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I. Introduction

The role of trust on economic growth and the efficiency of large organizations has been well documented in the literature. For example, LaPorta et al., (1997, 1999) provide evidence linking trust and the success of large organizations and the efficiency of government. A related body of work has explored the link between trust and growth (Knack and Keefer, 1997) and patterns of trade/investment flows amongst European nations (Guiseo, Sapienza, and Zingales, 2009). Taken in its totality, this body of work shows the central importance of trust on economic development and societal well-being. Intuitively, trust provides a means to facilitate economic activity as it reduces an important barrier to trade – the need to undertake costly efforts to learn about the trustworthiness of others (Zak and Knack, 2001).

A related construct used to measure life-satisfaction and social welfare is the notion of subjective well-being. Subjective well-being has been shown to provide a reliable indicator of well-being (Krueger and Schkade, 2008) and has been shown to reflect changes in income or material living standards (Sacks et al., 2010). Moreover, the notion of subjective well-being has been used to measure the impact of various policy measures such as German re-unification (Frijters et al., 2004) and cigarette taxes (Gruber and Mullainathan, 2005) on the target population of interest.

The importance for trust on economic growth and the link between measures of subjective well-being and material living standards is particularly noteworthy for nations such as Pakistan where citizens have been exposed to militancy and severe conflict over the past decades. Exposure to conflict has been shown to erode both general levels of trust (see e.g., Glaeser et al., 2000; Alesina and LaFerrara, 2002) and measures of subjective well-being (see, e.g., Frey et al., 2009; Dolan and Metcalfe, 2011). The first aim of this report, is to explore the extent to which exposure to conflict impacts such measures for those living in Khyber Paktunkwa (KPK) and the Federally Administered Tribal Areas (FATA) – regions that have been hit particularly hard by conflict and radical militancy.

A second aim of this project is to evaluate the impact of government reforms designed to (i) strengthen human rights, (ii) increase the transparency of the government, and (iii) improve the performance of the civil sector. Such reforms were enacted as part of an on-going collaboration amongst the provincial government and international donors to promote economic

growth and trust in the government as a means to counter radicalism/prevent future acts of militancy. Before proceeding, we should note that we are unable to measure such outcomes directly given the relatively short time-horizon of our study. Rather we focus on the impact of such reforms on precursors of economic growth and political trust.

To accomplish our aims, we collect survey data from a repeated cross-section of the adult population in both KPK and FATA. Our data collection efforts combine information gathered via both a longer, in-person questionnaire administered by researchers from the University of Peshawar and a shorter sets of questions that was administered by a robot caller. The first wave of data collection was initiated during the fall of 2014 and the second approximately six months later during the spring of 2015. Importantly, these waves spanned a targeted messaging campaign that was designed to make salient the government reforms of interest along with the underlying motivation for the given reform.[1] The messaging campaign was initiated during the winter of 2015 and relied upon robo-calls delivered to a subset of all cell-phone numbers in randomly selected tehsils throughout KPK and FATA.

Although the ideal identification strategy would rely upon a random roll-out of the reforms across tehsils, we believe that our approach provides a viable alternative given the growing body of work showing that targeted messages are powerful tools to promote a variety of behaviors such as energy and water conservation (Allcott, 2008; Ferraro and Price, 2013; Kahn and Wolak, 2013; Ito et al., 2015) or charitable contributions (Shang and Croson, 2010; List et al., 2015). Perhaps more important, similar effects have been shown in the context of tax compliance (Kleven et al., 2012; Hallsworth et al., 2014) and other instances where the message (information of interest) was transmitted by the government directly (e.g., Kling et al., 2011; Liebman and Luttmer, 2011).

Empirical results provide mixed evidence on effectiveness of our messaging campaign. While the messages impact measures of trust, subjective well-being and perceptions about the quality of service delivery in KPK, there is no effect of the campaign on respondents in FATA. Importantly, however, such effects are more pronounced amongst those who have been exposed to conflict during the past year. Moreover, given prior work linking political trust to an individual's confidence in government institutions as captured by perceptions of quality and

[1] It is important to note that our approach thus does not allow us to measure the impact of the underlying reforms per se. Rather, our approach relies upon the assumption that the messages make salient such reforms and thus exogenously shock beliefs about the strength of local institutions and individual rights.

performance (see, e.g., Hetherington, 2005; Newton, 2007; Hutchison and Johnson, 2015), the impact of our awareness campaign on reported satisfaction with civil service delivery and perceptions about the quality of the justice and governance systems is noteworthy and provides a necessary first step in rebuilding overall trust in the state.

II. Study Design and Messaging Campaign

The aim of our empirical analysis is twofold. First, we set forth to examine how exposure to conflict impacts (i) general levels of trust, (ii) attitudes towards various public and religious institutions, and (iii) measures of overall life-satisfaction. There is a growing body of work showing that exposure to conflict serves to erode both general levels of trust (see e.g., Glaeser et al., 2000; Alesina and LaFerrara, 2002) and measures of subjective well-being (see, e.g., Frey et al., 2009; Dolan and Metcalfe, 2011). However, we are unaware of any work exploring how exposure to conflict impacts such measures in the context of Pakistan and regions such as Khyber Paktunkwa (KPK) and the Federally Administered Tribal Areas (FATA) where citizens have been exposed to continued militancy and conflict for more than two decades.

Second, we want to explore whether targeted messages designed to make citizens aware of government reforms that aim to increase transparency, improve service delivery, and strengthen the protection of private property/human rights influence overall levels of trust and attitudes towards public institutions that are integral for economic development in the region. Importantly, such messages will allow us to evaluate whether and how perceptions about the quality and performance of government institutions impacts overall levels of political trust – a key outcome under the PCNA.

To accomplish these aims, we designed an in-person survey that was conducted in randomly selected villages throughout Kyber Pakhtunkwa and the Federally Administered Tribal Areas. Copies of the survey for each region are included in Appendix A. The in-person survey was administered in two waves by our partners from the University of Peshawar. The first wave of data collection was done in the fall of 2014 prior to our messaging campaign while the second wave was done in early spring of 2015 approximately two months after our messaging campaign was completed.

Table 1 lists the villages in each region that were included in our survey along with information on; (i) the number of responses per village in each wave, (ii) an indicator for whether the village was in an urban or rural area, and (iii) an indicator for whether the village

was randomly assigned to receive the various messages that were included in our study design. As noted in the table, we administered a total of 3,741 surveys across 34 villages located in 8 tehsils throughout KPK – 1,823 during the first wave of data collection and 1,918 during the second wave. Of these villages, 10 were located in urban areas and the remaining 24 were located in rural areas of the province.

Our final sample from FATA includes 1,814 unique respondents drawn from 19 rural villages. Of these surveys, 893 were completed during the first wave of data collection and the remaining 921 during the second wave. Although we visited the same set of villages in both waves of the survey, the final data set is comprised of a repeated cross-section with a unique set of households included in each wave of the survey.

To expand the scope of these data collection efforts, we complemented the in-person survey with a shorter questionnaire (Appendix B) that was administered using robot callers. Importantly, the phone survey allowed us to sample individuals living in villages that were inaccessible to our survey team due to military action or other forms of conflict. Table 2 lists the tehsils in each region that were included in the phone survey along with information on; (i) the number of respondents per tehsil in each wave, (ii) an indicator for whether or not villages from the given tehsil were included in the in-person survey, and (iii) an indicator for whether the tehsil was randomly assigned to receive the various messages that were included in our study design.

As noted in the table, we administered a total of 30,473 phone surveys across 46 tehsils located throughout KPK – 15,005 during the first wave of data collection and 15,468 during the second wave. Of these tehsils, 8 included villages that were sampled as part of our in-person survey. Our final sample for FATA includes data from 9,748 individuals drawn from 12 distinct tehsils – 4,874 surveys conducted during each wave of data collection. Of the 12 tehsils included in our phone survey, 5 included villages that were sampled as part of the in-person survey efforts.

The Awareness Campaigns – Why Targeted Messages

A growing body of work suggests that targeted messages and normative appeals are powerful tools to promote a variety of behaviors such as energy and water conservation (Allcott, 2008; Ferraro and Price, 2013; Kahn and Wolak, 2013; Ito et al., 2015); charitable contributions (Shang and Croson, 2010; List et al., 2015); or tax compliance (Kleven et al., 2012; Hallsworth

et al., 2014). We build upon this literature to design a series of targeted messages that make salient a number of government reforms and the underlying motivation for such.

The messages were disseminated via text message and/or robot calls to a random sample of cell phone holders throughout KPK and FATA. Delivery of the messages occurred between the first and the second wave of our in-person and phone surveys. As we observe surveys in areas that receive our targeted messages and others that do not receive the messages, we are able to use difference in differences methods to explore how trust and attitudes towards various institutions are impacted by awareness of government programs designed to (i) increase the transparency and/or efficiency of the local government, (ii) strengthen the rights of citizens, and (iii) provide citizens an easy way to file and track complaints should they believe their rights were violated. To the extent that such campaigns exogenously shock beliefs about the strength of local institutions and individual rights, our approach thus allows us to identify the importance of such beliefs on overall levels of trust and attitudes towards public institutions.

Reforms and Messages in KPK

The messaging campaigns in KPK focused on three distinct government reforms; (i) the Right to Information Act, (ii) the Right to Services Act, and (iii) an e-Grievance system established as part of the Peshawar High Court. The Right to Information Act (RTI) was passed by the provincial assembly in October of 2013 and assented to by the governor in November of that same year. The objective of the RTI was to ensure that citizens were provided access to information about issues of public importance and thus increase the transparency of government. To achieve this aim, the act created an electronic platform for citizens to submit requests for information and an independent commission to oversee such requests and ensure that they are processed in a timely manner.[2]

The Right to Services Act (RTS) was passed by the provincial assembly in January 2014 and assented to by the governor in that same month. The objective of the RTS was to ensure improved public service delivery. To achieve this aim, the act established time limits and other requirements for the delivery of various public services and penalties for civil servants that fail to meet these guidelines. Moreover, the RTS established a grievance redress mechanism that

[2] For additional information on the Right to Information Act see http://www.kprti.gov.pk/rti/index.php

allows citizens to file on-line complaints if they believe that a public servant failed to meet the pre-specified guidelines.[3]

The e-Grievance redress system was established by the human rights directorate of the Peshawar High Court in conjunction with the World Bank. The objective of the e-Grievance system was to establish an on-line platform to allow citizens to file complaints related to violations of basic human rights and the dispensation of justice. The system was designed to provide two-way communication between citizens and members of the human rights directorate that allows complainants to track the progress of their claim and receive feedback on its ultimate dispensation.[4]

To disseminate information on the various acts, we designed a series of targeted messages in conjunction with the governance support unit in KPK that were distributed via robo-calls to randomly selected cell phone holders living in KPK. The message for RTI robo-call in part reads:

> …KPK's RTI laws and commission allow you to gather information from any government office in KPK. A public commission officer has been appointed in every governmental department who will provide information about the particular department. For more information…go to www.kprti.gov.pk. Thank you…

The initial robo-calls were immediately followed by a subsequent SMS message that varied in content but included language that focused on one of three main themes; (i) that the law affords everyone the right to know how government works, (ii) that the law was designed to ensure government transparency, or (iii) that the law allows individuals to ensure that government is working for them. The specific wording of the SMS text messages are provided in Appendix C.

The messaging campaign for RTS included an initial robo-call followed by two subsequent rounds of SMS messages inquiring about the use of particular services covered under the act. The exact wording of the initial robo-call is included in Appendix C but in part reads:

[3] For additional information on the Right to Services Act see http://www.rts.gkp.pk/rtsweb/

[4] For additional information on the Human Rights Directorate and the e-Grievance redress system, see http://www.hrdphc.com/index.php

> …government has passed the Right to Services Act 2013 which now ensures that citizens should get certain services as a right without inconvenience or facing coercion….You can contribute to strengthening this system by answering a few short questions regarding your use of any of these services…

The recipient was then provided a list of services covered under the act and asked to press 1 if they had used any of the services in the past three months and would like to provide feedback on their experience. Those who pressed one were sent a follow up text asking them to indicate which services they had accessed in the past three months. This was followed by a second text asking them to describe their experience.

The messaging campaign for the e-Grievance redress system followed a similar protocol to that for the Right to Information act. A random subset of cell phone holders in a tehsil received a robo-call that in part reads:

> …The High Court has established a system where you can record your grievance if you feel your basic rights have been violated. You can record your grievance by visiting the website….

The call closes by asking the recipient if they believe that (i) their rights have been violated and would like to use the new service, (ii) their rights have been violated but would not like to file a complaint using the new service, or (iii) their rights have not been violated and thus do not feel the need to use the service at the current time.

Reforms and Messages in FATA

The messaging campaign in FATA focused on a single government reform – the introduction of an anti-corruption hotline to allow individuals to file and subsequently track claims with the Governor's Inspection Team (GIT).[5] Specifically, the anti-corruption hotline allows citizens to submit complaints related to (i) incidences of financial abuse or bribery, (ii) misuse of authority or fraudulent practices, and (iii) failure in the delivery of basic services. Moreover, the anti-corruption hotline was designed to provide a means for two-way

[5] Additional information about the Governor's Inspection Team and the anti-corruption hotline can be obtained at http://www.git.gov.pk/about_git.php

communication between citizens and GIT as complaints are investigated and subsequently resolved.

To disseminate information about the establishment of the anti-corruption hotline, the messaging campaign includes two rounds of robo-calls followed by up to two additional rounds of SMS text messages. For the first round of robo-calls, randomly selected cell phone numbers throughout FATA received a voice message that in part reads:

> …In order to improve governance and delivery of basic services in FATA, the Government intends to involve FATA residents in this process to build their ownership and take measure to ensure good governance and provision of basic services….

Less than a week later, a subset of the initial recipients was sent a second voice message providing additional detail on the anti-corruption hotline. This second message in part read:

> …the Governor's Inspection Team has launched a complaint redressal hotline that allows you to file complaints if you have personally faced or have knowledge of incidences of bribery, financial misappropriations in development projects, fraudulent distribution of public funds, misuse of authority, or especially failure in the provision of basic services in Agencies and FR regions….

The voice message was followed immediately by an SMS text providing the phone number and web address for those wishing to learn more about the anti-corruption hotline or to file a complaint.

Recipients of the second voice message were subsequently set an additional text message providing a list of services covered under the act and asked if they had used any of the services in the past three months and would like to provide feedback on their experience. Those who indicated that they had used one of the listed services and were willing to provide feedback were sent a final text providing a list of options to describe their experience – e.g., the service was provided without delay and met expectations, the service was provided after receipt of a bribe, or the provision of the service was denied completely. The exact scripts for the voice messages and subsequent SMS texts are contained in Appendix D.

Experimental Design - KPK

Prior to the start of our experiment and the initial wave of data collection, the 48 tehsils throughout KPK were randomly assigned to either a control group that received no messages about the various reforms or one of seven treatment groups that received messages providing information about some subset of the reforms. The messaging campaign was initiated during the second week of December 2014 and continued through the remainder of the month.

Table C1 in the appendix provides detail on which tehsils were assigned to the various treatment groups along with information the tehsil's population in 2013 and the number of individuals within that tehsil who received messages of a given type. As noted in the table, only a fraction of residents in any tehsil received our messages as our partners in the governance support unit had a limited budget for the messaging campaign. For example, approximately 1.8 percent of the nearly 1,680,000 residents in Swat received information about the right to information act.

In treatment groups where residents received information on more than one reform, the recipients of any one message represent independent draws from the set of known cell phone numbers for recipients in the tehsil. For example, in Lahore, approximately 1.7 percent of the nearly 475,000 residents received information about the right to information act and another 1.2 percent received information about the right to services act. In this regard, we observe variation in both the intensity of treatment within a tehsil and the range of reforms that were advertised during our messaging campaign.

Experimental Design - FATA

Prior to the start of our experiment and the initial wave of data collection, the twenty four subdivisions throughout FATA were randomly assigned to either a control group that received no information about the anti-corruption hotline or one of two treatment groups – one who received the initial voice message and subsequent SMS texts and a second that received both voice messages and the subsequent SMS texts. The messaging campaign was initiated during the last week of February 2015 and continued through the second week of March.

Table D1 in the appendix provides detail on which subdivisions were assigned to the various treatment groups along with information on the agency/frontier region in which the subdivision is located, the subdivision's population in 2013, and the number of individuals within the subdivision who received messages of a given type. As noted in the table, only a

fraction of residents in any subdivision received our messages as our partners in the governance support unit had a limited budget for the messaging campaign. For example, approximately 2.8 percent of the 597,350 residents in the Khar subdivision received our initial voice message and subsequent SMS text messages.

III. Survey Results and the Determinants of Trust - KPK

We begin by exploring the role of conflict and our experimental interventions on overall levels of trust and beliefs about the fairness or intentions of others in KPK. To do so, we follow the prior literature (e.g., Alesina and LaFerrara, 2002; Glaeser et al., 2000) and rely upon three questions borrowed from the General Social Survey. Overall levels of trust are measured based on response to the question: "Generally speaking would you say that most people can be trusted or that you can't be too careful in dealing with people?" Beliefs about the fairness of others are measured using response to the question: "Do you think most people would try to take advantage of you if they got the chance, or would they try to be fair?" And, beliefs about the intentions of others are measures using response to the question: "Would you say that most of the time people are trying to be helpful, or that they are mostly just looking out for themselves?"

Table 3 provides summary statistics for these questions for two subsamples of interest – individuals who have been exposed to violence in the past year and those who have not been exposed to violence over this period – from the first wave of the survey in KPK. To identify exposure to violence, we develop an indicator based upon response to question #45 of the survey: "How much violence have you or a member of your family witnessed over the past year?"[6] As noted in the table, exposure to violence serves to erode trust; respondents exposed to violence are approximately 6.9 percentage points less likely to report that others can be trusted. This finding shares similarity with Alesina and LaFerrara (2002) who show lower levels of trust amongst those with a recent history of trauma.

We observe similar impacts of exposure to violence on beliefs about the fairness and intentions of others. Respondents exposed to violence are 9.5 percentage points less likely to report that others would try to be fair and 5.7 percentage points less likely to report that others are helpful. Importantly, all three of these differences are statistically significant at the $p < 0.05$ level using a test of proportions.

[6] Specifically, we consider two indicators for exposure; (i) anyone who reports exposure greater than the sample mean and (ii) anyone who reports exposure greater than one-standard deviation above the sample mean. The qualitative nature of all results is unaffected by which definition we use.

Having shown that exposure to conflict impacts attitudinal measures of trust and beliefs about others, we next explore the effect of our messaging campaigns and awareness of the underlying reforms they outline on these same measures. To do so, we exploit the repeated nature of our survey and the fact that only a subset of the villages in the sample received messages. Importantly, this allows us to estimate a difference-in-differences model to isolate the impact of our messaging campaign from other macro level changes in the region that could also impact the attitudes of interest.

Specifically, we estimate a series of linear probability models of the form:

$$y_t = \alpha_0 + \beta_0 T + \beta_1 W + \beta_2 TW + \gamma X_t + \varepsilon_t$$

where, y_{it} is the response of interest for individual i in wave t, T_i is an indicator variable that equal one if the respondent resides in a village that received targeted messages, W_t is an indicator variable that equals one if the survey is from the second wave (the post-intervention period), and $\boldsymbol{X_{it}}$ is a vector of demographic variables for the respondent. To account for correlation in responses within a village, we cluster standard errors at the village level. Within this set-up, β_2 is our coefficient of interest and captures the effect of treatment on the associated outcome of interest.

Empirical results are contained in Table 4 and provide evidence that our messaging campaigns increased trust and beliefs about others. For example, consider results from the first column of the table which explores the determinants of trust in others. As noted in the table, respondents from treated villages are approximately 32 percentage points less likely to indicate that others can be trusted in the initial wave of our survey than are counterparts in the control villages. However, in the post-intervention period, respondents from treated villages are approximately 11 percentage points more likely than counterparts in control villages to indicate that others can be trusted. Importantly, the resulting difference in differences effect is significant at the $p < 0.01$ level suggesting that our messaging campaigns had a positive impact on trust.

We observe a similar effect of our messages on beliefs that others are helpful. As noted in the fifth column of the table, respondents from treated villages are approximately 14.1 percentage points less likely than counterparts in the control group to indicate they believe that

others try to be helpful in the initial survey wave. However, this difference falls by more than 82 percent in the post-intervention period – a change that is significant at the $p < 0.05$ level.[7]

Having shown that our messaging campaign influences trust, we next explore whether the effects are more pronounced amongst those who have been exposed to violence. To do so, we augment our baseline regression model to include our indicator for exposure to violence, the interaction of this term with our indicator for the second wave of the survey, and the triple interaction term that equals one for a respondent living in a treated village that was exposed to violence and interviewed during the second wave of our survey. Results for these specifications are included in the even numbered columns of Table 4 and suggest that treatment has a larger effect on respondents who were exposed to violence. However, this difference is only significant when considering the impact of treatment on the belief that others are helpful.

Importantly, these results suggest that the underlying reforms, or more precisely, awareness of such, serves to mitigate the impact of conflict on trust and trustworthiness. From a policy perspective, such heterogeneity is noteworthy given prior work suggesting that lower levels of social capital (trust) are associated with increased rates of crime (see, e.g., Sampson et al., 1997; Wilkinson et al., 1998; Kawachi et al., 1999). As such, the awareness campaign should help advance an important objective of the PCNA – to counter insurgency and reduce the likelihood of future acts of violence.

Satisfaction with Government and Trust in Specific Institutions

A fundamental aim of the reforms included in our messaging campaign was to restore trust in government and improve the delivery of key public services. To explore whether our awareness campaign promoted greater satisfaction with public institutions and service delivery, we re-run our baseline difference-in-differences specification on response to the following set of questions: (i) I am satisfied with the quality of services provided by the political administration; (ii) Over the past year, the Provincial Government has taken efforts that have improved the system of justice in your district; and (iii) Over the past year, government actions have improved the governance systems in your region. For each of these questions, respondents were asked to

[7] We observe a similar impact of treatment on response to question #52 which asks respondents to indicate the extent to which they believe it is wise to use caution before trusting strangers. As noted in the seventh column of Table 4, the differences in differences estimator for this model is negative and significant at the $p < 0.01$ level suggesting that our messaging campaign causes respondents to believe it to be less important to use caution when dealing with strangers.

indicate on a scale from one (strongly disagree) to ten (strongly agree) the extent to which they agreed with the given statement.

Empirical results from these models are presented in Table 5 and suggest that our awareness campaign had an impact on perceptions about the quality of public services. The DiD estimator in column 1 of the table (2.85) is equivalent to an approximate one-standard deviation increase in reported satisfaction with the quality of services provided by the public administrator. We observe smaller, and statistically insignificant, effects of our awareness campaign on perceived changes in the quality of the justice and governance systems.[8]

Exploring these results a level deeper by expanding our baseline specification to include controls for exposure to violence, we see that the effect of treatment on perceptions about the quality of public services is greater for agents that have been exposed to violence in the past year. As noted in the second column of the table, the impact of our awareness campaign is approximately 50 percent larger than that observed for counterparts in treated villages who were not exposed to violence in the past year – a difference that is statistically significant at the $p < 0.05$ level.

Interestingly, while we find that our awareness campaign has no impact on perceived changes in the quality of the justice system or system of governance in the region, exposure to conflict does impact such perceptions. As noted in the fourth and sixth columns of the table, the coefficients on our indicators for exposure to violence correspond to an approximate third of a standard deviation (fifth of a standard deviation) increase in perceived improvements in the justice system (system of governance).

Given prior work linking political trust to an individual's confidence in government institutions as captured by perceptions of quality and performance (see, e.g., Hetherington, 2005; Newton, 2007; Hutchison and Johnson, 2015), the impact of our awareness campaign on reported satisfaction with civil service delivery and perceptions about the quality of the justice and governance systems is noteworthy. Such changes represent a necessary first step in rebuilding trust in the state and associated government institutions.

Having shown that our awareness campaign and exposure to violence have an impact on perceptions regarding the quality of public service delivery and improvements in both the

[8] The qualitative nature of our findings are unchanged if we use an ordered probit model to examine our outcomes of interest or transform the response to all likert scale questions to a standard normal.

governance and justice systems, we next explore how these same factors influence confidence in various public and religious institutions. Specifically, we examine trust in seven distinct institutions; (i) the mosque, (ii) the municipality, (iii) the police department, (iv) the district court, (v) state media, (vi) the federal government, and (vii) the civil services. To do so, we asked respondents to indicate on a scale from one (no confidence) to ten (very high confidence) the amount of confidence they had in the given institution and use these responses as the dependent variable in our baseline econometric model.

Empirical results are presented in Table 6 and suggest that our awareness campaign increased confidence in local institutions such as the district court and the municipality but had no impact on confidence in national (the federal government) or religious (the mosque) institutions. For example, the estimated coefficient on our DiD term of interest in column seven (2.01) corresponds to an approximate 0.8 standard deviation increase in reported confidence in the district court. In contrast, the estimated coefficients for the DiD terms for our models exploring confidence in the mosque (column 1) and federal government (column 11) are small – approximately one-fifth of a standard deviation – and statistically insignificant.

Such a pattern of results is comforting as the reforms highlighted in our messaging campaign were passed at the provincial level and should thus have no impact on confidence in federal or religious institutions. It thus appears as if the differential changes we observe for treated villages relative to control villages in the post-intervention period is driven by our awareness campaign rather than unobserved village level shocks. Moreover, political trust is a learned behavior that captures perceptions across a wide array of services that are formed over a long time horizon (Ridley, 1997; Newton, 2007). That our awareness campaign had but small effects on trust in institutions such as the municipality and the civil service is to be expected. Rebuilding trust in such institutions requires time.

Happiness and Measures of Subjective Well-Being

We next explore the impact of exposure to conflict and our awareness campaigns on measures of subjective well-being. Subjective well-being has been shown to provide a reliable indicator of well-being (Krueger and Schkade, 2008) and has been used to measure the impact of various policy measures such as German re-unification (Frijters et al., 2004) and cigarette taxes (Gruber and Mullainathan, 2005) on the target population of interest. Given prior work showing that terrorism and/or exposure to acts of conflict has adverse effects on measures of subjective

well-being (e.g., Frey et al., 2009; Dolan and Metcalfe, 2011), it is thus worthwhile to examine the effect of our awareness campaign on measures of subjective well-being and if such effects are more pronounced amongst those who have been exposed to conflict.

To explore these relationships, we utilize the following two questions in our survey; (i) All things considered, how satisfied are you with your life as a whole these days and (ii) How satisfied are you with the financial situation of your household. For each question, the respondent was asked to indicate their current level of satisfaction on a scale from one (very dissatisfied) to ten (very satisfied) and used these responses as the dependent variable in our baseline econometric models.

Empirical results are contained in Table 7 and suggest that our awareness campaign had but a negligible impact on well-being for the population as a whole. As noted in the first and third columns of the table, the coefficient on our DiD estimator is positive but neither the approximate one-third standard deviation increase in satisfaction with one's financial situation nor the approximate one-seventh of a standard deviation increase in overall life satisfaction is significant at meaningful levels. Taken jointly, these results suggest that while our awareness campaign appears to impact trust and confidence in local institution, these changes do not promote increased life satisfaction.

However, when we expand our baseline model to include controls for exposure to violence and allow the effect of our awareness campaign to differ across those exposed to violence and those who were not, we find important heterogeneity. Whereas the messages had little impact on those with no exposure to violence, the DiD estimator for those who reported prior exposure corresponds to just over a half a standard deviation increase in our measure of both financial and overall well-being – differences that are statistically significant at the $p < 0.05$ level.

An Important Robustness Check – The Phone Survey

Although suggestive, there are a number of reasons why one may be skeptical of the results from our in-person survey. First and foremost, the survey was conducted in a small number of villages and includes observations from but a single control tehsil. We are thus unable to disentangle unobserved shocks to villages within our control tehsil from the effect of the messaging campaign on villages within treated tehsils. Second, give the small sample sizes and in the data we may be underpowered to detect meaningful changes. Finally, in-person

surveys may be subject to desirability bias or other effects reflecting characteristics of the surveyor rather than the respondent.

To address these concerns, we conducted a phone based survey that included three questions relating to; (i) overall life satisfaction, (ii) trust in others, and (iii) satisfaction with public services delivered by the local government – that were answered using a five-point Likert scale. As the phone survey did not include questions pertaining to exposure to violence, we restrict attention to our baseline econometric specification to recover the effect of our awareness campaign on the outcomes of interest. Furthermore, we do not observe the respondents village of residence in the phone survey and are thus forced to cluster standard errors on tehsils rather than villages.

Empirical results are presented in Table 8 and provide evidence consonant with that from our in-person surveys. For example, as noted in the second and third columns of the table, the awareness campaign caused an approximate two-fifth of a standard deviation increase in trust towards others and an approximate one-third of a standard deviation increase in satisfaction with service delivery – differences that are both significant at the $p < 0.05$ level. Importantly, such effects are qualitatively similar to those observed in our in-person survey data whereby the awareness campaign increased the likelihood that respondent's indicated that they trusted others and the perceived quality of public services.

However, unlike data from the in-person surveys which suggested no effect of treatment on overall life-satisfaction, we do find a significant treatment effect in the phone survey. As noted in the first column of Table 8, the awareness campaign leads to an approximate one-sixth of a standard deviation increase in reported life-satisfaction. Interestingly, the estimated treatment effect is similar in magnitude to that identified in the in-person survey (one-seventh of a standard deviation). This suggests that concerns regarding sample size and the power of our in-person surveys may have some validity and highlights the benefits of including the phone survey as a robustness check.

IV. Survey Results and the Determinants of Trust - FATA

We next explore the role of conflict and our experimental interventions on overall levels of trust and beliefs about the fairness or intentions of others in FATA. In doing so, we follow the same basic structure of analysis as used to analyze the KPK survey data. As such, we begin by exploring the relationship between exposure to conflict and our various measures of trust and

beliefs about others. Table 9 presents the summary statistics detailing this relationship for the first wave of our survey in FATA. Interestingly, we find the exposure to conflict is associated with higher levels of trust and beliefs about the motives of others – the opposite of what was found amongst survey respondents in KPK. For example, as noted in the table, individuals who have been exposed to violence are approximately 7.3 percentage points more likely to indicate that others can be trusted and 17.9 percentage points more likely to report that others would try to be fair – differences that are significant at the $p < 0.10$ and $p < 0.01$ levels respectively.

Having shown that exposure to conflict impacts attitudinal measures of trust and beliefs about others, we next explore the effect of our messaging campaign and awareness of the anti-corruption hotline on these same measures. To do so, we estimate our baseline econometric model to explore the factors that determine responses to the three trust questions. Results for these models are contained in Table 10 and suggest that treatment has no impact on the belief that others can be trusted or are fair. While the estimated DiD coefficient for both of these models is positive, neither estimate is statistically significant at meaningful levels.

Examining these findings a level deeper to allow heterogeneity in the impact of the awareness campaign across those who have been exposed to violence in the past year and those who have not, we find a similar set of null results. Our awareness campaign had no meaningful impact on either type of respondent. Taken in its totality, these data suggest that awareness campaigns highlighting the introduction of the anti-corruption hotline had no impact on overall levels of trust or beliefs about the motives of others.[9] However, in interpreting these results it is important to note that there was less of a time lapse between our awareness campaign and follow-up surveys in FATA. Moreover, the underlying reform of interest reflected a modification to an existing program (the Governor's Inspection Team) rather than the introduction of new policies/programs as in the case of KPK.

Satisfaction with Government and Trust in Specific Institutions

We next explore the extent to which our awareness campaign impacts the perceived quality of public services along with perceptions about improvements in governance and the justice system. To do so, we re-run our baseline difference-in-differences specification on response to the following set of questions: (i) I am satisfied with the quality of services provided

[9] We observe a similar set of null results if we examine the effect of our messaging campaign on measures of subjective well-being (Table 13) or restrict the sample to responses from the phone survey (Table 14).

by the political administration; (ii) Over the past year, the Provincial Government has taken efforts that have improved the system of justice in your district; and (iii) Over the past year, government actions have improved the governance systems in your region.

Results from these models are presented in Table 11 and suggest that the awareness campaign has no discernible impact on perceptions regarding the quality of public service or improvements in governance and justice. For example, as noted in the first column of the table, the awareness campaign caused an approximate one-sixth of a standard deviation increase in the perceived quality of public services. Yet, this effect is estimated imprecisely and not significant at any meaningful level. We observe a similar set of null effects if we expand our econometric model to allow the effect of the messaging campaign to have differential effects for those who were exposed to violence in the past year and those who were not exposed to violence over this same time horizon.

We next explore how these same factors influence confidence in various public and religious institutions. Specifically, we examine trust in seven distinct institutions; (i) the mosque, (ii) the municipality, (iii) the police department, (iv) the district court, (v) state media, (vi) the federal government, and (vii) the civil services. To do so, we again asked respondents to indicate on a scale from one (no confidence) to ten (very high confidence) the amount of confidence they had in the given institution and use these responses as the dependent variable in our baseline econometric model.

Empirical results are provided in Table 12 and suggest that the awareness campaign had little effect on the confidence in the municipality, the federal government, or the civil services. As noted in columns 3, 11, and 13 of the table, none of the interaction terms between the indicators for the second wave of the survey and a treated tehsil are statistically significantly at any meaningful level in models. As with other outcomes of interest, the data in Table 12 thus suggest that our messaging campaign in FATA had little to no impact on subsequent survey responses.

Tables

Table 1: List of CTS villages by region

	Message type	Village	Wave 1	Wave 2
Khyber Pakhtunkhwa (KPK)				
Buner	RTI	Agarai	50	49
		Sura	49	48
		Charorai	50	49
		Nagrai	50	48
Batagram	RTI	Ajmera	44	49
Mastuj	RTI, RTS	Charun	53	50
Kohat	RTI, PHC	Urban 5	50	55
		Jerma	50	56
		Billitang	49	55
		Shah Pur	50	55
Balakot	RTI	Balakot	48	62
Mansehra	PHC	Masehra City	67	68
		Dodyal	58	67
		Bufa	60	52
Tangi	—	Dhkakki	51	50
		Tangi Bazar	47	50
		Mandani	49	50
Puran	RTI, RTS, PHC	Puran	51	48
Peshawar	RTI, PHC	Tehkal	61	59
		Gulbahar	60	60
		Gulahan Rehman	60	60
		Faqirabad	60	60
		Gulberg		60
		Dalazaq	60	60
		Afhan Colony	60	60
		Pawakay	61	61
		Qisa Khwani	60	60
		Palosai	61	59
		Bazik Khel	56	59
		Safaid Dary	60	59
		Achini	58	60
		Ashpando	60	60
		Surizai Payan	58	60
		Musa Zai	58	60
Federally Administered Tribal Areas (FATA)				
Bajour Agency	—	Tehsil Cham	50	49
		Mamenzo	50	50
		Yousaf Abad	51	50
		Haji Lawang	50	49
		Kharkano	52	50
		Jar Mulakalay	49	50
		Nazakai	52	50
		Skandria	50	51
Yakaghond Momand	Msg. 1, Msg. 2, Msg. 3	Khatkai Shareef	63	60
		Ghazi Kor	60	60
		Bagh Kor	60	61
Jamrud Khyber	—	Ali Masjid	46	45
		Kata Kushta	45	45
Orakzai Agency	Msg. 1, Msg. 3	Chaman Jana	30	40
		Bezot	30	40
		Aand Khel	30	40
		Kurez	25	40
FR - Kohat	Msg. 1, Msg. 2, Msg. 3	Bazar Kalay	50	46
		Sherako Kalay	49	45

Table 2A: Phone surveys in Khyber Pakhtunkhwa (KPK)			
Tehsil	Message type	Wave 1	Wave 2
Aali	RTI, PHC	74	74
Abbotabad	RTI, RTS, PHC	836	836
Alpuri	RTI	47	47
B. Daud Shah	RTI, RTS, PHC	410	410
Balakot	RTI	35	35
Bannu	RTS, PHC	453	453
Battagram	RTI	38	38
Besham	RTS	52	52
Bunner	RTS	195	195
Chakisar	PHC	35	35
Charsada	PHC	1,067	1,067
Chitral	RTI, RTS, PHC	36	36
D.I. Khan	RTS, PHC	395	395
Dassu	RTI	37	37
Dir	PHC	609	609
F. R. Kaladhaka	RTS	31	31
Ghazi	PHC	8	8
Hangu	RTS	36	36
Haripur	—	698	698
Havalian	RTI, RTS	75	75
Jandool	RTI, RTS, PHC	49	49
Karak	RTI, RTS	208	208
Kohat	RTI, PHC	409	409
Kulachi	RTI, PHC	409	409
Lahore	RTI, RTS	37	37
Lakki	—	257	257
Mansehra	PHC	297	297
Mardan	RTI, RTS, PHC	1,532	1,532
Martoong	—	25	25
Mastuj	RTI, RTS	41	41
Matta	RTI, PHC	31	31
Nowshera	RTS, PHC	816	816
Oghi	—	271	271
Paharpur	RTI	409	409
Palas	RTS	25	25
Pattan	PHC	37	37
Peshawar	RTI, PHC	3,220	3,683
Puran	RTI, RTS, PHC	36	36
Sam Ranizai	RTS, PHC	457	457
Swabi	RTS, PHC	284	284
Swat	RTI	483	483
Takht Bai	RTI, RTS	106	106
Takht-e-Nusrati	RTS, PHC	257	257
Tank	RTS	65	65
Tangi	—	-	-
Temergara	RTS, RTS	52	52
Wari	—	25	25
Total		15,005	15,468

Table 2B: Phone surveys in Federally Administered Tribal Areas (FATA)			
Agency	Message type	Wave 1	Wave 2
Bajaur Agency	—	340	340
FR D. I. Khan	—	238	238
FR Kohat	Msgs. 1, 2 and 3	644	644
FR Lakki	Msg. 1	350	350
FR Peshawar	—	333	333
FR Tank	—	483	483
FR Bannu	—	474	474
Khurram Agency	Msgs. 1, 2 and 3	76	76
Khyber Agency	—	774	774
Mohmand Agency	Msgs. 1, 2 and 3	234	234
Orakzai Agency	Msg. 1	270	270
South/North Waziristan	—	658	658
Total		4,874	4,874

Table 3: Exposure to Conflict and Trust – KPK

	No Exposure	Exposure	Difference
GSS-trust	0.553 N = 1447	0.484 N = 316	0.069**
GSS-fair	0.416 N = 1447	0.321 N = 316	0.095**
GSS-helpful	0.576 N = 1447	0.518 N = 316	0.057*

** Denotes statistical significance at the $p < 0.01$ level

* Denotes statistical significance at the $p < 0.05$ level

Table 4: General trust (KPK CTS)

	People can be trusted		People are fair		People are helpful		Be careful w/ strangers	
Wave 2	-0.629***	-0.639***	0.023	0.031	-0.242***	-0.216***	1.073***	1.135***
	(0.066)	(0.076)	(0.095)	(0.116)	(0.047)	(0.037)	(0.217)	(0.148)
Treatment	-0.317***	-0.311***	0.069	0.077	-0.141***	-0.136***	-0.235	-0.241
	(0.047)	(0.048)	(0.075)	(0.073)	(0.052)	(0.053)	(0.155)	(0.155)
Wave 2 × Treatment	0.427***	0.422***	-0.029	-0.062	0.116**	0.070	-0.525**	-0.582***
	(0.078)	(0.089)	(0.106)	(0.125)	(0.058)	(0.052)	(0.236)	(0.177)
Exposure to violence		-0.066		-0.093***		-0.059*		0.076
		(0.045)		(0.032)		(0.035)		(0.098)
Exposure to violence ×		0.082		0.010		-0.093		-0.327
Wave 2		(0.071)		(0.112)		(0.115)		(0.329)
Exposure to violence ×		0.007		0.148		0.226*		0.339
Wave 2× Treatment		(0.076)		(0.122)		(0.122)		(0.385)
No. of observations	3569	3569	3576	3576	3547	3547	3577	3577
R^2	0.10	0.10	0.02	0.03	0.05	0.05	0.09	0.09

Notes: The first three questions are binary. The last question was asked on a scale of 1 - 5. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 5: Satisfaction with governmental services (KPK CTS)

	Quality of services		Improvement in justice		Improvement in governance	
Wave 2	-2.323*	-2.082	-1.397	-1.384	-1.327	-1.320
	(1.351)	(1.310)	(1.357)	(1.316)	(1.048)	(1.029)
Treatment	-1.169	-1.176	-0.977	-1.037	-1.090	-1.127
	(1.093)	(1.092)	(1.103)	(1.099)	(0.967)	(0.967)
Wave 2 × Treatment	2.847**	2.599*	1.600	1.670	1.263	1.263
	(1.397)	(1.353)	(1.371)	(1.332)	(1.071)	(1.053)
Exposure to violence		0.065		0.753***		0.526***
		(0.227)		(0.256)		(0.262)
Exposure to violence ×		-1.179***		-0.429		-0.273
Wave 2		(0.457)		(0.532)		(0.356)
Exposure to violence ×		1.294***		0.240		0.596
Wave 2× Treatment		(0.520)		(0.488)		(0.383)
No. of observations	3508	3508	3579	3479	3564	3564
R^2	0.04	0.04	0.02	0.03	0.02	0.03

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 6: Trust in institutions (KPK CTS)

	Mosque		Municipality		Police		District court		State media		Fed. govt.		Civil services	
Wave 2	-0.426	-0.262	-0.495	-0.048	-0.935	-0.834	-1.955*	-1.864*	-1.510**	-1.484**	-1.610***	-1.605***	-0.888***	-0.917***
	(0.538)	(0.589)	(1.344)	(1.410)	(0.753)	(0.793)	(1.092)	(1.075)	(0.625)	(0.677)	(0.518)	(0.517)	(0.267)	(0.299)
Treatment	-0.798**	-0.811**	-0.779	-0.819	-0.877	-0.929	-2.076**	-2.119**	-0.903*	-0.934*	0.049	0.007	0.980***	0.951***
	(0.389)	(0.390)	(0.716)	(0.711)	(0.568)	(0.567)	(0.891)	(0.882)	(0.511)	(0.518)	(0.408)	(0.414)	(0.217)	(0.224)
Wave 2 × Treatment	0.449	0.374	0.239	-0.188	0.909	0.925	2.011*	1.977*	1.346**	1.359*	0.838	0.874	0.256	0.304
	(0.652)	(0.684)	(1.358)	(1.423)	(0.798)	(0.849)	(1.105)	(1.075)	(0.676)	(0.729)	(0.558)	(0.558)	(0.388)	(0.420)
Exposure to violence		0.059		0.503*		0.622**		0.583**		0.410*		0.577***		0.400*
		(0.213)		(0.287)		(0.277)		(0.242)		(0.218)		(0.206)		(0.222)
Exposure to violence		-0.833**		-2.354***		-0.794*		-0.719		-0.321		-0.302		-0.054
× Wave 2		(0.372)		(0.660)		(0.383)		(0.279)		(0.679)		(0.301)		(0.696)
Exposure to violence		0.078		2.531***		0.214		0.615		0.266		0.337		0.162
× Wave 2× Treatment		(0.461)		(0.646)		(0.438)		(0.375)		(0.731)		(0.317)		(0.669)
No. of observations	3532	3532	3572	3572	3587	3587	3562	3562	3562	3562	3569	3569	3573	3573
R^2	0.05	0.05	0.02	0.03	0.02	0.02	0.04	0.04	0.02	0.02	0.05	0.06	0.04	0.04

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 7: Happiness (KPK CTS)

	Financial situation		Life as a whole	
Wave 2	-0.446	-0.297	-0.022	0.138
	(1.089)	(1.086)	(0.906)	(0.883)
Treatment	-1.891***	-1.866***	-1.675***	-1.654***
	(0.553)	(0.563)	(0.482)	(0.492)
Wave 2 × Treatment	0.895	0.625	0.399	0.134
	(1.140)	(1.144)	(0.962)	(0.948)
Exposure to violence		-0.243		-0.217
		(0.341)		(0.330)
Exposure to violence ×		-0.561		-0.631
Wave 2		(0.710)		(0.444)
Exposure to violence ×		1.465**		1.416***
Wave 2× Treatment		(0.643)		(0.421)
No. of observations	3541	3541	3541	3541
R^2	0.07	0.07	0.07	0.07

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 8: KPK telephone survey responses

	Satisfaction w/ life	Trusting others	Satisfaction w/ local govt. services
Wave 2	-1.004***	-1.602***	-0.795***
	(0.049)	(0.049)	(0.048)
Treatment	-0.202***	-0.239***	-0.251***
	(0.029)	(0.033)	(0.034)
Wave 2 × Treatment	0.228***	0.607***	0.472***
	(0.051)	(0.052)	(0.050)
No. of observations	29535	29535	29385
R^2	0.18	0.24	0.16

Notes: All these questions were asked on a scale of 1 - 5. Demographic controls included in the regressions are: age, education, gender, and marital status. Robust standard errors are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 9: Exposure to Conflict and Trust - FATA

	No Exposure	Exposure	Difference
GSS-trust	0.535 N = 762	0.609 N = 110	-0.074*
GSS-fair	0.509 N = 754	0.688 N = 109	-0.179**
GSS-helpful	0.592 N = 754	0.569 N = 109	0.023

** Denotes significance at the $p < 0.01$ level

* Denotes significance at the $p < 0.10$ level

Table 10: General trust (FATA CTS)

	People can be trusted		People are fair		People are helpful		Be careful w/ strangers	
Wave 2	-0.175	-0.196*	-0.008	0.015	-0.238**	-0.272**	0.213	0.150
	(0.107)	(0.108)	(0.092)	(0.076)	(0.108)	(0.109)	(0.190)	(0.198)
Treatment	0.069	0.060	0.000	0.017	-0.116	-0.128	-0.273	-0.310
	(0.146)	(0.142)	(0.111)	(0.101)	(0.128)	(0.122)	(0.241)	(0.238)
Wave 2 × Treatment	0.090	0.088	0.165	0.117	0.363**	0.344**	-0.184	-0.286
	(0.187)	(0.186)	(0.106)	(0.116)	(0.156)	(0.157)	(0.304)	(0.315)
Exposure to violence		-0.093		0.192*		-0.100		-0.335**
		(0.078)		(0.106)		(0.108)		(0.151)
Exposure to violence ×		0.104		-0.124		0.156		0.291
Wave 2		(0.096)		(0.131)		(0.117)		(0.185)
Exposure to violence ×		0.022		0.041		0.040		0.336
Wave 2× Treatment		(0.133)		(0.101)		(0.110)		(0.258)
No. of observations	1437	1437	1437	1437	1435	1435	1439	1439
R^2	0.06	0.06	0.06	0.07	0.05	0.06	0.09	0.10

Notes: The first three questions are binary. The last question was asked on a scale of 1 - 5. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 11: Satisfaction with governmental services (FATA CTS)

	Quality of services		Improvement in justice		Improvement in governance	
Wave 2	-0.402	-0.590	0.315	0.005	-0.009	-0.328
	(1.052)	(1.118)	(0.810)	(0.841)	(0.711)	(0.714)
Treatment	0.871	0.810	0.826	0.733	0.683	0.609
	(1.305)	(1.304)	(1.083)	(1.089)	(0.961)	(0.952)
Wave 2 × Treatment	0.428	0.702	-0.941	-1.126	-0.755	-0.854
	(1.365)	(1.455)	(1.047)	(1.040)	(0.941)	(0.917)
Exposure to violence		-0.817		-0.727		-0.668
		(0.676)		(0.672)		(0.596)
Exposure to violence ×		0.975		1.368*		1.465**
Wave 2		(0.774)		(0.763)		(0.664)
Exposure to violence ×		-0.572		0.310		-0.005
Wave 2× Treatment		(0.547)		(0.459)		(0.379)
No. of observations	1414	1414	1429	1429	1425	1425
R^2	0.06	0.06	0.04	0.06	0.03	0.05

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 12: Trust in institutions (FATA CTS)

	Mosque		Municipality		Police		District court		State media		Fed. govt.		Civil services	
Wave 2	1.016*	1.147*	-0.245	-0.059	-1.401*	-1.640**	0.467	0.125	0.158	-0.067	-0.607	-0.608	-1.109**	-1.147***
	(0.599)	(0.624)	(0.976)	(1.021)	(0.745)	(0.682)	(0.385)	(0.448)	(0.357)	(0.394)	(0.521)	(0.593)	(0.422)	(0.386)
Treatment	0.821	0.861	1.200	1.345	-2.014***	-2.041***	2.775***	2.637***	0.482	0.405	0.688	0.731	0.484	0.527
	(0.584)	(0.577)	(1.266)	(1.255)	(0.765)	(0.756)	(0.913)	(0.884)	(0.537)	(0.540)	(0.725)	(0.721)	(0.607)	(0.545)
Wave 2 × Treatment	-0.899	-1.200*	0.138	-0.428	2.855***	2.454***	-1.428*	-1.782**	0.287	-0.216	-0.208	-0.814	1.231	-0.171
	(0.631)	(0.683)	(1.183)	(1.160)	(0.848)	(0.782)	(0.805)	(0.857)	(0.475)	(0.495)	(0.861)	(0.745)	(0.891)	(0.741)
Exposure to violence		0.406**		2.052**		-0.120		-1.215**		-0.550		0.618		0.788*
		(0.167)		(0.895)		(0.266)		(0.602)		(0.463)		(0.594)		(0.433)
Exposure to violence		-0.614***		-1.216		1.052**		1.557**		0.970		-0.101		-0.012
× Wave 2		(0.198)		(0.951)		(0.515)		(0.680)		(0.619)		(0.703)		(0.585)
Exposure to violence		0.704**		0.648		0.556		0.944		1.113**		1.039		2.735***
× Wave 2× Treatment		(0.305)		(0.578)		(0.682)		(0.613)		(0.494)		(0.875)		(0.577)
No. of observations	1438	1438	1396	1396	1393	1393	1438	1438	1433	1433	1435	1435	1427	1427
R^2	0.05	0.06	0.08	0.13	0.11	0.15	0.16	0.18	0.04	0.08	0.06	0.08	0.09	0.21

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 13: Happiness (FATA CTS)

	Financial situation		Life as a whole	
Wave 2	1.462***	1.306***	2.302***	2.099***
	(0.295)	(0.375)	(0.275)	(0.336)
Treatment	2.506***	2.441***	2.537***	2.492***
	(0.608)	(0.613)	(0.512)	(0.499)
Wave 2 × Treatment	-1.876***	-2.529***	-2.440	-2.930***
	(0.731)	(0.808)	(0.564)	(0.604)
Exposure to violence		-0.432		-0.402
		(0.582)		(0.327)
Exposure to violence ×		0.651		0.932
Wave 2		(0.738)		(0.617)
Exposure to violence ×		1.529*		0.961
Wave 2× Treatment		(0.839)		(0.800)
No. of observations	1408	1408	1423	1423
R^2	0.13	0.16	0.12	0.15

Notes: All these questions were asked on a scale of 1 - 10. Demographic controls included in the regressions are: age, education, ethnicity, gender, home ownership and marital status. Standard errors clustered at the village level are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Table 14: FATA telephone survey responses

	Satisfaction w/ life	Trusting others	Satisfaction w/ local govt. services
Wave 2	0.240***	0.105***	-0.034
	(0.037)	(0.035)	(0.038)
Treatment	0.059	-0.059	0.038
	(0.041)	(0.040)	(0.043)
Wave 2 × Treatment	-0.042	-0.033	-0.007
	(0.057)	(0.056)	(0.059)
No. of observations	9740	9740	9739
R^2	0.01	0.02	0.02

Notes: All these questions were asked on a scale of 1 - 5. Demographic controls included in the regressions are: age, education, gender, and marital status. Robust standard errors are reported in parentheses.

*** significant at 1% level; ** significant at 5% level; * significant at 10% level

Appendix

Citizen trust survey (FATA) questionnaire:

Q1. Age (years)?

1 = 18 – 25
2 = 26 – 35
3 = 36 – 45
4 = 46 – 55
5 = 56 – 65
6 = 66 – 75
7 > 75

Q2. Gender

1 = male
2 = female

Q3. Marital status

1 = single
2 = married
3 = widowed

Q4. Number of children

Q5. Education

1 = None
2 = Primary school
3 = Middle school
4 = SSC
5 = FA/FSc.
6 = BA/BSc.
7 = MA or higher
8 = Professional degree (MBBS etc.)
9 = Dars-e-Nizami

Q6. Occupation

1 = Private employee
2 = Government employee
3 = Agriculture
4 = Self-employed
5 = Housewife
6 = Jobless
7 = Student

Q7. Ethnicity

1 = Pashtun
2 = Hindko
3 = Chitrali
4 = Gujjar
5 = Hazara
6 = Punjabi
7 = Other

Q8. What type of vehicle do you own?

1 = car
2 = motorcycle
3 = bicycle
4 = other motorized vehicle
5 = do not own a vehicle

Q9. Do you own a home?

1 = Yes
2 = No

Q10. How much land do you own? --- in Marla

Q11. Five-digit location code

Q12. Many people claim that FATA has a special status due to its tribal traditions; therefore, it should have a special administrative arrangement. In your opinion, which of the following administrative structures should FATA have?

1 = a political agent appointed by the government to maintain law and order and manage development in the area
2 = an elected local government to management agency, town and village level development.
3 = a combination of a political agent and an elected local government.
4 = don't know
5 = does not apply to me
6 = don't care

Q13. Many people claim that FATA has a special status due to its tribal traditions; therefore, it should have a special administrative arrangement. In your opinion, which of the following administrative structures should FATA have?

1 = a separate province with all the provincial political and administrative structure.
2 = merged into KPK.
3 = remain a federally administered special entity.
4 = don't know
5 = does not apply to me
6 = don't care

Q14. In your opinion, which of the following entities would best improve service delivery in your district or agency?

1 = the government in Islamabad
2 = provincial government officials
3 = district or agency civil servants
4 = community based organization
5 = tribal councils
6 = don't know
7 = does not apply to me
8 = don't care

For Q15 – Q31 use the following grid:

Q15. I am satisfied with the quality of the services provided by the political administration.

Q16. The government is responsible for creating employment opportunities.

Q17. The government does a good job of providing employment opportunities for the people in your village.

Q18. The Office of the Political Agent is essential for development in FATA.

Q19. The Office of the Political Agent is essential for maintaining peace and security.

Q20. The Office of the Political Agent is essential for ensuring that there is a fair and transparent system of justice.

Q21. Over the past year, the FATA Administration has made investments that have improved the schools in your district.

Q22. Over the past year, the FATA Administration has made investments that have improved healthcare in your district.

Q23. Over the past year, the FATA Administration has taken efforts that have improved the system of justice in your district.

Q24. Over the past year, government actions s have improved the governance systems (like the right to information) in your region.

Q25. Over the past year, federal government investments have improved large scale infrastructure – we should give examples here - in your region

Q26. Over the past year, FATA Administration investments have improved the local infrastructure in your region.

Q27. Over the past year, the federal government has taken actions that have aided the rehabilitation of IDPs in your region.

Q28. Over the past year, the FATA Administration has taken actions that have aided the rehabilitation of IDPs in your region.

Q29. Over the past year, the federal government has taken efforts that have helped to control militancy in your region.

Q30. Over the past year, the FATA Administration has taken actions that have aided the rehabilitation of IDPs in your region.

Q31. Over the past year, the local government has taken actions that have aided the rehabilitation of IDPs in your region.

Trust in institutions: for Q32 – Q40 use the following grid:

Rate your confidence in the following institutions:

Q32. Mosque (or other religious institution)

Q32b. Jirga

Q33. The municipality

Q34. Police

Q35. District or PA court

Q36. WAPDA

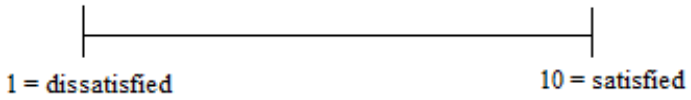
Q37. State media

Q38. Private media

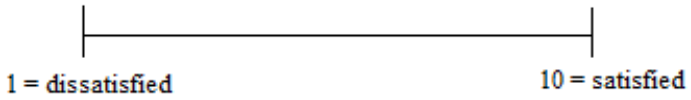
Q39. Government in Islamabad

Q40. Civil services

Q41. How satisfied are you with the financial situation of your household?



Q42. All things considered, how satisfied are you with your life as a whole these days?



Q43. How interested would you say you are in politics?

Q44. How proud are you to be a Pakistani?

Q45. How much violence have you or a member of your family witnessed over the past year?

Q46. How often have you or members of your family heard artillery shells, drone strikes, or other violent explosions over the past year?

Q47. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

1 = most people can be trusted.
2 = can't be too careful.

Q48. Do you think most people would try to take advantage of you if they got the chance, or would they try to be fair?

1 = would take advantage of you.
2 = would try to be fair

Q49. Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves?

1 = Try to be helpful.
2 = Looking out for themselves.

Q50. I like to help others.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

Q51. I trust others.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

Q52. When dealing with strangers, one is better off using caution before trusting them.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

Q53. How often have you benefited from the generosity of a person you did not know?

5 = Very often
4 = Often
3 = Sometimes
2 = Rarely
1 = Never

Q54. How often do you leave your house or car door unlocked?

5 = Very often
4 = Often
3 = Sometimes
2 = Rarely
1 = Never

Q55. How often do you lend personal possessions other than money to others?

5 = Very often
4 = Often
3 = Sometimes
2 = Rarely
1 = Never

Q56. Taking all things together, how satisfied are you with your life as a whole these days?

5 = Very satisfied
4 = Satisfied
3 = Neutral
2 = Unsatisfied
1 = Very unsatisfied

Q57. Overall, how satisfied are you with your life at home these days?

5 = Very satisfied
4 = Satisfied
3 = Neutral
2 = Unsatisfied
1 = Very unsatisfied

Q58. Overall, how satisfied are you with your present job these days?

5 = Very satisfied
4 = Satisfied
3 = Neutral
2 = Unsatisfied
1 = Very unsatisfied

Q59. Overall, how satisfied are you with your present health?

5 = Very satisfied
4 = Satisfied
3 = Neutral
2 = Unsatisfied
1 = Very unsatisfied

Q60. Overall, how satisfied are you with the community in which you live these days?

5 = Very satisfied
4 = Satisfied
3 = Neutral
2 = Unsatisfied
1 = Very unsatisfied

Q60b. In the past 3 months, did you or someone in your family go an entire day without eating, for reason other than for religious fasting?

1 = Yes
2 = No

Q60c. If "yes" to Q60b., for how many days?

Q60d. In the past 3 months, has there been a time when you or a dependent family member needed health care but could not obtain it because of cost?

1 = Yes
2 = No

Q60e. In the past 3 months, has there been a time when you or a dependent family member needed health care but could not obtain it because you were unable to travel?

1 = Yes
2 = No

Q60f. If "yes" to Q60d. why you or a dependent family member was unable to travel to obtain health care?

1 = Patient was too weak
2 = There was no vehicle available
3 = Fare was too high
4 = Route was problematic
5 = No one to accompany the patient
6 = Other

Q60g. You could not access healthcare with which of the following?

1 = Doctor
2 = Nurse
3 = LHV
4 = Hakeem
5 = Dai
6 = Other desi health provider
7 = Village hospital
8 = District hospital

Q60h. Which of the following doctors have you visited in the past three month?

1 = Doctor
2 = Nurse

3 = LHV
4 = Hakeem
5 = Dai
6 = Other desi health provider

Q61. Have you ever used Internet or Mobile to access any service offered by government?
1 = Yes (go to Q63.)
2 = No (go to Q62.)

Q62. Why you have not used these Internet or Mobile Services?
1 = I'm illiterate
2 = I'm shy/afraid of these services
3 = I don't know about these services
4 = I don't have Internet or Mobile to use these services
5 = I don't know how to use these services online or on mobile
6 = these services are too complicated
7 = these services are in English, which is difficult
8 = I tried but mobile services/ website had too many problems
9 = these services are ridiculous

Q63. Where did you get to know about the above services?
1 = Radio
2 = T.V.
3 = Newspaper
4 = Government official
5 = NGOs
6 = Hujra
7 = Friend or family
8 = other

Region
1 = KPK
2 = FATA

Appendix B: Telephone survey (KPK and FATA) questionnaire:

Q1. Taking all things together, how satisfied are you with your life these days?

5 = very satisfied
4 = satisfied
3 = neutral
2 = dissatisfied
1 = very dissatisfied

Q2. Do you trust others?

5 = strongly agree
4 = agree
3 = undecided
2 = disagree
1 = strongly disagree

Q3. Are you satisfied with the quality of the services provided by the local dist or political administration?

5 = strongly agree
4 = agree
3 = undecided
2 = disagree
1 = strongly disagree

Q4. What is your age (years)?

1 = < 15
2 = 15 – 18
3= 19 – 25
4 = 26 – 35
5 = 36 – 45
6 = 46 – 55
7 = 56 – 65
8 = 66 – 75
9 > 75

Q5. Gender

1 = male
2 = female

Q6. Marital status

1 = single
2 = married
3 = widowed
4 = divorced

Q7. Number of children

0 – 22

Q8. Education

1 = Illiterate
2 = Primary school
3= Middle school
4 = Matric
5 = Intermediate
6 = Graduate
7 = Master's degree
8 = Engineer
9 = Doctor
10 = Lawyer
11 = Chartered Accountant
12 = Others

Region

1 = KPK
2 = FATA

Table C1: Experimental Design – KPK Messaging Campaign

	Estimated Population in 2013	RTI Calls Made	RTS Calls Made	PHC Calls Made
Control Group				
Tangi	411,000	0	0	0
Haripur	728,000	0	0	0
Lakki	790,000	0	0	0
Oghi	248,000	0	0	0
Martoong	930,000	0	0	0
Wari S/D	366,000	0	0	0
Treatment 1				
Abbottabad	863,784	14,101	10,343	x
Chitral S/D	270,000	4,487	3,243	x
B Daud Shah	156,000	3,278	2,210	x
Jandool	317,000	5,456	4,011	x
Mardan	1,661,000	27,297	18,375	x
Puran	130,000	2,324	1,983	x
Treatment 2				
Havelian	297,216	5,003	3,922	0
Mastuj S/D	197,000	3,245	2,591	0
Karak	264,000	4,589	3,491	0
Temergara	885,000	16,331	10,611	0
Takht Bai	639,000	11,360	7,344	0
Lahore	475,000	8,178	5,734	0
Treatment 3				
Bannu	1,033,000	0	11,639	x
D.I. Khan	832,000	0	10,429	x
Takht-e-Nasrati	284,000	0	3,781	x
Sam Ranizai	313,000	0	3,981	x
Nowshera	1,355,000	0	15,699	x
Swabi	1,133,000	0	13,243	x
Treatment 4				
Allai	175,000	3,071	0	x
Kulachi	246,000	4,101	0	x
Kohat	919,000	15,570	0	x
Swat Ranizai	439,000	7,709	0	x
Peshawar	3,452,000	56,785	0	x
Matta	410,000	6,965	0	x
Treatment 5				
Battagram	267,000	4,540	0	0
Paharpur	319,000	5,677	0	0
Dassu S/D	189,000	3,489	0	0
Balakot	293,000	5,421	0	0
Alpuri	277,000	4,501	0	0
Swat	1,680,000	30,844	0	0

Treatment 6				
Tank	382,000	0	4,862	0
Besham	101,000	0	1,582	0
Buner	904,000	0	10,874	0
Hangu	514,000	0	6,102	0
Palas S/D	215,000	0	2,891	0
F.R. Kaladhaka	338,000	0	4,211	0
Treatment 7				
Charsadda	1,171,000	0	0	x
Ghazi	163,000	0	0	x
Pattan S/D	124,000	0	0	x
Mansehira	808,000	0	0	x
Chakisar	111,000	0	0	x
Dir S/D	508,000	0	0	x

Table D1: Experimental Design – FATA Messaging Campaign

	Treatment Group	2013 Population	# of Messages Delivered	# of Text Replies
Bajaur Agency				
Khar	Group 1	597,350	16,519	826
Nawagai	Group 1	526,791	37,652	1,883
Mohmand Agency				
Lower Mohmand	Group 2	244,019	16,142	807
Upper Mohmand	Control			
Kyhber Agency				
Jamrud	Group 2	149,175	21,336	1,067
Landi Kotal	Control			
Bara	Control			
Orakzai Agency				
Lower Orakzai	Group 1	167,580	25,187	1,259
Upper Orakzai	Control			
Kurram Agency				
Lower Kurram	Group 2	93,010	12,141	607
Central Kurram	Control			
Upper Kurram	Control			
North Warziristan Agency				
Mir Ali	Control			
Miranshah	Control			
Razmak	Control			
South Warziristan Agency				
Ladha	Control			
Sarwakai	Control			
Wana	Control			
FR Peshawar	Control			
FR Kohat	Group 2	121,963	20,581	1,029
FR Bannu – Mir Ali	Control			
FR Lakki Marwat	Group 1	9,634	442	22
FR Tank – Jandola	Control			
FR Dera Ismail Khan	Control			