Religious Traditions and Coping with War and Displacement: Evidence from a Field Experiment with Afghan Refugees

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Abstract

While scholars have focused on religion, particularly Islam, as a detrimental force in wars, this study investigates the healing capacity of religious traditions in response to war and displacement. We randomly assigned around 550 Afghan refugees to seven hours of Cognitive Behavioral Therapy (CBT), an Islamically integrated CBT (I-CBT), Islamic teaching, or an awaiting control condition. Three to six weeks after the intervention, I-CBT and Islamic teaching were as effective as CBT in reducing the symptoms of depression, anxiety, and PTSD. Thirteen to sixteen weeks after the intervention, the effect of CBT and Islamic teaching had faded while the impact of I-CBT persisted among those who were symptomatic at the baseline. As the first study to compare a psychological intervention with its Islamically integrated version and Islamic teaching, this experiment highlights the positive role that Islamic traditions and religious institutions could play in healing the adverse psychological effects of war and displacement.

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1 Introduction

Over the past four decades, most of the civil wars have been fought in Muslim-majority countries by militant groups with Islamic-based ideologies (Gleditsch and Rudolfsen 2016). In addition, Muslims living in countries 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. In response, scholars have debated whether religious traditions, particularly Islamic beliefs and practices, lead to the participation in, or support for, militancy and contribute to the onset or escalation of civil wars (Canetti et al. 2010; Stemmann 2006; Wiktorowicz 2006; Hasan 2011; Bunzel 2015; Weismann 2017; Atran, Sheikh, and Gomez 2014; Atran 2003; Juergensmeyer 2003).

Surveys in Muslim countries, however, have found no relationship between religious beliefs or practices and support for political violence or 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). On the contrary, making *hajj* pilgrimage (the primary religious journey for Muslims), knowledge of Islam, and conceptualizing Sharia as good governance and public service delivery are correlated with greater support for peace and decreased sympathy with militant groups (Clingingsmith, Khwaja, and Kremer 2009; Fair, Goldstein, and Hamza 2017; Fair, Hwang, and Majid 2019; Fair, Malhotra, and Shapiro 2012; Wiktorowicz 2005). The puzzle is why religion seems to be important in countries affected by civil wars, while there is no clear relationship between religiosity and support for political violence or militancy among Muslims.

Our inadequate understanding of the role, in armed conflict, of religion, in general, and Islam, in particular, is due to the lens through which scholars have studied religion. The extant scholarship has treated religion mainly as a detrimental force during armed conflicts while ignoring the potentially positive role of religious beliefs and rituals. Scholars have missed investigating the potentially beneficial effects of religion in armed conflicts, although

Table 1: Civil War and Religiosity in Muslim Countries

	Religion Very Important	Pray Daily	Read/ Listen to Quran Daily
Civil war	79%	77%	36%
No civil war	65%	60%	26%
Sample size	32308	31917	31749
$\chi^2(df = 1)$	701.69	1017.7	334.42
P-Value	$< .001$	$< .001$	$< .001$

Notes: Based on Pew Research Center Survey, Religion and Public Life Project, World's Muslim Survey, 2011-2012 (Lugo et al. 2013). 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 (Raleigh, Kishi, and Linke 2023).

psychological studies of religion suggest that religious beliefs and practices could serve a positive role.

Building on psychological theories of religion, I argue that religious beliefs and practices help civilians cope with the adverse psychological effects of war. Causing displacement and disrupting civilians' way of life, armed conflicts–whether civil wars or inter-state wars–diminish civilians' sense of control, which in turn leads to heightened religiosity as a psychological coping mechanism. Religious beliefs help individuals with religious worldviews cope with a diminished sense of control by facilitating a positive reinterpretation of adverse conditions. Studies of refugees and civilians living in war-affected societies confirm that civilians, particularly in religious societies, rely on prayer and religious practices to cope with psychological distress and mental health issues (Murthy and Lakshminarayana 2006; Scholte et al. 2004; Ali, Milstein, and Marzuk 2005; Rassool 2016). Cross-country data on web-based searches for religious terms provide preliminary evidence that wars are associated with increased interest in religious beliefs and practices among Muslims, Christians, and Jewish people. [1]

To assess whether and to what extent religious traditions could help civilians cope with the adverse psychological effects of war, this paper presents the findings of a randomized

1. Finding on how Google searches for prayer and religious terms change with war are presented in the third section of this paper.

controlled experiment with Afghan refugees in Turkey. The field experiment was designed to answer the following questions. Could Islamic traditions help civilians cope with the adverse psychological conditions that they experience after war and displacement? How do Islamic traditions compare with a secular psychological intervention that provides psycho-education training and coping skills for refugees? How long does the effect of religious traditions on psychological outcomes last?

We designed a randomized controlled trial with three treatment arms. To ensure that Islamic traditions for coping are comparable to a secular psychological intervention, we used, as the reference treatment, a Cognitive Behavioral Therapy (CBT) intervention based on Self-Help Plus and START NOW (two secular psycho-education and coping skills training designed for refugees). The second treatment arm was similar to the CBT intervention– with the same structure and format–but incorporated Islamic teachings and beliefs. Both CBT and Islamically integrated CBT (I-CBT) were interactive and helped participants learn coping skills and engage in cognitive restructuring, that is, identifying faulty thoughts and replacing them with positive thoughts.

For the third treatment, we were interested in an intervention resembling the natural settings where Muslims receive religious teachings on healing and coping. We opted for Islamic teaching, which are the primary means for propagating religious guidance and teachings among believers – similar to the traditions in Judaism and Christianity (Razzaq 2023). Delivered by Muslim clerics in an uninterrupted format (like a lecture), Islamic teaching draw on Quranic verses, Hadith (Prophet's narrations), or teachings of great Muslim scholars (Tayob 2017; Bukhari and Gondal 2020). The Islamic teaching designed for this study included discussions of the prophets who, according to the Quran, experienced forced displacement and relied on prayer and supplication to God to cope with adverse conditions. The Islamic teaching also included general Islamic teachings relevant to coping, such as patience, trust in God, and seeing hardship and life challenges as a test and opportunity for spiritual growth. The Islamic teaching were not interactive and did not teach coping skills

to ensure they resembled real-world Islamic Islamic teaching.

Around Five hundred sixty Afghan refugees–male and female–were recruited in Istanbul, Turkey. Almost 60% of the participants suffered from depression and anxiety, and around 12% suffered from post-traumatic stress disorder (PTSD). The participants were randomly assigned to one of the three treatment conditions described above or an awaiting control condition. Those assigned to a treatment condition received seven sessions–meeting twice a week, each around fifty minutes long. To standardize the sessions across the treatment arms and ensure that the observed effects are due to the contents of treatment arms–and not driven by the traits of facilitators–all sessions, including Islamic teaching, were delivered as pre-recorded videos, presented by the same narrator (the Primary Investigator). Since the CBT and I-CBT included mindfulness and relaxation exercises, we trained lay facilitators to help the participants learn and practice the exercises.

Three to six weeks after the intervention, the CBT and I-CBT led to a significant decline in the combined symptoms of depression and anxiety (0.28 and 0.25 standard deviation (SD) of the control, respectively), as measured using the Hopkins Symptoms Checklist (HSCL). In addition, the Islamic teaching were also associated with a significant decline (0.29 SD of control) in symptoms of depression and anxiety among female participants[2] although they did not include mindfulness exercises or CBT components. The findings are robust to using various specifications and covariate adjustments. Moreover, all three treatment arms led to a decline in the symptoms of PTSD as well (between 0.18 to 0.36 SD of control). There was no statistical difference in the effect size across the three treatment arms.

Thirteen to sixteen weeks after the intervention, the effect of CBT and Islamic teaching on depression and anxiety had faded, but the impact of I-CBT persisted among those who were symptomatic at the baseline. Those who were assigned to I-CBT and above the cut-off point for being symptomatic with depression and anxiety (1.75 on the HSCL scale) showed a significant improvement (0.4 SD of the control group) in the symptoms of depression and

2. Because of the smaller size of the male sample, we did not offer the Islamic teaching condition to male participants to avoid being underpowered. More detail is provided in Section 3.

anxiety three to four months after the intervention. The effect is robust to using various specifications and different cut-off scores.

A donation exercise and survey modules on attitudes toward in-group and out-groups find that the intervention does not affect attitudes or behavior toward other groups, alleviating the concerns that I-CBT and Islamic teaching may exacerbate inter-group prejudice and hatred.

This study makes novel contributions to our understanding of the beneficial role of religious traditions in the context of war and displacement. Political science scholarship has focused on assessing whether religious traditions have pernicious effects during wars while paying less attention to the potential benefits of religious beliefs and practices. Psychologists have found that civilians in war-torn societies and refugees tend to rely on religious practices as coping mechanisms. However, there is a dearth of empirical research on the effectiveness of religious traditions, particularly in comparison with secular interventions.

A small group of psychologists have recently developed theoretical frameworks for incorporating Islamic traditions into psychological interventions in general (Keshavarzi and Haque 2013; Hamdan 2008; Bentley et al. 2021; Rassool 2016; Cucchi 2022; Bonab and Koohsar 2011). However, there are few randomized experiments on the effectiveness of Islamically integrated interventions (Azhar, Varma, and Dharap 1994; Azhar and Varma 1995; Alagheband et al. 2019; Rafique, Anjum, and Raheem 2019), but they suffer from small sample sizes or lack comparable secular interventions (Cucchi 2022). Moreover, no study investigates the impact of religious teaching on civilians' coping. This study is the first randomized controlled trial to compare a secular CBT intervention with an Islamically integrated version and Islamic teaching.

The findings of this study have important policy implications. Although the effect of Islamic teaching faded three to four months after the intervention, the Islamic teaching was as effective as CBT in the short term. In terms of costs and human resources, Islamic teaching is more economical and more accessible than CBT interventions to deliver. 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 – and tens or hundreds in every town and urban center. In addition, mindfulness and cognitive restructuring exercises, fundamental elements of CBT interventions, are new to average Muslims, require trained facilitators, and must be performed correctly to be effective (Cucchi 2022).

Religious Islamic teachings, however, draw upon concepts and beliefs that Muslims have been socialized into from childhood and could be used to conduct a positive reinterpretation of adverse conditions as a coping strategy. The ubiquitous presence of clerics in Muslim societies and the familiarity of Muslims with Islamic teachings turn Islamic teachings into an accessible means for helping refugees and civilians cope with the adverse psychological effects of war and displacement.

Furthermore, this study provides preliminary evidence that integrating Islamic beliefs and traditions into CBT interventions could extend the effectiveness of CBT interventions among symptomatic participants. The strength of Islamically integrated CBT is in drawing, for cognitive restructuring, upon concepts that are familiar to Muslims while borrowing mindfulness exercises from CBT interventions. If resources are available for training facilitators and helping participants learn mindfulness exercises, Islamically integrated CBT seems to be a more efficient alternative to CBT and Islamic teachings. The combination of a positive interpretation of adverse conditions through Islamic beliefs and mindfulness exercises appears to have longer-lasting effects than CBT and Islamic teachings on psychological well-being.

This study has certain limitations. First, due to the smaller sample size of male participants, we did not assign men to the Islamic teaching condition. Although the evidence presented in this paper suggests that Islamic teachings would be effective in improving men's psychological well-being, future studies with a sample of male participants are needed to estimate the size of the effect of Islamic teachings on men. Second, based on the seventy qualitative interviews we conducted, it seems that the impact of I-CBT and Islamic teach-

ings was in helping participants rely on religious concepts that were familiar to them to perform a positive interpretation of adverse conditions as a coping mechanism. Further studies are needed to better understand how Islamic teachings and Islamically integrated CBT improve participants' psychological well-being.

This paper is arranged as follows. The next section provides an overview of the relationship between war and religious coping. The third section discusses the research design. The fourth section presents the results. The fifth section explores the potentially adverse effect of Islamically integrated CBT and Islamic teachings on inter-group relationships. The concluding section discusses policy implications.

2 War, Displacement and Religious Coping

With less than a quarter of the world's population, majority-Muslim countries have experienced, over the past four decades, more than half of the world's armed conflicts, which have displaced millions of people as refugees or Internally Displaced People (IDP). Most of these wars have been fought by militant groups with Islamic-based ideologies (Gleditsch and Rudolfsen 2016). In addition, Muslims who live in countries experiencing wars tend to be more religious than Muslims who live in peaceful countries (Table 1).

Considering these trends, the scholarly debate has focused on whether religion, particularly Islam, causes or contributes to the onset or escalation of armed conflicts by instigating popular support for political violence (Canetti et al. 2010; Stemmann 2006; Wiktorowicz 2006; Hasan 2011; Bunzel 2015; Weismann 2017; Atran, Sheikh, and Gomez 2014; Atran 2003; Juergensmeyer 2003). The existing empirical studies, however, have found no relationship between religiosity and political violence. 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 extant scholarship, thus, fails to explain why religion seems to be more pervasive in war-torn societies despite the absence of a relationship between religiosity and support for political violence or war among Muslims.

Our limited understanding of the relationship between religiosity and war stems from scholars' unbalanced approach to studying religion. The predominant scholarship produced by political scientists has treated religious beliefs and practices as a detrimental force and concentrated on whether they lead or contribute to wars. They have rarely inquired into the potentially positive function of religious beliefs and practices during wars. Considering the psychological theories of religion and coping, the relationship between religion and wars seems much more nuanced than presumed in the political science literature. Religious beliefs and rituals could play a positive role and serve as coping mechanisms in times of war.

Psychological studies show that a diminished sense of control could lead to heightened religiosity as a coping response. When individuals encounter conditions that undermine their sense of control, those with religious worldviews tend to rely on religious coping, that is, expressing stronger religious beliefs and participating in religious practices more frequently as they try to deal with the adverse condition. Studies have shown that severe illnesses, life crises, and natural disasters, such as earthquakes, droughts, and pandemics are associated with intensified religiosity as individuals try to cope with the adverse event that diminishes their sense of control (Aaron C. Kay et al. 2008; Aaron C. Kay et al. 2009; Aaron C Kay et al. 2010; Bentzen 2015; Bentzen 2013; Bentzen 2021; Mercier, Kramer, and Shariff 2018; Gray and Wegner 2010).

Religious beliefs could help individuals cope with adverse conditions by seeing the plight as divine providence and part of a greater benevolent plan. Alternatively, the disaster or adverse condition could be interpreted as a divine test and an opportunity for growth. Furthermore, when individuals face deleterious conditions beyond their control, believing in a God in control of chaos and capable of influencing adverse conditions could improve individuals' sense of control. Those who believe in a divine force may plea to the divine

(through prayer) to intervene and mitigate the adverse condition (Aaron C. Kay et al. 2008; Aaron C. Kay et al. 2009; Aaron C Kay et al. 2010; Bentzen 2015; Bentzen 2013; Mercier, Kramer, and Shariff 2018; Gray and Wegner 2010; Dube, Blumenstock, and Callen 2022). Religious beliefs could serve as a critical coping response during wars.

By their destructive nature, wars undermine civilians' sense of control, causing extreme psychological distress and pervasive mental health issues. Wars often expose civilians to high risks and adverse events, including economic decline, loss of employment, insecurity, and displacement. These unfavorable conditions, particularly displacement, disrupt civilians' way of life and the arrangements they relied on before the war to obtain food, shelter, and security. The affected populations may face new challenges for which they are unprepared and could threaten their survival and livelihood. These adverse conditions often cause immense psychological distress and undermine civilians' sense of control.

Studies of war-affected communities and displaced populations have found a large proportion of civilians suffer from mental health disorders. In former Yugoslavia, around one-third of the population suffered from mental health disorders seven years after the end of the war (Priebe et al. 2013). In Afghanistan, more than 40% of the population is reported to suffer from anxiety, depression, and PTSD (Azad 2019; Sayed 2011a).

Mental disorders are found to be very prevalent among displaced people as well. Although they have escaped the violence of conflict areas, they face numerous adverse conditions after leaving war-torn regions. Physical harm and separation from family members during or after displacement, poor socioeconomic conditions, social isolation, unemployment, and uncertain legal status in the new place could cause extreme psychological distress and undermine displaced people's sense of control. 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, Giacco, and El-Nagib 2016; Organization and Organization 2018).

Two factors make civilians affected by war, particularly Muslims, likely to rely on religious

beliefs and practices for coping. First, given the high rates of poverty and limited provision of mental health services in countries experiencing armed conflicts, religion provides an accessible means of coping in response to a diminished sense of control and the resulting psychological distress. Of the forty-two Muslim-majority countries, twelve have experienced armed conflicts since 2000. Except for Libya and Iraq, which are middle-income countries, the remaining ten are low-income countries (Bank 2019).

To cope with the adverse effects of armed conflicts on their lives, civilians in these countries have limited choices because mental health services provided by the state are scarce, and those offered by the private sector are rarely affordable. For instance, in Afghanistan, a country suffering 40 years of violence, more than 40 percent of the population suffers from anxiety, depression, or PTSD, but there are only 11 psychological counseling centers in the entire country (Azad 2019; Sayed 2011b). Similarly, in Pakistan, only a small percentage of urban residents can afford counseling services offered by psychotherapists, while the rest seek traditional healing for mental disorders (Farooqi 2006).

Second, because of the salience of religion in developing countries, including Muslim-majority countries, mental health is viewed as closely connected to spiritual well-being. Contrary to the advanced industrialized economies, religion plays a prominent role in Muslim-majority countries, as it does in other developing countries. A recent survey by Pew shows a strong correlation between GPD per capita and stronger religious beliefs; the lower the GPD per capita is, the more important religion is. While around half of respondents in advanced economies believe that religion and God are important or very important in their lives, more than 90 percent of respondents in Muslim-majority countries express such strong beliefs. Muslims are not, of course, exceptions. More than 90 percent of respondents in other emerging economies, such as India, Kenya, South Africa, Mexico, and the Philippines also say that religion and God are important or very important in their lives (Tamir, Connaughton, and Salazar 2020). Considering the limited access to mental health services and the prominence of religion in developing countries, it is not surprising that people tend to

use religion to cope with war and displacement.

3 Intervention and Experimental Design

We designed a randomized controlled trial to investigate how effective religious traditions are, compared to a secular intervention, in helping civilians cope with the adverse effects of war and displacement. This section discusses the intervention, randomization procedure, outcome measurement, and the estimation strategy. The intervention and experimental design were preregistered on the AER RCT registry. They were approved by the Institutional Review Boards at Princeton University and Istanbul Gelisim University.[3]

3.1 Intervention

Since Cognitive Behavioral Therapy (CBT) has become a primary platform for teaching coping skills to those suffering from depression, anxiety, or PTSD, we used CBT as the primary treatment arm. We, therefore, developed an intervention employing CBT and/or Islamic teachings. The four experimental conditions included CBT only, Islamic teachings only, CBT plus Islamic teachings (Islamically integrated CBT), and a control condition (neither CBT nor Islamic teachings). Taking CBT as the baseline treatment arm, we developed the other two treatment arms, considering the CBT contents and structure, which also made the three treatment arms more comparable.

For the CBT arm, we opted for a package combining Self-Help Plus and START NOW (two secular psycho-education and coping skills training). Self-Help Plus is a five-session stress management intervention developed by the World Health Organization. Designed to be delivered by non-specialist facilitators using pre-recorded audios, Self-Help Plus represents a low-intensity psychological intervention to reduce psychological distress (WHO 2021).

3. The initial pre-analysis plan and subsequent modifications can be found at Isaqzadeh, Mohammad. 2023. "Coping with War through God: Religion and the Promotion of Mental Health and Prosociality Among Refugees." AEA RCT Registry. October 08. https://doi.org/10.1257/rct.11443-4.0

START NOW is a CBT program that integrates building blocks from dialectical-behavioral therapy and acceptance commitment therapy. Initially developed for correctional environments, START NOW has been adapted to suit the needs of refugees and other marginalized groups that face similar resource constraints and require effective, reliable, and manual-guided treatment for teaching emotion regulation and coping skills. START NOW 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, (4) and setting and reaching goals (Trestman 2021; Stadler 2023).

The CBT arm for this study was delivered in seven sessions and combined modules from Self-Help Plus and START NOW. Two sessions were on negative emotions and how to cope with negative emotions. Two sessions on cognitive restructuring to replace faulty cognition with positive thoughts. One session is on self-compassion, and two sessions are on dealing with life challenges and planning for success. Each session included a mindfulness exercise for relaxation and coping with negative emotions. The mindfulness exercises included breathing exercises, drinking exercises, stress balls, and walking meditation. More details on each session can be found in the Appendix 9. In designing the CBT arm, the PI received invaluable feedback from Robert Trestman, who developed the START NOW intervention, and Christina Stadler and her colleagues, who worked on modifying START NOW to fit the needs of Afghan refugees.

The Islamically integrated CBT (I-CBT) followed the same structure, the same number of sessions, and similar coping skills training as the CBT but incorporated elements of Islamic teachings on coping. The cognitive restructuring exercises, for instance, drew upon verses from the Quran and Islamic teachings (such as reliance on Allah, patience, and avoiding misjudgment about others) to identify faulty thoughts and replace them with positive thoughts. The mindfulness exercises combined secular relaxation exercises in CBT with prayer and supplication to Allah for relaxation and coping with negative emotions. For instance, the breathing exercise combined breathing with the remembrance of Allah, following *muraqaba*

in Sufi traditions of Islam or conducting breathing exercises with mala beads, which are commonly used by Muslims for the remembrance of Allah after daily prayers.[4] In CBT and I-CBT sessions, participants were also encouraged to practice mindfulness exercises outside class.

For the third treatment arm (Islamic teachings only), we selected Islamic teachings, a common platform through which ordinary Muslims receive religious guidance and teachings on healing and coping. Delivered by Muslim clerics in an uninterrupted format (like a lecture), Islamic teachings draw on Quranic verses, Hadith (Prophet's narrations), or teachings of great Muslim scholars (Tayob 2017; Bukhari and Gondal 2020).

The Islamic teachings designed for this study were also delivered in seven sessions with the same length as the CBT and I-CBT sessions. The Islamic teachings included discussions of the prophets who, according to the Quran, experienced forced displacement and relied on prayer and supplication to God to cope with adverse conditions. Islamic teachings also included general Islamic teachings relevant for coping, such as patience, trust in God, and seeing hardship and life challenges as a test and opportunity for spiritual growth. To compare Islamic teachings' contents with CBT and I-CBT, please refer to Appendix 9. The entire manuals for CBT and I-CBT sessions and the full text of the Islamic teachings are available in the online appendix.

To standardize the sessions across the treatment arms and ensure that the observed effects are due to the contents of treatment arms (rather than the facilitators' traits), all sessions were pre-recorded as videos, including Islamic teachings, featuring the same narrator (the Primary Investigator). The PI drew upon his past training as a cleric and consulted Afghan clerics for developing the contents of Islamic teachings and I-CBT.[5] Furthermore,

4. Mala beads are usually used by Muslims to recite the names of Allah after prayer. Our I-CBT mindfulness exercise combined breathing exercises with reciting Allah's name (Ya Allah) using mala beads. Turning each mala bead, participants take a deep breath and recite Ya Allah as they inhale and exhale while focusing on breathing.

5. The primary investigator was trained as a Muslim cleric and served as an imam of a mosque in Herat, Afghanistan, before migrating to the U.S. and pursuing university education. He received feedback on the contents of Islamic teachings from Qaseem Abbassi and Sayyed Jawad Wahidi.

the Islamic teachings were not interactive and did not include coping skills–to ensure they were comparable to real-world Islamic teachings delivered by Muslim clerics. [6]

Since the CBT and I-CBT included mindfulness and relaxation exercises, we trained lay facilitators to help the participants learn and practice the exercises. Pictures of I-CBT sessions for male and female participants can be found in the Appendix 4 and 5. The facilitators in the Islamic teaching sessions just played the videos without engaging with the participants.

The control condition participated in the baseline, follow-up, and phone surveys and received the same financial compensation as the treatment groups. Each participant was paid 1250 TL (around 45 USD) to cover the cost of transportation to the center. To avoid withholding treatment from the control group, they are to receive CBT after the second follow-up.

3.2 Recruitment and Randomization

We conducted the research project in collaboration with Turkistan Elleri Egitim Kultur Ve Yardimlasma Dernegi[7] and with the support of Istanbul Gelisim University. With the help of Turkistan Elleri, we distributed posters in local community centers and businesses run by Afghans in Istanbul and used paid advertisements on Facebook to recruit participants from among Afghan refugees in Istanbul. The advertisement materials were in Dari and Uzbeki, the two main languages spoken by Afghan refugees in Istanbul. A Copy of the poster and a screenshot of the Facebook video advertisement can be found in Pictures 1 and 2 of the

6. On the one hand, Islamic sermons are usually delivered before Friday noon prayer in mosques before the congregation of worshipers. Clerics delivering Friday sermons are usually dressed in clerical garments. Islamic teachings, on the other hand, could be delivered by Muslim clerics without wearing clerical garments on various occasions, even outside mosques, and without connection to daily prayers. With the promotion of YouTube, it has become a popular practice for Muslim clerics to produce Islamic teaching videos in home studios or other venues and upload them to the web. Isalmic teaching sessions in this study resemble the second type (Islamic lectures). They were recorded in a home studio and without the presence of worshipers. The PI did not wear clerical garments for these sessions.

7. Turkistan Elleri is a non-profit Association led by a group of Afghan volunteers who provide legal advice and financial support to Afghan refugees in Istanbul. More information about the association can be found at https://www.facebook.com/turkistanelleri2019/about/.

Appendix.

We recruited 617 participants, of whom 260 were men and 357 were women. Despite our efforts, we could not recruit the same number of male participants as female ones. When we launched the program, the Turkish government arrested and deported Afghan refugees, particularly men, who lacked legal documents for living in Istanbul (Paimani and Noorzai 2023; Binesh 2023). Because of the higher risk of being arrested and deported, men were more hesitant to commute to the center and participate in the program. Furthermore, we excluded thirty nine participants who expressed suicidal thoughts or reported a history of mental disorders in the baseline survey. They were referred for one-on-one psychological counseling, which was offered over the phone and free of charge by Peace of Mind Afghanistan.[8]

Since most recruits expressed interest in attending sessions on specific times and days of the week due to their work schedules, we used a block randomization based on participants' availability and gender. The blocks included odd weekdays, even weekdays, or weekends. The time windows included morning, afternoon, or evening. We grouped participants based on their availability preferences.[9] With such block randomization, we had to offer all three treatment arms (CBT, I-CBT, or Islamic teaching) at each time block. The number of participants in some sessions was small, but we could assign almost ninety percent of recruits to their preferred time and reduce the likelihood of attrition.

Furthermore, we offered separate classes for male and female participants because of cultural sensitivity. Moreover, to avoid being underpowered, we did not assign men to the Islamic teaching condition due to the smaller number of male participants.[10] Of the total of 557 recruits, 160 recruits (28.7%) were randomly assigned to the CBT arm, 157 recruits (28.1%) to I-CBT, 83 recruits (female only) to Islamic teachings, and 157 (28.1%) were assigned to the control condition.

8. Peace of Mind Afghanistan is a mental health and psychological support consultancy which provides mental health and psychosocial support to vulnerable Afghans in the country and outside Afghanistan. More details on their activities can be found at https://pomaglobal.org/.

9. For instance, those available in the afternoon of odd weekdays were grouped and randomly assigned to CBT, I-CBT, Islamic teachings, or an awaiting control condition.

10. Male recruits were randomly assigned to CBT, I-CBT, or an awaiting control condition.

Since we did not randomly select our sample from a population, our findings may not generalize to a particular population and instead serve as a test of a concept. We initially used a list of 10,000 Afghan refugees in Istanbul and called a random sample. Only a few individuals, however, expressed interest in the program. Our advertising strategy through local centers and Facebook proved more successful. Those who signed up were individuals interested in the program, and most of them suffered from depression or anxiety–as discussed in the next session. Furthermore, using advertisement to identify and enroll participants is a common approach to recruiting participants in other similar psychological interventions (Graaff et al. 2023; Alagheband et al. 2019; Kananian et al. 2020; Zoellner et al. 2018; Rafique, Anjum, and Raheem 2019).

Because our primary aim is to assess the effect of religious traditions on psychological well-being, one concern may be the level of religiosity of those who participated in our study. Unfortunately, there is no representative survey of Afghan refugees in Turkey to compare our sample with the broader refugee population. However, we do not find a major difference when comparing our sample with the respondents to the Pew survey on religiosity in 39 Muslim-majority countries. The reported level of religiosity among our study participants is on par with the respondents from war-affected countries. Among the Muslims who lived in countries experiencing wars, 36% reported reading or listening to the Quran[11] daily (Lugo et al. 2013). In our sample, 37.7% reported reading or listening to the Quran on a daily basis. Furthermore, we run several checks in Section 6 to explore the external validity of the findings.

3.3 Measuring Outcomes

Depression and anxiety constitute the primary outcome of this study and were measured using the 25-item Hopkins Symptoms Checklist (HSCL-25). HSCL-25 is a standard

11. Since performing daily prayers is very common in Muslim societies, reading or listening to the Quran is a better measurement of religious adherence and piety. While performing daily prayers is incumbent upon Muslims, reading or listening to the Quran is recommended but not obligatory.

instrument commonly used for detecting the symptoms of 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 (Scholte et al. 2004; Cardozo 2004). HSCL-25 consists of two parts. The first ten questions measure anxiety, while the second fifteen measure anxiety. After translating the instrument into Dari and pilot testing it with Afghans in Turkey, we removed two questions because of cultural sensitivity and comprehension issues.[12] Following De Graaff et al. (2023), we use the average of all items (coded from 1 to 4) in the two parts combined to measure depression/anxiety.

We measured the symptoms of post-traumatic stress disorder (PTSD) as the secondary outcome since PTSD is another common mental disorder among people affected by war and displacement. To measure the symptoms of PTSD, we used the Harvard Trauma Questionnaire-Revised (HTQ-R), which is consistent with DSM-V criteria for post-traumatic stress disorder. The instrument has been carefully pilot-tested and validated for surveying Afghans (Cardozo 2004; Scholte et al. 2004). We use the mean of sixteen items (coded 1 to 4).

To assess the potentially adverse effect of Islamic treatment arms on inter-group relationships, we measure attitudes and behavior toward the following reference groups: in-group (members of one's ethnic group), out-group (Afghans who belong to other ethnic groups), and Turkish people. We use an additive index based on the following four questions to measure attitude toward each group.

- How much affection and closeness do you feel toward members of [reference group]?
- How much trust do you have in the members of [reference group]?
- Suppose you do not know your new neighbors but know that they belong to [reference group]. How much at ease and comfortable would you feel with them?

12. We removed the second question on the anxiety module on fearfulness because its Dari translation was very similar to the first question and caused confusion for the respondents. We also removed the question related to the loss of sexual interest or pleasure because it was culturally inappropriate in the context of our study.

- How much do you like members of [reference group]?

We used a donation exercise in the follow-up survey to measure behavior toward in-group, out-group, and Turkish people. After the respondents finished the interviews and were paid for their participation in the study, they were given 50 TL (around 2 USD) and an envelope. They were guided to an adjacent room where there was a box for donation. They were told they could keep all or part of 50 TL for themselves and leave the remaining amount in the envelope for donation to a charity that distributes the raised funds to poor families. They were instructed to drop empty envelopes in the box if they wanted to keep all the money for themselves. This exercise was repeated thrice (with three sums of 50 TL). There were three boxes with different colors in the adjacent room: one box for in-group (poor Afghans who belonged to the same ethnic group as the participant), one box for out-group (Afghans who belong to the rival ethnic group)[13], and another box for the Turkish people who were victims of recent earthquake (February 2023). The latter group was included as a neutral group in Afghanistan's conflict.

The boxes were different colors, and envelopes were marked with the same color as the boxes to prevent confusion. The respondents were given one envelope at a time and went to the adjacent room three times – after being briefed on who the beneficiaries were. The envelopes were marked with a unique ID number in small font to trace the envelopes to the respondents. We randomized the order in which envelopes were given to the respondents to mitigate the effect that order could have on the amount of donations. A picture of the boxes can be found in the Appendix 3.

3.4 Estimation

We conduct an Intention to Treat (ITT) analysis to calculate the impact of treatment arms. For the ITT estimation, we use OLS regression based on the following equation, with

13. Considering the fault lines of ethnic conflict over the recent four decades in Afghanistan, the rival ethnic group for Pashtuns is Tajiks, and for the non-Pashtuns, the rival ethnic group are Pashtuns, who constitute the largest ethnic group and have controlled the state for most of Afghanistan's history.

standard errors clustered at the class level and the baseline covariates listed below included as control variables.

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

where CBT_i, $IslamicCBT_i$, and $Islamic_i$ refer to the randomized assignment to treatment arms. Y_i denotes the outcome variable. $\mathbf{X}_i$ refers to a vector of control variables that measure the outcomes at the baseline and demographic variables (age, gender, marital status, education, job, income, residence status, ethnicity, and years living in Turkey). As specified in the pre-analysis plan, we conduct one estimation using the pre-specified covariates listed above and a second estimation using only covariates for which there is evidence of imbalance at the baseline.

To reduce the number of hypotheses tested, we use the combined HSCL index as the main outcome for measuring depression and anxiety, utilizing the average of twenty-three items of the instrument. Similarly, we use the average of sixteen times in the Harvard Trauma Questionnaire for measuring the symptoms of PTSD. Furthermore, we use the Benjamini-Hochberg procedure to account for multiple hypotheses testing.

4 Data

We used a baseline survey conducted before the intervention, a follow-up survey three to six weeks after the intervention, and a phone survey thirteen to sixteen weeks after the intervention to assess the impact of the intervention. This section discusses descriptive statistics at the baseline, attrition, and balance check for randomization.

4.1 Attrition

Out of the five hundred and fifty seven recruits who were randomly assigned to a treatment arm or the control condition, eighty three percent (463 recruits) continued participating

in the program until the first follow-up survey. In comparison, seventeen percent (94 recruits) dropped out of the program after the baseline survey. We later tried to contact and survey those who dropped out. Around one third of them (36 recruits) were unreachable after the baseline.[14] Almost another third (35 recruits) reported to have dropped out because of schedule conflict with their work. The remaining recruits (27 recruits) indicated personal reasons (such as travel, lack of family permission, sickness, or fear of being arrested by the Turkish police) for dropping out of the program.

Attrition does not seem to be consequential. Table A1 of the Appendix compares those who dropped out and those who participated in the program. Those who dropped out were slightly younger and more likely to be male, single, or illegally in Turkey. The two groups are similar along all other baseline covariates, including the symptoms of depression, anxiety, and PTSD. A balance check in the next subsection shows that attrition does not undermine balance across the treatment arms and control condition.

We conducted a phone survey thirteen to sixteen weeks after the intervention to assess the medium-term impact of the intervention. Since the phone survey had to be short to avoid respondent fatigue and because of the higher prevalence of symptoms of depression and anxiety in our sample, we measured the symptoms of depression and anxiety only (using HSCL-25). We were able to follow up and interview 78% of the sample (those who participated in the program and were interviewed in the follow-up survey). Those who participated in the phone survey were similar to those we could not interview. Table A7 compares the baseline covariates of the two groups. Except for being ethnically Uzbek, the two groups were similar along all other baseline covariates.

4.2 Descriptive Statistics and Balance Check

Table 2 presents the baseline descriptive statistics and a balance check for randomization among *participants*, those who participated in the program up to the follow-up survey

14. Their phone numbers were no longer active. They may have changed their phone number or left Turkey. The program was run in the summer when many Afghan refugees usually leave Turkey illegally for Europe.

Table 2: Baseline Descriptive Statistics and Balance Check for Randomization

	control	control	Assigned CBT		Assigned Islamic CBT		Assigned Islamic	
Baseline covariate	Mean	SD	Mean	p-value	Mean	p-value	Mean	p-value
Depression/anxiety	2.012	0.577	2.007	0.94	2.019	0.932	1.978	0.705
Anxiety	1.946	0.606	1.944	0.979	1.985	0.636	1.921	0.787
Depression	2.055	0.639	2.048	0.923	2.04	0.853	2.015	0.684
PTSD	1.906	0.55	1.873	0.616	1.87	0.58	1.896	0.904
Age	35.73	12.273	35.946	0.89	38.286	0.118	34.159	0.385
Education	8.746	5.887	9.906	0.1	9.761	0.163	8.71	0.966
Income (TL)	12057	7949	12855	0.388	11642	0.626	14122	0.1
Married (= 1)	0.684	0.466	0.729	0.416	0.765	0.14	0.778	0.152
Years_in_turkey	6.461	4.192	5.62	0.065	5.336	**0.049**	6.365	0.878
Legal_status (= 1)	0.684	0.466	0.698	0.808	0.706	0.702	0.714	0.662
Family_killed_injurd	1.263	1.782	1.302	0.907	2.748	0.093	0.921	0.2
Read_Quran	2.737	1.155	2.845	0.42	2.739	0.985	2.651	0.628
Attend_mosq	1.862	1.128	1.829	0.81	1.882	0.882	1.19	**0.000**
Religious_coping	3.178	0.839	3.178	0.995	3.185	0.942	3.286	0.364
Socialization_coping	2.382	0.927	2.388	0.957	2.319	0.578	2.603	0.122
Listen_music	2.329	1.27	2.202	0.374	2.353	0.875	2.286	0.813
Hiking	3.331	1.057	3.157	0.185	3.059	**0.05**	2.714	**0.001**
Aggression	1.75	0.937	1.698	0.642	1.714	0.741	1.841	0.547
Uzbek	0.526	0.501	0.566	0.508	0.479	0.441	0.619	0.212
Female (= 1)	0.553	0.499	0.597	**0.000**	0.513	**0.000**	1.00	**0.000**
N	152		129		120		63	

Notes: The table presents baseline descriptive statistics and a balance check, comparing the control group with those assigned to the three treatment arms. The sample includes the participants who participated in the first follow-up survey conducted three to six weeks after the intervention. *p-value* summarizes the test statistics for the t-test of the difference between the control mean and the mean of the assigned treatment arm. P-values less than 0.05 are bolded.

three to six weeks after the intervention. Overall, the sample suffered from depression and anxiety more than PTSD. The average HSCL scores for anxiety and depression were around 1.95 and 2.05, respectively, which is above the cut-off score of 1.75 for being symptomatic with depression and anxiety. Around 60% of the sample were above the cut-off score for being symptomatic with depression and anxiety. The mean score for the Harvard Trauma Questionnaire-Revised was around 1.9, which is below the cut-off score of 2.5 for being symptomatic with PTSD. In total, around 12% of the sample were above the cut-off score for being symptomatic with PTSD (Table A4).

Around one third of the sample had no legal status in Turkey. The entire sample reported, on average, having more than one family member being killed or injured during the war or after displacement. The participants also reported having read the Quran more than two times and having attended mosque more than once on average over the past seven days.

A balance check shows that the control and treatment groups are largely balanced despite attrition. Out of 20 covariates across the three treatment arms, there is evidence of imbalance in 7 covariates (11 percent) with p-values less than 0.05 (Table 2). In terms of primary and secondary outcomes (depression, anxiety, and PTSD), there is no statistical difference between the treatment groups and the control group at the baseline. The result of the balance check after the attrition (including participants only) is similar to the findings of a balance check for the entire sample (including the participants and those who dropped). When we include the entire sample, there is an imbalance in 8 covariates among the 20 covariates across the three treatment arms (See Table A2 of the Appendix). Except for two covariates, the remaining six covariates with imbalance are the same when comparing the entire sample with the sample of participants. To alleviate concerns about the effect of imbalanced covariates on the outcomes, we ran a separate analysis and control for these covariates – in addition to the analysis with the control variables specified in the pre-analysis plan.

Table A8 presents a balance check for randomization among those who participated in

the phone survey conducted thirteen to sixteen weeks after the intervention. Those assigned to the control condition or one of the treatment arms seem largely balanced across baseline covariates. The imbalanced covariates are similar to those identified in the follow-up survey (Table 2).

Finally, of those assigned to a treatment arm, more than 50% attended at least four sessions out of the seven sessions offered. There is no major difference in attendance across the three treatment arms (Table A3). Among those assigned to the control condition, 6% attended treatment arms. Section 6 addresses potential spillover from treatment to the control group.

5 Results

In this section, we first present the main results. The second subsection includes several robustness checks and examines alternative explanations. The third subsection explores potential mechanisms. We conclude the section by examining the potentially adverse effect of religious treatment arms (I-CBT and Islamic teachings) on inter-group relationships.

5.1 Main Results

Table 3 presents an Intent-to-Treat (ITT) estimation of each treatment effect on the outcomes three to six weeks after the intervention. Those assigned to the CBT sessions showed a reduction of 0.27 SD of the control group in the combined symptoms of depression and anxiety, compared to those assigned to the control condition. I-CBT was associated with a decline of 0.25 SD of control in the symptoms of depression and anxiety, compared to the control group. Moreover, the Islamic teachings also led to a reduction of 0.35 SD of the control group in the symptoms of depression and anxiety although the Islamic teachings did not teach coping skills or mindfulness exercises. The results with the outcomes measured as level, rather than the SD of control, are presented in Table A5 of the Appendix. The

Table 3: Intervention Effects on Key Outcomes in SD of Control (3-6 Week Impacts)

			ITT Regression ($N = 463$)		
	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Intervention impact on depression/anxiety					
Depression/Anxiety	1.997	0.633	-0.269	-0.247	-0.347
SE			0.093	0.101	0.106
Unadj. p-value			**0.004**	**0.015**	**0.001**
Adj. p-value			**0.006**	**0.018**	**0.003**
Panel B. Intervention impact on PTSD					
PTSD	1.869	0.579	-0.352	-0.197	-0.324
SE			0.087	0.095	0.111
Unadj. p-value			**0.00**	**0.039**	**0.004**
Adjusted p-value			**0.00**	**0.039**	**0.006**

Notes: Columns 3 to 5 present the Intent-To-Treat (ITT) effect of each treatment arm, in SD of the control group, after three to six weeks, on depression and anxiety and PTSD, compared to the control group. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). *PTSD* is measured using the Harvard Trauma Questionnaire-Revised (HTQ-R) and is the average of 16 items (each scored from 1 to 4). All models control for randomization block and baseline outcome and covariates (age, education, income, gender, marital status, legal status in Turkey, years in Turkey, attending mosque, reciting the Quran, and hiking). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. P-values less than 0.05 are bolded. The Adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with eight comparisons.

results are statistically significant after adjusting for multiple hypotheses testing using the Benjamini-Hochberg correction.

Panel B of Table 3 estimates the ITT effect of treatment arms on the symptoms of PTSD. The CBT led to a reduction of 0.35 SD of the control group in the symptoms of PTSD, I-CBT to a decrease of 0.2 SD of the control group, and Islamic teachings to 0.32 SD of the control, compared to those assigned to the control condition. The results are statistically significant after adjusting for multiple hypotheses testing using the Benjamini-Hochberg correction.

There is no statistically significant difference in the effects of treatment arms. Table

Table 4: Intervention Effects on Depression/Anxiety (13-16 Week Impacts)

			ITT Regression		
	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Entire Sample (N = 363)					
Depression/Anxiety	1.922	0.59	-0.041	-0.121	-0.128
SE			0.07	0.069	0.086
Unadj. *p*-value			0.56	0.081	0.137
Adj. *p*-value			0.84	0.243	0.274
Panel B. Symptomatic at Baseline (N = 213)					
Depression/Anxiety	2.148	0.557	-0.013	-0.224	-0.043
SE			0.109	0.1	0.118
Unadj. *p*-value			0.908	**0.026**	0.718
Adj. *p*-value			0.908	0.156	0.862

Notes: Columns 3 to 5 present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). *Panel A* includes the entire sample. *Panel B* Includes only participants who were, before the start of the intervention, above the score of 1.75 on HSCL (indicating being symptomatic with depression and anxiety). All models control for randomization block and baseline score on depression/anxiety and baseline covariates (age, education, income, gender, marital status, legal status in Turkey, years living in Turkey, attending mosque, reciting the Quran, number of family members killed or injured in war and hiking). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. *P*-values less than 0.05 are bolded.

A6 presents an analysis of variance (ANOVA), comparing the effects of the three treatment arms. There is no statistically significant difference in the effect of treatment arms on the symptoms of depression, anxiety, or PTSD. The three treatment arms are as effective three to six weeks after the intervention.

Table 4 presents the results of the phone survey. It reports the ITT estimates of treatment effects thirteen to sixteen weeks after the intervention. When we consider the entire sample (Panel A), the effects of all three treatment arms are small. Only the effect of I-CBT is

significant at the 10% level. However, when we restrict the sample to those who were, at the baseline, above the cut-off point for being symptomatic with depression and anxiety, who account for around 58% of the sample, the effect of I-CBT is still large and statistically significant (with unadjusted p-value of 0.03 and adjusted p-value of 0.16). Although the effect of CBT and Islamic teachings seems to have faded, the impact of I-CBT on those who were symptomatic (those with mean HSCL scores of larger than 1.75) at the baseline still persists three to four months after the intervention. In the next section, we check how robust these findings are.

6 Robustness Checks

In this section, we run several robustness checks and address threats to causal identification. The first subsection presents the robustness checks for the short-term results (3-6 Week impacts). The second subsection reports the robustness checks for the 13-16 week results.

6.1 Robustness Checks for Short-Term Effect

The results reported in the previous section follow the specifications registered in the pre-analysis plan. For the tables presenting the main results, the outcomes (depression, anxiety, and PTSD) were constructed using the measurement of the relevant indices in the follow-up survey. The main findings are robust to using, as the outcome, the difference in the outcome between the baseline and the follow-up survey (Table A9).

We also run the analysis (1) without baseline covariates and (2) only with the baseline covariates for which there is evidence of imbalance. The results are reported in Tables A12 and A13. The coefficients become larger and more precise when including the baseline covariates. However, the results are similar to the findings reported in the main analysis.

One of the threats to estimating the treatment effect is spillover, which could happen in two ways in the case of this study. First, there could be a spillover from CBT and I-CBT

groups to those assigned to the Islamic teaching. While Islamic teachings did not include coping skills or mindfulness exercises, some of those assigned to the Islamic teaching may learn those skills or exercises through family members or friends assigned to the CBT or I-CBT. To mitigate this type of spillover, we registered only one member from each household into the program. It is possible that some families were not honest and registered more than one member.

To account for the spillover, we asked in the follow-up survey whether the participants knew the exercises taught in the CBT or I-CBT sessions. Of 63 recruits assigned to the Islamic teaching, 9 participants reported to know coping skills or mindfulness exercises taught in the CBT or I-CBT sessions. In Table A10, we estimate the effect of Islamic teachings on depression/anxiety and PTSD after excluding the participants who knew the mindfulness exercises or coping skills. The results remain mainly unchanged and are similar to the main results reported in the previous section (Table A5).

The other source of potential spillover is the treatment of those assigned to the control condition. To account for this type of spillover, we had participants fill out and sign an attendance sheet for every session they attended in the CBT, I-CBT, or Islamic teaching sessions. We label as *treated control* the participants assigned to the control condition but participated in at least one treatment session or reported knowing mindfulness exercises. We run a separate analysis to estimate the effects of treatment arms excluding the treated control. Although there are minor changes in the coefficient sizes, the results remain largely unchanged (Table A11).

Another concern about estimating the impact of the intervention is *socialization effect*. Socializing and talking with friends or significant others regarding an adverse experience could serve as a coping mechanism and alleviate negative emotions (Carver, Scheier, and Weintraub 1989; Hussain and Cochrane 2003). Contrary to the control group, those assigned to the treatment arms met seven times in the Turkistan Elleri center to attend the assigned sessions. The observed reduction in the symptoms of depression, anxiety and PTSD may be

driven by participants' socialization with each other or with facilitators during the sessions, rather than the contents of treatment arms. If the socialization effect is not accounted for, the detected effect would overestimate the real treatment effect.

To mitigate the socialization effect, we incorporated many measures in implementing the intervention to minimize the opportunity for socialization. First, we instructed facilitators to focus on conducting exercises and avoid interacting with participants during or after the sessions. In addition, the sessions were scheduled back to back. The participants had to leave the center once a session ended to allow for the start of the next sessions. Second, although the facilitators also served as enumerators and administered the surveys, we tried to minimize the impact of the interaction between participants and facilitators on participants' responses to the survey by assigning participants to different enumerators. All participants were surveyed by someone other than the person who facilitated their sessions.

It is still possible that participants may have made friends during sessions but socialized outside the sessions or after the end of the intervention. We can explore this possibility by examining whether the treatment arms affected participants' socialization for coping. The baseline and follow-up surveys asked about the frequency of talking or confiding with others over the past seven days to cope with negative emotions. As summarized in Table A14, none of the treatment arms affected the frequency of talking to others to cope with negative emotions. The intervention does not seem to affect socialization for coping.

Finally, we examine whether the treatment effect is limited to specific groups. In the case of religious treatment arms (I-CBT and Islamic teachings), the question is whether they improve the psychological outcomes for religious participants only. We use two baseline covariates to conduct heterogeneous treatment effect analyses for I-CBT and Islamic teachings. We use religious coping (the frequency of relying on prayer and reading the Quran for coping) and the frequency of reading or listening to the Quran over the past seven days to explore the heterogeneity of treatment effect. The results are reported in Table A15 and A16. We interact the treatment assignment with dummies for being above the median of

these two covariates. The interaction terms are not significant. There seems to be no heterogeneity in the treatment effect with regard to religiosity, as measured by our two covariates. In addition, there is no heterogeneity in treatment effect with regard to legal status (living in Turkey legally) or gender either. The results are reported in Tables A17 and A18.

Table A19 investigates whether the treatment arms work on the entire sample or only those symptomatic. Panel A presents a subgroup analysis for those who were symptomatic (with a mean HSCL score of larger than 1.75) at the baseline. Panel B limits the analysis to those who were not symptomatic. All three treatment arms seem to work only on the symptomatic participants, who account for around 58% of the entire sample. The coefficients for CBT and I-CBT are large and statistically significant at the five percent level, and that of the Islamic teaching is significant at the ten percent level with the smaller sample size. When we conduct the analysis for those who were not symptomatic, however, the coefficients become very small and the results are no longer statistically significant across all treatment arms (Panel B). The findings suggest that the treatment arms, regardless of being secular or religious, work on those who are symptomatic and suffer from depression and anxiety.

6.2 Robustness Checks for Medium-Term Effect

In this subsection, we present a number of robustness checks for the 13-16 week impact of the intervention. The main analysis (Table 4) shows that the effect of I-CBT on depression and anxiety combined persists among those who were symptomatic while the impacts of CBT and Islamic teachings had faded. These findings are based on a subgroup analysis, which was not pre-registered. Following recommendations by Duflo et al. (2020), we explore the effect of the intervention on a subgroup since this subgroup analysis is important and could provide important insights despite not being pre-specified in the pre-analysis plan. It is reasonable to expect the treatment to be effective only on those who suffer from the targeted illness–in this case, the symptomatic participants. To ensure that the estimate of the treatment effect on this subgroup is robust, we run many checks.

First, one concern may be the comparability of those who took the phone survey and were symptomatic. Due to attrition, those who were symptomatic at the baseline and were assigned to the control or a treatment arm may not be comparable. In Table A24, we run a balance check only for those symptomatic at the baseline. They are largely balanced in terms of baseline covariates, including psychological and coping variables. Of the total of 20 covariates across the three treatment arms, there is evidence of imbalance in 4 covariates (6.6%). The analysis presented in Table 4 included the baseline covariates that were pre-specified in the pre-analysis plan. We run the analysis with and without the covariates for which there is evidence of imbalance. Although the coefficient for I-CBT is slightly smaller when we include the covariates (-0.296 versus -0.258), the coefficient is still large and statistically significant (Table A25). An imbalance in the baseline covariates does not seem to change the results.

Second, while the main analysis used the measurement of the HSCL index at the phone survey as the outcome, the findings are robust to using as the outcome the difference in the HSCL scores between the baseline and the phone survey. The results are reported in Table A20.

We further run the analysis with the entire sample using an interaction term (interacting the treatment dummies with the dummy for being symptomatic). The main coefficients and the interaction coefficients for CBT and Islamic teachings are small and statistically insignificant. For the I-CBT, the main coefficient is small and not significant, but the interaction term is large and statistically significant – indicating that the effect of I-CBT is limited to those being symptomatic (Table A21). In addition, the findings are robust to using different cut-off scores for being symptomatic, such as 2.00 (Table A22) or 1.65 (Table A23), instead of the cut-off point of 1.75.

Finally, we conduct a permutation test for the impact of treatment arms on the symptomatic participants. We use the difference in the HSCL score between the baseline and the phone survey as the outcome. The results are reported in Table A26. The observed

difference in the mean difference of HSCL score for the symptomatic participants who were assigned to CBT was 0.075 with p-value of 0.458, the observed difference for those assigned to Islamic teachings was 0.16 with p-value of 0.181, and the observed difference for I-CBT was 0.296 with p-value of 0.006. The permutation test and other robustness checks support the findings on the longevity of the effect of I-CBT on the symptoms of depression and anxiety.

7 Adverse Side Effect of Religious Treatment Arms

One of the concerns about religion-based interventions is their potentially adverse effect on inter-group relationships. In a cross-national study, Neuberg et al. (2014) find that *religious infusion*, "the extent to which religion permeates a group's private and public life," has the potential to exacerbate inter-group prejudice, animosity and aggression. Since I-CBT and Islamic teachings incorporated religious teachings and traditions, they could potentially intensify religious beliefs and sentiments and adversely affect inter-group relationships.

To investigate the potentially adverse impact of treatment arms on inter-group relationships, we measured attitudes toward in-group and out-group[15] in the baseline and follow-up surveys and ran a donation exercise to measure prosocial behavior in the follow-up survey.

Table A27 examines the impact of treatment arms on attitudes toward in-group (Afghans who belong to the same ethnic group as a participant), out-group (Afghans who belong to the rival ethnic group), and toward Turkish people. The coefficients of the CBT, I-CBT, and Islamic teachings are positive but small and statistically not significant. Compared to the control group, no treatment arm had a statistically significant effect on attitude toward in-group, out-group, or Turkish people. Table A28 presents the results of ANOVA for comparing the change in attitude between the baseline and the follow-up survey across the three treatment groups. Consistently, there is no difference across the three treatment groups in terms of attitude toward in-group, out-group, or Turkish people.

15. Section 3.3 provides details on how we measure attitudes toward in-group and out-group.

We used a donation exercise in the follow-up survey to measure behavior toward in-group, out-group, and the Turkish people (more specifically the victims of 2023 earthquake in southern Turkey).[16] The latter group was included as a neutral group in Afghanistan's conflict. Table A29 presents the result of the donation exercise.[17] Overall, compared to the control group, the treatment groups donated less to the Turkish recipients, in-group, and particularly out-group. However, the differences in donations made by the control group and treatment arms are not statistically significant when we correct for multiple hypothesis testing.

A plausible explanation for the observed decline in donations made by the treatment groups, compared to the control group, could be the higher cost that the treatment groups incurred for participation in the study. The treatment groups visited the center nine times (for two rounds of survey and seven sessions). The control group, however, visited the center only two times (for the two rounds of the survey). To control for the effect of financial compensation on psychological outcomes, the control group and treatment groups were given the same amount of compensation for participation in the program. Although they were given the same endowment, a proportion of the treatment group is expected to have incurred more costs for participation in the program for more frequent commutes to the center. It is possible that the treatment groups donated smaller amounts to compensate for the higher cost they incurred. For the sake of this study, comparing the three treatment arms is more appropriate since the three groups were given the same compensation and incurred similar costs.

When we compare the secular treatment arm (CBT) with the religious arms (I-CBT and Islamic teachings), there is no statistically significant difference in donations to in-group, out-group, or the Turkish recipients. Table A30 compares donations made by I-CBT and Islamic teachings with those of CBT.[18] Out of six comparisons, only one comparison is

16. See Section 3.3 on how the donation exercise was implemented.

17. Since the donation amounts have a non-normal distribution, we use the Wilcoxon Rank Sum Test to compare donations across groups.

18. Since the donation amounts have a non-normal distribution, we use the Wilcoxon Rank Sum Test to compare donations across groups.

statistically significant. Those assigned to the I-CBT donated more to the Turkish recipient than those assigned to the CBT (with the p-value of 0.018). The result, nonetheless, is no longer significant when we adjust the p-value for multiple comparisons (with the p-value of 0.108). Alternatively, when we use OLS regressions and control for baseline covariates, there is no statistically significant difference in donations made by the CBT and those by I-CBT and Islamic teachings to any groups (Table A31). Table A32 uses one-sided tests and examines whether those assigned to the I-CBT or Islamic teachings donated less to reference groups. None of the tests are statistically significant. Overall, religious treatment arms do not seem to adversely affect donations to in-group, out-group, or Turkish recipients.

Considering the survey findings and the donation exercise, the religious treatment arms do not seem to affect attitude or behavior toward other groups. These results are important in terms of exploring the potential adverse side effects of Islamic-based treatments. They address the concerns that the I-CBT and Islamic teachings may exacerbate inter-group prejudice and animosity. Although the Islamically integrated treatment arms do not improve inter-group relationships, they do not exacerbate prejudice and discrimination toward other groups either.

8 Study Limitations

Despite the efforts we put into the design and implementation of the experiment, this study has certain limitations. First, we cannot estimate the effect of Islamic teachings on men's psychological well-being. Due to the high risks of deportation that male Afghan refugees faced at the time of study in Turkey (Paimani and Noorzai 2023; Binesh 2023), we were not able to recruit the targeted number of male participants and had to drop the Islamic teachings condition for men. Although we did not assign men to the Islamic teaching condition, evidence from the other two treatment arms does not show any difference between men and women in response to secular or religious interventions. Table A18 tests

the heterogeneity of the CBT and I-CBT effects across genders three to six weeks after the intervention. None of the interaction terms are statistically significant. There is no heterogeneity in response to CBT or I-CBT across male and female participants.

In addition, male participants report relying on religious traditions for coping extensively, although slightly less frequently than women. In the baseline survey, the mean frequency of religious coping (the number of times having relied on prayer or reading or listening to the Quran for coping over the past seven days) was 3.07 for male participants versus 3.27 for female participants (with p-value of 0.01). Nonetheless, male participants relied on religious coping more frequently than non-religious activities such as watching TV, sleeping, or shopping (3.07 vs. 2.56 with a p-value of less than 0.01). Therefore, assuming that men would also benefit from Islamic teachings seems reasonable. However, future studies with male samples are needed to estimate the effect of Islamic teachings on men's psychological outcomes. Second, our phone survey, which measured the medium-term effect of the intervention, did not include the module on the symptoms of PTSD since the phone survey had to be short. Given our limited data, we cannot compare the medium-term effects of treatment arms on the symptoms of PTSD.

Third, the qualitative interviews suggest that the effectiveness of I-CBT and Islamic teachings was on drawing on concepts familiar to participants and could be more easily used for the positive reinterpretation of adverse conditions to cope with such adversity. Nonetheless, more research is needed to investigate the mechanisms through which I-CBT and Islamic teachings improve civilians' psychological outcomes. Notwithstanding these limitations, this study provides novel insights with important policy implications discussed in the next section.

9 Discussion and Policy Implications

Armed conflicts cause tremendous human suffering, particularly for displaced populations who lose their homes and sources of livelihood. Over the past decade, armed conflicts have displaced more than 60 million people, either as refugees or IDPs (UNHCR 2023; IDMC 2024). 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. Despite their vulnerability to mental health disorders, their access to mental health services is very limited. Around 85 percent of refugees, for instance, remain in developing countries with fragile economies, with 27 percent of them living in least developed countries where psychological counseling or mental health services are unavailable or not affordable (Murthy and Lakshminarayana 2006; UNHCR 2021; UNHCR 2023). Within such context, religious traditions have become an important source of psychological and coping support (Murthy and Lakshminarayana 2006;Alemi et al. 2023; Scholte et al. 2004; Hussain and Cochrane 2003; Bentley, Ahmad, and Thoburn 2014; Hamdan 2007; Ali, Milstein, and Marzuk 2005).

Social scientists, however, have paid less attention to studying the positive role of religion in wars. Political scientists have focused on whether religious traditions cause political violence or contribute to the onset or intensification of wars (Canetti et al. 2010; Stemmann 2006; Wiktorowicz 2006; Hasan 2011; Bunzel 2015; Weismann 2017; Atran, Sheikh, and Gomez 2014; Atran 2003; Juergensmeyer 2003). The lack of interest among psychologists in religion partially reflects the secularized nature of psychology as a field. Influenced by Freud, psychologists historically viewed religion as an obsessional neurosis and a form of pathology (Hodge 2013; Argyle 1964; Kizilhan 2014). As a result, psychologists and therapists have usually been trained in using secularized interventions to treat those in need of mental health services.

Furthermore, policymakers and NGOs providing mental health services rarely collaborate

with religious institutions since religious institutions and practices are viewed as part of the problem – particularly in Muslim societies. In the post-911 political environment, religious institutions and practices are often perceived as the cause of, or contributing to, inter-group conflicts and wars rather than as facilitating coping. Likewise, local populations and religious leaders often view NGOs and psychotherapists with suspicion and as antagonistic to local religious values (Kadayifci-Orellana 2015; Cucchi 2022).

Although there have been attempts to incorporate Islamic values into psychological interventions, there has been a scarcity of empirical evidence on how effective religious traditions are as coping tools. The few empirical studies suffer from sample size issues, lack comparable secular intervention, or were carried out in non-conflict contexts (Azhar, Varma, and Dharap 1994; Azhar and Varma 1995; Alagheband et al. 2019; Rafique, Anjum, and Raheem 2019).

This is the first empirical research comparing a secular CBT intervention with a comparable Islamically integrated intervention and Islamic teachings. The randomized pilot experiment shows that Islamic teachings are, in the short term, as effective as CBT intervention in helping civilians cope with depression, anxiety, and PTSD. This finding has major policy implications. First, while there are limited numbers of psychologists and trained mental health workers in war-torn societies, many clerics are in such communities. Religious clerics could help with promoting accessible coping means to war-affected populations. Second, Islamic teachings are less costly and more easily scalable than CBT interventions. To be effective, CBT interventions require trained facilitators to help individuals learn mindfulness exercises and cognitive restructuring techniques. Islamic teachings, however, rely on general and common religious concepts and teachings that individuals, particularly in religious societies, have been socialized into and are familiar with. Islamic teachings focusing on coping-related religious teachings could be delivered as pre-recorded videos (online or through local media) to affected communities without the need to train facilitators and participants.

If resources are available, incorporating religious teachings into CBT could make the effect of CBT interventions last longer. This study documents that the effect of I-CBT outlasted

the impact of CBT and Islamic teachings in terms of reducing symptoms of depression and anxiety three to four months after the intervention. When resources are available for training facilitators and participants, the effect of Islamically integrated psycho-education training seems to outlast those of secular intervention and Islamic teachings. Policymakers and aid agencies involved in promoting mental health services in war-affected communities could incorporate religious traditions into psycho-education interventions to enhance their effectiveness and longevity. In sum, this study highlights the advantages of tapping into local religious values and resources in designing interventions to help civilians cope better with war and displacement without exacerbating inter-group prejudice and animosity.

APPENDIX

A Contents of CBT, I-CBT, and Islamic Teachings

Session	CBT	Islamically Integrated CBT	Sermon
First	Introduction: positive and negative emotions. Why we have positive and negative emotions. When emotions become problematic. What is "getting hooked"? How to deal with getting hooked. Mindfulness exercise 1: drinking exercise. How to conduct drinking exercise; when to do it, and how it helps with getting hooked.	Introduction: positive and negative emotions. Why we have positive and negative emotions. When emotions become problematic. What is "getting hooked"? How to deal with getting hooked. Mindfulness exercise 1: drinking exercise. How to conduct drinking exercise; when to do it, and how it helps with getting hooked.	Introduction: displacement and mental health; factors that makes displaced people more vulnerable to mental health issues. Islamic teachings on coping. Prophets as role models for coping with forced displacement. Prayer and supplication before Allah for coping. Quran: "Prayer brings peace to your heart" (Raad: 28).
Second	More on positive and negative emotions, particularly sadness, anxiety, and anger. How negative emotions could adversely affect us and our loved ones. What is an emotional storm? How to deal with emotional storm. Mindfulness exercise 2: breathing exercise. When to do breathing exercise? How breathing exercise could help with dealing with negative emotions and emotional storms?	More on positive and negative emotions, particularly sadness, anxiety, and anger. How negative emotions could adversely affect us and our loved ones. What is an emotional storm? How to deal with emotional storm following Islamic teachings. Mindfulness exercise 2: breathing exercise with remembrance of Allah (Ya Allah). How this exercise relates to Quranic teaching that "with Allah's remembrance, one's heart finds peace." When to do breathing exercise with remembrance of Allah.	Prophets as role model for coping with adverse effects of displacement. Prophet Ibrahim (Abraham) and reliance on God and prayer as being displaced from his home to Palestine and Macca (Quran: Surah Ibrahim). Prophet Moses and his people's forced displacement story (Quran: Surah Taha). Prophet Mohammad's displacement, torture in Taiif and supplication to Allah for coping and overcoming the challenges of displacement.
Third	Cognitive restructuring. Relationship between thoughts and emotions. How faulty thoughts cause negative emotions. How misjudgments about others cause sadness while positive thoughts about others make us happy. ABC exercise to replace negative thoughts with positive thoughts, particularly negative thoughts about others. Mindfulness exercise 3: stress ball. When to use stress ball. How it helps to calm down when experiencing negative emotions.	Cognitive restructuring using Islamic teachings. Relationship between thoughts and emotions. How faulty thoughts cause negative emotions. How misjudgments about others cause sadness while positive thoughts about others make us happy. Quran's recommendation: "O' Believers avoid suspicions. Indeed, many suspicions are sinful." ABC exercise to replace negative thoughts with positive thoughts, based on Islamic teachings. Mindfulness exercise 3: breathing exercise with mala beads.	Lessons from Quran: why our prayers are not answered. "You may like what is bad for you and dislike what is really good for you" (Al-Baqara 216). Look at the bigger picture as God destines better prospect for you. Story of Prophet Moses and Khizr from Quran (Kahf: 60-82): what seems a misfortune may be a better option than the alternative. Allah is kind to you and pushes you toward what is better for you. What seems an adverse and difficult condition may be a blessing from Allah.

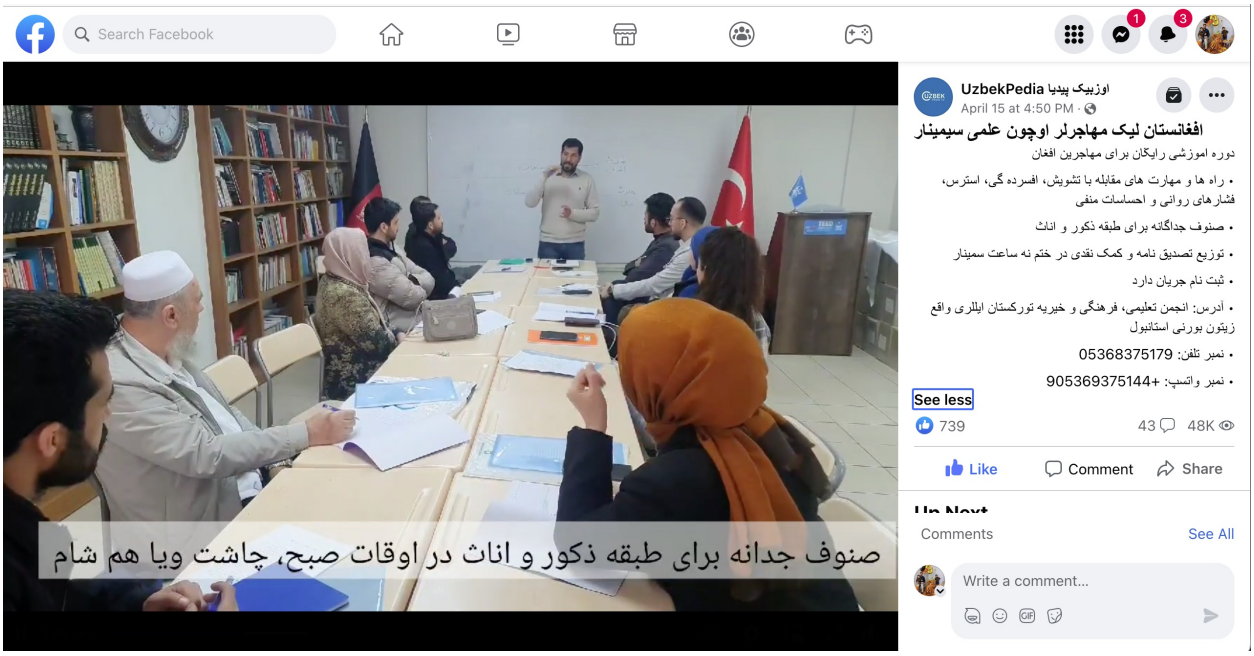
Session	CBT	Islamically Integrated CBT	Sermon
Fourth	Cognitive restructuring. Identifying common thought errors and how to replace them with positive thoughts. Common thought errors: all-or-nothing, mind reading, negative self-talk, and expecting the worst. Developing positive life habits. Mindfulness exercise 4: blowing balloon breathing.	Cognitive restructuring using Islamic teachings. Identifying common thought errors and replace them with positive thoughts using Islamic teachings, such as trust in Allah (tawakkul) for success, ease (faraj) after each difficulty, and Allah helping those who seek his support. Developing positive life habits. Mindfulness exercise 4: blowing balloon breathing.	Trusting and reliance on Allah (Tawakkul) for coping with adverse conditions. Allah promises to support those who trust in him (Talagh: 3). Discussion of the poetic story of the afflicted old man and supplication to God to end his misery as narrated by Parwin Etesami. Main point of story: you are not alone in difficult conditions. Seek Allah's mercy and support in hard times. He is close to you and merciful toward you much more than you can imagine.
Fifth	Compassion therapy for dealing with negative emotions. Importance of compassion. Self-compassion for coping with adverse life events and for developing positive emotions. Benefits of self-compassion. Common humanity: struggle is part of human life. Mindfulness exercise 5: self-compassion exercise. Compassion for others. Compassion for others and developing positive emotions. Small acts of kindness. Mindfulness exercise 6: compassion for others exercise.	Compassion therapy for dealing with negative emotions. Importance of compassion. Self-compassion for coping with adverse life events and for developing positive emotions. Benefits of self-compassion. Self-compassion exercise with Islamic prayer and supplication. Mindfulness exercise 5: self-compassion prayer. Compassion for others. Islamic teachings on compassion for others. Prophet's narration: "Be kind toward those on the earth so that the one in the sky (Allah) is kind toward you." Mindfulness exercise 6: compassion for others prayer.	Trusting and reliance on Allah (Tawakkul): lessons from Prophet's life. 1. Prophet Mohammad and his companions were persecuted and forcibly displaced from their homes in Macca. They fled to the desert but did not lose their hope and trust in Allah. In turn, Allah brought them peace and helped them cope with very difficult conditions at Sheb Abi-Talib and later when Prophet sought refuge in a cave. 2. Mawlana Rumi's poem on how a deer feels calm and relaxed despite living in forest with numerous predators, including lions. Trust in Allah could help you feel in peace even if you are in a highly challenging situation or if you are surrounded by enemies.

Session	CBT	Islamically Integrated CBT	Sermon
Sixth	Dealing with life challenges. Identify life challenges. Conduct mindfulness exercises to deal with emotional storm and negative emotions in short term. Accepting what is beyond one's control to cope with life challenges in the long run. Examples of life challenges that refugees face and how mindfulness exercises could help to cope with those challenges. How acceptance could be used as a long-term coping strategy: do what you can do and accept what is beyond your control. Mindfulness exercise 7: walking meditation.	Dealing with life challenges. Identify life challenges. Conduct mindfulness exercises to deal with emotional storm and negative emotions in short term. Relying on trust in Allah (tawakkul) and prayer to deal with life challenges in long run. Examples of life challenges that refugees face and how mindfulness exercises could help to cope with those challenges. How trust in Allah and supplication could be used as a long-term coping strategy: do what you can do and leave the rest to Allah when dealing with life challenges. How riza-bil-qaza (surrendering to Allah) could help to deal with adverse conditions that are beyond your control. Mindfulness exercise 7: walking meditation.	Lesson from Quran: "The life of this world is nothing worthwhile, but surely, the Hereafter is the stable abode" (Al-Ghafer 39). The worldly life is like a temporary station with transitory enjoyment or pain, but a permanent life is set for the Hereafter. When facing challenges and hard times, remember the passing and temporary nature of events in this life. You are not alone facing hard times; this is the nature of this world. Almost all human beings sometimes or often face difficult times in their life. Even the famous, the rich, and the powerful face hard days in their life. Remembering the temporary nature of this life and the permanent nature of the Hereafter helps you cope better with difficult days.
Seventh	Final lesson: path to success. Positive self-talk as a long-term strategy to cope with adverse conditions. Positive self-talk about future to maintain positive emotions. Setting goals and devising steps to reach the goal. Set goals high enough to aspire but not so high that it is out of your reach. Be patient and persistent as you move along steps to reach your goal. Finally, Remember and revisit your purpose of migration. Final exercises: breathing exercise and noticing exercise.	Final lesson: path to success. Positive self-talk as a long-term strategy to cope with adverse conditions. Remembering Allah and his blessing in positive self-talk. Setting goals and seeking Allah's support through prayer and supplication to reach goals. Quran: "No one achieves anything except through his/her efforts" (Al-Najm 39). Remember that you are not alone, and Allah has promised to help you if you seek his support. Quran: "Call on Me, and I will answer you" (Al-Ghafer 60). Final exercises: breathing exercise with remembering Allah and noticing exercise.	Displacement and Faith: keeping your faith and meeting religious obligations when moving to countries with non-Muslim majority. A major source of stress for displaced people is how to retain their faith when moving to a society where Muslims are minority. Discussion of how Muslims participate in religious ceremonies, attend mosques and send their children to Quran or Arabic courses when living in non-Muslim countries. Allah is present wherever you go. Muslim refugees often seek support of religious leaders and mosque participants to cope with the adverse conditions they face in their new communities--the same way people of Madinah helped the Ansar--Muslims who fled Macca because of persecution.

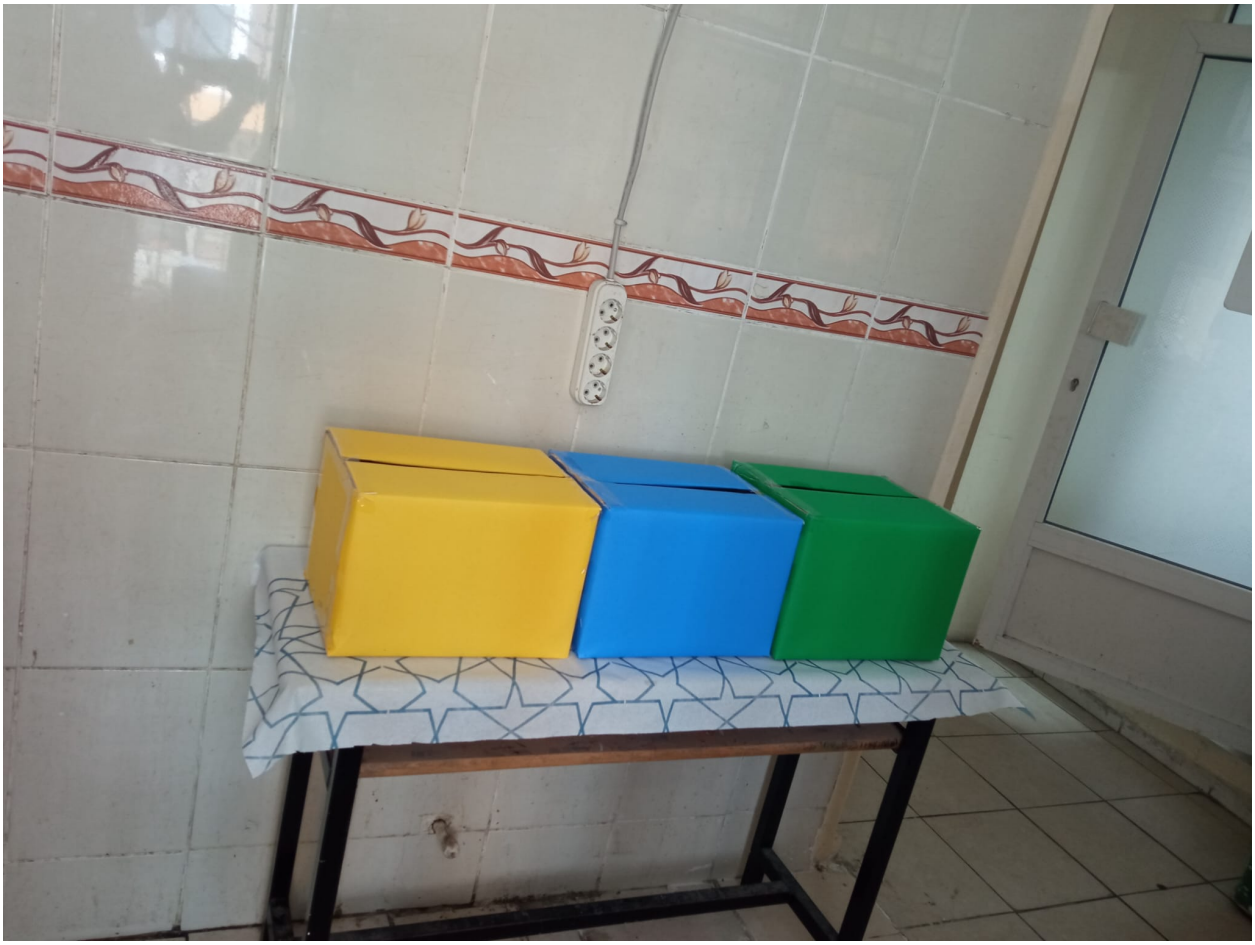
B Pictures

Picture 1: Recruitment Poster

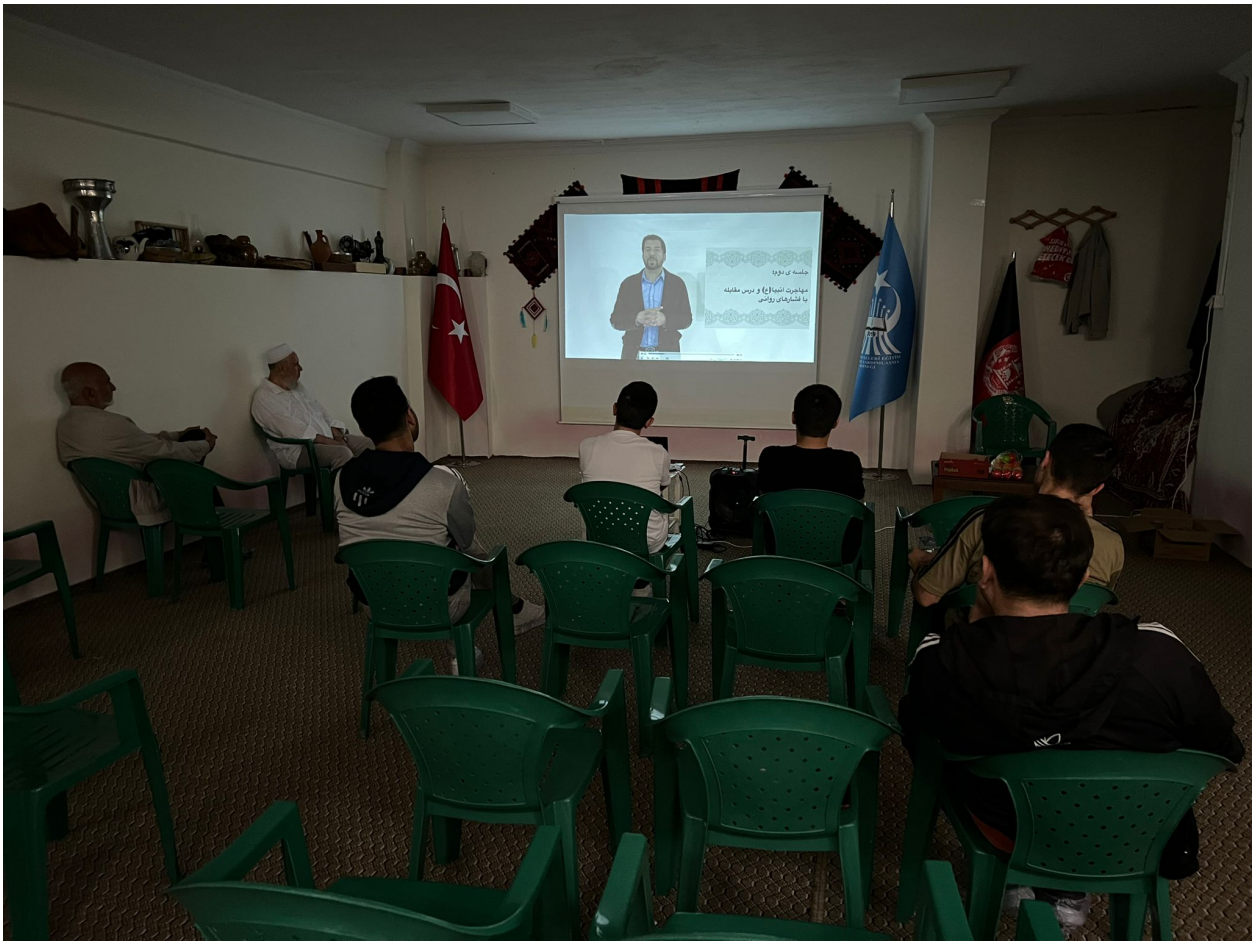
Picture 2: Screenshot of Paid Video Advertisement on Facebook



Picture 3: Donation Boxes



Picture 4: I-CBT Session for Male Participants



Picture 5: I-CBT Session for Female Participants

C Tables

Table A1: Baseline Covariates and Attrition

	Entire Sample	Dropped	Participated	*t-test* of: *p*-value
Baseline covariate	(1)	(2)	(3)	(3) - (2)
Depression/Anxiety	2.005	2.072	1.991	0.207
Depression	2.053	2.145	2.034	0.121
Anxiety	1.938	1.932	1.939	0.92
PTSD	2.053	1.991	1.887	0.095
Age	35.594	32.447	36.233	**0.008**
Education	9.519	10.433	9.336	0.071
Income	12484	12636	12452	0.835
Married	0.7	0.553	0.73	**0.002**
Years_in_Turkey	5.873	5.617	5.924	0.457
Legal_status	0.677	0.574	0.698	**0.028**
Family_killed_injured	1.591	1.5	1.609	0.788
Read_quran	2.715	2.511	2.756	0.058
Attend_mosq	1.768	1.777	1.767	0.936
Listen_music	2.293	2.287	2.294	0.963
Hiking	2.293	3.117	3.128	0.928
Aggression	1.736	1.723	1.739	0.874
Uzbek	0.519	0.426	0.538	**0.048**
Male	0.413	0.553	0.384	**0.003**
N	557	94	463	

Notes: Column (1) shows the means of baseline covariates for the entire sample. Column (2) lists the means for participants who dropped out of the program after the baseline survey. Column (3) shows the means for the participants who attended the baseline survey, follow-up survey, and intervention sessions–in the case of those assigned to a treatment condition. Column (4) summarizes the test statistics for a t-test of the difference in columns (3) and (2).*p*-values less than 0.05 are bolded.

Table A2: Descriptive Statistics and Balance Check for Randomization (Entire Sample)

	control	control	Assigned CBT		Assigned Islamic CBT		Assigned Islamic	
Baseline covariate	Mean	SD	Mean	p-value	Mean	p-value	Mean	p-value
Depression_Anxiety	1.997	0.578	2.001	0.951	1.99	0.915	2.056	0.476
Anxiety	1.915	0.586	1.943	0.681	1.938	0.762	1.97	0.509
Depression	2.049	0.638	2.043	0.933	2.038	0.884	2.109	0.502
PTSD	1.9	0.543	1.891	0.89	1.88	0.747	1.984	0.264
Age	35.21	11.997	35.181	0.984	36.688	0.312	35.048	0.926
Education	8.673	5.887	9.86	0.076	10.026	**0.04**	9.432	0.323
Income	12021	7864	12869	0.331	11993	0.974	13565	0.167
Married	0.675	0.47	0.688	0.814	0.707	0.543	0.759	0.166
Years_in_Turkey	6.554	4.182	5.625	**0.033**	5.369	**0.018**	6.012	0.321
Legal_status	0.688	0.465	0.681	0.899	0.675	0.809	0.651	0.563
Family_killed_injurred	1.236	1.766	1.219	0.953	2.701	**0.036**	0.88	0.117
Read_Quran	2.726	1.153	2.806	0.525	2.618	0.405	2.699	0.864
Attend_mosq	1.873	1.125	1.894	0.87	1.866	0.959	1.145	**0.001**
Listen_music	2.293	2.287	2.294	0.963	2.293	2.287	2.294	0.963
Socialization_coping	2.389	0.938	2.375	0.896	2.331	0.583	2.542	0.247
Religious_coping	3.178	0.844	3.2	0.812	3.121	0.536	3.277	0.362
Hiking	3.333	1.055	3.133	0.105	3.032	**0.017**	2.904	**0.005**
Aggression	1.739	0.935	1.688	0.621	1.694	0.655	1.904	0.215
Uzbek	0.522	0.501	0.556	0.546	0.452	0.216	0.566	0.517
Female	0.535	0.5	0.544	0.877	0.465	0.216	1	**0.001**
N	157		160		157		83	

Notes: The table presents baseline descriptive statistics and a balance check, comparing the control group with those assigned to the three treatment arms. The sample includes the entire sample: the recruits who dropped out and those who participated in the first follow-up survey conducted three to six weeks after the intervention. *p-value* summarizes the test statistics for t-test of the difference between the control mean and the mean of assigned treatment arm. *p*-values less than 0.05 are bolded.

Table A3: Assignment Status and Attending Intervention Sessions

		Number of Sessions Attended							
Assignment	Dropped	0	1	2	3	4	5	6	7
CBT	0.24	0.04	0.03	0.005	0.035	0.07	0.25	0.15	0.17
Islamic CBT	0.27	0.02	0.05	0.006	0.01	0.05	0.14	0.24	0.19
Islamic	0.33	0.05	0.03	0.05	0.05	0.05	0.13	0.2	0.17
Control	0.06	0.88	0.02	0.01	0.01	0	0	0.01	0.01

Notes: Each column summarizes the proportion of participants in each assignment condition who dropped or attended the number of sessions assigned to that group. *Dropped* refers to the participants who took part in the baseline survey only and missed all other program activities (training sessions and/or the follow-up survey).

Table A4: Proportion of Respondents Potentially Being Symptomatic

	% of Participants with Symptoms of Depression/Anxiety		
Group Assignment	Baseline	3-6 Weeks	13-16 Weeks
CBT	62.02%	51.94%	51.06%
Islamic CBT	58.82%	51.26%	43.75%
Islamic	55.56%	46.03%	56.86%
Control	63.82%	60.53%	55.74%
	% of Participants with Symptoms of PTSD		
Group Assignment	Baseline	3-6 Weeks	
CBT	10.85%	3.10%	
Islamic CBT	11.76%	9.24%	
Islamic	12.70%	3.17%	
Control	13.82%	17.11%	

Notes: This table shows the percentage of respondents in each assigned condition being above the cut-off point for being symptomatic with depression and anxiety (with a mean score of HSCL larger than 1.75) or above the cut-off point for being symptomatic with PTSD (above 2.5 on the Harvard Trauma Questionnaire-Revised). For instance, of those assigned to CBT, 62.02% reported symptoms of depression and anxiety at the baseline survey. Questions on PTSD were not included in the 13-16 week assessment.

Table A5: Intervention Effects on Key Outcomes (3-6 Week Impacts)

			ITT Regression ($N = 463$)		
	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Intervention impact on depression/anxiety					
Depression/Anxiety	1.997	0.633	-0.17	-0.156	-0.219
SE			0.059	0.064	0.067
Unadj. p-value			**0.004**	**0.015**	**0.001**
Adj. p-vlaue			**0.006**	**0.018**	**0.003**
Panel B. Intervention impact on PTSD					
PTSD	1.869	0.579	-0.204	-0.114	-0.188
SE			0.051	0.055	0.064
Unadj. p-value			**0.00**	**0.039**	**0.004**
Adj. p-vlaue			**0.00**	**0.039**	**0.006**

Notes: Columns 3 to 5 present the Intent-To-Treat (ITT) effect of each treatment arm, after three to six weeks, on depression, anxiety and PTSD, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of all items (each scored from 1 to 4). *PTSD* is measured using the Harvard Trauma Questionnaire-Revised (HTQ-R) and is the average of 16 items (each scored from 1 to 4). All models control for randomization block and baseline outcome and pre-specified covariates (age, education, income, gender, marital status, legal status in Turkey, and years in Turkey). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. P-values less than 0.05 are bolded. The adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with eight comparisons.

Table A6: ANOVA for the Effect of Treatment Arms (3-6 Week Impacts)

Panel A: Depression					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	0.12	0.0602	0.169	0.845
Within Groups	308	109.79	0.3565		
Panel B: Anxiety					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	0.06	0.0295	0.072	0.931
Within Groups	308	126.73	0.4115		
Panel C: PTSD					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	0.46	0.2297	1.004	0.368
Within Groups	308	70.45	0.2287		

Notes: This table summarizes the results of ANOVA for comparing the impacts of treatment arms (3-6 weeks after the intervention) on participants assigned to the three treatment conditions (CBT, I-CBT, and Islamic teaching). *Depression* and *anxiety* are measured using the Hopkins Symptoms Checklist (HSCL 25). *PTSD* is measured using the Harvard Trauma Questionnaire Revised (HTQ-R). The outcomes are calculated as the difference between the baseline and the follow-up survey.

Table A7: Baseline Covariates and Participation in Phone Survey

	Surveyed Mean (1)	*Missed* Mean (2)	t-test p-value (3)
Depression/anxiety	1.985	2.081	0.148
Anxiety	1.986	2.032	0.506
Depression	1.985	2.119	0.064
PTSD	1.876	1.919	0.454
Age	36.071	36.761	0.645
Education	9.497	9.156	0.595
Income	12240	12220	0.979
Married (= 1)	0.743	0.688	0.277
Years_in_Turkey	5.941	5.872	0.892
Legal_status (= 1)	0.72	0.624	0.067
Casualties	1.164	1.202	0.82
Read_Quran	2.734	2.826	0.473
Attend_mosq	1.763	1.78	0.886
Religious_coping	3.181	3.239	0.524
Listen_music	2.302	2.266	0.786
Hiking	3.168	3	0.198
Aggression	1.754	1.688	0.503
Uzbek (= 1)	0.565	0.45	**0.036**
Female (= 1)	0.607	0.642	0.511

Notes: Column (1) shows the means of baseline covariates for the participants who were surveyed during the phone survey thirteen to sixteen weeks after the end of the intervention. Column (2) shows the means of baseline covariates for the participants whom we were not able to survey in the phone survey (labeled *Missed*). Column (3) summarizes the test statistics for a t-test of the difference in covariate means of the two groups. p-values less than 0.05 are bolded.

Table A8: Baseline Descriptive Statistics and Balance Check (Phone Survey)

	Control	Control	Assigned CBT		Assigned Islamic CBT		Assigned Islamic	
Baseline covariate	Mean	SD	Mean	p-value	Mean	p-value	Mean	p-value
Depression/Anxiety	1.979	0.573	1.991	0.88	1.956	0.774	2.054	0.477
Anxiety	1.938	0.626	1.908	0.72	1.929	0.925	2.011	0.504
Depression	2.005	0.623	2.045	0.65	1.972	0.7	2.081	0.5
Age	36.205	12.532	35.319	0.614	37.604	0.435	32.941	0.101
Education	8.894	5.79	9.957	0.18	9.915	0.204	8.54	0.707
Income (TL)	12572	8245	12779	0.852	11747	0.392	13304	0.602
Married (= 1)	0.697	0.462	0.745	0.437	0.76	0.294	0.765	0.355
Years_in_Turkey	6.59	4.333	5.83	0.155	5.208	**0.013**	6.078	0.486
Legal_status (= 1)	0.721	0.45	0.713	0.891	0.698	0.708	0.725	0.956
Family_killed_injurred	1.262	1.867	1.372	0.802	1.969	**0.048**	0.843	0.117
Read_Quran	2.689	1.151	2.766	0.609	2.667	0.889	2.784	0.623
Attend_mosq	1.869	1.135	1.777	0.541	1.906	0.81	1.157	**0.000**
Religious_coping	3.164	0.837	3.17	0.954	3.156	0.945	3.333	0.179
Socialization_coping	2.451	0.91	2.457	0.956	2.385	0.594	2.608	0.337
Listen_music	2.311	1.247	2.17	0.379	2.448	0.416	2.333	0.916
Hiking	3.364	1.033	3.152	0.155	3.073	**0.06**	2.804	**0.003**
Aggression	1.713	0.913	1.745	0.806	1.698	0.899	2.02	0.084
Uzbek (= 1)	0.574	0.497	0.596	0.747	0.5	0.281	0.588	0.862
Family_members	0.590	0.860	0.755	0.247	0.792	0.161	0.549	0.770
Female (= 1)	0.557	0.499	0.585	0.685	0.479	0.254	1.00	**0.000**
N	122		94		96		51	

Notes: The table presents baseline descriptive statistics and a balance check, comparing the control group with those assigned to the three treatment arms. The sample includes the participants who participated in the phone survey conducted thirteen to sixteen weeks after the intervention. *Family_members* refers to the number of other family members who attended one of the treatment arms. *p-value* summarizes the test statistics for the t-test of the difference between the control mean and the mean of those assigned treatment arm. P-values less than 0.05 are bolded.

Table A9: Intervention Effects on Key Outcomes (Change in Outcomes)

			ITT Regression ($N = 463$)		
	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Intervention impact on depression/anxiety					
Depression/Anxiety	1.997	0.633	-0.191	-0.178	-0.184
SE			0.069	0.077	0.082
Unadj. p-value			**0.006**	**0.021**	**0.026**
Adj. p-vlaue			**0.012**	**0.031**	**0.031**
Panel B. Intervention impact on PTSD					
PTSD	1.869	0.579	-0.204	-0.114	-0.188
SE			0.051	0.055	0.064
Unadj. p-value			**0.00**	**0.039**	**0.004**
Adj. p-vlaue			**0.00**	**0.039**	**0.012**

Notes: Columns 3 to 5 present the Intent-To-Treat (ITT) effect of each treatment arm, calculated as the change in the outcome between baseline and the post-treatment assessment three to six weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of all items (each scored from 1 to 4). *PTSD* is measured using the Harvard Trauma Questionnaire-Revised (HTQ-R) and is the average of 16 items (each scored from 1 to 4). All models control for randomization block and baseline outcome and covariates (age, education, income, gender, marital status, legal status in Turkey, years in Turkey, attending mosque, reciting the Quran, and hiking). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. P-values less than 0.05 are bolded. The adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with eight comparisons.

Table A10: Estimating the Effects of Islamic Teaching on Outcomes (3-6 Weeks Impacts)

	Dependent Variable	
	Depression/Anxiety	PTSD
	(1)	(2)
Islamic	-0.338	-0.333
SE	0.137	0.138
Unad. p-value	**0.015**	**0.017**
Adj. p-vlaue	**0.022**	**0.022**
Observations	170	170
Adjusted R-squared	0.5286	0.4578
F-Statistic	9.239	7.205

Notes: Columns (1) and (2) present the Intent-To-Treat (ITT) effect of Islamic Teaching, in SD of the control group, after three to six weeks, on the symptoms of PTSD and depression/anxiety, **excluding the participants of Islamic Teaching who reported knowing the exercises discussed in the CBT or I-CBT**. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25). *PTSD* is measured using the Harvard Trauma Questionnaire Revised (HTQ-R). All models control for randomization block and pre-specified baseline covariates (outcome at the baseline, age, education, income, gender, marital status, legal status in Turkey, and years in Turkey). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. P-values less than 0.05 are bolded. The Adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with twelve comparisons.

Table A11: Impact of Intervention on Key Outcomes (Excluding Treated Control)

	ITT Regression ($N = 433$)		
	CBT (ITT) (1)	Islamic CBT (ITT) (2)	Islamic (ITT) (3)
Panel A. Intervention Effect on Depression and Anxiety			
Depression/Anxiety	-0.164	-0.143	-0.21
SE	0.06	0.065	0.069
p-value	**0.006**	**0.028**	**0.002**
Panel B. Intervention Effect on PTSD			
PTSD	-0.187	-0.094	-0.167
SE	0.053	0.057	0.065
p-value	**0.00**	0.097	**0.01**

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of each treatment arm, after three to six weeks, on the symptoms of depression/anxiety and PTSD, **excluding those in the control group who attended at least one session or reported knowing the exercises discussed in the CBT or Islamically integrated CBT**. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25). *PTSD* is measured using the Harvard Trauma Questionnaire Revised (HTQ-R). All models control for randomization block and pre-specified baseline covariates (outcome at the baseline, age, education, income, gender, marital status, legal status in Turkey, and years in Turkey). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. P-values less than 0.05 are bolded. The Adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with twelve comparisons.

Table A12: Estimating The Impact of Intervention on Depression/Anxiety (w/o Baseline Covariates)

	Dependent variable:					
	Depression/Anxiety					
	(1)	(2)	(3)	(4)	(5)	(6)
CBT (ITT)	-0.172^{**}	-0.223^{***}				
	(0.071)	(0.068)				
IslamicCBT (ITT)			-0.142^{**}	-0.194^{***}		
			(0.072)	(0.070)		
Islamic (ITT)					-0.195^{**}	-0.294^{***}
					(0.090)	(0.091)
Select Covariates	No	Yes	No	Yes	No	Yes
Observations	281	281	271	271	215	215
R^2	0.021	0.135	0.014	0.118	0.022	0.149
F Statistic	5.878^{**}	10.741^{***}	3.877^{**}	8.927^{***}	4.686^{**}	9.180^{***}

Notes: The outcome for all columns is depression/anxiety, measured using the Hopkins Symptoms Checklist (HSCL 25). Columns (1), (3), and (5) do not include any control variables. Columns (2), (4), and (6) control for the baseline covariates for which there is evidence of imbalance across the control and treatment arms. The baseline covariates include years of living in Turkey, frequency of mosque attendance and hiking over the past seven days.

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

Table A13: Estimating The Impact of Intervention on PTSD (w/o Baseline Covariates)

	Dependent variable:					
	PTSD					
	(1)	(2)	(3)	(4)	(5)	(6)
CBT (ITT)	-0.210^{***}	-0.252^{***}				
	(0.063)	(0.061)				
IslamicCBT (ITT)			-0.127^{*}	-0.165^{**}		
			(0.067)	(0.065)		
Islamic (ITT)					-0.141^{*}	-0.259^{***}
					(0.080)	(0.080)
Select Covariates	No	Yes	No	Yes	No	Yes
Observations	281	281	271	271	215	215
R^2	0.021	0.135	0.014	0.118	0.022	0.149
F Statistic	10.992^{***}	11.274^{***}	3.602^{*}	8.623^{***}	3.137^{*}	8.865^{***}

Notes: The outcome for all columns is symptoms of PTSD, measured using the Harvard Trauma Questionnaire-Revised (HTQ-R). Columns (1), (3), and (5) do not include any control variables. Columns (2), (4), and (6) control for the baseline covariates for which there is evidence of imbalance across the control and treatment arms. The baseline covariates include years of living in Turkey, frequency of mosque attendance, and hiking over the past seven days.

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

Table A14: Intervention's Effect on Socialization for Coping

	Dependent variable:					
	socialization_coping					
	(1)	(2)	(3)	(4)	(5)	(6)
CBT	−0.075	−0.095				
	(0.110)	(0.108)				
IslamicCBT			−0.034	0.014		
			(0.114)	(0.114)		
Islamic					0.035	−0.081
					(0.135)	(0.159)
Baseline Covariates	No	Yes	No	Yes	No	Yes
Observations	281	281	271	271	215	215
R^2	0.002	0.205	0.0003	0.186	0.0003	0.152
F Statistic	0.469	2.753***	0.090	2.336***	0.067	1.414

Notes: The table estimates the ITT effect of treatment arms on *socialization_coping*, the frequency of talking or confiding with friends or others over the past seven days to cope with negative emotions. Columns (1), (3), and (5) do not include any control variables. Columns (2), (4), and (6) control for the baseline covariates pre-specified in the pre-analysis plan. The covariates include randomization block and baseline value of the outcome in addition to age, education, income, gender, marital status, legal status in Turkey, years in Turkey, attending mosque, reciting the Quran, number of family members killed or injured in war, number of other family members participating in training, and hiking).

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

Table A15: Heterogeneous Treatment Effect (Religious Coping)

	Dependent variable:	
	Depression/Anxiety	
	(1)	(2)
IslamicCBT	−0.176**	
	(0.081)	
Islamic		−0.219**
		(0.098)
IslamicCBT * religious_coping	0.045	
	(0.128)	
Islamic * religious_coping		0.006
		(0.145)
religious_coping	−0.055	−0.048
	(0.085)	(0.079)
Observations	271	215
R^2	0.280	0.389
F Statistic	25.898***	33.406***

Notes: Columns (1) and (2) present the Intent-To-Treat (ITT) effect of Islamic CBT and Islamic Teaching on depression and anxiety three to six weeks after the intervention, compared to the control group. *Religious coping* equals 1 if a respondent relied on prayer and reading the Quran for coping more than three times (the median) over the past seven days, and 0 otherwise. *Depression/Anxiety* and are measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). All models control for randomization block and baseline score on depression/anxiety.

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

Table A16: Heterogeneous Treatment Effect (Religiosity)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	−0.178**		
	(0.077)		
IslamicCBT		−0.151*	
		(0.081)	
Islamic			−0.205**
			(0.100)
CBT * read_quran	−0.023		
	(0.120)		
IslamicCBT * read_quran		−0.017	
		(0.131)	
Islamic * read_quran			−0.091
			(0.153)
read_quran	0.075	0.078	0.073
	(0.083)	(0.087)	(0.083)
Observations	281	271	215
Adjusted R^2	0.344	0.269	0.379
F Statistic	14.376***	10.011***	11.883***

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of treatment arms on depression and anxiety three to six weeks after the intervention, compared to the control group. *Religious coping* equals 1 if a respondent read or listened to the Quran more than three times (the median) over the past seven days, and 0 otherwise. *Depression/Anxiety* and are measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). All models control for randomization block and baseline score on depression/anxiety.

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

Table A17: Heterogeneous Treatment Effect (Legal Status)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	−0.188*		
	(0.105)		
IslamicCBT		−0.199*	
		(0.111)	
Islamic			−0.308**
			(0.133)
CBT * legal	0.011		
	(0.125)		
IslamicCBT * legal		0.072	
		(0.134)	
Islamic * legal			0.129
			(0.157)
legal	−0.235***	−0.266***	−0.224**
	(0.087)	(0.091)	(0.087)
Observations	281	271	215
Adjusted R^2	0.370	0.297	0.399
F Statistic	15.936***	11.382***	13.926***

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of treatment arms on depression and anxiety three to six weeks after the intervention, compared to the control group. *Legal* equals 1 if a respondent has a legal residence status in Istanbul and 0 otherwise. *Depression/Anxiety* and are measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). All models control for randomization block and baseline score of depression/anxiety.

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

Table A18: Heterogeneous Treatment Effect (Gender)

	Dependent variable:	
	Depression/Anxiety	
	(1)	(2)
CBT	−0.112	
	(0.090)	
IslamicCBT		−0.225**
		(0.090)
CBT * female	−0.136	
	(0.118)	
IslamicCBT * female		0.133
		(0.124)
female	0.073	0.087
	(0.083)	(0.086)
Observations	281	271
Adjusted R^2	0.345	0.282
F Statistic	14.404***	10.629***)

Notes: Columns (1) and (2) present the Intent-To-Treat (ITT) effect of CBT and Islamic CBT on depression and anxiety three to six weeks after the intervention, compared to the control group. *female* equals 1 for female participants and and 0 otherwise. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). All models control for randomization block and baseline depression/anxiety.

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

Table A19: Heterogeneous Treatment Effect (Being Symptomatic)

			ITT Regression		
	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Symptomatic Participants					
Depression/Anxiety	2.231	0.6	-0.225	-0.235	-0.268
SE			0.081	0.091	0.096
p-value			**0.006**	**0.011**	**0.006**
Depression/Anxiety	2.231	0.6	-0.225	-0.235	-0.268
Observations			282	282	282
Panel B. Non-Symptomatic Participants					
Depression/Anxiety	1.583	0.456	-0.046	0.007	-0.075
SE			0.079	0.088	0.097
p-value			0.561	0.937	0.44
Observations			181	181	181

Notes: Columns 3 to 5 present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety three to six weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using all items of the Hopkins Symptoms Checklist (HSCL 25). *Panel A* includes only participants who were, before the start of the intervention, above the score of 1.75 on HSCL (indicating being symptomatic with depression and anxiety). Panel B includes the participants who were below 1.75. All models control for randomization block and baseline score on depression/anxiety and pre-specified baseline covariates (age, education, income, gender, marital status, legal status in Turkey, and years living in Turkey). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. *P*-values less than 0.05 are bolded.

Table A20: Intervention Effects on Depression/Anxiety (Change in Outcome)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	−0.005		
	(0.114)		
IslamicCBT		−0.224**	
		(0.110)	
Islamic			−0.017
			(0.138)
Sample	Symptomatic only	Symptomatic only	Symptomatic only
Observations	132	125	104
Adjusted R^2	0.133	0.286	0.103
F Statistic	1.691**	2.772***	1.425

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety, calculated as the change in the outcome between the baseline and phone survey, thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using all items of the Hopkins Symptoms Checklist (HSCL 25). For all columns, the sample includes only those symptomatic at the baseline (with the mean of the HSCL index above 1.75). All models control for randomization block and baseline score on depression/anxiety in addition to covariates (age, education, income, gender, marital status, legal status in Turkey, years living in Turkey, attending mosque, reciting the Quran, number of family members killed or injured in war, number of other family members participating in training, and hiking).

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

Table A21: Heterogeneous Effect of Treatment Arms (Being Symptomatic - A)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	−0.039		
	(0.113)		
IslamicCBT		0.051	
		(0.111)	
Islamic			−0.143
			(0.131)
CBT * symptomatic	−0.035		
	(0.145)		
IslamicCBT * symptomatic		−0.348**	
		(0.148)	
Islamic * symptomatic			−0.021
			(0.171)
symptomatic	−0.335***	−0.335***	−0.335***
	(0.095)	(0.099)	(0.093)
Sample	All	All	All
Observations	216	218	173
Adjusted R^2	0.092	0.186	0.101
F Statistic	8.291***	17.533***	7.441***

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety, calculated as the change in the outcome between the baseline and phone survey, thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using all items of Hopkins Symptoms Checklist (HSCL 25). **Symptomatic are the participants who were above the cut off point of 1.75 on the average HSCL score at the time of the baseline.**

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

Table A22: Heterogeneous Effect of Treatment Arms (Being Symptomatic - B)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	−0.062		
	(0.094)		
IslamicCBT		0.018	
		(0.097)	
Islamic			−0.062
			(0.110)
CBT * symptomatic	−0.017		
	(0.142)		
IslamicCBT * symptomatic		−0.330**	
		(0.148)	
Islamic * symptomatic			−0.193
			(0.164)
symptomatic	−0.342***	−0.342***	−0.342***
	(0.093)	(0.098)	(0.089)
Sample	All	All	All
Observations	216	218	173
Adjusted R^2	0.095	0.181	0.149
F Statistic	8.539***	16.975***	11.062***

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety, calculated as the change in the outcome between the baseline and phone survey, thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using all items of the Hopkins Symptoms Checklist (HSCL 25). **Symptomatic are the participants above the cut-off point of 2 on the average HSCL score at the time of the baseline**.

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

Table A23: Heterogeneous Effect of Treatment Arms (Being Symptomatic - C)

	Dependent variable:		
	Depression/Anxiety		
	(1)	(2)	(3)
CBT	0.056		
	(0.130)		
IslamicCBT		0.113	
		(0.136)	
Islamic			−0.006
			(0.153)
CBT * symptomatic	−0.178		
	(0.155)		
IslamicCBT * symptomatic		−0.346**	
		(0.164)	
Islamic * symptomatic			−0.214
			(0.184)
symptomatic	−0.240**	−0.240**	−0.240**
	(0.103)	(0.111)	(0.101)
Sample	All	All	All
Observations	216	218	173
Adjusted R^2	0.070	0.111	0.077
F Statistic	6.410***	10.022***	5.807***

Notes: Columns (1) to (3) present the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety, calculated as the change in the outcome between the baseline and phone survey, thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is a combined measurement of depression and anxiety using all items of the Hopkins Symptoms Checklist (HSCL 25). **Symptomatic are the participants who were above the cut-off point of 1.65 on the average HSCL score at the time of the baseline**.

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

Table A24: Baseline Descriptive Statistics and Balance Check (Symptomatic Participants)

	Control	Control	Assigned CBT		Assigned Islamic CBT		Assigned Islamic	
Baseline covariate	Mean	SD	Mean	p-value	Mean	p-value	Mean	p-value
Depression/Anxiety	2.337	0.431	2.361	0.749	2.41	0.371	2.487	0.137
Anxiety	2.294	0.524	2.243	0.577	2.423	0.228	2.389	0.441
Depression	2.364	0.518	2.437	0.403	2.402	0.683	2.55	0.09
Age	36.73	13.334	37.379	0.773	37.627	0.711	34.8	0.449
Education	8.392	5.596	9.724	0.193	9.667	0.218	8.867	0.689
Income	12337	8205	11310	0.424	11490	0.502	13800	0.432
Married	0.649	0.481	0.862	**0.004**	0.725	0.364	0.8	0.108
Years_in_Turkey	5.527	3.453	5.086	0.45	4.627	0.135	5.6	0.925
Legal_status (= 1)	0.622	0.488	0.655	0.693	0.627	0.948	0.633	0.912
Family_killed_injurred	1.311	2.06	1.879	0.407	2.392	**0.034**	0.933	0.346
Read_Quran	2.743	1.147	2.81	0.729	2.588	0.483	2.7	0.863
Attend_mosq	1.77	1.08	1.638	0.476	1.51	0.131	1.133	**0.00**
Religious_coping	3.081	0.824	3.172	0.521	3.275	0.193	3.267	0.246
Socialization_coping	1.311	0.639	1.293	0.884	1.216	0.372	1.067	**0.006**
Listen_music	2.365	1.234	2.103	0.199	2.588	0.33	2.167	0.475
Hiking	3.257	1.086	3.123	0.482	3.02	0.272	2.867	0.121
Aggression	1.973	0.979	2.017	0.801	1.961	0.945	2.333	0.147
Uzbek	0.514	0.503	0.534	0.813	0.431	0.37	0.467	0.671
Family_members	0.635	0.915	0.707	0.702	0.765	0.506	0.467	0.362
Friends_training	2.811	7.142	2.121	0.439	2.078	0.454	2.167	0.481
Female (= 1)	0.557	0.499	0.585	0.685	0.479	0.254	1.00	**0.000**
N	74		58		51		30	

Notes: The table presents baseline descriptive statistics and a balance check, comparing those assigned to the control group or one of the three treatment arms. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25). *Symptomatic* are those with a mean larger than 1.75 on the HSCL index at the baseline. The sample includes the participants who were symptomatic at the time of the baseline and participated in the phone survey conducted thirteen to sixteen weeks after the intervention. *Family_members* refers to the number of other family members who attended one of the treatment arms. *Friends_training* refers to the number of a participant's friends who participated in at least one of the treatment sessions. *p-value* summarizes the test statistics for the t-test of the difference between the control mean and the mean of those assigned treatment arm. P-values less than 0.05 are bolded.

Table A25: Intervention's Effect on Depression and Anxiety (Symptomatic Participants only)

	Dependent variable:					
	Depression/Anxiety					
	(1)	(2)	(3)	(4)	(5)	(6)
CBT	−0.075	−0.046				
	(0.103)	(0.106)				
IslamicCBT			−0.296***	−0.258**		
			(0.109)	(0.108)		
Islamic					−0.164	−0.171
					(0.118)	(0.128)
Select Covariates	No	Yes	No	Yes	No	Yes
Observations	132	132	125	125	104	104
Adjusted R^2	−0.004	0.008	0.049	0.127	0.009	−0.002
F Statistic	0.528	1.214	7.386***	4.598***	1.929	0.953

Notes: Columns (1) to (6) estimate the Intent-To-Treat (ITT) effect of each treatment arm on depression and anxiety, calculated as the change in outcome between the baseline and phone survey thirteen to sixteen weeks after the intervention, compared to the control group. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the average of total items (each scored from 1 to 4). The sample for all columns includes only those who were symptomatic (with a mean above 1.75 on the HSCL index) at the baseline. Columns (1), (3), and (5) do not include any control variables. Columns (2), (4), and (6) control for the baseline covariates for which there is evidence of imbalance across the control and treatment arms. These covariates include the number of family members killed or injured in war, marital status, and the frequency of mosque attendance and socialization for coping with an adverse condition over the past seven days.

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

Table A26: Randomization Test for The Impact of Intervention on Depression/Anxiety

Comparison	Observed Diff. in Means:	Permutations Differences:	P-value:
CBT	0.075	-0.014, -0.043, 0.03, -0.143, 0.025, ...	0.458
IslamicCBT	0.296	0.22, -0.216, -0.069, 0.042, 0.163, ...	**0.006**
Islamic	0.164	0.28, 0.074, -0.052, 0.18, -0.164, 0.009, ...	0.181

Notes: The table presents the result of randomization (permutation) test for the effect of treatment arm on depression and anxiety, compared to the control group, thirteen to sixteen weeks after the intervention. *Depression/Anxiety* is measured using the Hopkins Symptoms Checklist (HSCL 25) and represents the change in the HSCL score for each participant between the baseline and the phone survey. The sample includes only those who were symptomatic (with mean above 1.75 on HSCL index) at the baseline. *p-value* less than 0.05 is bolded.

Table A27: Impact of Intervention on Attitudes Toward Groups

	Control Mean (1)	Control SD (2)	CBT (ITT) (3)	Islamic CBT (ITT) (4)	Islamic (ITT) (5)
Panel A. Attitude toward out-group					
Attitude_outgroup	4.086	1.021	0.089	0.06	0.059
SE			0.107	0.096	0.158
Unadj. p-value			0.406	0.535	0.709
Adj. p-value			0.836	0.836	0.836
Observations			281	271	215
Adjusted R-squared			0.2654	0.3753	0.2741
F-Statistic			5.216	7.759	4.367
Panel B. Attitude toward in-group					
Attitude_ingroup	4.086	1.021	0.138	0.102	0.057
SE			0.105	0.113	0.154
Unadj. p-value			0.193	0.364	0.709
adj. p-value			0.836	0.836	0.836
Observations			281	271	215
Adjusted R-squared			0.1406	0.2178	0.1745
F-Statistic			2.909	4.132	2.885
Panel C. Attitude toward Turks					
Attitude_Turks	3.388	1.2	0.003	0.041	0.146
SE			0.116	0.126	0.174
Unadj. p-value			0.997	0.743	0.403
Adj. p-value			0.997	0.836	0.836
Observations			281	271	215
Adjusted R-squared			0.3261	0.3349	0.2957
F-Statistic			6.646	6.665	4.744

Notes: Columns (3) to (4) present the Intent-To-Treat (ITT) effects of CBT, Islamically integrated CBT, and traditional Islamic Teaching, after three to six weeks, on attitude toward out-group (*Panel A*), in-group (*Panel B*), and Turkish people (*Panel BC*). Attitudes toward these groups are measured using indices of four items (see Section 3.3 for more details on measuring outcomes). All models control for randomization block and baseline outcomes and covariates (age, education, income, gender, marital status, legal status in Turkey, years in Turkey, attending mosque, reciting the Quran, and hiking). Heteroskedastic robust standard errors, clustered at the class level, are reported in parentheses. The Adjusted p-values are corrected for FWER using the Benjamini-Hochberg method with nine comparisons (three outcomes and three treatment arms). p-values less than 0.05 are bolded.

Table A28: ANOVA for the Effect of Treatment Arms on Attitude (3-6 Week Impacts)

Panel A: Attitude toward in-group					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	2.53	1.2666	1.411	0.245
Within Groups	308	276.43	0.8975		
Panel B: Attitude toward out-group					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	1.77	0.8861	1.051	0.351
Within Groups	308	259.71	0.8432		
Panel C: Attitude toward Turkish people					
	Degree of Freedom	Sum of Square	Mean Square	F	p-value
Between Groups	2	2.6	1.315	1.221	0.296
Within Groups	308	331.8	1.077		

Notes: This table summarizes the results of ANOVA for comparing the impacts of treatment arms (3-6 weeks after the intervention) on participants' attitude toward in-group, out-group, and Turkish people. The outcomes are measured as the difference in attitude toward the reference group between the baseline and the follow-up survey. For more details on how attitude is measured see Section 3.3.

Table A29: The Impact of Intervention (ITT) on Donations Made by Participants

	Control Group				Treatment Groups					
	Mean (1)	Median (2)	SD (3)	N (4)	Mean (5)	Median (6)	SD (7)	Unadj. p (8)	Adj. p (9)	N (10)
Panel A. Donation to outgroups										
Control	17.83	10	17.74	152						
CBT					13.1	10	16.95	**0.006**	0.054	129
I-CBT					14.92	10	17.53	0.088	0.792	119
Islamic					12.06	10	15.78	**0.014**	0.126	63
Panel B. Donation to ingroup										
Control	19.57	20	18.57	152						
CBT					15.81	10	17.65	0.072	0.648	129
I-CBT					18.15	10	18.91	0.428	1	119
Islamic					14.52	10	17.34	**0.049**	0.441	63
Panel C. Donation to Turkish										
Control	17.57	10	18.76	152						
CBT					13.14	10	16.72	**0.047**	0.423	129
I-CBT					17.65	10	17.98	0.712	1	119
Islamic					14.44	10	18.03	0.233	1	63

Notes: The Table summarizes the Intent to Treat (ITT) effect of intervention on donations to in-group, out-group and Turkish recipients three to six weeks after the intervention. For details on who are in-group, out-group, and Turkish recipients, see the section on measuring outcomes. Columns (1) to (4) present the statistics on donations by control group. Columns (5) to (7) summarize the donations by those assigned to the treatment arms. Column (8) provides the p-value for the Wilcoxon Rank Sum Test, comparing the distribution of donations by the control group with those assigned to each of the three treatment arms. Adjusted p-values, following Bonferroni's correction method, are listed in Column (9). p-values less than 0.05 are bolded.

Table A30: Comparing Donations by Secular and Religious Treatment Arms - A

	Secular Treatment				Religious Treatment					
	Mean	Median	SD	N	Mean	Median	SD	Unadj. p	Adj. p	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Donation to out-groups										
CBT	13.1	10	16.95	129						
I-CBT					14.92	10	17.53	0.315	1	119
Islamic					12.06	10	15.78	0.936	1	63
Panel B. Donation to in-group										
CBT	15.81	10	17.65	129						
I-CBT					18.15	10	18.91	0.366	1	119
Islamic					14.52	10	17.34	0.58	1	63
Panel C. Donation to Turkish										
CBT	13.14	10	16.72	129						
I-CBT					17.65	10	17.98	**0.018**	0.108	119
Islamic					14.44	10	18.03	0.687	1	63

Notes: The Table summarizes donations made by the I-CBT and Islamic teaching condition with the CBT to in-group, out-group and Turkish recipients three to six weeks after the intervention. For details on who are in-group, out-group, and Turkish recipients, see Section 3.3. Columns (1) to (3) present the statistics on donations by those assigned to the CBT. Columns (5) to (7) summarize the donations by the I-CBT and Islamic teaching. Column (8) provides the p-value for **two-sided Wilcoxon Rank Sum** tests, comparing the distribution of donations by the CBT group with those assigned to I-CBT and Islamic teaching. Adjusted p-values, following Bonferroni's correction method, are listed in Column (9). p-values less than 0.05 are bolded.

Table A31: Comparing Donations Made by CBT with I-CBT and Islamic teaching

	Dependent variable:		
	donation_out.group	donation_in.group	donation_Turks
	(1)	(2)	(3)
Panel A: CBT vs. Islamic CBT			
Islamic CBT	1.309	1.116	3.649
SE	2.234	2.322	2.244
Observations	248	248	248
R^2	0.125	0.160	0.140
F Statistic (df = 23; 224)	1.386	1.854**	1.582**
Panel B: CBT vs. Islamic teaching			
Islamic	−0.297	2.367	4.011
SE	2.894	2.976	2.930
Observations	192	192	192
R^2	0.124	0.174	0.163
F Statistic (df = 23; 168)	1.036	1.542*	1.419

Notes: Panel A compares donations made by those assigned to the Islamic CBT with those assigned to the CBT condition. *Panel B* compares donations made by those assigned to the Islamic teaching condition with those assigned to the CBT condition. All models control for randomization block and baseline covariates (age, education, income, gender, marital status, legal status in Turkey, years living in Turkey, attending mosque, reciting the Quran, and hiking). All models are estimated using OLS regressions.

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

Table A32: Comparing Donations by Secular and Religious Treatment Arms - B

	Secular Treatment				Religious Treatment					
	Mean	Median	SD	N	Mean	Median	SD	Unadj. p	Adj. p	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Donation to outgroups										
CBT	13.1	10	16.95	129						
I-CBT					14.92	10	17.53	0.843	1	119
Islamic					12.06	10	15.78	0.936	1	63
Panel B. Donation to ingroup										
CBT	15.81	10	17.65	129						
I-CBT					18.15	10	18.91	0.818	1	119
Islamic					14.52	10	17.34	0.29	1	63
Panel C. Donation to Turkish										
CBT	13.14	10	16.72	129						
I-CBT					17.65	10	17.98	0.991	1	119
Islamic					14.44	10	18.03	0.658	1	63

Notes: The Table summarizes donations made by the I-CBT and Islamic teaching conditions with the CBT to in-group, out-group, and Turkish recipients three to six weeks after the intervention. For details on who are in-group, out-group, and Turkish recipients, see section 3.3. Columns (1) to (4) present the statistics on donations by those assigned to the CBT. Columns (5) to (7) summarize the donations by the I-CBT and Islamic teaching. Column (8) provides the p-value for **one-sided Wilcoxon Rank Sum** tests, comparing the distribution of donations by the CBT group with those assigned to I-CBT and Islamic teaching. The alternative hypothesis is that donations by CBT condition are larger than by I-CBT or Islamic teaching. Following Bonferroni's correction method, adjusted p-values are listed in Column (9). p-values less than 0.05 are bolded.

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