

# **Pre-Analysis Plan**

## Coping with War through God: Religion and the Promotion of Mental Health and Prosociality Among Refugees

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# 1 About This Pre-Analysis Plan

This pre-analysis plan describes the research design and procedures for a pilot randomized experiment that will be conducted in Istanbul, Turkey. The experiment investigates and compares the impact of a Cognitive Behavioral Therapy (CBT) training for refugees with an Islamically integrated version on refugees' mental health, inter-group reconciliation, and general prosociality. This document includes the research background, research design, outcomes of interest, hypotheses, potential mechanisms, and how the hypotheses are tested. The pre-analysis plan has been written and filed after the research design is finalized and the data collection for the baseline started but before any analysis of the baseline data and prior to the start of the intervention.

## 2 Research Motivation and Objective

Armed conflicts cause tremendous human suffering, particularly for displaced populations who lose their homes and sources of livelihood. Armed conflicts have resulted in 48 million people being displaced, either as refugees or Internally Displaced People (IDP) (IDMC 2021). The displaced populations are particularly vulnerable to psychological disorders because of war-related traumas before departure and adverse experiences during transition and after arrival in a new community. Around 85 percent of refugees, for instance, remain in developing countries with fragile economies, with 27 percent of them living in least developed countries (UNHCR Refugee Project 2021). They usually live in horrible and substandard conditions. For example, nine out of ten Syrian refugees in Lebanon live in extreme poverty, with 60 percent of them dwelling in dangerous and overcrowded shelters (UNHCR 2021). Refugees who are settled in advanced economies may have better access to public goods and services but often suffer from resettlement stress, uncertain future, and the risk of deportation (Lindencrona et al 2007; WHO 2018; Nose et al. 2017). As a result, they are more likely to suffer from mental disorders than host populations or those who stayed in their communities (Pierbe et al. 2013). Although the prevalence of mental disorders varies from country to country, a large proportion of displaced people, sometimes more than 40 percent of them, are found to suffer from mental disorders, such as anxiety, depression, or PTSD (Priebe et al. 2013; Priebe et al. 2016; WHO 2018).

Despite their dire need for counseling services, IDPs and refugees have very limited access to mental health services. The lion's share of displaced IDPs and refugees live in developing or least developed countries where mental health services are scarce. In addition, because of the salience of religion in these society and the secular tendency of psychotherapy, they

prefer consulting religious clerics (Farooqi 2006; Rassool 2006; Keshavarzi and Haque 2013; Asamarai 2018). Ali et al. (2005) found that even in the U.S., Muslim refugees prefer consulting imams, rather than psychotherapists, when dealing with mental health issues. Only a small number of imams in their study, however, had received training in counseling. Although imams had the knowledge to provide spiritual guidance, they rarely had the skills to provide counseling services for individuals with mental health disorders or advise them on coping skills (Ali et al. 2005).

This study designs a novel intervention that taps into local human resources to help civilians cope with the adverse psychological effects of war and displacement. While there is a limited number of psychologists and counselors to provide mental health services in war-torn societies, there is almost one cleric or religious figure in every village in Muslim societies – and tens or hundreds in every town and urban center. This experiment explores the valuable role that the far-reaching religious institutions could play in healing individuals and communities affected by armed conflicts. Although spiritual healing initiatives have involved priests and integrated religious healing into CBT sessions for helping religious patients in the US (Hodge 2013; Plante 2009; Richards and Bergin 1997; Richards and Bergin 2005), this project is the first initiative to study the effect of Islamically integrated psychoeducation on refugees’ mental health and prosocial behavior. Given the ubiquitous presence of clerics in Muslim societies, this intervention has promising potentials for scaling up and expanding accessible coping tools for coping with war and displacement, not only for Afghans but also other Muslims affected by armed conflicts.

## **3 Research Design**

### **3.1 Intervention**

For this pilot study, around 600 Afghan refugees will be recruited in Istanbul, Turkey, through advertisements on social media and posters distributed in the neighborhoods with large populations of Afghan refugees. Those interested in the program will be randomly assigned to (1) a manualized Cognitive Behavioral Therapy (CBT) training that teaches coping and emotion regulation skills, (2) an Islamically integrated version of CBT, (3) traditional Islamic sermons on spiritual coping and healing without CBT structure, or (4) a waiting control condition. The sample will include male and female participants. However, due to cultural issues, there will be separate sessions for men and women. As a result, the assignment will through block randomization based on gender.

The CBT condition combines elements from the WHO Self-Help Plus program and

START NOW, both psychoeducation programs designed for refugees. START NOW is a cognitive behavioral therapy that integrates building blocks from dialectical-behavioral therapy and acceptance commitment therapy. Originally developed for correctional environments, by Professor Robert Trestman at the University of Connecticut, it has been adapted for use in other settings that face similar resource constraints and extensive need for effective, reliable, and manual-guided treatment for teaching emotion regulation and coping skills. The program is offered as a group-based training and includes four units: (1) dealing with stressors, (2) understanding and coping with emotions and feelings, (3) building relationships, and (4) setting and reaching goals. Self-Plus program, designed by WHO, focuses on relaxation and emotion regulation skills. In addition, the CBT condition will also include two units on compassion training (Germer and Neff 2019), focusing on skills to mitigate self-blame and promote positive emotions toward others.

The Islamically integrated CBT is modeled after the standard CBT intervention and follows the same structure but incorporates Islamic traditions for coping and healing. It includes the same elements of START NOW, Self-Help Plus and compassion training. The standard START NOW program teaches relaxation techniques (such as breathing and muscle relaxation) and focuses on cognitive restructuring and positive thinking to help participants evaluate and correct negative cognitions and thoughts that lead to negative emotions. The Islamically integrated CBT teaches relaxation through religious meditation and prayer. For cognitive restructuring and positive thinking, the Islamically integrated version relies on Islamic teachings such as trust in God, patience, and appraising adverse events as opportunities for spiritual growth. In addition, examples of Prophet Mohammad and other Prophets, mentioned in the Quran, who experienced involuntary migration will be used as role models for reinterpretation of adverse conditions and cultivating compassion toward others.

The third group will receive traditional Islamic sermons that discuss Islamic teachings for dealing with adverse conditions. The themes include patience, trust in divine providence, prayer and seeking divine support and compassion toward others. This treatment arm is delivered as sermons—the same format as a Muslim cleric delivers a speech in religious ceremonies—and will lack the CBT structure. The sermons do not include the discussion and exercise of coping skills.

To standardize the format of the three treatment arms and only vary the contents, all three groups will receive seven sessions. The PI has developed manuals for all three treatment arms and has pre-recorded a 30-minute video for each session. For CBT and Islamically integrated CBT, Each video discusses the main coping techniques and exercises discussed in the manuals. Videos will be played by trained facilitators who will help participants practice the exercises discussed in each video. Each session is expected to last between 45

to 60 minutes. Each video for traditional sermon is also around 40 minutes, but there will be no discussion or practice of coping skills in this treatment arm. Since the contents in all three treatment arms are presented by the same individual (PI) and only the contents vary, the three treatment arms are relatively comparable.

The fourth group will not receive any treatment initially in order to provide comparable control groups. To avoid withholding treatment from those in need of counseling, however, those assigned to the control condition will also be provided the standardized CBT training within 12 to 18 months after the treatment groups complete their sessions and the second wave of survey has been completed. Nonetheless, to control for the impact of financial compensation on the outcomes of interest, the control group will receive the same financial compensation and at the same time as the three treatment arms.

## **3.2 Evaluation**

The pilot study will include two rounds of survey to evaluate the impact of the intervention. There will be a baseline survey before the intervention and a follow-up survey two weeks after the completion of the intervention. If the researcher secure funds, there will be a second follow-up survey within 12 to 18 months after the intervention to measure the longer-term impact of the intervention.

# **4 Outcomes**

The outcomes of interest for this study are mental health, prosociality and reconciliation. They are measured as discussed below.

## **4.1 Mental Health**

### **4.1.1 Primary Outcome**

The primary outcome is measured using depression/anxiety combined (Hopkins Symptoms Checklist 25). Hopkins Symptoms Checklist 25 (HSCL-25) is a standard instrument commonly used for detecting anxiety and depression. The instruments were tested for their reliability in the cultural context of Afghanistan (Ventevogel et al. 2007) and used in several surveys studying mental health among Afghans (Cardozo et al. 2004; Scholte 2004; Bodeya et al. 2019).

### 4.1.2 Secondary Outcomes

The secondary outcomes include overall psychological well-being, symptoms of PTSD, and sub-scales of depression and anxiety. Overall psychological well-being is measured using the five-item WHO well-being index for measuring overall psychological well-being. Another common mental disorder among people affected by war and displacement is PTSD. To measure exposure to traumatic events and symptoms of PTSD, we will use the Harvard Trauma Questionnaire - Revised (HTQ-R), which is consistent with DSM-V criteria for posttraumatic stress disorder. We will use an updated version of these instruments that were carefully pilot tested and modified by psychology researchers to adapt them for surveying Afghans (Cardozo et al. 2004; Scholte 2004; Bodeya et al. 2019). Finally, we will measure depression and anxiety using sub-scales of HSCL-25 separately for exploring the impact of the intervention on the symptoms of depression and anxiety separately.

## 4.2 Coping Skills

To assess the impact of the intervention on coping, we will measure adaptive and maladaptive coping strategies using COPE Brief scale developed by Carver (2013). Because of cultural sensitivity, however, we will modify some of the items in order make it relevant for our population of study—such as replacing drug alcohol use with smoking. Following Moore et al. (2011), we will categorize COPE Brief items into adaptive and maladaptive coping strategies.

We will use the standard approach to coding and analyzing the primary and secondary mental health outcomes. The responses will be coded on Likert scale from 1 to 4 (on an increasing scale). We will use the average of items for each instrument—adding the scores for all items and dividing by the number of items.

## 4.3 Prosociality

To measure the effect of the program on prosociality, we will use attitudinal and behavioral measures. We will study how the treatment arms affect attitudes and behavior toward ingroup and outgroups. Our first priority is studying whether the intervention could improve inter-group relations among Afghans. The four decades of war exacerbated inter-group rivalry and animosity. The following questions will measure attitudes toward ingroup (same ethnic group) and outgroup (members of other ethnic groups).

### Attitude toward ingroups

- How much affection and closeness do you feel toward Afghans who are from your own

ethnic group?

- How much trust do you have in Afghans who are from your own ethnic group?
- Suppose you do not know your new neighbors but know that they belong to the same ethnic group as yours. How much at ease and comfortable would you feel with them?
- How much do you like other Afghans who are from your own ethnic group?

#### Attitude toward out-groups

- How much affection and closeness do you feel toward Afghans who are not from your own ethnic group?
- How much trust do you have in Afghans who are not from your own ethnic group?
- Suppose you do not know your new neighbors but know that they are Afghan and do not belong to your ethnic group. How much at ease and comfortable would you feel with them?
- How much do you like other Afghans who do not belong to your ethnic group?

The responses are coded on a six-point Likert scale (1 to 6). To create indices of attitude toward ingroup and out-groups, we will conduct factor analysis to create one index for measuring attitudes toward each group. After factor loading, we will use the first component for analysis of attitude toward each group. We will rescale each factor to have mean 0 and standard deviation of 1.

To measure prosocial behavior toward ingroup and out-groups, we will use a donation exercise and two voluntary activities benefiting ingroup or out-groups. For the donation exercise, participants will be given sums of money (each around 4 USD) which they could keep part of for themselves and allocate the rest to two charities. These charities are based in Afghanistan—but in different parts of the country and serving Afghans belonging to different ethnic groups. One charity has branches in the southern and eastern regions, where mainly Pashtuns live. The other charity has branches in northern Afghanistan, which is a central region where Uzbeks and Tajiks live. To make the two options comparable, participants will be told only the regions where charities operate and the ethnic group of their beneficiaries—without specifying the names of charities. One donation would be allocated to the same ethnic group as the participant while the other donation is given to the charity serving rival ethnic group. For Pashtuns, the rival ethnic group is Tajik while for Uzbeks and Tajiks the rival ethnic group is Pashtun.



The participants will be given envelopes and asked to decide on how much to donate to each charity. They will make the decision in private and will drop envelopes into donation boxes in a private space where they are not observed. We will use unique identifiers assigned to each participant to trace the amounts of allocated donations. We will not trace donation amounts to participants' names, but rather to anonymized identifiers in order to identify which intervention participants were assigned to and their ethnic and language background. Such a connection is essential for measuring the effect of each treatment arm on prosociality toward co-ethnics and outgroups.

For voluntary activity 1, respondents will be invited to participate in a short survey to collect information and guidance for new refugees, such as access to medical services, finding jobs, etc. The interviews will be in Dari, Uzbeki and Pushto (three main languages spoken by Afghans). The information collected through the survey will be organized and presented on a website dedicated to providing information for Afghan refugees. One page of the website will be in Dari, another one in Pushto, and the third page in Uzbeki. For the sake of this research project, we will study the participants' willingness to take part in the interviews for collecting information for the webpage of their own language or the language spoken by members of rival ethnic group. For those speaking Dari or Uzbeki, the language of rival ethnic group is Pushtu. For Pushtu speakers, the language of main rival ethnic group is Dari. We will measure whether participants are willing to be interviewed and how long they spend on answering interview questions. Each participant will receive two invitations. One invitation will be for participating in collecting information for the webpage of their own language. The other invitation will be for providing information for the webpage of rival ethnic group's language. The order of receiving these invitations will be randomized.

For voluntary activity 2, we will invite participants to take part in preparing and packing cloths that are donated for the poor and orphans in Afghanistan. The beneficiaries will be either ingroup (the same ethnic group as the participants) or belonging to the rival ethnic group.<sup>1</sup> We will measure whether participants are willing to take part in this voluntary activity and how long they spend helping with packing and preparing donated cloths. Participation in the reconciliation exercises is completely voluntary and will not affect the participants' eligibility to participate in the follow-up surveys if they decide not to participate in the exercises. Similar to the first voluntary activity, each respondent will be invited to participate in preparing and packing cloths twice—for ingroup and outgroup beneficiaries. The order of invitation will be randomized.

We will develop indices of prosocial behavior toward ingroup and out-groups as it follows. First, we will rescale the amount donated, the number of minutes spent on phone interviews

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1. For Uzbek and Tajiks, the rival ethnic group is Pashtun. For Pashtuns, the rival ethnic group is Tajik.

for offering information, and the number of minutes the participants help with packing and preparing donated cloths. Second, we will use principle component analysis to create an index of the three activities—using the first component as the outcome.

#### **4.3.1 Attitude toward Turkish People and Non-Muslims**

We will also investigate attitudes toward Turkish people and non-Muslims as a further exploration of the impact of intervention on prosociality. First, the intervention may have positive effect on prosocial behavior and attitude but the effect may not be large enough to overcome the inter-group animosity among Afghans. Since Turkish people have not been involved in the Afghanistan conflict, they provide a relevant reference group to measure the impact of the program on prosociality in the context of low inter-group animosity. Second, the intervention may improve general prosociality—regardless of inter-group relations—but in reference to Muslims only. Since the main treatment arms—Islamically integrated CBT—draws upon religious moral values, it may improve prosocial attitude toward Muslims and have no or negative effect on prosociality toward non-Muslims. To investigate this proposition, we will also measure attitude toward non-Muslims as well.

The following questions will be used to develop indices for attitude toward Turkish people and non-Muslims. We will follow the procedure described above to create indices of attitude toward Turkish people and toward non-Muslims. We will also use a donation exercise to measure behavior toward Turks. The participants will be given an amount of money (around 4 USD) and will be asked to decide how much to allocate to a charity that assists Turkish people affected by the recent earthquake.

##### Attitude toward Turkish people

- How much affection and closeness do you feel toward Turkish people?
- How much trust do you have in Turkish people?
- Suppose you do not know your new neighbors but know that they are Turk. How much at ease and comfortable would you feel with them?
- How much do you like Turkish people?
- How happy are you with the way Turkish people have been treating you?

##### Attitude toward non-Muslims

- How much affection and closeness do you feel toward those who are not Muslim?
- How much trust do you have in those who are not Muslim?

- Suppose you do not know your new neighbors but know that they are not Muslim. How much at ease and comfortable would you feel with them?
- How much do you like those who are not Muslim?

## 4.4 Indirect Effect

To measure the indirect effect of the intervention, we will conduct a family survey. We will interview over phone participants' key family members (husband, wife, or the eldest adult son or daughter with whom a participant lives). We will measure depression and anxiety (using HSCL 25) and coping skills (using Carver 2013 instrument). The family surveys will be conducted at three points: before the intervention, one or two weeks after the end of the intervention and 12 to 18 months after the intervention.

# 5 Hypotheses

## 5.1 Mental health

We will test the following hypotheses with regard to the mental health and coping skills outcomes:

- H1: Compared to those assigned to the control condition, those assigned to the CBT training are more likely to have higher mental health scores
- H2: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher mental health scores
- H3: Compared to those assigned to the control condition, those assigned to the traditional Islamic sermons are more likely to have higher mental health scores
- H4: Compared to those assigned to the CBT training, those assigned to the Islamically integrated CBT training are more likely to have higher mental health scores
- H5: Compared to those assigned to the traditional Islamic sermons, those assigned to the Islamically integrated CBT training are more likely to have higher mental health scores

## 5.2 Coping skills

We will test the following hypotheses with regard to coping skills.

- H6: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher scores on adaptive coping skills
- H7: Compared to those assigned to the CBT training, those assigned to the Islamically integrated CBT training are more likely to have higher scores on adaptive coping skills
- H8: Compared to those assigned to the traditional Islamic sermons, those assigned to the Islamically integrated CBT training are more likely to have higher scores on adaptive coping skills

## 5.3 Prosociality

The following hypotheses will be tested with regard to prosociality outcomes:

Core hypotheses:

- H9a: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward ingroups.
- H9b: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward “out-groups”.
- H10a: Compared to those assigned to the CBT training, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward ingroups.
- H10b: Compared to those assigned to the CBT training, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward “out-groups”.
- H11a: Compared to those assigned to the control group, those assigned to the traditional sermons are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward ingroups.

- H11b: Compared to those assigned to the control group, those assigned to the traditional sermons are more likely to have higher scores on prosocial attitude index and prosocial behavior index toward “out-groups”.
- H12a: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index toward Turks.
- H12b: Compared to those assigned to the control condition, those assigned to the Islamically integrated CBT training are more likely to have higher scores on prosocial attitude index toward Non-Muslims.

## 5.4 Indirect impact

- H13a: The family members of those assigned to the Islamically integrated CBT will have higher scores on mental health than those assigned to control condition.
- H13b: The family members of those assigned to the Islamically integrated CBT will have higher scores on mental health than those assigned to the CBT condition.
- H14a: The family members of those assigned to the Islamically integrated CBT will have higher scores on coping skills than those assigned to the control condition.
- H14b: The family members of those assigned to the Islamically integrated CBT will have higher scores on coping skills than those assigned to the CBT condition.

## 6 Estimation

To calculate the impact of treatment arms, we will conduct an Intention to Treat (ITT) analysis as well as Local Average Treatment Effect (LATE) estimation. For the ITT analysis, we will use OLS regression based on the following equation, with standard errors clustered at class level, and the baseline covariates listed below included as control variables.

$$Y_i = \beta_0 + \beta_1 CBT_i + \beta_2 IslamicCBT_i + \beta_3 Sermons_i + \beta_4 \mathbf{X}_i + \epsilon_i, \quad (1)$$

where  $CBT_i$ ,  $IslamicCBT_i$ , and  $Sermons_i$  refer to the randomized assignment to treatment arms.  $Y_i$  denotes the outcome variable.  $\mathbf{X}_i$  refers to a vector of control variables and include the measurement of outcome variable at the baseline and demographic variables

(age, gender, marital status, education, job, income, residence status, ethnicity, and years living in Turkey).

We will also conduct a LATE estimation, using random assignment as an instrumental variable. We define compliers in the control group as those who did not participate in any treatment session. In the three treatment arms, we define compliers as those who participated in at least 6 out of the 7 sessions. We will use two-stage least square (2SLS) to estimate the effect of treatment on the outcome for compliers.

The following equation specifies the first stage,

$$Treat_i = \beta_0 + \beta_1 Z_i + \beta_4 \mathbf{X}_i + \epsilon_i, \quad (2)$$

where  $Z_i$  presents the random assignment to the control group (0) or one of the treatment arms (1 for CBT, 2 for Islamic CBT, and 3 for sermons).  $Treat_i$  shows the actual treatment status. As specified above, those who participated in at least 6 out of the seven assigned sessions are classified as “treated” or compliers.  $\mathbf{X}_i$  refers to a vector of control variables and include the measurement of outcome variable at the baseline and demographic variables (age, gender, marital status, education, job, income, residence status, ethnicity, and years living in Turkey).

We will use OLS regression and the predicted values from the first stage,  $\widehat{Treat}_i$ , to estimate the impact of treatment on outcomes – represented by the following equation.

$$Y_i = \beta_0 + \beta_1 \widehat{Treat}_i + \beta_4 \mathbf{X}_i + \epsilon_i. \quad (3)$$

## 6.1 Multiple Hypotheses Testing

To reduce the number of hypotheses tested, we develop indices as discussed in the previous section. To account for multiple hypotheses testing, we will use Benjamini-Hochberg procedure. The number of hypotheses tested,  $\mathbf{m}$ , for mental health is five; for coping skills,  $\mathbf{m}$  equals 3; for prosociality hypotheses,  $\mathbf{m}$  equals 8, and for indirect impact,  $\mathbf{m}$  equals 4.

## 7 Exploring Mechanisms

### 7.1 Mental health outcomes

We will do an exploratory investigation of mechanisms. For mental health outcomes, Islamically integrated CBT may lead to better outcomes than standard CBT through two mechanisms. First, the contents and skills taught in the Islamically integrated CBT could be

more consistent with participants' prior beliefs and practices, leading to a stronger adoption of skills in real life. To explore this mechanism, we will ask participants to rate the extent to which what they learn in a training corresponds with their beliefs; the frequency at which they practice the exercises outside classroom, and their level of satisfaction with the training. Second, the Islamically integrated CBT could be more effective by reorienting participants' focus from worldly concerns to otherworldly concerns. To explore this mechanism, the survey will include questions on the frequency of thinking about afterlife, heavenly rewards, and otherworldly punishment.

## **7.2 Prosociality**

The intervention may affect prosociality through four mechanisms. First, Islamically integrated CBT may cause an improvement in prosocial behavior, compared to standard CBT, through the expectation for divine rewards. The second potential mechanism is happiness, that is, feeling happy through acts of kindness toward others. The third mechanism is sociotropic motivations: to improve the condition of one's community members. The fourth potential mechanism is through strengthening altruism and the sense of moral obligation toward others. The survey will include questions to explore these different mechanisms.

## **8 Missing Values**

To deal with missing values, I will replace them with the median for the covariates included in the analysis. For factor analysis, if an observation has more than fifty percent missing values for the items of an index, I will remove that observation. Otherwise, I will impute the missing values using the median for that item.

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