کی رپورٹ

نوجوان، درمیانی عمر اور زیادہ عمر کے شہریوں کی ترجیحات

نوجوان شہریوں کی ترجیحات (یہاں ترجیحات کا سوال آئے گا)	
---	فیصد نوجوان شہریوں کا کہنا تھا کہ وہ پہلے جواب کو ترجیح دیتے ہیں
---	فیصد نوجوان شہریوں کا کہنا تھا کہ وہ دوسرے جواب کو ترجیح دیتے ہیں

درمیانی عمر کے شہریوں کی ترجیحات (یہاں ترجیحات کا سوال آئے گا)	
---	فیصد درمیانی عمر کے شہریوں کا کہنا تھا کہ وہ پہلے جواب کو ترجیح دیتے ہیں
---	فیصد درمیانی عمر کے شہریوں کا کہنا تھا کہ وہ دوسرے جواب کو ترجیح دیتے ہیں

زیادہ عمر کے شہریوں کی ترجیحات (یہاں ترجیحات کا سوال آئے گا)	
---	فیصد زیادہ عمر کے شہریوں کا کہنا تھا کہ وہ پہلے جواب کو ترجیح دیتے ہیں
---	فیصد زیادہ عمر کے شہریوں کا کہنا تھا کہ وہ دوسرے جواب کو ترجیح دیتے ہیں

E.4 The Experimental Setting

This picture shows a typical setting in which the research team's interaction with politicians took place. Politicians typically met us in their offices. After a few survey questions, the research team member orally explained the three-page report on citizen preferences to treatment politicians. Next, they were given the letter from their party leadership shown in Appendix C and given a blank recommendation form from their party leadership, a blank envelope and some tape. They were asked to fill the form in private, sign the form, tape the envelope and to sign over the tape.