

Pre-Analysis Plan for *Religiosity and Support for Militancy in Afghanistan: Reassessing the Causal Relationship*

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1 Introduction

Muslim countries have experienced a drastic rise in the number of civil wars, and religion is assumed to be central to these armed conflicts. Since 2005, more than 75% of civil wars and annual battle deaths in the world have occurred in majority-Muslim countries, with over 200,000 battle deaths only in the period of 2010-2014 (Gleditsch and Rudolfson 2016). With the rise of civil wars, two contradicting patterns have emerged. At country level, Muslims living in places experiencing civil wars are more likely than other Muslims to pray daily, read or listen to the Quran on a daily basis, and view religion to be very important in their lives – as summarized in Table 1. These trends have made many scholars and policy makers to argue that religious beliefs lead to participation in, and support for, militancy among Muslims (Canetti et al. 2010; Stemmann 2006; Wiktorowicz 2006; Hasan 2011; Bunzel 2015; Weismann 2017; Atran, Sheikh, and Gomez 2014; Atran 2003; Juergensmeyer 2003).

At the individual level, however, there seems to be no relationship between religiosity and support for Islamist militancy. The empirical research examining the causal effects of religious beliefs and behaviors on support for militancy in Muslim countries has found either no evidence or inconclusive results. Adherence to religious beliefs and observing religious rituals do not seem to be reliable predictors of support for political violence or Islamist militant groups (Tessler and Nachtwey 1998; Haddad 2003; Fair, Littman, and Nugent 2018; Fair, Malhotra, and Shapiro 2012; Fair, Ramsay, and Kull 2008; Kaltenthaler et al. 2010). The puzzle is why there is a strong correlation between civil war and religiosity at country

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Table 1: Civil War and Religious Intensity (OLS)

	<i>Dependent variable:</i>			
	Attend Mosque	Religion Important	Pray Daily	Listen to Quran
	(1)	(2)	(3)	(4)
Civil War	2.376*** (0.073)	0.318*** (0.008)	4.137*** (0.072)	2.186*** (0.045)
Observations	32,203	31,279	30,901	30,754
Adjusted R ²	0.004	0.019	0.041	0.020
F Statistic	139.492***	149.825***	331.032***	154.249***

Note: based on Pew Research Center Survey, Religion and Public Life Project, World’s Muslim Survey, 2011-2012. All Columns include country fixed effects and control for gender, age and marital status. Civil war refers to countries experiencing an armed conflict in 2012 with at least 25 annual battle deaths, based on ACLED data on battle deaths. The findings are robust to using logistic regression.

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

level while individual-level indicators of religiosity are not good predictors of support for Islamist militancy.

To resolve this puzzle and better understand the relationship between religiosity and violence, we need to examine the reverse causal relationship between violence and religiosity: how violence affects religiosity. Building on psychological theories of religion and death, I argue that exposure to violence leads to intensified religiosity among civilians – regardless of their support for Islamist militant groups. For the civilians who do not support Islamist militants, exposure to violence leads to intensified religiosity but lower support for Islamist militant groups and religious institutions supporting militant groups. Since both supporters and opponents of militant groups experience intensified religiosity in response to violence, individual-level indicators of religiosity are not good predictors of support for militancy.

2 Research Questions

While the extant literature has mainly focused on the effects of religiosity on militant violence, this studies investigates the reverse causal relationship. This research project tries to answer the following questions. Does exposure to violence lead to intensified religiosity? Which groups are more likely to experience intensified religiosity as a result of exposure to violence? How does exposure to violence affect coping? Who are more likely to rely on reli-

gious beliefs and rituals for coping with violence? How does exposure to violence affect the support for religious institutions? Is increased religiosity as a result of exposure to violence independent of support for Islamist militant groups?

3 Overview of Theoretical Framework

Building on psychological theories of death and religion, I propose a new theoretical framework for assessing the relationship between religion and violence. Numerous psychological studies and experiments have shown that when subjects, particularly religious individuals, are reminded of death or experience reduced sense of control, they exhibit stronger religious beliefs, which help them cope with death anxiety and loss of control (Solomon, Greenberg, and Pyszczynski 1991; Dechesne et al. 2003; Bassett 2007; Inzlicht and Tullett 2010; Drolet 1990; Mercier, Kramer, and Shariff 2018; Chan, Tong, and Tan 2014; Bentzen 2015; Bentzen 2013). Religion helps individuals cope better with death anxiety through assigning an order to the world and promising literal immortality, that is, the belief that death marks just a transition to another form of life, rather than the end of existence (Solomon, Greenberg, and Pyszczynski 1991; Dechesne et al. 2003; Bassett 2007; Inzlicht and Tullett 2010; Drolet 1990).

For those experiencing adverse life events that are beyond their control – such as natural disasters, severe illnesses, or loss of loved ones – religion offers an improved sense of control over the negative situation. Viewing adverse events as divine providence and part of a greater benevolent plan, rather than a random phenomenon, affected individuals can better cope with adverse events. They gain an improved sense of control with the belief in a God that is in control of chaos (Aaron C. Kay et al. 2008; Aaron C. Kay et al. 2009; Aaron C Kay et al. 2010; Bentzen 2015; Bentzen 2013).

I argue that both death anxiety and loss of control are pronounced during civil wars. Regardless of the root cause of an armed conflict, the spread of violence leads to the intensification of death anxiety and reduced sense of control among civilians. In turn, religion provides easily accessible and affordable means of coping with death anxiety and a diminished sense of control. Individuals could rely, for coping, on a number of coping means, such as socialization through religious rituals, seeking support from clergy and congregation members, visiting a saint’s shrine, or individual prayer to God.

The effect of violence on religiosity, however, may be complex and curvilinear, rather than linear, depending on the intensity, frequency and recency of violence. Two psychological theories provide insights on the nuances of the relationship between violence and mental health. The desensitization theory posits that when organisms are exposed to the

same stimulus frequently, they exhibit a decrement in response to the stimulus. The rate to which desensitization happens depends on the intensity and frequency of the stimulus. The response decrement is more likely to happen in case of low-intensity stimuli with high frequencies (Groves and Thompson 1970; Watts 1979; Groves, Lee, and Thompson 1969). The empirical studies of community violence in the U.S. have found some evidence for the desensitization theory. Among the youth and young adults, the exposure to community violence exhibited curvilinear (negative quadratic) relationship with depression but linear relationship with anxiety. The adolescents exposed more frequently to family or community violence in the past also showed diminished emotional distress and cognitive reactivity in response to violence (Cooley-Quille et al. 2001; Gaylord-Harden, Cunningham, and Zelencik 2011; Gaylord-Harden et al. 2017; Ng-Mak et al. 2004). Furthermore, the dose-response theory postulates that the effect of violence follows a dose-response relationship, that is, the more recent and severe violence leads to a stronger response. (Mollica et al. 1998; Moya 2018).

Considering these two theories, it seems plausible that the relationship between exposure to violence and religious intensity may exhibit a linear or a curvilinear relationship, depending on the intensity and recency of violence. People living in violent environments may over time become desensitized to low-intensity violence, by which I refer to neighborhood-level violence that does not personally affect individuals, such as hearing the sounds of explosions or learning about violence in their neighborhood. In such cases, as the frequency of low-intensity violence increases, individuals may over time get desensitized and not experience death anxiety or a diminished sense of control. They, thus, may not need to rely on religious coping – indicating a curvilinear relationship between low-intensity violence and religiosity. On the contrary, they may feel more emotional distress with increased high-intensity violence, that is, with the violence that affects individuals personally, such as getting injured, or losing property, family members or relatives in violent attacks. The relationship between high-intensity violence and religiosity, thus, may be linear, rather than curvilinear. The more frequently individuals are exposed to such violence, the more distressed they may feel and the more they may rely on religion for coping. Besides, the dose-response theory further highlights that the emotional and cognitive response to violence is likely to diminish as time passes. As a result, civilians' religious intensity may decline as time passes since the last exposure to violence. They may feel less distressed over time and would rely less on religious rituals and beliefs for coping.

Intensified religiosity, however, is not an indicator of support for militant groups. Both supporters and opponents of Islamist militant groups may experience intensified religiosity as a mechanism for coping with the adverse psychological effects of violence. Those who are

initially less supportive of the Islamist militant groups would express even less support for the militant groups after exposure to violence, despite their increased religiosity. In other words, for the civilians who do not support Islamist militant groups exposure to violence is likely to lead to religious intensity but lower support for militant groups and religious institutions supporting those groups.

Finally, the reverse causal relationship between religious intensity and violence explains why empirical studies have found individual-level indicators of religiosity not to be good predictors of support for Islamist militant groups. Since religious intensity is a function of exposure to violence, civilians tend to rely more on religious rituals and beliefs, regardless of their support for militant groups.

4 Research Design

To test whether and to what extent exposure to violence affects religious intensity and support for Islamist militant groups, I take advantage of the as-if random nature of insurgent violence. As the models of attacker-defender games highlight, there is a component of randomness to insurgent attacks. The goals of attackers (insurgent groups) is to maximize the damage caused by their attacks while the defenders (government forces) try to minimize the damage caused by violence. In this context, the insurgent groups can maximize the damage of their attacks through deception and keeping their targets unpredictable (Li et al. 2018; Nochenson and Heimann 2012; Zhang and Zhuang 2019). The insurgent violence in Kabul often follows a similar dynamic. Although insurgent groups may target specific neighborhoods more frequently because of the concentration of strategic or soft targets or logistical concerns, they tend to surprise the government forces and keep their attacks unpredictable.

To capture the effect of insurgent attacks, I will run two rounds of surveys in Kabul, Afghanistan. The first round, a baseline survey, will be conducted in June 2020, when insurgent violence has been lowest for the previous 5 months, followed by a second round after the spike of violence in the fall. Ideally, the survey will be carried out in the treatment neighborhoods that will be targeted between the baseline and follow-up survey and control neighborhoods – similar neighborhoods that will not be targeted in that period. Since we do not know the treatment and control neighborhoods before attacks happen, I rely on the previous patterns of conflict to select potential treatment and control neighborhoods, as described below.

The survey will be conducted in two groups of neighborhoods. One group are potential treatment neighborhoods: those that have frequently been targeted by insurgent attacks over the past two years or are likely to be targeted because of their proximity to military

bases or government offices. I refer to these as *target neighborhoods*. The second group consists of neighborhoods that are similar to the target neighborhoods in terms of ethnic and socioeconomic background of their residents but have not experienced insurgent attacks over the past two years and are not in the vicinity of military bases or government offices. These neighborhoods are potential control neighborhoods and referred to as *non-target neighborhoods*.

A follow-up survey will be conducted with the same respondents in both groups of neighborhoods after the spike in insurgent attacks later in the summer or in the fall. I will use difference-in-difference to estimate the causal effects of exposure to violence on psychological well-being, religiosity and support for the Taliban, the main Islamist militant group in Afghanistan. I will compare the neighborhoods that actually experience violence between the baseline and follow-up surveys with those that do not experience violence. The difference-in-difference estimation would help with controlling for time invariant differences between the treatment and control neighborhoods in addition to removing the effect of time trends. The following equation will be used to estimate the causal effect of exposure to violence:

$$Y_{it} = \alpha + \beta Violence_i + \gamma Post_t + \delta(Violence_i * Post_t) + \epsilon_{it} \quad (1)$$

where Y_{it} refers to the outcome of interest (religiosity, support for the Taliban or support for religious institutions) for individual i at time t . $Violence_i$ equals 1 if the respondent lives in a neighborhood that experiences insurgent violence between the baseline and the follow-up surveys, and equals 0 otherwise. β captures the time invariant features that distinguishes treatment neighborhoods from the control neighborhoods. $Post_t$ equals 1 for interviews conducted in the follow-up survey and equals 0 for the baseline survey. γ captures time trends common to the treatment and control neighborhoods. δ captures the causal effect of violence on the outcome of interest. ϵ_{it} is an unobserved error term, representing other explanatory variables not included in the model.

The Common Trend (CT) assumption is critical for the difference-in-difference estimation. Since I will conduct two rounds of survey only, I will not be able to check empirically whether the common trend assumption holds. However, since the targeted and comparable non-targeted neighborhoods are in close proximity within the same city, it is plausible to assume that religious intensity would follow the same pattern in the treated neighborhoods as in the control neighborhoods, in the absence of violent attacks. Nonetheless, the baseline survey includes a question on the number of times the respondents used to read the Quran before the month of Ramadan (two months before the baseline survey). I will use this question to check the trend before the baseline survey in the treatment and control

neighborhoods.

One limitation of using difference-in-difference estimation in this setting is that measuring violence at neighborhood level may not reflect individual-level exposure to violence. Those living in control neighborhoods, for instance, may be affected by the violence in treatment neighborhoods as a result losing friends or relatives who live in the treatment neighborhoods. Measuring violence at neighborhood level, as measured in the above equation, does not take into account how violence in the treatment villages could affect the respondents in the control neighborhoods. The difference-in-difference estimation would reflect how average religious intensity is affected when there is violence in a neighborhood but does not inform us about the indirect effect of violence across neighborhoods.

The second limitation of using difference-in-difference estimation is that using violence at neighborhood level ignores the variation in the intensity of exposure to violence at individual level. Besides the spillover effects of violence from treatment to control neighborhoods, individuals living in the treatment neighborhoods may be affected differently by violence. Most of them may hear the sound of explosion in their neighborhood while smaller groups may, in addition, also get injured or lose property, family members or relatives because of violence. Furthermore, the number of times individuals are personally injured or the number of family members, relatives or friends that individuals lose vary within a treated neighborhood. In other words, the intensity and frequency of exposure to violence vary within a treatment neighborhood. To estimate the effect of violence that crosses neighborhood boundaries and also how different intensities of exposure to violence affect religiosity, the survey includes a module that measures the extent to which a respondent was affected by past violence. The following model with unit and time fixed effects will be used to assess the effect of violence at individual level:

$$Y_{it} = \alpha_i + \lambda_t + \beta \text{Violence}_{it} + \epsilon_{it} \quad (2)$$

where

$$\alpha_i = \beta_0 + \beta_1 Z_i$$

In this model, i refers to individual respondents and t equals 0 indicating the baseline and 1 for the follow-up survey. α_i represents the individual fixed effect, the unobserved individual characteristics, and λ is the time fixed effect, presenting the time variant factors that effect both the treatment and control groups. Violence_{it} denotes whether individual i was exposed to violence at time t . To assess the intensity of exposure to violence, I will rank different levels of violence when coding it – as described in the next section. β captures the causal

effect of violence on the outcomes of interest. Z_i determine the individual fixed effect. ϵ_{it} is the error term. All analyses will include robust standard errors, clustered at neighborhood level.

The combination of difference-in-difference estimation and fixed effect model provides insights about the effects of violence at neighborhood and individual level. The difference-in-difference estimation, as modeled in Equation 1, provides insights about the average effect of violence at neighborhood level. It measures whether and to what extent outcomes of interest change on average when there is violence in a neighborhood, compared to the neighborhoods that did not experience violence. This estimation is useful for assessing the neighborhood-level exposure to violence since it captures the effect of violence even on those who are not personally injured or do not lose loved ones but live in a violent environment.

The fixed effect estimation, modeled in Equation 2, captures the effect of personal exposure to violence. It allows for testing the effect of violence on those who are directly affected by violence and also allows for exploring how variation in the intensity of violence affects the outcomes of interest.

The fixed effect model, moreover, allows for subgroup analysis to further improve estimating the causal effect of violence on religiosity. Exposure to high-intensity violence seems more *as-if* random at individual level than at neighborhood level. Although those living in the target neighborhoods are on average more likely than those in non-target neighborhoods to be exposed to violence, exposure to high-intensity violence – being injured in an explosion or losing family members or friends – is almost random for those living in the target neighborhoods. There are usually many government offices and soft targets, such as mosques, hospitals, and public places, in the target neighborhoods. There is usually a high degree of uncertainty on which of these potential targets will be attacked next. In addition, most of the civilians injured or killed in insurgent attacks are passersby who happen to be at the wrong place at the wrong time. Thus, it seems that within the target neighborhoods, being injured or killed is almost random.

By narrowing down analysis to the target neighborhoods and comparing those exposed to high-intensity violence with other respondents in the target neighborhoods, I will take advantage of the as-if random nature of exposure to high-intensity violence and further improve the estimation of the causal effect of violence. The limitation of this subgroup analysis is that it provides a better estimation of the effect of high-intensity violence only, rather than low-intensity violence. Second, the observed effect is relevant only for individuals who have lived in neighborhoods that have experienced more violence in the past. Nonetheless, the advantage of this analysis is to reduce the estimation bias due to potential confounding variables.

In addition, the survey will include an experimental module that combines priming, an endorsement experiment, and a donation exercise. One third of the respondents will be randomly primed and reminded of the risk of increasing suicide attacks in Kabul if the peace process fails. Another third will be reminded the prospect of a drastic decline in violence if the peace process succeeds. The remaining respondents will be administered a neutral prime. The objective is to study how reminding the respondents the risk of increasing suicide attacks affects religious beliefs and support for Islamist militant groups and religious institutions. In terms of religious beliefs, the experimental module concentrates on how the prime affects the respondents' belief in a controlling God. The support for the Taliban will be measured using an endorsement experiment. A donation exercise will be utilized to measure the support for religious institutions. The exercise involves allocating donation money between (1) a public school or a mosque, (2) a public school or a madrasa, (3) or a mosque vs. a madrasa. The details of this exercise are discussed in the next section. The following equation models the analysis of the survey experiment.

$$Y_i = \alpha + \beta prime_{ip} + \epsilon_i \tag{3}$$

where Y_i represents the outcomes of interest (belief in a controlling God, support for the Taliban, and allocating donation funds). $prime_{ip}$ refers the prime p administered to individual i , where $p = 0$ denotes neutral prime, 1 equals violence prime, and 2 refers to peace prime. β measures the causal effect of the treatment, and ϵ_i is the error term. It needs to be highlighted that the survey experiment investigates the short-term effect of the prime in an environment in which civilians have been exposed to violence for many years.

5 Heterogeneous Effect of Violence

Considering the desensitization theory, the effect of violence on religiosity is expected to depend on prior exposure to violence. Those living in the neighborhoods that experienced more violence in the past are expected to exhibit a smaller marginal increase in religiosity in response to new rounds of violence, compared to those living in neighborhoods with less exposure to violence in the past. To test this heterogeneity, I will compare the neighborhoods with no or little exposure to violence within the two years before the baseline survey with the ones with more violence in the same period.

$$Y_{it} = \alpha_i + \lambda_t + \gamma X_i + \beta Violence_{it} + \delta(X_i * Violence_{it}) + \epsilon_{it} \tag{4}$$

where

$$\alpha_i = \beta_0 + \beta_1 Z_i$$

I will use fixed effect estimation with interaction term, modeled in Equation 4, to investigate the differential effect of exposure to low and high-intensity violence across the two groups of neighborhoods. In this estimation and other tests of treatment heterogeneity that rely on fixed effect model, X_i refers to the variable that is postulated to be the source of treatment heterogeneity. δ is the coefficient of the interaction term that is used for testing the hypothesis on heterogeneity. In this specific case, the regression will include a linear interaction of treatment variable (low-intensity or high-intensity violence) interacted with X_i , a dummy variable equal to 1 if the respondent i lives in a neighborhood with high violence before the baseline survey and 0 otherwise.

For assessing the moderating effect of prior *personal* exposure to violence, I will use the baseline data on respondents' frequency of exposure to high-intensity violence before the baseline survey. I will use the variable constructed for measuring the frequency of exposure to high-intensity violence before the baseline survey and interact it with the treatment variable (frequency of exposure to low and high-intensity violence after the baseline survey). Model 4 would be used for testing whether prior personal exposure to violence moderates the effect of exposure to new rounds of violence, assessing the desensitization theory in the context of an armed conflict.

Furthermore, this study aims at exploring the heterogeneous effect of violence on religious intensity and support for militant groups. Numerous studies have highlighted that religious individuals are more likely to rely on religious beliefs and rituals for coping while those who are non-religious or less religious tend to rely on non-religious mechanisms for coping (Bentzen 2013; Pargament et al. 1990; Pargament 1997). To test the heterogeneous effect of violence on the belief in a controlling God, a religiosity index will be utilized to measure the respondents' religiosity before administering the prime. The analysis will explore whether the prime on violence in Kabul affects the belief in a controlling God differently across the respondents below and above the median of religiosity index.

Besides, the religiosity index will be used to assess the respondents' religiosity at the time of the baseline survey. The respondents' religiosity will be measured again in the follow-up survey to study whether or not the intensification of religiosity after exposure to violence depends on the initial level of religiosity during the baseline. The analysis will be based on Model 4 with X_i measuring the score on religiosity scale at baseline. For exploratory analysis, I will test heterogeneity with interacting the treatment variable with dummies for

different quartiles of religiosity scale at baseline.

To assess the heterogeneous effect of violence on support for militant groups, a *baseline support scale* will measure the respondents' support for policies advocated by the Taliban before administering the prime. The theoretical expectation is that exposure to violence leads to intensified religiosity regardless of support for Islamist militants. The effect of exposure to violence on support for the Islamist militants, however, depends on the respondents' initial level of support for the militants. Those who are initially less supportive of the Taliban – ranking below the median on the baseline support scale – will express even less support for the Taliban after the prime. Moreover, those ranking below the median of baseline support scale would express less support for the Taliban after the rise of insurgent violence in Kabul between the baseline and follow-up survey. To test this heterogeneity of treatment effect, I will interact the treatment variable with a dummy for being below the median of the baseline support scale. The coefficient of the interaction terms will be used for testing the hypotheses on the heterogeneity of treatment effects described in this section.

6 Treatment Intensity and Recency

The extent to which exposure to violence affects religiosity is expected to depend on the intensity and recency of exposure to violence, as discussed in Section 3. Considering the desensitization theory, it is expected that the relationship between low-intensity violence and religiosity exhibits a curvilinear (negative quadratic) function. The increase in frequency of low-intensity violence leads to response decrement and lower emotional distress, representing emotional and cognitive desensitization. The effect of high-intensity violence on religiosity, however, is postulated to have a linear function. The marginal effect of high-intensity violence on religiosity does not decrease with higher frequency of such violence.

I will use the data collected in the survey on the frequency of respondents' exposure to different forms of violence to test the form of function representing the effect of low-intensity and high-intensity violence on religiosity.¹ I will use the baseline data to examine the relationship between the violence experienced within one year prior to the baseline survey and respondents' religious intensity. In addition, the pooled data from both rounds of survey will be utilized to study the functional form of the effect of violence taken place after the baseline survey. Section 9 explains how the linearity and curvilinearity of violence will be tested.

Given the dose-response relationship between violence and mental health, the theoretical

1. Section 7.1 discusses how I define low-intensity and high-intensity violence, measure those variables, and code their frequencies.

expectation is that the effect of violence on religious intensity diminishes as more time passes since exposure to violence. This postulation implies that the slope of function representing the relationship between time and religious intensity is negative. As more time passes since exposure to violence, religious intensity declines, representing the healing process and reduced need for relying on religious coping. To facilitate assessing this postulation, both rounds of survey include questions about the time passed since the last incident of each type of high-intensity violence. I will use these data to explore the relationship between religious intensity and the time passed since last exposure to high-intensity violence. To test the moderating effect of time, I will use a linear interaction of treatment (frequency of exposure to high-intensity violence) with recency variable. Section 7.1 explains how the variable recency is constructed, and Section 9 discusses how I will test the moderating effect of time.

I do not have *a priori* postulations about which type of violence takes longer to cope with. I, therefore, will use the average recency and average frequency of exposure to violence to test the moderating effect of recency on religious intensity. For the sake of exploration, I will conduct an exploratory analyses for each type of high-intensity violence separately to probe which type of violence takes longer to cope with, evidenced by a smaller slope of the interaction term.

7 Measuring Outcomes of Interest

7.1 Exposure to violence

The explanatory variable, exposure to violence, will be measured using the data on violence at neighborhood level in Kabul and using a battery of questions in the survey that measure exposure to violence at individual level. A number of data sets record the cases of insurgent attacks and their casualties in Kabul. These data are, however, usually recorded at police district (PD) level, and rarely at a fine-grained level such as neighborhood. Kabul has 13 PDs, with each PD covering multiple neighborhoods. I will use local news reports from the last three years to code the violence data at neighborhood level as far as possible. The advantage of these data is that they do not suffer from recollection bias, which may be the case in incidents of violence reported by respondents (Niwa et al. 2016). Since the violence data sets are based on media reports, their disadvantage is that they usually tend to capture major acts of violence and exclude minor incidents.

The advantage of self-report data on violence collected in a survey is that they capture the exposure to violence at individual level and the intensity of personal exposure to violence. The baseline and follow-up surveys will include a module that measures various levels

of exposure to violence – from hearing the sound of explosions, seeing dead bodies, to being injured by insurgent violence or losing family members or friends in an attack. The combination of violence data sets and self-reported experiences of violence provide a comprehensive measurement of frequency, intensity, and recency of violence.

I categorize violence into low-intensity and high-intensity. By low-intensity, I refer to violence occurring at neighborhood level without directly harming an individual or his family or relatives. I use two measures for this variable. One measure is constructed using the data on acts of violence at a neighborhood as reported in violence data sets or in local media. The second measure is based on self reports by respondents on the number of times that explosions or suicide attacks happened in their neighborhoods.

High-intensity violence refers to the incidents of violence that directly affects an individual through personal exposure. High-intensity violence includes (1) seeing dead bodies, (2) personal injury, (3) damage to property, (4) a household member’s injury or death, (5) a relative’s injury or death, or (6) a friend’s injury or death as a result of violence. I construct two variables to measure high-intensity exposure to violence. One variable is binary and equals 1 if a respondent experiences one of the six items mentioned above, and 0 otherwise. The second variable measures the frequency of such incidents. Following Gaylord-Harden et al. (2017), I will construct the frequency variable by standardizing values of each item² and then taking the average across the six items for each respondent. To test hypotheses, I will use the standardized average frequency of exposure to the six items. I will also explore the sum of frequencies for an intuitive interpretation of the treatment effect, as the coefficient measures the change in the treatment effect with experiencing one more incident of high-intensity violence.

An ideal approach would be ranking or assigning weights to each type of violence, based on its intensity. Since I do not know how respondents weigh these different types of violence, I take into account their frequency only, without assigning weights to them.

The variable *recency* measures the time passed since the last incident of violence experienced by a respondent. The recency of high-intensity violence is constructed based on respondents’ self reports and calculated as the average time passed since the most recent incidents of the six items listed above. Higher values of this variable refers to older incidents. For this and other variables, I will remove outliers (observations 3 or more standard deviations away from the mean).

2. Gaylord-Harden et al. standardize their items by coding 0, 1, and 2 (2 for values of 2 or more). I standardize each item since these items may have different ranges and with many observations larger than 2. Collapsing all those values into one category would mean losing important variations in the intensity of exposure to violence.

7.2 Violence/Peace Prime

For the experimental module, the following primes are administered randomly. One third of the respondents will be reminded the increasing risk of violence and suicide attacks in Kabul if the peace process fails. The second third will be reminded the prospect of decline in violence if the peace process succeeds. Another third will be administered a neutral prime (benefits of hiking and exercise). To make sure the prime is effective, the respondents are asked to think for a minute before answering the question. Since the data is collected electronically using the SurveyCTO platform, the question includes a speed limit function, forcing the enumerators to pause for 30 seconds before selecting the answer.

- Violence prime: Experts believe that if the peace process fails, Kabul will experience unprecedented increase in violence and suicide attacks by insurgent groups. If there is a drastic increase in violence in Kabul, what would the most important adverse effects of violence on your family? Please think for a minute and then let me know your answer.
- Peace prime: Experts believe that if the peace process succeeds, Kabul will experience unprecedented decline in violence and suicide attacks by insurgent groups. If there is a drastic decline in violence in Kabul, what would be the most important positive impact on your family? Please think for a minute and then let me know your answer.
- Neutral prime: Experts believe that hiking and exercise are very beneficial. What do you think is the most important benefit of hiking and exercise. Please think for a minute and then tell me your opinion.

To perform a manipulation check, the following question is asked from all respondents – regardless of receiving the civil war prime – before moving to the next questions.

- How worried are you about the future?

7.3 Religiosity

For measuring religiosity, the survey includes a religiosity index, a battery of questions that cover both individual spirituality – prayers, recitation of the Quran and beliefs in the afterlife – and social aspects of religion, such as participation in congregations and religious ceremonies (Allport 1978; Ai et al. 2005; Fischer et al. 2010). In addition, the survey assesses religious beliefs, particularly the belief in a controlling God, measured through these three questions:

- Consider the safety of your family. How much do you think it depends on your efforts and how much it depends on God’s help?
- Think about earning money to make a livelihood for your family. In your opinion how much does it depend on your efforts and how much does it depend on God’s help?
- How much do you think not catching a disease such as COVID-19 depends on your precaution and how much does it depend on God’s help?

7.4 Baseline Support scale

The baseline support scale provides a baseline measurement of support for the Taliban, prior to administering the violence prime. It is built using questions about policies that are supported by the Taliban and reflect cultural conservatism – focusing on gender segregation and women’s rights. These questions, explicitly mentioning Taliban’s endorsement, would be used to obtain an individual-level scale of base support for the Taliban. The questions are as follows:

- Some people believe that a female patient may go to doctor and seek treatment only with the permission of her husband. Taliban also agree with this view. What is your opinion?
- Some people think that Polio vaccine is not essential for children’s health. Taliban also support this view. What is your opinion?
- Some people believe that a female patient may go to doctor and seek treatment only with the companion of a male household head. Taliban also agree with this view. What is your opinion?

7.5 Support for the Taliban

Support for the Taliban is measured using an endorsement experiment with questions on policies that are relevant for Afghanistan. These questions reflect views that are usually supported by the Taliban and other conservative religious circles in the Afghan society. The endorsement experiment questions were pilot tested extensively in Kabul and were refined to ensure that they seem plausible to respondents and are not limited by ceiling effect (Blair and Imai 2012; Blair et al. 2013; Fair, Malhotra, and Shapiro 2012; Fair et al. 2018). Half of the respondents will be randomly administered the questions without the endorsement statement – the sentence highlighted in blue. The other half will be administered the question with the endorsement statement.

- Some people believe that the spread of diseases is due to people being sinful. [Taliban also agree with this view](#). What is your opinion?
- Some people believe that women could be treated by female doctors only. [Taliban also agree with this view](#). What is your opinion?
- Some people believe that women should be allowed to work in hospitals only, and not in other places. [The Taliban also support this view](#). What is your opinion?

7.6 Support for religious institutions

For assessing support for religious institutions, the survey incorporates a donation exercise. For each interview, 55 Afs (around 75 cents) will be donated either to a mosque, a public school, or a madrasa.³ However, the decision to allocate money to these institutions will be left to respondents. The respondents will be randomized into three conditions. In 1/3 of the interviews, the respondents will be asked to decide how 55 Afs should be donated between a public school and a madrasa. In another third of interviews, they are asked to divide the donation money between a public school and a mosque. In the remaining third, they are asked to divide the money between a mosque and a madrasa.

Mosques represent places of worship and are usually more liberal than madrasas – particularly in Kabul. With government’s oversight of mosques in Kabul, public sermons delivered in Kabul mosques are rarely supportive of the Taliban or their ideology. On the contrary, the government has a limited oversight of madrasas and their curricular. Since Madrasas are often funded by fundamentalist circles in the Gulf states, they are perceived to be more supportive of the Taliban ideology and sometimes even provide recruitment pools for the Taliban and other insurgent groups. Public schools represent educational institutions that are secular, compared to mosques and madrasas.

Since the donation exercise asks the respondents to allocate the money between these institutions in a zero-sum manner, the exercise can provide a good indicator of support for secular institutions, liberal religious institutions and religious institutions that usually support Islamist militant groups. This exercise provides another method for exploring the nuanced relationship between violence and support for religious institutions.

3. In the pilot test, the respondents were often tempted to rush into asking the donation money to be divided in half and equally allocated to the two institutions when it was a multiple of 10 and easily divisible by 2, such as 50 or 60. The donation amount of 55 Afs per interview was chosen to encourage the respondents put more thoughts into dividing the money unequally between two institutions.

8 Hypotheses

Three sets of hypotheses will be tested in this study. The first set of hypotheses will be tested after the baseline survey. The second set will be tested after the follow-up survey only, utilize both rounds of survey. The third set will be tested twice: after the baseline survey and after the follow-up survey.

8.1 First set of hypotheses

These hypotheses will be tested after the baseline survey:

- H1: regardless of their political orientation – measured by baseline support scale – respondents express stronger beliefs in a controlling God after the violence prime.
- H2: the marginal effect of the violence prime on the belief in a controlling God is stronger for the more religious respondents – measured by religiosity scale.
- H3: the marginal effect of the violence prime on the belief in a controlling God is stronger for the respondents exposed to more high-intensity violence before the baseline survey.
- H4: Respondents allocate more money to religious institutions – mosques and madrasas – compared to a public school after the violence prime.
- H5: The respondents who are initially less supportive of the Taliban – those below the median of baseline support scale – express even less support for the Taliban after the violence prime.
- H6: The respondents who are initially less supportive of the Taliban – those below the median of baseline support scale – allocate more money to a mosque but less money to a madrasa compared to a public school after the violence prime.

8.2 Second set of hypotheses

The following hypotheses will be tested after the follow-up survey – pooling the data from both rounds of survey.

- H7: regardless of their support for the Taliban – measured by the baseline support scale – respondents express stronger religious beliefs and more frequent participation in religious ceremonies after exposure to violence.

- H8: regardless of their support for the Taliban – measured by the baseline support scale – respondents express a stronger belief in a controlling God after exposure to violence.
- H9: regardless of their support for the Taliban – measured by the baseline support scale – respondents rely more on religious beliefs or practices for coping after exposure to violence.
- H10: the marginal effect of violence on religiosity is stronger for more religious respondents – those higher on religiosity scale during the baseline.
- H11: respondents allocate more money to religious institutions – mosques and madrasas – compared to public schools after exposure to violence.
- H12: the marginal effect of exposure to new violence on religiosity is smaller for those with prior exposure to violence than those without prior exposure to violence.

8.3 Third set of hypotheses

These hypotheses will be tested both after the baseline survey and after the follow-up survey.

- H13: the effect of low-intensity violence on religiosity is curvilinear (negative quadratic). The marginal effect of low-intensity violence on religiosity decreases with the higher frequency of exposure to such violence.
- H14: the effect of high-intensity violence on religiosity follows a linear relationship. The marginal effect of high-intensity violence on religiosity does not decrease with the higher frequency of exposure to such violence.
- H15: The effect of violence on religious intensity declines with more time passed since last incidents of exposure to violence.
- H16: respondents who lost a family member or relative due to illness since the spread of COVID-19 express stronger religious beliefs and more frequent participation in religious ceremonies.

8.4 Additional Test of Theory

Since the baseline survey coincided with the spread of COVID-19 pandemic to Afghanistan, the increase in mortality due to the pandemic provides another test of the theory. Like wars,

the spread of COVID-19 is also expected to exacerbates death anxiety and a diminished sense of control among the affected populations. To test whether and to what extent the spread of COVID-19 and deaths related to the pandemic affect religious intensity, the baseline and follow-up surveys collect information on whether the respondents' household members were affected by COVID-19 and whether any of their friends or family members passed away due to illness. The collected data will be used to assess whether an increase in the number of illnesses or deaths from the time of baseline to the follow-up survey affects religious intensity. Since infection by COVID-19 may not be random and certain groups, such as the economically disadvantaged, may be more likely to get infected, the observed effect of COVID-19 on religious intensity may be confounded by other variables. Nevertheless, using two rounds of survey and a fixed effect model would improve the estimation of causal effect and provide another test of the theory.

9 Analysis

The first set of hypotheses (H1 to H6) will be tested using the baseline data. Since they test the outcome of the experimental module, in which the primes are administered randomly, I will conduct a balance check first and then use the difference in means to estimate the Average Treatment Effect (ATE). As an additional test, I will use OLS regressions, based on a variant of Equation 3 described in Section 4, with standard errors clustered at neighborhood level to estimate the treatment effect. More details about testing these hypothesis are offered below.

H1: I will first run an OLS regression based on Equation 5, where X_i equals 1 for individual i being above the median of baseline support scale and 0 otherwise. The outcomes in the violence prime condition will be compared with the outcomes in the the peace and neutral primes conditions. The expectation is that the violence prime coefficient, β_1 , will be positive, and $\beta_1 + \beta_3$ will also be positive.

$$Y_i = \beta_0 + \beta_1 prime_{ip} + \beta_2 X_i + \beta_3 (prime_{ip}) * X_i + \epsilon_i \quad (5)$$

H2 - H3: I will use an OLS regression based on Equation 5 with a linear interaction of treatment variable (violence prime) with the religiosity scale, and another regression interacting the treatment variable with the frequency of exposure to high violence. Furthermore, I will run as similar regression interacting the treatment and a dummy for those being above the median of religiosity scale and another dummy for being above the median of religiosity scale.

H5: The support for the Taliban will be evaluated based on the endorsement experiment questions and will be analyzed using the package developed by Blair and Imai (2012). For testing the heterogeneity of treatment, an OLS regression, based on Model 5, will include an interaction of the treatment variable (violence prime) with the baseline support scale. The interaction coefficient, β_3 will be used for testing this hypothesis. In addition, I will run another regression, interacting the treatment variable with X_i being a dummy for those below the median of baseline support scale.

H6: similar to H5, one OLS regressions based on equation 5 with a linear interaction of treatment variable (violence prime) with the baseline support scale will be used for testing this hypothesis, in addition to another regression with the interaction of treatment with a dummy for those below the median of baseline support scale.

The second set of hypotheses will be tested using difference-in-difference estimations and fixed effect regressions. As discussed in details in Section 4, the difference-in-difference estimation (Equation 1) will be used for testing the effect of low-intensity violence (neighborhood-level exposure) on outcomes of interest while fixed effect regressions (Equation 5) will be used for testing the effect of high-intensity violence (personal exposure to violence).

For H7-H9, I will run a fixed effect regression based on Equation 4 for each hypothesis. In each regression, X_i will be a dummy for being above the median of baseline support for the Taliban at the time of baseline survey. The expectation is that β will be positive and $\beta + \delta$ will be positive.

To test H10, I will use a fixed effect regression (based on Equation 4), interacting the treatment term (exposure to high-intensity violence) with the religiosity scale scores measured at the time of the baseline survey. In addition, I will run a similar regression but interacting the treatment variable with a dummy for being above the median of religiosity index at the time of baseline survey. H11 will be tested using fixed effect regressions (based on Equation 2).

To further improve the estimation of exposure to violence on religiosity, I will take advantage of the as-if random nature of exposure to high-intensity violence in the target neighborhoods. As explained in Section 4, I will conduct a subgroup analysis, including only target neighborhoods and using fixed effect regressions based on Equation 2 to test the effect of high-intensity violence on religiosity within target neighborhoods (H12).

The third set of hypotheses relate to both violence before and after the baseline survey. I will test these hypotheses once after the end of the baseline survey, using the data on violence prior to the baseline. Since I have no prior data on respondents before the baseline, I cannot use fixed effect estimation and instead will use the following model of OLS with control variables.

$$Y_i = \beta_0 + \beta_1 Violence_i + \beta_2 X_i + \epsilon_i \tag{6}$$

In this model, $Violence_i$ refers to the frequency of exposure to low-intensity (neighborhood level) for H13 and refers to the frequency of high-intensity violence (personal exposure) for H14. I use two measures of exposure to low-intensity violence: self-reported frequency in the baseline survey and the data on violence for one year before the baseline survey. The advantage of the former is that it does not suffer from respondents' recollection bias but it is not usually fine grained at neighborhood level. It is often recorded at Police District level. The frequency of exposure to high-intensity (personal exposure) is constructed as discussed in Section 7.1. X_i is a vector of control variables measured at baseline survey for individual i and includes income, education, ethnicity, and marital status.

To test these two hypotheses, I will first run a regression as modeled in Equation 6. I will then run a second regression that includes a quadratic term for violence. The expectation of H13 is that the quadratic term is significant and negative and there is a statistically significant increase in the variation explained by the quadratic model. The expectation of H14 is that the quadratic term is not statistically significant and does not lead to a significant increase in the variation explained by the model.

H15 focuses on high-intensity violence only. To test this hypothesis, I will use Equation 6 but as an interaction model, interacting $Violence$ with variable $Recency$, which is constructed as explained in Section 7.1. The expectation of this hypothesis is that the interaction term is negative and significant. H16 is tested using OLS based on Equation 6 but the treatment variable is, instead of violence, the number of deaths in the family and relatives due to illness. All regressions for testing H13 to H16 after the baseline survey will use robust standard errors, clustered at neighborhood level.

I will test H13 to H16 again after the follow-up survey, using the data from both rounds of survey and focusing on the effects of violence occurring between the two rounds of survey. The same variables and procedures described above will be followed to test these hypotheses after the follow-up survey. However, because there are two measurements for each observation at that point, I will use fixed effect regressions based on Equation 2. For testing linearity and curvilinearity, I will include quadratic term in the fixed effect regressions. Since the fixed effect model controls for the effect of unit-specific variables that are constant across time, testing H13 to H16 after the follow-up survey further improves estimating the causal effect of violence and death on religious intensity.

Finally, to deal with multi-hypothesis testing, the analysis will use Benjamini–Hochberg procedure for controlling the false discovery rate. In addition, the analysis will utilize indices for religiosity, and support for the Taliban to reduce the number hypotheses being tested.

10 Exploratory analysis

Numerous surveys have found that Muslims who rely on religious coping – such as prayers and reciting the Quran – have better mental health and are less likely to suffer from anxiety, stress or PTSD. Although this study cannot assess the causal effect of religious practices on mental health, it will explore the relationship between psychological well-being and religiosity. More specifically, it will look into whether and to what extent religious intensity is associated with alleviated signs of anxiety after exposure to violence.

11 FieldWork

This survey was first launched on March 15th, 2020, as a face-to-face survey. The enumerators followed a random-walk procedure in the target and non-target neighborhoods of Kabul to recruit respondents. Five days after the start of the survey, and conducting around 300 interviews, (20% of the target), the face-to-face interviews were stopped due to the spread of COVID-19 pandemic. The remaining 1200 interviews will be conducted in June, using phone interviews. The questions for measuring the baseline support scale, the endorsement experiment and questions on deaths due to illnesses are new and will be asked in the phone interviews only. The analysis of the hypotheses related to these questions, therefore, will be based on the data from phone interviews only. For the rest of analyses, I will use pooled data from face-to-face interviews and the phone interviews since the rest of questions are the same. The phone numbers of respondents are being collected through municipality representatives in each neighborhood. For some neighborhoods, we are provided more phone numbers than the target interviews. In such cases, I randomly select the number of required phone numbers. In other cases, we will interview all of the individuals whose phone number we obtain. Both face-to-face interviews and phone interviews are carried out with men only, due to the limited funding and limited number of interviews for this project.

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