

Pre-Analysis Plan Modification 1

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

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Contents

1	About This Pre-Analysis Plan Modification	2
2	Research Design	2
2.1	Intervention	2
2.2	Randomization	3
2.3	Secondary Outcomes	3
3	Estimation	4

1 About This Pre-Analysis Plan Modification

This pre-analysis plan modification documents the changes to the research design after collecting baseline survey data and registering participants. Two factors required modifying the original research design. First, given the stricter measure that the Turkish government enforced before and after 2023 presidential elections, Afghan refugees faced a higher risk of being arrested and deported from Istanbul to Afghanistan. As a result, we could not recruit the planned number of male participants for the study. Consequently, we needed to remove one of the treatment arms for male participants. Second, during the baseline survey, most participants expressed preference for attending the psychoeducation sessions in specific times of the week because of work and other commitments. To accommodate participants' preferences, we needed to modify the randomization method. Aside from the modifications discussed below, the study follows the same procedures and specifications discussed in the original pre-analysis plan.

After the baseline survey, we analyzed only the questions on mental health in order to exclude those who suffered from severe depression, PTSD, or anxiety or reported suicidal thoughts. At the time of filing this modification, the rest of the sample had been randomly assigned to the control or one of the treatment arms. Those assigned to a treatment condition had received two sessions of psychoeducation training.

2 Research Design

2.1 Intervention

The original plan was to recruit 600 Afghan refugees— 300 men and 300 women—in Istanbul, Turkey. We wanted to randomly assign them into four conditions: (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. Since Afghan refugees, particularly undocumented men, faced a higher risk of arrest and deportation when we started the recruitment efforts, we were not able to recruit the targeted 300 Afghan male refugees. Our final sample included 350 female and 250 male. Given the smaller size of the male sample, we removed the third treatment arm (traditional sermons) for men. They were instead randomly assigned into 3 groups: (1) a manualized Cognitive Behavioral Therapy (CBT) training that teaches coping and emotion regulation skills, (2) an Islamically integrated version of CBT, or (3) a waiting control condition. Female participants were

randomly assigned into the four conditions as initially planned.

2.2 Randomization

We had planned to conduct block randomization based on gender only. Considering the cultural sensitivities, we planed to organize training for male and female participants separately. However, during the baseline survey, we realized that the vast majority of participants worked full time and had limited availability to participate in the training sessions. Based on participants' preferences, we divided them into six Availability Groups (weekdays morning, weekdays afternoon, weekdays evening, weekend morning, weekend afternoon, and weekend evening). To accommodate participants' preferences, we conducted block randomization based on gender and Availability Group. Male participants in each availability group were randomly assigned into the three conditions and female participants into the four conditions discussed above.

2.3 Secondary Outcomes

The secondary outcomes include overall psychological well-being, symptoms of PTSD, and sub-scales of depression and anxiety. We are making two modifications to the secondary outcomes. First, in addition to comparing the average scores across groups—control and treatment arms—we will also calculate the change in the number of people with the symptoms of depression, anxiety and PTSD after the intervention. We will use the average score of 2.5 across instrument items as the cutting-off point for classifying those who are symptomatic.

Second, we also use one-question instrument in every session to measure participants' feelings. We ask participants in the treatment sessions to identify their feeling every session before the training starts using emojis in the picture below.

We use this question to record attendance (and compliance) and also compare the changes in participants' feelings over time across different treatment arms. The question is coded as follows: angry = -2; sad = -1; neutral = 0; happy = 1; very happy = 2. This question is not asked from the control group. For analysis, we will plot a time-series graph based on responses to this question for the different treatment arms in addition to comparing the overall mean of seven sessions for different treatment arms. Furthermore, we will use the responses to this question on the first day of training for further examining balance check across different treatment arms at the start of the intervention.

Figure 1: Feeling Thermometer



Note: participants select one of the emojis to answer “Overall, how do you feel today? Select one that best represents your feeling today.”

3 Estimation

We will follow the specifications discussed in the original pre-analysis plan with the following modifications.

- we will conduct a balance check across the control and treatment arms based on the following demographic variables: age, gender, marital status, education, job, income, residence status, ethnicity, and years living in Turke).
- For estimating Equation 1 and Equation 2, we will conduct one analysis controlling for all demographic variables listed above and another analysis including only those variables where there is evidence of imbalance across control and treatment arms.
- Because we conducted block randomization based on gender and Availability Group, estimations will control for gender and Availability Group by including dummies for each.
- All standard errors will be clustered at class level.
- We will estimate the impact for the pooled sample with gender dummy in addition to estimating for women separately (including female participants only).
- The second stage will be Equation 3, with standard errors clustered at the class level.