

**Individual Self-Help Plus (SH+) for Women Earthquake Survivors: Pilot Randomized
Controlled Trial**

By

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Controlled Trial**

Koç University

Graduate School of Social Sciences and Humanities

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and have found that it is complete and satisfactory in all respects,
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Statement of Authorship

This thesis does not comprise any material that has been accepted for an award or any other degree or diploma in any university or institution. To the best of the candidate's knowledge, it is affirmed that the thesis does not compromise any material previously published or written by another person with the exception of where due references are made.

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Abstract

This pilot randomized controlled trial was conducted in Hatay province, Türkiye, targeting women aged 18-65 living in container cities after the February 2023 earthquakes. The sample included women aged 18 to 65 who met the inclusion criteria: direct exposure to the earthquake, elevated psychological distress (Kessler Psychological Distress Scale, K10 >15), and impaired psychosocial functioning (WHO Disability Assessment Schedule 2.0, WHODAS 2.0 >16). Participants were randomly assigned to either the SH+ intervention group or a control group by an independent researcher to ensure allocation concealment and minimize selection bias. The final analysis was conducted on completers only, comprising 23 participants in the SH+ group and 14 participants in the control group. A series of repeated measures MANOVA and post hoc pairwise analyses were conducted to evaluate changes from pre- to post-intervention. Within the SH+ group, participants demonstrated statistically significant reductions in depressive symptoms, anxiety, post-traumatic stress, and prolonged grief, indicating that the adapted SH+ intervention had a meaningful impact on key psychological symptoms. Furthermore, post-assessment comparisons between the intervention and control groups revealed significantly greater improvements in depressive symptoms, anxiety, and post-traumatic stress among those who received SH+. The significant improvements observed in participants receiving the SH+ intervention underline the importance of involving the target population in the development and adaptation of mental health programs. By engaging survivors as partners, the intervention was better positioned to address the complexities of trauma recovery in a way that respects local values and experiences. The study provides preliminary evidence that the individually delivered SH+ intervention is feasible and acceptable in a post-disaster setting. Preliminary evidence suggests it effectively reduces key

psychological symptoms, making it a promising approach to support mental health and resilience among women earthquake survivors in Türkiye.

Keywords: Self-Help Plus (SH+), trauma-informed intervention, post-disaster mental health, pilot randomized controlled trial (RCT), trauma recovery



Özet

Bu pilot randomize kontrollü çalışma, Şubat 2023 depremlerinin ardından Hatay ilinde konteyner kentlerde yaşayan ve 18-65 yaş arasında bulunan kadınlara yönelik olarak geliştirilmiştir. Örneklem, doğrudan deprem etkisine maruz kalan, yüksek psikolojik sıkıntı düzeyine sahip (Kessler Psikolojik Sıkıntı Ölçeği, K10 >15) ve bozulmuş psikososyal işlevsellik gösteren (Dünya Sağlık Örgütü Yetiyitimi Değerlendirme Çizelgesi 2.0, WHODAS 2.0 >16) kadınlardan oluşmuştur. Katılımcılar, seçim yanlılığını önlemek ve atama sürecinin gizliliğini sağlamak amacıyla bağımsız bir araştırmacı tarafından müdahale (SH+) veya kontrol grubuna rastgele atanmıştır. Nihai analizler, yalnızca çalışmayı tamamlayanlar üzerinde gerçekleştirilmiş olup, SH+ grubunda 23, kontrol grubunda ise 14 katılımcı yer almıştır. Müdahale öncesi ve sonrası dönemde psikolojik belirtilerdeki değişimleri değerlendirmek için tekrarlı ölçümler MANOVA ve post hoc analizleri uygulanmıştır. SH+ müdahalesi alan grupta depresyon, anksiyete, travma sonrası stres ve uzamış yas belirtilerinde istatistiksel olarak anlamlı azalmalar gözlemlenmiş, bu da uyarlanmış SH+ programının temel psikolojik semptomlar üzerinde etkili olduğunu göstermiştir. Ayrıca, müdahale sonrası dönem değerlendirildiğinde, SH+ grubundaki katılımcıların depresyon, anksiyete ve travma sonrası stres düzeylerinde kontrol grubuna kıyasla anlamlı derecede daha fazla iyileşme sağladığı saptanmıştır. Bu bulgular, hedef grubun ihtiyaçları ve kültürel bağlamı dikkate alınarak birlikte tasarlanmış müdahalelerin, travma sonrası iyileşme sürecini daha etkin biçimde destekleyebileceğine işaret etmektedir. Çalışma, bireysel uygulama formatındaki SH+ müdahalesinin afet sonrası ruh sağlığı alanında uygulanabilirlik, kabul edilebilirlik ve ön etkililik açısından umut verici olduğunu göstermektedir.

Anahtar kelimeler: Self-Help Plus (SH+), travmaya duyarlı müdahale, afet sonrası ruh sağlığı, pilot randomize kontrollü çalışma, travma sonrası iyileşme

Dedication

This thesis is dedicated to my mother, who has been my unwavering source of strength and support in every path I have taken. I hope this work stands not only as a product of my efforts but also as a quiet tribute to the dreams you once set aside. May it reflect, in part, the possibilities you deserved.



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CHAPTER 1

INTRODUCTION

1.1. Context and Importance of Natural Hazards

1.1.1. Global Perspective

Disasters, whether natural or human-induced, can have severe and far-reaching consequences for individuals and communities. According to the World Health Organization (WHO), 2023 was a particularly significant year in terms of disaster impact, with a total of 399 natural disasters reported worldwide (World Health Organization, 2023). World Health Organization have titled 2023 as a “*significant year of disaster impact*”.

The financial burden of these disasters was also substantial. WHO’s annual report on economic losses due to natural hazards revealed that storms alone accounted for approximately 100.8 billion USD in economic losses in 2023. This figure marks an increase from the annual average of 95.6 billion USD recorded between 2003 and 2022, making storms the costliest natural hazard in both long-term and annual statistics. Earthquakes followed closely, with financial losses rising from an annual average of 39.9 billion USD (2003–2022) to 51.9 billion USD in 2023. When considering the cumulative economic impact of various natural hazards—including droughts, extreme temperatures, floods, landslides, volcanic activity, and wildfires—the total financial loss increased from 196.3 billion USD (2003–2022) to 202.7 billion USD in 2023 (World Health Organization, 2023).

Beyond direct economic losses, disasters impose indirect and intangible costs that are often difficult to quantify. While direct losses pertain to physical damage, such as the destruction of homes and infrastructure, indirect losses extend to disruptions in businesses, education, and cultural practices. Survivors may face barriers in accessing education, maintaining economic

productivity, performing cultural or religious rituals, all of which contribute to long-term societal distress. These less tangible consequences highlight the multifaceted impact of disasters and the importance of comprehensive recovery efforts (World Health Organization, 2023).

As previously noted, 2023 marked a significant rise in disaster impact, with recorded natural disasters increasing to 399 from a 20-year average of 269. While developed countries primarily experience economic losses due to natural hazards, low- and middle-income countries often bear the human cost. In nations with limited resources, disasters disproportionately affect vulnerable populations, resulting in higher rates of injury, displacement, and loss of life (World Health Organization, 2023).

1.1.2. The Case of Türkiye

Among the many disasters recorded in 2023, one of the most catastrophic was the series of earthquakes that struck Türkiye and Syria in the first quarter of the year. On February 6, 2023, Türkiye was hit by two massive earthquakes, with magnitudes of 7.7 and 6.4 on the Richter scale, followed by a third earthquake (magnitude 5.8) minutes later (World Health Organization, 2023). These earthquakes were the most powerful recorded in Türkiye since 1939 and resulted in over 13,000 aftershocks, which surpassed the impact of the 1999 Kocaeli earthquake (Mw 7.4) (Boğaziçi University Kandilli Observatory and Earthquake Research Institute, 1999). The earthquakes severely affected 11 provinces: Adana, Adıyaman, Diyarbakır, Elazığ, Gaziantep, Kahramanmaraş, Kilis, Malatya, Osmaniye, Şanlıurfa, and Hatay (World Health Organization, 2023). The devastation prompted the Turkish government to declare a *"Level 4 Alert"* calling for international assistance, while the Syrian government also declared a state of emergency for those severely affected. Türkiye was the country with the highest reported economic losses in 2023, with an estimated financial impact of 34 billion USD (World Health Organization, 2023).

Approximately 9.2 million people were directly affected, and 3 million were forcibly displaced. The disaster resulted in 50,783 fatalities, placing Türkiye at the top of the global disaster-related mortality list for the year (World Health Organization, 2023).

According to the impact report published the World Health Organization (2023), over 22,500 aftershocks followed the earthquakes, causing further structural damage and leaving approximately 307,000 buildings inhabitable. Nearly 2.4 million individuals were relocated to temporary settlements, with 68% residing in informal shelters. Hatay, Adıyaman, Kahramanmaraş, and Malatya accounted for 92% of the displaced population. Given the unprecedented scale of destruction, both national and international media labeled the event as the "*disaster of the century*" (World Health Organization, 2023).

1.1.3. Psychological Impact of Earthquakes

The psychological effects of earthquakes are as profound as their physical consequences, with trauma, grief, anxiety, and depression frequently observed among affected populations. These effects often have a greater impact on certain demographic groups, such as women, children, and the elderly, due to a range of social and contextual factors.

Keya et al. (2023) has conducted a meta-analysis involving data from 48,170 participants to assess the prevalence of mental health disasters following disaster exposure. Their findings indicated that generalized anxiety disorder (GAD), depression, substance use disorders, adjustment disorder, and PTSD were the most prevalent mental health conditions following disasters, with prevalence rates ranging from 5.8% to 87.6%. Notably, middle-income countries reported the highest rates, emphasizing the unequal burden of psychological distress across different socio-economic contexts (Keya et al., 2023).

Similarly, Cénat et al. (2020) conducted a systematic review and meta-analysis to assess the prevalence and associated risk factors for post-traumatic stress disorder (PTSD), depression, and anxiety among survivors of the 2010 Haiti earthquake. Analyzing 50 studies, with 28 included in meta-analyses, they reported prevalence rates of 28.44% for PTSD, 32.16% for depression, and 20.49% for anxiety among earthquake survivors. The study identified several risk factors associated with increased psychological distress, including female gender, high levels of exposure to the earthquake, peritraumatic distress, low social support, personal or family history of mental disorders, and exposure to other forms of trauma. These findings underscore the significant mental health impact of earthquakes and highlight the necessity for targeted interventions addressing these risk factors to mitigate long-term psychological consequences among survivors.

Further emphasizing the mental health impact of earthquakes, Dai et al. (2016) conducted a systematic review and meta-analysis encompassing 46 studies with a combined sample of 76,101 earthquake survivors. The study found a pooled PTSD prevalence of 23.66%, with higher rates (28.76%) observed within nine months post-earthquake, decreasing to 19.48% in assessments conducted after nine months. Significant risk factors identified included bereavement, physical injury, witnessing death, female gender, and lower educational levels. These findings highlight the necessity for timely psychological interventions and support systems to mitigate the long-term mental health consequences among earthquake survivors.

1.1.4. 2023 Kahramanmaraş Earthquakes & Psychological Impact on Women

The 2023 Kahramanmaraş earthquakes not only devastated infrastructure but also severely impacted community well-being. In response, mental health and psychosocial support (MHPSS) services became a priority, reaching over 1.6 million individuals. Nevertheless, the psychological

toll remains high. According to the World Health Organization (2023), over 70% of physically injured survivors are expected to develop long-term disabilities, underscoring the urgent need for cost-effective and inclusive mental health interventions. (World Health Organization, 2023).

Women have been disproportionately affected, facing gender-specific vulnerabilities such as increased exposure to gender-based violence (GBV), economic insecurity, and limited access to safe, gender-sensitive psychosocial support (Kaplan et al., 2024). Research has consistently shown that women are more likely than men to experience psychological distress after disasters, including symptoms of depression, anxiety, and post-traumatic stress.

Kaplan et al. (2024) conducted a cross-sectional survey with 498 women residing in the most heavily affected provinces—Kahramanmaraş, Hatay, and Adıyaman. The study identified high levels of psychological symptoms among participants, including elevated scores in depression, anxiety, and somatization subscales of the Brief Symptom Inventory (BSI). Overall, psychological distress was notably high, indicating a significant psychological impact. The study found that more than 78% of participants had lost at least one family member, while 43.7% reported the loss of a child.

Regression analyses revealed that higher educational attainment predicted worse psychological outcomes across several BSI subscales (Kaplan et al., 2024). The authors suggest that women with higher education may have had more stable careers, financial independence, and future expectations—all of which were disrupted by the disaster. This disruption may have resulted in a greater sense of loss, instability, and distress. Furthermore, predictors such as loss of shelter, personal injury, and bereavement were also associated with poorer mental health outcomes.

Beyond psychological symptoms, the study also emphasized women's limited access to essential needs such as food, shelter, safety, and healthcare. Even when these services are available, they are often not gender-sensitive—lacking safety, privacy, and accessibility, particularly in temporary shelters and communal sanitation facilities. Reports of GBV, including sexual harassment and assault, increased significantly in the earthquake's aftermath. These intersecting stressors, combined with the profound material and emotional losses experienced, highlight the urgency of implementing gender-responsive and trauma-informed psychosocial interventions.

Tekin and Aydın (2024) further investigated the multifaceted impact of the Kahramanmaraş earthquakes on women's physical and psychological well-being. Tekin and Aydın (2024) conducted a cross-sectional, web-based survey to assess the physical and psychological impact of the 2023 Kahramanmaraş earthquake sequence on women. The study included 388 literate women aged 18 years and older, residing in 11 earthquake-affected provinces in Türkiye. By leveraging online data collection methods, the researchers were able to access a geographically diverse and timely sample in the immediate aftermath of the disaster.

The findings underscored the significant toll of the earthquake on women's well-being: over 75% of participants reported difficulties sleeping, more than half experienced headaches, and approximately one in three exhibited symptoms indicative of post-traumatic stress disorder (PTSD). Regression analyses identified several predictors of PTSD symptoms, including being single, smoking, financial strain, living in a disaster-damaged home, having to work under post-disaster conditions, experiencing anxiety.

Beyond individual symptomatology, the study offers insight into the intersection of gender and disaster vulnerability. Consistent with previous literature (Demirci & Avcu, 2021; Gokhale, 2008), the authors highlight the heightened risks women face in post-disaster contexts—such as gender-based violence, restricted access to healthcare and education, and increased unpaid domestic labor. These findings reflect broader patterns observed globally, where women disproportionately bear the psychological and structural burdens of natural disasters due to pre-existing social and economic inequalities (Wainberg et al., 2017).

In conclusion, in line with research conducted in other disaster-affected settings, studies following the Kahramanmaraş earthquakes are further reinforcing that the compounded vulnerabilities of women—both psychosocial and structural—demand urgent, gender-sensitive, and trauma-informed responses in the aftermath of large-scale disasters.

1.2. Contextual Adaptation in Community-Based Mental Health Interventions

Contextual adaptation refers to the process of modifying interventions to align with the specific cultural, social, economic, and political characteristics of a particular setting. This approach is particularly crucial for low- and middle-income countries (LMICs), where imported mental health models may fail to address the unique needs of local populations. Rather than applying a one-size-fits-all solution, contextual adaptation emphasizes responsiveness to community realities, indigenous knowledge, and lived experience. It supports the creation of flexible, relevant, and sustainable interventions that fit within existing community structures and are more likely to be accepted and retained over time.

Community-based interventions (CBIs) that undergo contextual adaptation are designed not only to address individual distress but also to reflect and respond to the broader social determinants of mental health. These include poverty, displacement, violence, and lack of access to education or healthcare. As noted by Kohrt et al. (2018), such interventions are often more suitable in LMICs, as they can build local capacity, promote social connectedness, and foster resilience in resource-constrained environments. When tailored to context, CBIs can also help to reduce stigma and bridge gaps between formal and informal systems of care, especially in rural or underserved areas.

In Türkiye, contextual adaptation has been key in shifting from hospital-centered psychiatric models to more community-embedded services. Following natural and man-made disasters, such as earthquakes or mass displacement, mental health needs are deeply intertwined with cultural mourning rituals, collective trauma, and regional beliefs about healing and recovery. Hacısahanoğlu Aşlar & Yıldırım (2021) highlight how these cultural and communal elements must be factored into intervention design, especially when working in regions such as Hatay, where post-disaster psychosocial support must align with local expectations and spiritual practices. Contextual adaptation in such settings may include language-specific materials, culturally appropriate metaphors, and respect for community hierarchies and decision-making practices.

Furthermore, Mittal et al. (2023) demonstrated in their meta-analysis on intimate partner violence (IPV) in India that community-based IPV interventions were significantly more effective when they were grounded in local norms and delivered through community-based organizations or informal networks. This finding underscores the importance of adapting not only the content of interventions but also their delivery methods to fit the realities of specific populations. Effective

adaptation requires continuous feedback from participants and stakeholders and often involves iterative cycles of testing, evaluation, and refinement.

The World Health Organization (WHO, 2001) has consistently recommended the integration of community-level insights and local ownership into the development of mental health systems. Their framework encourages countries to develop mental health policies that reflect the lived realities of communities and to adopt service models that are cost-effective, inclusive, and rights-based. According to McDaid & Thornicroft (2005), these strategies are most effective when services are embedded in the places where people live and are delivered by individuals who understand the community's language, values, and resources.

In practice, contextual adaptation means that mental health professionals and organizations must actively listen to communities, incorporate their feedback, and be willing to let go of rigid protocols when they do not align with local needs. As Rivera-Segarra et al. (2022) argue, even in times of crisis, when vertical leadership structures are necessary, successful intervention relies on professionals' ability to understand the sociocultural environment, recognize people's coping strategies, and respect existing communal practices. This balance between structured delivery and local responsiveness is key to both short-term effectiveness and long-term sustainability.

Overall, contextual adaptation fosters not only cultural competence but also ethical and effective care. It ensures that mental health interventions are grounded in the lived experience of those they serve and are more likely to achieve meaningful, lasting impact.

1.3. The Know-Do-Gap

1.3.1. The Know-Do-Gap

To bridge the gap between patient involvement and disaster-related response, we must also acknowledge the "know-do gap" that exists in disaster response and recovery efforts. The "*know-do gap*" refers to the disconnect between scientific knowledge and its application in practice. As stated by the World Health Organization (2005), "*there is a gap between today's scientific advances and their application: between what we know and what is actually being done*". This gap exists in two main areas: one between research and policy, and another between knowledge and action. There are two types of evidence involved in this gap: "*colloquial*" evidence, which includes personal and contextual factors like people's experiences, societal values, and local traditions, and "*scientific*" evidence, which is based on systematic, reliable, and verifiable research. Many experts agree that evidence must be adapted to its context, meaning policies and decisions should be based not only on global research but also on local knowledge to make them more practical and effective (World Health Organization, 2005).

Classic studies have shown that it often takes 17 to 20 years for clinical innovations to be integrated into routine practice (World Health Organization, 2005). This delay is referred to as the "*know-do gap*" which highlights the disconnect between research findings and their actual implementation in practice. Implementation science aims to bridge this gap by identifying the barriers and facilitators that influence the adoption of effective interventions.

Incorporating research findings into real-world conditions is critical, which is the focus of implementation science. This field is concerned with the adoption, implementation, and maintenance of evidence-based interventions, as well as the strategies needed to translate these

practices into everyday use (World Health Organization, 2005). One key aspect of implementation science is the process of shared decision-making, which involves collaboration between facilitators and stakeholders. Despite the strong evidence supporting the effectiveness of shared decision-making and decision aids, their implementation in real-world settings has been limited. Even when successfully implemented, sustainability remains a challenge.

1.3.2. Implementation Science

Implementation science is rooted in the Practical, Robust, Implementation, and Sustainability Model (PRISM), which emphasizes that interventions must be practical, robust, and sustainable in real-world settings by influencing how stakeholders perceive their environment (Holtrop et al., 2021). The central mechanism of change in implementation science is focused on mental models—how individuals interpret and make sense of their surroundings.

Contexts are critical in determining the effectiveness of a strategy. "*Context*" refers not only to the physical environment but also to the individuals involved, the specific interventions, the infrastructure available, and the processes at play, as well as the interactions among these elements. Mental models play a vital role within this framework, as they shape how people understand and respond to interventions (Holtrop et al., 2021).

Understanding mental models is especially important when considering modifications to interventions. These models influence the types of changes stakeholders perceive as necessary, as they reflect how they interpret the need for adaptation. Furthermore, as the intervention develops, mental models often evolve, with learning occurring through this process of adaptation (Holtrop et al., 2021).

A central question arises from these perspectives: can mental models be changed? The answer is affirmative. Changing mental models is fundamental to many current implementation strategies, such as education and training, facilitation, reflection, and feedback. These strategies prompt individuals and teams to reflect on their beliefs and challenge them when necessary, allowing for the formation of new belief systems and fostering positive change (Holtrop et al., 2021). While deeply held beliefs may be resistant to change, recognizing these entrenched mental models provides opportunities to offer information that can encourage transformation, even in the face of opposing views (Holtrop et al., 2021). In the context of natural hazards, the focus must be on alleviating symptoms rather than exacerbating them. For more profound, lasting change, it is essential to provide time, flexibility, control over the environment, and stability, creating the ideal conditions for transformation.

1.4. Acceptance and Commitment Therapy (ACT) & Self-Help Plus (SH+)

1.4.1. Acceptance and Commitment Therapy (ACT)

A variety of cost-effective and evidence-based interventions can be applied in earthquake-affected regions to support psychological well-being. While earthquakes are extensively studied natural disasters, their impact extends beyond immediate physical devastation and loss of life, profoundly affecting individuals' future plans and sense of stability. Although the grief of losing loved ones cannot be reversed, and the reality of the disaster remains unchangeable, targeted interventions can help alleviate its psychological and social consequences.

Acceptance and Commitment Therapy (ACT) is one such therapeutic approach that promotes psychological flexibility by encouraging individuals to remain present, practice acceptance, and engage in values-based actions. By fostering adaptive coping strategies and

behavioral adjustments, ACT can provide meaningful support for earthquake survivors as they navigate post-disaster challenges (Aktepe et al., 2025).

Acceptance and Commitment Therapy (ACT) has been recognized as an effective intervention for trauma, particularly in treating individuals with Post-Traumatic Stress Disorder (PTSD) (Walser & Hayes, 2006). Those affected by PTSD often experience persistent intrusive memories, distressing thoughts, nightmares, and emotional dysregulation. In response, they may attempt to avoid all emotional, psychological, and physical experiences associated with the trauma. From an ACT perspective, however, the therapeutic task is nearly the opposite: instead of avoiding these experiences, ACT encourages clients to make room for their painful memories and emotions as they are directly experienced, and to integrate them as part of a valued and meaningful life. This approach supports individuals in reshaping their relationship with trauma, rather than perceiving themselves as "damaged" or "broken".

ACT encourages individuals to confront and accept their traumatic experiences rather than suppress them. By fostering acceptance and psychological flexibility, ACT helps individuals integrate distressing emotions and memories into a broader, meaningful life narrative. The therapeutic process aims to guide those with post-traumatic experiences toward healing by promoting value-driven behavior and enhancing their sense of coherence (Aktepe et al., 2025)

One of ACT's primary objectives is to reduce distress not by eliminating painful experiences, but by helping individuals recognize, accept, and respond to them in an adaptive manner (Hayes et al., 2006). Key components such as cognitive fusion, behavioral inaction, detachment from values, and rigid self-identification have been found to mediate negative effects between sleep disturbances, depressive symptoms, and suicidal thoughts (Peltz et al., 2020). This

is particularly relevant in earthquake-affected populations, where distress can be exacerbated by loss, uncertainty, and instability. Implementing ACT in such contexts may enhance emotional resilience and facilitate psychological recovery.

1.4.2. Self-Help Plus (SH+)

Self-Help Plus (SH+), developed by the World Health Organization (WHO), is a structured, group-based psychological intervention designed to support adults experiencing psychological distress (World Health Organization, 2021). Rooted in Acceptance and Commitment Therapy (ACT), a form of Cognitive Behavioral Therapy (CBT), SH+ consists of five facilitated sessions, each focused on developing essential psychological skills to enhance resilience and well-being. By providing a cost-effective and accessible approach, SH+ empowers participants to build effective coping strategies.

In disaster-affected communities, particularly in earthquake settings, the need for scalable and evidence-based interventions is paramount. SH+ offers a structured framework to foster psychological resilience among survivors, utilizing a five-week group format to deliver support. Its effectiveness has been demonstrated through multiple randomized controlled trials (RCTs), showing significant reductions in psychological distress among adults facing moderate to severe adversity and preventing the onset of mental disorders in high-risk populations (Purgato et al., 2021; Tol et al., 2020; Acartürk et al., 2022).

Research findings indicate that SH+ contributes to reducing symptoms of common mental disorders, including depression and post-traumatic stress disorder (PTSD), while addressing personal challenges identified by participants. Additionally, SH+ has been associated with

improvements in general health, daily functioning, and subjective well-being (Purgato et al., 2021; Tol et al., 2020; Acartürk et al., 2022). These results highlight SH+ as an accessible and scalable intervention, particularly for crisis-affected populations where traditional mental health services may be limited.

Self-Help Plus (SH+) was designed to provide psychological support for adults experiencing distress, regardless of whether they meet the criteria for a formal mental health diagnosis (World Health Organization, 2021). It is particularly beneficial for individuals facing adversity in settings where access to more intensive psychological interventions may be limited due to resource constraints.

At the core of SH+ is a principle from Acceptance and Commitment Therapy (ACT), which highlights that suppressing unwanted thoughts and emotions can often intensify distress rather than alleviate it (World Health Organization, 2021). The intervention is structured around five key skills, each essential for effective stress management. Learning in SH+ is experiential, emphasizing practice and engagement. The five-session program includes:

Session 1: Developing mindful attention with curiosity and grounding techniques.

Session 2: Learning to disengage from distressing thoughts and emotions.

Session 3: Translating personal values into meaningful actions.

Session 4: Applying kindness and values-based problem-solving strategies.

Session 5: Cultivating acceptance and making space for difficult emotions and thoughts.

The facilitator of the Self-Help Plus (SH+) intervention is trained in foundational helping skills to effectively engage with participants in a group setting. These skills foster trust, confidence, and a sense of security among participants. However, facilitators do not function as therapists or provide direct advice; instead, they guide participants through a structured self-help process. Their role includes maintaining confidentiality, validating participants' experiences, and demonstrating empathy and concern. Additionally, facilitators adhere to organizational protocols and relevant guidelines for identifying and managing urgent safety concerns, including suicide risk (World Health Organization, 2021).

1.5. The current study

Delivering empirically supported psychological treatments in real-world contexts, particularly in low- and middle-income countries (LMICs), presents significant challenges (Kazdin, 2016). These interventions are often developed within academic or clinical research environments involving participants who are already seeking mental health care and share certain psychological explanatory models. However, most individuals affected by common mental disorders (CMDs) in LMICs seek help through primary health care or community platforms, where cultural beliefs, stigma, and limited access to mental health professionals further complicate delivery (Singla et al., 2017).

The World Health Organization's (WHO) Mental Health Gap Action Programme (mhGAP) underscores the importance of scalable interventions like psychological treatments for CMDs but highlights the need for adaptations that ensure feasibility and acceptability in resource-limited settings (World Health Organization, 2015). Individuals affected by trauma may feel uncomfortable sharing their distress in group settings due to stigma, privacy concerns, or cultural

norms, potentially limiting engagement and emotional safety (Singla et al., 2017). In contrast, individually delivered psychological interventions offer greater flexibility, confidentiality, and a more tailored pace, which can enhance acceptability and adherence (van Ginneken et al., 2021). Therefore, adapting SH+ for individual use aims to optimize accessibility and relevance for earthquake survivors in Türkiye, while maintaining the intervention's core therapeutic components.

The present study aims to conduct a pilot randomized controlled trial to evaluate the feasibility, acceptability and probable preliminary effectiveness of the individual version of the Self-Help Plus (SH+) intervention among earthquake survivors in Türkiye. The primary objective of the study is to assess the potential benefits of the intervention, with a particular focus on psychological distress levels experienced by the participants. Secondary outcomes were also explored, including depression, anxiety, post-traumatic stress disorder (PTSD) symptoms, psychosocial well-being, and grief. The probable effectiveness of the intervention will be evaluated by comparing pretest and posttest scores between the SH+ and the control group.

The current study hypothesizes the following:

Hypothesis 1: There will be a significant reduction in depression, anxiety, post-traumatic stress disorder (PTSD) symptoms, psychosocial impairment, and grief levels during the post-assessment compared to the pre-assessment for the SH+ group.

Hypothesis 2: The SH+ group and the control group were expected to show significant differences in depression, anxiety, post-traumatic stress, psychosocial impairment, and grief scores at the immediate posttest assessment.

Hypothesis 3: The primary outcome measure, psychological distress, will exhibit a statistically significant difference between the SH+ and control group at the immediate posttest assessment for the SH+ group.

While the SH+ intervention has been previously implemented and evaluated across various populations, its application to earthquake survivors in Türkiye remains unexplored. This study represents the first use of SH+ within the context of earthquake-affected communities, specifically targeting earthquake survivors in Hatay, Türkiye. Additionally, this study has adapted the original SH+ intervention by modifying it from a group-based to an individual format. This modification was informed by insights gathered from stakeholders in Antakya, Hatay, one of the cities most severely impacted by the earthquake. The intervention was contextually adapted based on these findings, ensuring that it aligns with the unique needs and challenges of individuals in this context.

CHAPTER 2

METHODS

2.1. Participants

The present study employed a multi-stage sampling strategy within the framework of a pilot randomized controlled trial (RCT). A total of 140 participants expressed interest in the study following its advertisement in the container cities of Hatay province. These referrals introduced elements of purposive and snowball sampling, as professionals and participants identified others fitting the inclusion criteria.

2.1.1. Eligibility Assessment

Participants were required to meet certain inclusion criteria for the study, which included being aged 18 or older, having directly experienced the earthquake, and displaying elevated psychological distress (indicated by a score exceeding 15 on the Kessler Psychological Distress Scale, K10) and impaired psychosocial functioning (indicated by a score above 16 on the WHO Disability Assessment Schedule 2.0, WHODAS 2.0). Those who did not meet these criteria or had any exclusionary conditions (e.g., severe mental health disorders or ongoing psychiatric treatment) were excluded from the study. In the case of participants requiring psychiatric consultations, they were provided with a list of active psychiatrists in the area for appropriate referral, including mobile psychiatrists and state hospitals operating within the earthquake field, ensuring timely and relevant care. For further details, see the CONSORT flow diagram (Appendix 1).

2.2. Procedure

This pilot randomized controlled trial (RCT) was conducted in Hatay province, Türkiye, targeting individuals residing in container cities following the February 2023 earthquakes. A total of 140 individuals initially expressed interest in participating, after being informed through direct phone outreach and referrals by professionals actively working in the field. Recruitment involved a systematic outreach effort, including phone calls to a large portion of residents to inform them about the study and gauge their interest. Interested individuals were invited to complete self-report questionnaires via Qualtrics on their personal electronic devices (e.g., smartphones, tablets, or computers). Field professionals further supported recruitment by identifying and referring eligible individuals who might benefit from the study. After accessing the survey link, participants first reviewed the informed consent and completed eligibility screening forms. The questionnaires assessed various aspects of psychological well-being, including past traumatic experiences, current anxiety levels, and psychosocial functioning. Data collection took place between May and September 2024, following approval from the Institutional Review Board (IRB) of Koç University (Protocol ID: 2023.292.IRB3.135). The study was also registered as a clinical trial at ClinicalTrials.gov (ID: NCT06091540), in line with institutional ethical guidelines and clinical trial registration requirements.

2.2.1. Randomization Method

Once eligibility criteria were confirmed, participants were randomly assigned to either the SH+ or control group using a block randomization method to ensure equal group sizes and balance across conditions (Schulz & Grimes, 2002). An independent researcher, not involved in participant recruitment or assessment, conducted the randomization process to minimize selection bias and

maintain allocation concealment. This approach was employed to reduce selection bias and enhance the comparability of groups throughout the study. Randomization occurred on a rolling basis as participants enrolled, with every fourth or fifth participant allocated to either the SH+ or control group within predefined blocks. To maintain confidentiality, each participant was assigned a unique identification (ID) number during the allocation process.

2.2.2. Data Collection and Attrition

Data collection occurred at two time points: baseline (pretest) and immediately following the intervention (posttest). At baseline, participants completed a battery of self-report measures via the Qualtrics platform, which assessed psychological distress, psychosocial functioning, and demographic characteristics.

The study initially recruited 140 participants, of whom 7 were excluded during the eligibility screening for various reasons: three participants required psychiatric evaluation (two had severe mental health conditions, and one presented an imminent suicide risk), two were under the age of 18, and two were actively participating in group sessions conducted by other NGOs. This resulted in a total of 133 eligible participants.

However, during the baseline assessment, a substantial number of eligible participants ($n = 81$) failed to complete the lengthy survey instruments. This attrition was likely due to participant fatigue and the perceived burden of the assessment process, leaving a final pool of 52 participants who completed the pretest.

The remaining eligible participants ($n = 52$) were randomly assigned to either the SH+ group ($n = 26$) or the control group ($n = 26$). Additional attrition continued during the intervention

phase. In the SH+ group, three participants discontinued participation for the following reasons: one participant was unable to continue due to restrictions imposed by her husband after the third session, another participant could not attend sessions due to scheduling conflicts with her work commitments after the second session, and the third participant lost contact with the facilitator without providing a specific reason after the first session. As a result, the SH+ group was left with 23 participants. In the control group, 12 participants did not complete the post-test measurement, resulting in a final sample of 14 participants. Thus, the final analysis was conducted on completers only, comprising 23 participants in the SH+ group and 14 participants in the control group.

2.3. Rationale for the Individual Delivery and Contextual Adaptation

Although SH+ was originally developed as a group-based intervention, in this study, it was delivered in an individual format. This decision was grounded in both contextual realities and participant preferences, which were shaped by the unique post-earthquake social dynamics in Hatay region. In this region, neighborhood ties and close-knit community relationships are traditionally strong protective factors. However, following the disaster, individuals were relocated to container cities without consideration of their previous neighborhoods, social connections, or kinship ties. As a result, many residents found themselves living among unfamiliar people, which disrupted the protective sense of community that had previously supported their emotional well-being.

This shift led to increased interpersonal tension and mistrust in the container settlements, where gossip and social surveillance became common. In such an environment, group sessions—where individuals are expected to share intimate personal experiences with unfamiliar others—were often perceived as uncomfortable and even unsafe. During the initial stages of the study,

participants openly expressed their reluctance to engage in group settings, describing them as emotionally risky and misaligned with their personal values or coping styles. It was anticipated that insisting on group-based delivery under these circumstances could significantly increase attrition, as participants were more likely to disengage from sessions they perceived as uncomfortable or unsafe.

In line with the contextual adaptation framework of the study, these concerns were taken seriously and informed the adaptation of the intervention format. Although a group-based delivery may have reached a larger number of participants, the individual format allowed for a more culturally sensitive, contextually feasible, and psychologically safer approach. In addition, the physical and logistical conditions in the container cities further constrained the implementation of group sessions—there were limited private communal spaces, participants had conflicting schedules, and high temperatures made it physically uncomfortable to sustain group gatherings. Therefore, prioritizing individual delivery enabled the application of the WHO-endorsed SH+ protocol in a way that respected both the structural limitations of the post-disaster setting and the expressed preferences of the affected population.

2.4. Sessions of the Individual Self-Help Plus (SH+) Intervention

To ensure cultural relevance and participant engagement, several adaptations were made to the original Self-Help Plus (SH+) intervention manual, aligning it more closely with the cultural and contextual needs of the target population. A key modification involved replacing the standardized voice recordings with facilitator-led sessions, designed to foster more active engagement and real-time interaction. This shift allowed for a more responsive and dynamic format, where facilitators could offer tailored support based on participants' evolving needs.

The decision to exclude standardized audio recordings was driven by both observed and reported limitations. During the pretest stage, high attrition rates indicated that many participants experienced difficulty sustaining attention and engaging with long self-administered assessments. In this context, expecting participants to listen to pre-recorded audio materials—delivered by an unfamiliar voice through a digital device—was not only impractical but also disconnected from the relational and embodied forms of support that participants gravitated toward. Instead, what was needed was grounding: anchoring in the here-and-now through connection, presence, and cultural familiarity.

The facilitator's live presence enabled verbal engagement, reciprocal communication, and flexibility in responding to moment-to-moment needs. Sessions frequently began with informal conversation and a shared cup of traditional Süvari coffee—a regional symbol of hospitality and connection—establishing a culturally safe and familiar rhythm. Participants were given printed visual aids to hold, mark, or use as tools to express their inner experiences. They traced sensations onto body outlines, pointed to images to describe feelings, or followed along with exercises by physically interacting with the materials. These sensory components were not peripheral but central to the effectiveness of the intervention, helping bridge the gap between abstract psychological concepts and embodied emotional realities.

The delivery of the sessions was further shaped by a contextual adaptation approach, with adaptations continuously informed by participant feedback and real-time contextual observations. This was particularly important in the post-earthquake setting of Hatay, where traditional protective factors—such as neighborhood ties and communal familiarity—had been disrupted. Participants, now relocated to container cities without regard for their prior communities, were

surrounded by unfamiliar individuals, often in cramped and highly exposed living conditions. As a result, the once-protective fabric of neighborhood life had frayed, and fear of gossip or social surveillance had taken its place. Group sessions, in this climate, were perceived as emotionally unsafe, with many expressing that discussing personal matters in front of strangers was simply not viable.

Participants openly voiced their preference for individual sessions, citing confidentiality, comfort, and emotional safety as primary reasons. Moreover, many described interpersonal tension and social fatigue resulting from the dissonance between their own values and those of unfamiliar neighbors. Given these considerations, an individual delivery format not only aligned with participants' expressed needs but also minimized the risk of dropout—allowing for deeper therapeutic engagement across a smaller, but more consistent sample.

Living conditions in the container cities also significantly influenced the intervention format. Participants frequently discussed the challenges of raising children in shared spaces, the lack of privacy, and the stark contrast between their pre-earthquake homes—which offered spacious, multi-room environments—and their current, temporary accommodations. As the facilitator was also living in a container at the time, moments of self-disclosure helped to validate and normalize these shared struggles. This strengthened rapport and created a sense of mutual understanding, which many participants explicitly identified as important to their sense of safety and trust.

Culturally relevant metaphors, language, and the self-disclosure of the facilitator when necessary were central to the psychoeducational components of the sessions. One particularly effective example was the use of the *“lion metaphor”* to normalize anxiety: participants were told

that if a lion were to enter the room, it would be entirely natural for their heart to race or breathing to accelerate—biological responses aimed at survival. However, when the body begins to respond as though there is a lion present every day, it becomes emotionally and physically exhausting. This metaphor reframed anxiety not as a flaw or weakness, but as a sign of the body's effort to protect—a perspective that reduced self-stigma and encouraged compassion toward one's own experience.

For participants living in environments marked by ongoing interpersonal stress or domestic violence—particularly in cases where husbands were reported to be emotionally or physically abusive—the metaphor was adapted further. It was introduced with the phrasing, “*but when the lion comes home every day*” to reflect the chronic nature of the threat. This adapted language allowed participants to connect the metaphor to their lived realities and gave voice to emotional and physiological responses that had previously felt confusing or shameful. It also offered a way to speak about difficult experiences indirectly, creating emotional distance while still engaging with core therapeutic content.

Similarly, to support the integration of mindfulness practices within the SH+ sessions, the facilitator regularly invited participants to engage with their environment through the lens of curiosity. One method involved drawing attention to the natural exploratory behaviors of young children. Participants who had small children were asked to describe how their children behaved in new settings—how they touched objects, moved around freely, and closely observed others. The facilitator emphasized that these actions were not the result of mischief or disobedience, but stemmed from the child's instinctive drive to explore a world they were encountering for the first time. Unlike adults, who have sat in rooms like these, drunk coffee countless times, and normalized the setting, children approach everything with fresh awareness. Participants were then gently

encouraged to adopt the same perspective: *“As we drink this coffee together, I want us to be like them—to approach this moment as if we are experiencing it for the first time.”*

For participants without children, the facilitator drew from her own experience through self-disclosure. She recounted a moment from a previous group session in which a participant had asked to bring her child, as she had no one to watch her. The child had attended the session and was initially perceived as disruptive—grabbing visual aids, placing items in her mouth, and interrupting conversations. The facilitator admitted to feeling frustrated at the time, believing that the child’s presence was interfering with the structure of the session. However, she later came to understand that the child was not being difficult, but simply doing what children do—exploring their surroundings with full attention and presence. Sharing this realization with participants served a dual purpose: it validated the everyday experiences of caregiving and offered a relatable metaphor for approaching mindfulness not as a discipline, but as a natural state of openness, non-judgment, and gentle attention.

As the sessions progressed, participant-generated metaphors were also integrated into the intervention. In one session, a participant described the earthquake's aftermath as akin to *“a messy house with unexpected guests”*—explaining that the destruction made her feel ashamed, as if someone had arrived unannounced while everything was in disarray. This metaphor resonated with other participants in later sessions, and the facilitator began incorporating it flexibly to help express emotions of shame, helplessness, and loss of control. This approach—grounded in the real language and imagery of participants—served as a powerful therapeutic tool for articulating complex emotional states.

Furthermore, the intervention was adapted to account for somatic and behavioral expressions of distress, both of which were prevalent among participants. Many reported physical symptoms such as chronic neck pain, tension, and fatigue—manifestations often tied to psychological stress. These experiences were addressed through body-awareness and grounding exercises, which helped participants recognize these sensations as part of their emotional landscape rather than isolated medical issues.

In addition to somatic symptoms, several participants reported a noticeable increase in tobacco use as a way of managing emotional overwhelm. Tobacco was described not only as a habitual coping mechanism but also as one of the few accessible forms of personal relief in the highly restrictive conditions of container living. Rather than pathologizing this behavior, the facilitator approached it with empathy—acknowledging its function in providing short-term regulation, while also gently introducing reflection around its long-term effects. Psychoeducation was provided on the connection between stress, avoidance strategies, and substance use, allowing participants to explore alternative coping methods that aligned more closely with their values and health goals.

Beyond the structured content, the relational and environmental dynamics of the sessions played a vital therapeutic role. Many participants arrived emotionally overwhelmed, fatigued, and in states of psychological hypervigilance—some bordering on dissociation. In such a vulnerable state, consistent, humanizing gestures were essential. Welcoming participants at the doorstep with a warm smile and saying goodbye in the same caring manner created a ritual akin to traditional house visits—an everyday practice disrupted by the earthquake but deeply familiar and

comforting. These simple, consistent acts of presence and hospitality helped reinstate a sense of safety, dignity, and belonging.

Importantly, the sample in this study largely consisted of individuals who, both culturally and historically, were more accustomed to giving care than receiving it. For many, being received with kindness, offered a cup of handmade coffee, and listened to attentively and non-judgmentally was unfamiliar but profoundly meaningful. The facilitator's embodied presence—attentive, compassionate, and grounded—provided more than psychological support: it offered participants a renewed experience of being cared for. This shift, from caregiver to cared-for, contributed significantly to the therapeutic depth of the intervention.

In summary, the adaptations made to the SH+ intervention—ranging from structural shifts and cultural metaphors to embodied presence and individualized delivery—preserved its core therapeutic principles while ensuring that it remained emotionally accessible, socially attuned, and contextually effective in post-disaster Hatay (for descriptions of session content refer to Appendix 2).

2.5. Measures

2.5.1. Demographic Information

Demographic information was collected to better understand the participants' backgrounds and experiences related to the February 6, 2023, earthquake in Kahramanmaraş. Participants provided details on their age, gender, education status, marital status, and various experiences related to the earthquake (see Appendix 3). Specifically, they were asked about their prior exposure to traumatic events such as severe earthquakes, natural disasters, accidents, or gender-based

violence. Information was also gathered about their history of psychiatric conditions, previous psychological treatment, and whether they were located in one of the affected cities during the earthquake. In addition, participants were asked about the damage to their homes or surrounding infrastructure, physical injuries sustained during the earthquake, and any related medical treatment.

Further questions addressed the losses participants experienced, such as the loss of loved ones, homes, jobs, or financial assets, as well as their feelings of guilt or shame related to surviving the disaster. They were also asked whether they were able to perform cultural or religious rituals following the loss of a loved one, and whether they sought psychological support or assistance after the earthquake. Lastly, the survey addressed the financial difficulties participants encountered as a result of the disaster (see Appendix 4).

2.5.2. Psychological Distress

The extent of psychological distress experienced by the participants was assessed using the Kessler Psychological Distress Scale (K10) (Kessler et al., 2002). The K10 is a 10-item scale designed to measure psychological distress, with responses ranging from 1 (none of the time) to 5 (all of the time). Scores on the K10 range from 10 to 50, with higher scores indicating greater psychological distress. A score exceeding 15 was used as a key indicator of significant psychological distress, and participants who scored above this threshold were included in the study. The K10 includes questions such as *"During the last 30 days, about how often did you feel worthless?"* and *"During the last 30 days, about how often did you feel restless or fidgety?"*. The reliability of the Turkish version of the K10 was reported with a Cronbach's alpha of 0.95 for the Turkish sample (Altun et al., 2019), while the Cronbach's alpha for the entire measure was 0.93

(Kessler et al., 2002). The total score from this scale served as both a primary outcome measure and a criterion for participant inclusion in the study (see appendix 5).

2.5.3. Daily functioning

The WHO Disability Assessment Schedule 2.0 (WHODAS 2.0) is a 12-item assessment tool developed by the World Health Organization to evaluate health and disability across different cultures in adult populations. WHODAS 2.0 assesses difficulties in daily functioning due to health conditions, including diseases, illnesses, injuries, mental or emotional problems, and issues related to alcohol or drug use. Each item is scored from 0 (none) to 4 (extreme), resulting in a total score ranging from 0 to 48. Higher scores reflect greater difficulties in daily functioning. The WHODAS 2.0 includes questions such as, *"In the past 30 days, how much difficulty did you have in standing for long periods such as 30 minutes?"* and *"In the past 30 days, how much difficulty did you have in taking care of your household responsibilities?"*. The Cronbach's alpha for the entire measure was reported as 0.98 (World Health Organization, 2010). In a Turkish clinical sample, the reliability of the general disability scores of the 12-item WHODAS 2.0 was found to be high, with Cronbach's alpha values ranging from 0.90 to 0.97 (Kunt & Dereboy, 2018). The total score from this scale served as a criterion for participant inclusion in the study (see appendix 6).

2.5.4. Depression

The Patient Health Questionnaire-9 (PHQ-9) is a 9-item questionnaire used to assess and quantify the severity of depressive symptoms in participants. Each item is scored on a scale from "0" (not at all) to "3" (nearly every day), resulting in a total severity score ranging from 0 to 27. Higher scores indicate more severe depressive symptoms. The PHQ-9 includes items such as,

"Over the past two weeks, how often were you bothered by feeling down, depressed, or hopeless?" and *"Over the past two weeks, how often were you bothered by poor appetite or overeating?"*. The Turkish version of the PHQ-9 has been shown to have a Cronbach's alpha of 0.84 (Sari et al., 2016), while the Cronbach's alpha for the entire measure is 0.89 (Kroenke et al., 2001). This measure was used to evaluate the level of depressive symptoms in participants (see appendix 7).

2.5.5. Generalized Anxiety

The Generalized Anxiety Disorder Assessment (GAD-7) is a 7-item self-report measure designed to assess the severity of general anxiety symptoms. Each item is scored from 0 (not at all) to 3 (nearly every day), resulting in a total score ranging from 0 to 21. Higher scores indicate higher levels of anxiety symptoms. The GAD-7 includes items such as, *"Over the past two weeks, how often have you been bothered by feeling nervous, anxious, or on edge?"* and *"Over the past two weeks, how often have you been bothered by not being able to stop or control worrying?"*. The internal consistency of the GAD-7 was found to be high, with a Cronbach's alpha of 0.89 reported for the original scale in the study by Löwe et al. (2008), while the Turkish adaptation demonstrated a Cronbach's alpha of 0.85 (Konkan et al., 2013) (see appendix 8).

2.5.6. Post-Traumatic Stress

The PTSD Checklist for DSM-5 (PCL-5) is a 20-item self-report questionnaire designed to assess the severity of post-traumatic stress disorder (PTSD) symptoms. Each item is scored from 0 (not at all) to 4 (extremely), resulting in a total score ranging from 0 to 80. Higher scores reflect greater levels of PTSD symptoms. The PCL-5 includes items such as *"In the past month, how much were you bothered by repeated, disturbing, and unwanted memories of the stressful*

experience?" and *"In the past month, how much were you bothered by feeling very upset when something reminded you of the stressful experience?"*. Internal consistency for the PCL-5 total scale score has been reported to range between 0.83 and 0.97 (Forkus et al., 2023), while the Turkish adaptation demonstrated a Cronbach's alpha of 0.94 (Boysan et al., 2017) (see appendix 9).

2.5.7. Prolonged Grief

The PG-13 is a 13-item scale designed to assess prolonged grief disorder. For items 1, 2, 4, and 5, respondents rate their experiences on a frequency scale, with options ranging from "not at all" to "several times a day," scored from 1 to 5. Items 6 to 12 are rated on an intensity scale, where respondents assess their experiences from "not at all" to "overwhelmingly," also scored from 1 to 5. The Turkish version of the PG-13 has a Cronbach's alpha of 0.90 (Işıklı et al., 2020), while the reliability of the scale in general ranges from good to excellent, with Cronbach's alpha values between 0.84 and 0.92 (Szuhany et al., 2021). The PG-13 includes items such as, *"Do you feel emotionally numb since your loss?"* and *"Do you feel that life is unfulfilling, empty, or meaningless since your loss?"* (see appendix 10).

2.5.8. Suicide Risk Assessment

Suicidal ideation was assessed using a brief structured question designed to sensitively screen for thoughts of self-harm or suicide among participants (World Health Organization, 2016). This assessment was conducted following participants' responses to items measuring emotional distress. The item begins with a standardized introduction acknowledging that people may experience emotional pain or hopelessness and that it is not uncommon to have thoughts related to

death or dying. Participants were then asked whether they felt comfortable answering a series of questions about such thoughts. This step was included to ensure participant safety and to determine the necessity of clinical follow-up for those indicating risk. Participants who indicated significant risk were referred for further psychiatric evaluation or crisis support in accordance with ethical research and clinical guidelines. Referrals were made to professionals from the Ministry of Family and Social Services working in container cities, as well as the nearest state hospitals that were actively providing psychiatric services at the time. This procedure ensured that individuals at acute risk were not included in the intervention phase of the study and instead received appropriate care (see Appendix 11).

2.6. Statistical analyses

To test the hypotheses of this study, a repeated measures multivariate analysis of variance (MANOVA) was conducted using R Studio to simultaneously assess changes across the outcome variables. When significant multivariate effects were observed, follow-up pairwise comparisons were performed to examine pre-post differences in each outcome individually (Field, 2018).

Given the relatively small sample size, Bonferroni corrections were initially applied to control for Type I error inflation in multiple comparisons; however, recognizing that Bonferroni adjustments can be overly conservative in small samples, additional pairwise comparisons were conducted using the Benjamini-Hochberg procedure to control the false discovery rate. All analyses were performed in R. Statistical significance was set at $p < .05$ for all tests

CHAPTER 3

RESULTS

3.1. Preliminary Analyses

All statistical analyses were conducted using IBM SPSS Statistics (Version 28) and R (Version 4.2.2). SPSS was used for descriptive statistics, reliability analyses, and baseline comparisons using independent samples *t*-tests and chi-square tests. Repeated measures multivariate analyses of variance (MANOVA) and follow-up comparisons were conducted in R (Version 4.2.2). To control for the false discovery rate, post hoc comparisons were adjusted using the Benjamini–Hochberg procedure.

Descriptive statistics were calculated for all study variables at baseline. Scores on the Patient Health Questionnaire (PHQ-9) ranged from 5 to 28 ($M = 12.07$, $SD = 5.90$). Scores on the Kessler Psychological Distress Scale (K10) ranged from 15 to 50 ($M = 31.12$, $SD = 8.50$), and scores on the Generalized Anxiety Disorder scale (GAD-7) ranged from 0 to 21 ($M = 8.85$, $SD = 5.90$). For secondary outcomes, scores on the World Health Organization Disability Assessment Schedule (WHODAS 2.0) ranged from 20 to 53 ($M = 35.30$, $SD = 9.28$), scores on the Prolonged Grief Disorder scale (PG-13) ranged from 18 to 55 ($M = 34.90$, $SD = 9.85$), and posttraumatic stress symptoms measured by the PCL-5 ranged from 9 to 69 ($M = 39.00$, $SD = 19.00$). In terms of sample characteristics, the mean age of the final sample was 35.84 years ($SD = 9.86$), with ages ranging from 18 to 65. The control group had a mean age of 32.86 ($SD = 7.45$), while the SH+ group had a mean age of 37.65 ($SD = 10.83$). In terms of marital status, the majority of participants were married (70.3%), followed by those who were single (10.8%), divorced (10.8%), or reported having a partner (8.1%). Regarding educational attainment, 24.3% of the participants had

completed only elementary school, 37.8% had graduated from high school, and 37.8% had completed a university education.

Baseline comparisons between the experimental (SH+) and control groups were conducted to examine equivalence before the intervention. An independent samples *t*-test showed no significant difference in age between the groups, $t(35) = -1.46, p = .15$. The SH+ group ($M = 37.65, SD = 10.83$) was slightly older than the control group ($M = 32.86, SD = 7.45$). Chi-square tests revealed no significant group differences in terms of the education level, $\chi^2(2, N = 37) = 0.25, p = .88$, or marital status of the participants, $\chi^2(3, N = 37) = 1.71, p = .64$. To assess whether the intervention ($n = 23$) and control ($n = 14$) groups differed at baseline in their earthquake-related experiences, a series of Pearson's chi-square tests were conducted. The results indicated no statistically significant differences between the groups for any of the following variables: building damage, $\chi^2(1, N = 37) = 1.15, p = .28$; physical injury, $\chi^2(1, N = 37) = 1.34, p = .25$; loss of a family member, $\chi^2(1, N = 37) = 0.28, p = .87$; feeling understood in their pain, $\chi^2(1, N = 37) = 0.32, p = .58$; ability to perform mourning rituals, $\chi^2(1, N = 37) = 0.09, p = .77$; and feelings of guilt or shame, $\chi^2(1, N = 37) = 0.16, p = .90$. These results suggest that participants in the intervention and control groups were comparable at baseline with respect to their experiences related to the earthquake as well as the sample characteristics.

Baseline psychological symptoms did not differ significantly between the SH+ and control groups. There were no significant differences in depression (PHQ-9), $t(35) = -0.01, p = .994$; psychological distress (K10), $t(35) = 0.06, p = .950$; anxiety (GAD-7), $t(35) = -0.50, p = .622$; functional impairment (WHODAS), $t(35) = -0.82, p = .417$; grief (PG-13), $t(35) = 0.28, p = .782$; or posttraumatic stress (PCL-5), $t(35) = -1.36, p = .171$. These results indicate that the groups were

statistically comparable across sociodemographic, trauma-related, and psychological variables prior to intervention.

3.2. Normality and Assumption Testing

Shapiro-Wilk tests confirmed that most scale scores met the assumption of normality. Specifically, K10 ($W = 0.991, p = .989$), WHODAS ($W = 0.965, p = .315$), and PG-13 ($W = 0.969, p = .399$) were normally distributed. PHQ-9 ($W = 0.901, p = .004$) and PCL-5 ($W = 0.931, p = .026$) showed departures from normality, while GAD-7 ($W = 0.941, p = .053$) was marginally non-normal. Despite these deviations, Box's Test of Equality of Covariance Matrices was not significant, *Box's M* = 33.96, $F(28, 2201.47) = 0.90, p = .62$, indicating that the assumption of homogeneity of covariance matrices was met. Given that MANOVA is relatively robust to moderate violations of normality, particularly with approximately equal group sizes, the multivariate analysis proceeded (Tabachnick & Fidell, 2019).

3.3. Main Analyses

Due to software accessibility and for more flexible data handling, all subsequent multivariate analyses, including the MANOVA and related post-hoc tests, were conducted using R. The R environment allowed for more detailed diagnostic checks and visualization of the results while maintaining consistency with the initial SPSS analyses (R Core Team, 2022).

Given the relatively small sample size, Bonferroni adjustments for multiple comparisons may be overly conservative. Therefore, pairwise comparisons were also conducted using a less conservative adjustment method, the Benjamini-Hochberg procedure, to control the false discovery rate. Additionally, standardized effect sizes were calculated to provide more meaningful

interpretations beyond significance tests, which may be limited by low statistical power (Benjamini & Hochberg, 1995).

A repeated measures Multivariate Analysis of Variance (MANOVA) was conducted in R (Version 4.2.2) to examine the effects of condition (SH+ vs. control), time (pre vs. post), and their interaction on six outcome variables: PHQ-9, K10, GAD-7, WHODAS, PG-13, and PCL-5. The multivariate interaction between time and condition (Condition X Time) was statistically significant, *Pillai's Trace* = 0.182, $F(6, 65) = 2.41$, $p = .037$, indicating that the change in symptoms over time differed by group.

3.4. Hypothesis 1: Within-Group Changes in the Experimental Condition

Hypothesis 1 posited that participants in the experimental condition would report significant reductions in depression, anxiety, PTSD symptoms, psychosocial impairment, and grief from pre- to post-assessment. To test this hypothesis, a series of repeated measures analyses of variance (MANOVAs) were conducted for each outcome within the experimental group.

To further explore the significant interaction, univariate analyses were conducted for each outcome measure separately, followed by post hoc pairwise comparisons to clarify which specific measures contributed to this interaction. Given the relatively small sample size, the Benjamini-Hochberg procedure was used to control for the false discovery rate in post hoc testing (Benjamini & Hochberg, 1995).

Participants' depressive symptoms were measured using the Patient Health Questionnaire (PHQ). The mean score at pre-intervention was $M = 12.27$, $SD = 4.55$, and at post-intervention was $M = 9.32$, $SD = 5.66$, indicating a decrease in symptoms following the SH+ intervention. A

post hoc pairwise comparison revealed that this reduction was statistically significant, $t(35.00) = 2.24$, $p = .047$, with an estimated mean difference of 2.83 ($SE = 1.26$), after applying the Benjamini–Hochberg correction.

Participants reported their overall psychological distress using the Kessler Psychological Distress Scale (K10). The mean pre-intervention score was $M = 31.27$, $SD = 6.37$, and the post-intervention score was $M = 26.82$, $SD = 8.47$, reflecting a reduction in psychological distress levels after completing the SH+ intervention. However, the post hoc pairwise comparison from pre- to post-assessment within the SH+ group indicated that this change was not statistically significant after Benjamini-Hochberg correction, $t(35.00) = 2.17$, $p = .110$, with an estimated mean difference of 4.26 ($SE = 1.96$).

Symptoms of generalized anxiety were assessed using the Generalized Anxiety Disorder 7-item scale (GAD-7). At pre-intervention, the mean score was $M = 9.36$, $SD = 4.94$, and at post-intervention, the mean was $M = 5.14$, $SD = 3.55$, indicating a decrease in anxiety symptoms. A post hoc pairwise comparison indicated a statistically significant reduction in anxiety symptoms, $t(35.00) = 3.78$, $p = .002$, with an estimated mean difference of 4.00 ($SE = 1.06$), after applying the Benjamini-Hochberg correction.

Functional impairment was assessed using the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0). The mean pre-intervention score was $M = 36.50$, $SD = 6.93$, and the post-intervention score was $M = 35.64$, $SD = 7.92$, suggesting a slight decrease in functional impairment following the SH+ intervention. However, the post hoc pairwise comparison revealed no statistically significant change, $t(35.00) = 0.56$, $p = .580$, with an estimated mean difference of 0.86 ($SE = 1.54$), after applying the Benjamini-Hochberg correction.

Prolonged grief symptoms were evaluated using the Prolonged Grief-13 (PG-13) scale. The pre-intervention mean score was $M = 35.09$, $SD = 9.05$, and the post-intervention score was $M = 29.64$, $SD = 8.06$, indicating a decrease in grief symptoms after the intervention. The post hoc pairwise comparison within the SH+ group demonstrated a statistically significant reduction in prolonged grief symptoms, $t(35.00) = 3.26$, $p = .010$, with an estimated mean difference of 5.45 ($SE = 1.67$), after applying the Benjamini-Hochberg correction.

Post-traumatic stress symptoms were measured using the PTSD Checklist for DSM-5 (PCL-5). The mean pre-intervention score was $M = 45.64$, $SD = 15.35$, and the post-intervention score was $M = 31.09$, $SD = 18.42$, indicating a notable decrease in PTSD symptoms after the SH+ intervention. The post hoc pairwise comparison showed a statistically significant reduction, $t(35.00) = 3.40$, $p = .005$, with an estimated mean difference of 13.87 ($SE = 4.08$), after applying the Benjamini-Hochberg correction. These results provide partial support for Hypothesis 1, suggesting that the intervention was particularly effective in reducing general distress, depression, and PTSD symptoms within the experimental group.

3.5. Hypothesis 2: Between-Group Differences at Post-Assessment

To evaluate the second hypothesis—that the experimental and control conditions would differ significantly at post-assessment in depression, anxiety, post-traumatic stress, psychosocial functioning, and grief—post hoc pairwise comparisons were conducted using estimated marginal means. These comparisons specifically examined differences between the two conditions at Time 2 (posttest), following a significant time $\times$ group interaction. To account for multiple comparisons, the Benjamini-Hochberg procedure was applied to control the false discovery rate.

The results revealed statistically significant differences favoring the experimental condition across several key psychological outcomes. For depressive symptoms (PHQ-9), the experimental group demonstrated a reduction in scores from pretest ($M = 12.27$, $SD = 4.55$) to posttest ($M = 9.32$, $SD = 5.66$), whereas the control group exhibited an increase (pretest $M = 12.31$, $SD = 7.26$; posttest $M = 17.00$, $SD = 5.72$). The between-group difference at posttest was statistically significant, $B = 7.45$, $SE = 1.89$, $t(59.8) = 3.94$, $p = .001$. A similar pattern emerged for anxiety symptoms (GAD-7), with the experimental group showing a decrease from 9.36 ($SD = 4.94$) to 5.14 ($SD = 3.55$), while the control group increased from 8.15 ($SD = 6.96$) to 12.46 ($SD = 5.67$), $B = 6.77$, $SE = 1.72$, $t(56.1) = 3.94$, $p = .001$.

For psychological distress (K10), the experimental group improved from pretest ($M = 31.27$, $SD = 6.37$) to posttest ($M = 26.82$, $SD = 8.47$), while the control group experienced a slight increase ($M = 31.31$, $SD = 10.46$ to $M = 33.46$, $SD = 10.21$). Although the estimated difference at posttest was sizable ($B = 7.15$, $SE = 2.86$, $t(61.2) = 2.50$), it did not reach statistical significance after correction ($p = .092$). Similarly, for psychosocial functioning (WHODAS), the experimental group remained stable ($M = 36.50$ to $M = 35.64$), while the control group showed deterioration ($M = 34.00$ to $M = 39.23$), but the difference was not statistically significant ($B = 3.59$, $SE = 2.53$, $t(61.4) = 1.42$, $p = .480$).

Grief symptoms (PG-13) declined in the experimental group ($M = 35.09$ to $M = 29.64$) and slightly increased in the control group ($M = 35.77$ to $M = 36.92$), yet the between-group difference at posttest was not statistically significant ($B = 6.86$, $SE = 3.23$, $t(53.7) = 2.13$, $p = .114$). Finally, post-traumatic stress symptoms (PCL-5) demonstrated a robust and significant difference in favor of the experimental group. While the experimental group showed substantial improvement from

pretest ($M = 45.64$, $SD = 15.35$) to posttest ($M = 31.09$, $SD = 18.42$), the control group's symptoms worsened ($M = 34.08$, $SD = 21.62$ to $M = 51.38$, $SD = 15.79$), $B = 21.16$, $SE = 6.03$, $t(60.6) = 3.51$, $p = .005$. Overall, the results provide foundational support for the second hypothesis. Statistically significant post-assessment differences were found between the experimental and control groups for depressive symptoms, anxiety, and post-traumatic stress, even after applying the Benjamini-Hochberg correction.

3.6. Hypothesis 3: Group Differences in the Primary Outcome – Psychological Distress

Hypothesis 3 posited that the primary outcome, psychological distress (K10), would differ significantly between the experimental and control groups at the immediate post-assessment.

Although the experimental group demonstrated a reduction in psychological distress from pretest ($M = 31.27$, $SD = 6.37$) to posttest ($M = 26.82$, $SD = 8.47$), and the control group showed an increase from pretest ($M = 31.31$, $SD = 10.46$) to posttest ($M = 33.46$, $SD = 10.21$), the post-assessment between-group difference did not reach statistical significance following multiple comparison correction ($B = 7.15$, $SE = 2.86$, $t(61.2) = 2.50$, $p = .092$). Thus, Hypothesis 3 was not supported, although the direction of change was consistent with expectations and suggests a potentially meaningful, albeit non-significant, trend favoring the experimental group.

CHAPTER 4

DISCUSSION

4.1. Aim of the Study & Summary of Findings

This pilot randomized controlled trial (RCT) sought to evaluate the feasibility, acceptability, and preliminary effectiveness of an individually delivered Self-Help Plus (SH+) intervention tailored for adult earthquake survivors residing in container cities in Hatay, Türkiye. Originally designed by the World Health Organization as a low-intensity, group-based intervention for populations exposed to adversity, SH+ was adapted in this study for individual delivery in response to the unique challenges of the post-earthquake context. Participant preference, fluctuating participant availability, and cultural factors that made one-on-one interaction a more appropriate and acceptable format.

The study specifically aimed to investigate whether the SH+ intervention could be adapted for one-on-one delivery in a post-disaster context, while also resulting in reductions of psychological distress, depression, anxiety, posttraumatic stress, prolonged grief, and psychosocial impairment in a disrupted, resource-limited environment.

The results of this study offer important insights into the adaptability and therapeutic potential of the SH+ protocol when implemented in an individual format. While the decision to deliver the intervention individually was initially shaped by logistical constraints in the aftermath of the earthquake—such as limited space, privacy concerns, and strained resources—it also aligned with participant preferences and cultural considerations. Research conducted in post-disaster humanitarian contexts has highlighted similar barriers to group-based interventions, including overcrowding, lack of confidentiality, and heterogeneous group composition, which may reduce perceived safety and hinder engagement (Tol et al., 2011; Ventevogel et al., 2015). In this context,

many participants reported feeling more comfortable and secure during one-on-one sessions, which likely contributed to greater engagement and the observed improvements in psychological outcomes. These findings suggest that, particularly in complex post-disaster settings, individually delivered interventions like SH+ can be both feasible and more acceptable to participants, enhancing their potential for effectiveness.

This individualized adaptation of SH+ was implemented using a contextual adaptation approach, in which the lived experiences, needs, and preferences of participants were actively integrated into both the structure and delivery of the intervention. This approach enhanced the intervention's cultural sensitivity and contextual relevance, particularly through the use of local metaphors, familiar imagery, and flexible pacing that respected the rhythms of life in temporary housing conditions. The process of contextual adaptation also fostered a sense of ownership and agency among participants, potentially strengthening the intervention's psychological impact.

4.2. Interpretations of Findings

The results of this study offer important insights into the adaptability and therapeutic potential of the SH+ protocol when applied in individual sessions. The findings of this pilot randomized controlled trial demonstrate both the feasibility and preliminary effectiveness of the individually delivered SH+ intervention for earthquake-affected adults. A series of analyses were conducted to evaluate pre- to post-intervention changes. Within the SH+ group, participants showed statistically significant reductions in depressive symptoms, anxiety, post-traumatic stress, and prolonged grief from baseline to post-assessment, indicating that the adapted SH+ intervention had a meaningful impact on key psychological symptoms.

Furthermore, when outcomes were compared between the SH+ and control conditions at post-assessment, participants who received the SH+ intervention demonstrated significantly

greater reductions in depressive symptoms, anxiety symptoms, and post-traumatic stress symptoms relative to those who were in the control condition. These between-group differences provide compelling preliminary evidence for the effectiveness of the individualized SH+ format in reducing psychological symptoms in a disaster-affected population.

While the intervention did not yield statistically significant changes in psychological distress (K10) and functional impairment (WHODAS 2.0), an important trend was observed: the control group exhibited a deterioration in these outcomes over time, whereas participants in the SH+ group showed improvement, even if these did not reach conventional levels of statistical significance. This divergence suggests that the SH+ intervention may have a protective effect in buffering against worsening psychological and functional outcomes in the face of ongoing post-disaster stressors.

The observed reductions in depression, anxiety, post-traumatic stress, and grief symptoms in this study align with a growing body of literature supporting the effectiveness of Self-Help Plus (SH+) across diverse crisis-affected populations. For instance, Tol et al. (2018) demonstrated that a guided self-help format of SH+ significantly reduced psychological distress among South Sudanese female refugees in Uganda, while Purgato et al. (2021) further confirmed SH+'s effectiveness among Syrian and Afghan refugees, underscoring its scalability and suitability for low-resource humanitarian settings. Adding to this, Acartürk et al. (2022) found that low-intensity SH+ intervention was effective in reducing distress and improving mental health among Syrian refugees in Türkiye—reinforcing the applicability of such models within the Turkish context. The current study builds on this evidence by applying an individually delivered SH+ format tailored for earthquake-affected Turkish women. These findings suggest that individualized SH+ may offer

a scalable, culturally attuned solution for psychosocial support in post-disaster humanitarian settings.

The current study meaningfully extends this evidence base and is among the first to apply SH+ in an individualized delivery format, diverging from the group-based models predominantly used in earlier trials. The intervention was culturally and contextually adapted to meet the unique sociocultural, logistical, and gender-specific needs of earthquake-affected Turkish women, who are often at increased risk for distress following large-scale disasters.

However, while the intervention led to marked improvements in psychological symptoms, functional recovery did not show statistically significant change. This pattern mirrors findings in the broader literature, where functional outcomes following psychosocial interventions in disaster contexts remain mixed. In the context of post-disaster interventions, improvements in functionality are often contingent upon not only psychological recovery but also the restoration of environmental and social structures. Harpham et al. (2020) emphasize that successful mental health outcomes require addressing broader social determinants such as housing stability, employment, and community support, which are frequently disrupted in disaster-affected populations. Similarly, Moore et al. (2019) discuss the challenges of measuring functional recovery in humanitarian contexts, noting that disability assessment tools must capture the complex interplay between psychological symptoms and ongoing environmental stressors. These findings highlight that psychological symptom improvement alone may not translate immediately into functional gains, particularly when survivors face persistent social and infrastructural adversities.

While numerous studies report significant reductions in psychological symptoms such as depression, anxiety, and posttraumatic stress, improvements in functional outcomes—particularly those related to daily living activities and community participation—are less consistently observed

(Tol et al., 2011; Harpham et al., 2020). This divergence may be attributed to the enduring impact of contextual stressors, including damaged infrastructure, housing instability, limited access to essential services, and disruptions in social networks, which psychological interventions alone are often not equipped to resolve. Consequently, the narrow timeframes of most studies may fail to capture the slower, multidimensional trajectory of functional recovery that extends beyond symptom remission and requires the restoration of broader environmental and social systems (Moore et al., 2019).

In the case of the SH+ intervention in Hatay, participants continued to reside in container settlements with limited access to resources, employment opportunities, and social support systems. These ongoing adversities likely contributed to the sustained levels of functional impairment observed, despite reductions in psychological symptoms. The impairment in functionality encompass broader aspects of daily functioning, may thus reflect the enduring impact of environmental and social factors that extend beyond the scope of the SH+ intervention.

In terms of psychological distress experienced by the participants, the K10 is a widely used screening tool that measures psychological distress, capturing symptoms of anxiety and depression experienced over the past four weeks. In the context of this study, the SH+ intervention was designed to address specific psychological symptoms through structured self-help strategies. Although participants reported significant improvements in targeted areas such as depression and anxiety, the psychological distress scores did not reflect a statistically significant change.

The timing of the post-intervention assessment may have influenced these results. Given that the K10 assesses distress over the preceding month, any fluctuations in participants' experiences during this period could have mitigated the perceived benefits of the intervention. This

temporal sensitivity underscores the importance of considering the broader context and timing when interpreting changes in general distress measures.

4.3. Strengths & Limitations

One of the key strengths of this study lies within its contextual and cultural adaptation of the SH+ protocol through a contextual adaptation approach grounded in lived experience. This process ensured that the intervention was not only linguistically accurate but also resonant with the sociocultural realities of Turkish earthquake survivors, particularly women residing in temporary container housing. Such adaptation enhances the ecological validity of the intervention, increasing the likelihood that participants found the content relatable, relevant, and respectful of their experiences. Another notable strength is the use of multiple validated outcome measures across key psychological domains—including depression, anxiety, post-traumatic stress, grief, psychological distress, and functional impairment—which allowed for a nuanced and comprehensive assessment of symptom trajectories. This multidimensional evaluation strengthened the internal validity of the findings and provided a more holistic picture of participant wellbeing.

Furthermore, the implementation of the intervention in an innovative individual format addressed a critical gap in the literature and responded directly to ethical, logistical, and cultural challenges often associated with group-based mental health interventions in humanitarian settings. By delivering SH+ individually, the study ensured greater flexibility, privacy, and engagement, thereby improving both feasibility and participant retention. These strengths collectively highlight the study's contribution not only to the evidence base for SH+ but also to broader efforts in developing adaptable, trauma-informed interventions for populations affected by natural disasters.

Despite the strengths outlined above, several limitations should be acknowledged to contextualize the findings of this pilot study. Foremost among these is the small sample size, which limits the statistical power of the analyses and constrains the generalizability of the results. This limitation, however, must be understood within the context of conducting research with a highly traumatized population in a post-disaster setting. Many potential participants faced significant psychological distress, impaired concentration, and logistical barriers—such as unstable living conditions or caregiving responsibilities—that impeded their ability to engage consistently in research activities. This is further reflected in the high attrition observed during the baseline assessment phase, which reduced the final sample size despite considerable outreach and flexibility in scheduling. Such challenges underscore the need for adaptive, trauma-informed recruitment and retention strategies in future studies.

Additionally, the absence of a long-term follow-up restricts conclusions about the durability of intervention effects beyond the immediate post-assessment period, highlighting the importance of future longitudinal evaluations. Finally, while the study intentionally focused on women due to their heightened vulnerability and centrality in post-earthquake psychosocial programming, the resulting gender imbalance limits the generalizability of findings to other groups. Not only were men underrepresented, but individuals with diverse gender identities beyond the female category were also not adequately included. This shortcoming points to the need for future studies to adopt more inclusive sampling strategies to ensure that mental health interventions are responsive to the full spectrum of gender identities in disaster-affected populations. Nonetheless, these limitations are balanced by the study's clinical significance, feasibility insights, and contribution to the development of culturally tailored interventions in humanitarian emergencies.

4.4. Clinical Implications

The findings of this study offer several important clinical implications for the design and delivery of psychosocial interventions in post-disaster settings. First, the success of the individually delivered Self-Help Plus (SH+) format suggests that low-intensity, scalable interventions can be effectively tailored to meet the cultural, ethical, and logistical demands of complex humanitarian contexts. In situations where group-based interventions are not feasible—due to gender norms, stigma, displacement, or safety concerns—individual delivery may offer a viable, dignifying alternative that maintains therapeutic integrity while respecting local realities.

Second, embedding psychological content within local idioms, rituals, and culturally salient metaphors can significantly enhance emotional safety and participant engagement. In this study, the integration of hospitality practices such as sharing traditional coffee transformed manualized sessions into meaningful therapeutic encounters. These practices fostered a sense of mutual recognition, dignity, and shared humanity—key components in establishing trust and psychological safety among individuals who have experienced profound loss and disruption.

Third, the study underscores the importance of flexibility in the implementation of manualized interventions. Psychological first aid and structured self-help programs must be adaptable to the lived experiences of participants, particularly in environments marked by instability, grief, and ongoing adversity. Rigid adherence to standardized formats may undermine therapeutic responsiveness; by contrast, tailoring content and delivery in dialogue with participants can promote relevance and resonance.

Finally, the findings point to the potential of leveraging trained lay providers or community health workers, especially those who share lived experiences with the target population. Such individuals may be uniquely positioned to deliver trauma-informed care in a relationally attuned manner, bridging the gap between clinical frameworks and community realities. Their involvement not only enhances accessibility but also fosters a sense of solidarity and empowerment within affected communities.

Taken together, these insights advocate for an approach to post-disaster mental health care that is flexible, culturally embedded, and rooted in principles of human connection and co-creation. The individualized SH+ model, as tested in this study, offers a promising blueprint for such care.

4.5. Conclusion

This pilot randomized controlled trial offers preliminary but compelling evidence that an individually delivered Self-Help Plus (SH+) intervention—adapted through contextual adaptation and culturally grounded techniques—can effectively reduce symptoms of depression, anxiety, post-traumatic stress, and grief among adult earthquake survivors in Türkiye. These findings highlight the feasibility and promise of trauma-informed, flexible, and community-embedded approaches in post-disaster mental health care.

By centering emotional safety, cultural resonance, and participant agency, this study illuminates a promising pathway toward scalable and sustainable psychosocial support—one that views survivors not merely as recipients of care, but as active agents in their recovery. The individualized SH+ format did more than deliver a manualized intervention; it created therapeutic

encounters that fostered a sense of control, dignity, and relational connection—core components in restoring agency after trauma.

In emphasizing participant empowerment and cultural attunement, this study affirms the value of mental health responses that are not only evidence-based but also experience-driven—rooted in the strengths, knowledge, and resilience of those they serve. Ultimately, this work advances the dialogue on how mental health care can be both clinically rigorous and deeply human, offering a model for future implementation in low-resource, high-need humanitarian contexts.

REFERENCES

- Acartürk, C., Uygun, E., Ilkkursun, Z., Carswell, K., Tedeschi, F., Batu, M., Eskici, S., Kurt, G., Anttila, M., Au, T., Baumgartner, J., Churchill, R., Cuijpers, P., Becker, T., Koesters, M., Lantta, T., Nosè, M., Ostuzzi, G., Popa, M., Purgato, M., ... Barbui, C. (2022). Effectiveness of a WHO self-help psychological intervention for preventing mental disorders among Syrian refugees in Turkey: a randomized controlled trial. *World psychiatry: official journal of the World Psychiatric Association (WPA)*, 21(1), 88–95. <https://doi.org/10.1002/wps.20939>
- Aktepe, Z. G., Deniz, M. E., Erişen, Y., Birni, G., Satici, B., & Kaya, Y. (2025). Hope and death obsession after the Maras earthquake: Psychological inflexibility and psychache as serial mediators. *International Journal of Disaster Risk Reduction*, 121, 1–10. <https://doi.org/10.1016/j.ijdr.2025.105416>
- Altun, Y., Özen, M., & Kuloğlu, M. M. (2019). Psikolojik Sıkıntı Ölçeği'nin Türkçe uyarlaması: Geçerlilik ve güvenilirlik çalışması. *Anadolu Psikiyatri Dergisi*, 20(Ek 1), 23–31. <https://doi.org/10.5455/apd.12801>
- Aslan Kunt, D., & Dereboy, F. (2018). Dünya Sağlık Örgütü Yetiştirme Değerlendirme Çizelgesi'nin (WHODAS 2.0) Türkçe Çevirisinin Geçerlik ve Güvenirliğinin Psikiyatri Hastaları ve Sağlıklı Kontrollerde İncelenmesi [Validity and Reliability of the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) in Turkish Psychiatry Patients and Healthy Controls]. *Türk psikiyatri dergisi = Turkish journal of psychiatry*, 29(4), 248–257.
- Aylaz & A. Dönmez (Eds.), *Toplum ruh sağlığı hemşireliği* (pp. 2–10). İstanbul Tıp Kitapevleri.
- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and

- powerful approach to multiple testing. *Journal of the Royal Statistical Society: Series B (Methodological)*, 57(1), 289–300. <https://www.jstor.org/stable/2346101>
- Boğaziçi University Kandilli Observatory and Earthquake Research Institute. (1999). 1999 *Kocaeli earthquake report*. Boğaziçi University. <http://www.koeri.boun.edu.tr/depremmuh/eqspecials/kocaeli/kocaelireport.pdf>
- Boysan, M., Özdemir, P. G., Özdemir, O., Selvi, Y., Yılmaz, E., & Kaya, N. (2017). Psychometric properties of the Turkish version of the PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (PCL-5). *Psychiatry and Clinical Psychopharmacology*, 27(3), 300–310. <https://doi.org/10.1080/24750573.2017.1342769>
- Cénat, J. M., McIntee, S. E., & Blais-Rochette, C. (2020). Symptoms of posttraumatic stress disorder, depression, anxiety and other mental health problems following the 2010 earthquake in Haiti: A systematic review and meta-analysis. *Journal of affective disorders*, 273, 55–85. <https://doi.org/10.1016/j.jad.2020.04.046>
- Charlson, F., van Ommeren, M., Flaxman, A., Cornett, J., Whiteford, H., & Saxena, S. (2019). New WHO prevalence estimates of mental disorders in conflict settings: A systematic review and meta-analysis. *The Lancet*, 394(10194), 240–248. [https://doi.org/10.1016/S0140-6736\(19\)30934-1](https://doi.org/10.1016/S0140-6736(19)30934-1)
- Dai, W., Chen, L., Lai, Z. *et al.* The incidence of post-traumatic stress disorder among survivors after earthquakes: a systematic review and meta-analysis. *BMC Psychiatry* 16, 188 (2016). <https://doi.org/10.1186/s12888-016-0891-9>
- Demirci, K., & Avcu, T. (2021). Problems experienced by women individuals in disaster processes and solution suggestions: Case of İzmir. *Batman University Journal of Life Sciences*, 11(1), 86–105. <https://dergipark.org.tr/en/pub/buyasambid/issue/63446/896949>

- Dönmez, A., & Çam, O. (2021). Dünyada ve Türkiye’de toplum ruh sağlığı hizmetleri. In R. Feder, A., Ahmad, S., Lee, E. J., Morgan, J. E., Singh, R., Smith, B. W., Southwick, S. M., & Charney, D. S. (2013). Coping and PTSD symptoms in Pakistani earthquake survivors: Purpose in life, religious coping and social support. *Journal of Affective Disorders*, 147, 156–163. <https://doi.org/10.1016/j.jad.2012.10.027>
- Field, A. P. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Forkus, S. R., Raudales, A. M., Rafiuddin, H. S., Weiss, N. H., Messman, B. A., & Contractor, A. A. (2023). The Posttraumatic Stress Disorder (PTSD) Checklist for DSM-5: A Systematic Review of Existing Psychometric Evidence. *Clinical psychology: a publication of the Division of Clinical Psychology of the American Psychological Association*, 30(1), 110–121. <https://doi.org/10.1037/cps0000111>
- Friesen, M. D., Horwood, L. J., Fergusson, D. M., & Woodward, L. J. (2017). Exposure to parental separation in childhood and later parenting quality as an adult: Evidence from a 30-year longitudinal study. *Journal of Child Psychology and Psychiatry*, 58(1), 30–37. <https://doi.org/10.1111/jcpp.12610>
- Giannouli, V., & Giannoulis, K. (2023). Better understand to better predict subjective well-being among older Greeks in COVID-19 era: Depression, anxiety, attitudes towards eHealth, religiousness, spiritual experience, and cognition. *Advances in Experimental Medicine and Biology*, 1425, 359–364. https://doi.org/10.1007/978-3-031-31986-0_35
- Gokhale, V. (2008). Role of women in disaster management : An analytical study with reference to Indian society . The 14th World Conference on Earthquake Engineering October, 12–17. Retrieved from <http://www.mapsofindia.com/culture/indian-women.html>

- Hacıhasanoğlu Aşılar, R., & Yıldırım, A. (2021). Koruyucu ruh sağlığı hizmetleri. In R. Aylaz & A. Dönmez (Eds.), *Toplum ruh sağlığı hemşireliği* (pp. 11–27). İstanbul Tıp Kitapevleri.
- Harpham, T., Grant, E., & Rodriguez, C. (2020). Mental health and social determinants: The role of housing, employment, and community support in disaster recovery. *International Journal of Mental Health Systems*, 14(1), Article 28. <https://doi.org/10.1186/s13033-020-00354-4>
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes, and outcomes. *Behaviour Research and Therapy*, 44(1), 1–25. <https://doi.org/10.1016/j.brat.2005.06.006>
- Holtrop, J. S., Scherer, L. D., Matlock, D. D., Glasgow, R. E., & Green, L. A. (2021). The importance of mental models in implementation science. *Frontiers in Public Health*, 9, 680316. <https://doi.org/10.3389/fpubh.2021.680316>
- Işıklı, S., Keser, E., Prigerson, H. G., & Maciejewski, P. K. (2020). Validation of the prolonged grief scale (PG-13) and investigation of the prevalence and risk factors of prolonged grief disorder in Turkish bereaved samples. *Death Studies*, 46(3), 628–638. <https://doi.org/10.1080/07481187.2020.1745955>
- Kaplan, V., Alkasaby, M., Düken, M. E., Kaçkin, Ö., & Riad, A. (2024). The impact of earthquakes on women: Assessing women's mental health in the aftermath of the Kahramanmaraş-centred earthquake in Türkiye. *Journal of Public Health*, 46(3), e510–e519. <https://doi.org/10.1093/pubmed/fdae059>
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., Walters, E.

- E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological medicine*, 32(6), 959–976. <https://doi.org/10.1017/s0033291702006074>
- Keya, T. A., Leela, A., Habib, N., Rashid, M., & Bakthavatchalam, P. (2023). Mental health disorders due to disaster exposure: A systematic review and meta-analysis. *Cureus*, 15(4), e37031. <https://doi.org/10.7759/cureus.37031>
- Koegler, E., Kennedy, C., Mrindi, J., Bachunguye, R., Winch, P., Ramazani, P., Makambo, M. T., & Glass, N. (2019). Understanding how solidarity groups—a community-based economic and psychosocial support intervention—can affect mental health for survivors of conflict-related sexual violence in Democratic Republic of the Congo. *Violence Against Women*, 25(3), 359–374. <https://doi.org/10.1177/1077801218778378>
- Kohrt, B. A., Asher, L., Bhardwaj, A., Fazel, M., Jordans, M., Mutamba, B. B., et al. (2018). The role of communities in mental health care in low- and middle-income countries: A meta-review of components and competencies. *International Journal of Environmental Research and Public Health*, 15(6), 1279. <https://doi.org/10.3390/ijerph15061279>
- Konkan, R., Şenormancı, Ö., Güçlü, O., Aydın, E., Sungur, M. Z., & Çolak, İ. (2013). Validity and reliability study for the Turkish adaptation of the Generalized Anxiety Disorder-7 (GAD-7) scale. *Archives of Neuropsychiatry*, 50(1), 53–58. <https://doi.org/10.4274/npa.y5922>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine*, 16(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y.

- (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Medical care*, 46(3), 266–274. <https://doi.org/10.1097/MLR.0b013e318160d093>
- McDaid, D., & Thornicroft, G. (2005). *Mental health II: Balancing institutional and community-based mental health care*. WHO European Centre for Health.
- Mittal, M., Paden McCormick, A., Palit, M., Trabold, N., & Spencer, C. (2023). A meta-analysis and systematic review of community-based intimate partner violence interventions in India. *International Journal of Environmental Research and Public Health*, 20(7), 5277. <https://doi.org/10.3390/ijerph20075277>
- Moore, A., van Loenhout, J. A. F., de Almeida, M. M., Smith, P., & Guha-Sapir, D. (2020). Measuring mental health burden in humanitarian settings: a critical review of assessment tools. *Global health action*, 13(1), 1783957. <https://doi.org/10.1080/16549716.2020.1783957>
- Peltz, J. S., Rogge, R. D., Bodenlos, J. S., Kingery, J. N., & Pigeon, W. R. (2020). Changes in psychological inflexibility as a potential mediator of longitudinal links between college students' sleep problems and depressive symptoms. *Journal of Contextual Behavioral Science*, 15, 110–122. <https://doi.org/10.1016/j.jcbs.2019.12.003>
- Peng, Y., Chen, Q., Xu, H., Shi, M., Li, L., & Wu, X. V. (2025). The prevalence and risk factors for post-traumatic stress disorder, depression and anxiety among older survivors post-earthquake: A systematic review and meta-analysis. *Journal of Affective Disorders*, 370, 168–180. <https://doi.org/10.1016/j.jad.2024.10.113>
- Purgato, M., Carswell, K., Tedeschi, F., Acarturk, C., Anttila, M., Au, T., Bajbouj, M.,

- Baumgartner, J., Biondi, M., Churchill, R., Cuijpers, P., Koesters, M., Gastaldon, C., Ilkkursun, Z., Lantta, T., Nosè, M., Ostuzzi, G., Papola, D., Popa, M., Roselli, V., ... Barbui, C. (2021). Effectiveness of Self-Help Plus in Preventing Mental Disorders in Refugees and Asylum Seekers in Western Europe: A Multinational Randomized Controlled Trial. *Psychotherapy and psychosomatics*, 90(6), 403–414. <https://doi.org/10.1159/000517504>
- R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. <https://www.R-project.org/>
- Rivera-Segarra, E., Mascayano, F., Alnasser, L., van der Ven, E., Martínez-Alés, G., Durand-Arias, S., Moro, M. F., Karam, E., Hernández-Torres, R., Alarcón, S., Ramos-Pibernus, A., Alvarado, R., & Susser, E. (2022). Global mental health research and practice: A decolonial approach. *The Lancet Psychiatry*, 9(7), 595–600. [https://doi.org/10.1016/S2215-0366\(22\)00043-8](https://doi.org/10.1016/S2215-0366(22)00043-8)
- Sarı, Y. E., Kökoglul, B., Balcıoğlu, H., Bilge, U., Çolak, E., & Ünlüoğlu, İ. (2016). Turkish reliability of the Patient Health Questionnaire-9. *Biomedical Research (India)*, 27(S1), S460–S462. <https://doi.org/10.4066/biomedicalresearch.27-16-243>
- Schulz, K. F., & Grimes, D. A. (2002). Allocation concealment in randomised trials: defending against deciphering. *Lancet (London, England)*, 359(9306), 614–618. [https://doi.org/10.1016/S0140-6736\(02\)07750-4](https://doi.org/10.1016/S0140-6736(02)07750-4)
- Singla, D. R., Kohrt, B. A., Murray, L. K., Anand, A., Chorpita, B. F., & Patel, V. (2017). Psychological treatments for the world: Lessons from low- and middle-income countries. *Annual Review of Clinical Psychology*, 13, 149–181. <https://doi.org/10.1146/annurev-clinpsy-032816-045217>

- Szuhany, K. L., Malgaroli, M., Miron, C. D., & Simon, N. M. (2021). Prolonged grief disorder: Course, diagnosis, assessment, and treatment. *FOCUS: The Journal of Lifelong Learning in Psychiatry*, 19(3), 161–172. <https://doi.org/10.1176/appi.focus.20210011>
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson.
- Tekin, C. S., & Aydın, G. (2024). Impacts of disasters on women: The case of the Kahramanmaraş earthquake sequence. *Archives of Women's Mental Health*, 27(6), 1239–1247. <https://doi.org/10.1007/s00737-024-01543-0>
- Thornicroft, G., & Tansella, M. (2001). *The mental health matrix: A manual to improve services*. Cambridge University Press.
- Tol, W. A., Leku, M. R., Lakin, D. P., Carswell, K., Augustinavicius, J., Adaku, A., Au, T. M., Brown, F. L., Bryant, R. A., Garcia-Moreno, C., Musci, R. J., Ventevogel, P., White, R. G., & van Ommeren, M. (2020). Guided self-help to reduce psychological distress in South Sudanese female refugees in Uganda: a cluster randomised trial. *The Lancet. Global health*, 8(2), e254–e263. [https://doi.org/10.1016/S2214-109X\(19\)30504-2](https://doi.org/10.1016/S2214-109X(19)30504-2)
- Uslu Ak, B. (2021). Mental health and psychosocial support in Turkey: Practices, policies and recommendations. *Türkiye Sosyal Hizmet Araştırmaları Dergisi*, 5(1), 46–55.
- van Ginneken, N., Tharyan, P., Lewin, S., Rao, G. N., Meera, S. S., Pian, J., & Patel, V. (2021). Non-specialist health worker interventions for mental health care in low- and middle-income countries. *Cochrane Database of Systematic Reviews*, 2021(8), CD009149. <https://doi.org/10.1002/14651858.CD009149.pub3>
- Wainberg, M. L., Scorza, P., Shultz, J. M., Helpman, L., Mootz, J. J., Johnson, K. A., Neria, Y.,

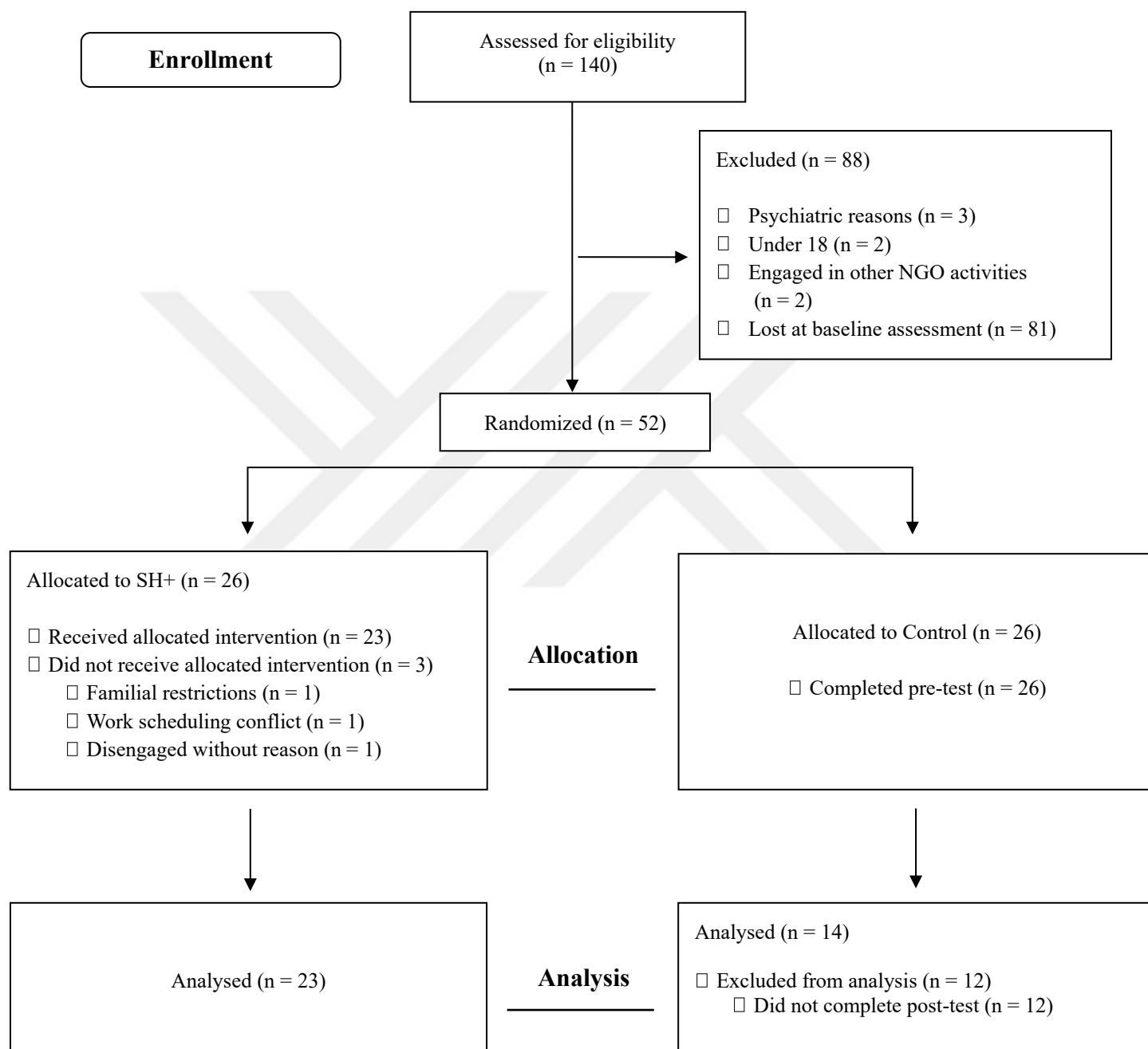
- Bradford, J. E., Oquendo, M. A., & Arbuckle, M. R. (2017). Challenges and opportunities in global mental health: A research-to-practice perspective. *Current Psychiatry Reports*, 19(5), 28. <https://doi.org/10.1007/s11920-017-0780-z>
- Walser, R. D., & Hayes, S. C. (2006). Acceptance and Commitment Therapy and Mindfulness for Trauma Survivors. In S. C. Hayes, V. M. Follette, & M. M. Linehan (Eds.), *Mindfulness and Acceptance: Expanding the Cognitive-Behavioral Tradition* (pp. 171–196). Guilford Press.
- World Health Organization. (2001). *Mental health: New understanding, new hope. The world health report 2001*. World Health Organization. <https://www.who.int/whr/2001/en/>
- World Health Organization. (2005). *Bridging the “know–do” gap: Meeting on knowledge translation in global health, 10–12 October 2005, Geneva, Switzerland*. World Health Organization. <https://www.who.int/publications/i/item/9241563139>
- World Health Organization. (2016). *Problem management plus (PM+): Individual psychological help for adults impaired by distress in communities exposed to adversity*. WHO. <https://www.who.int/publications/i/item/9789241549790>
- World Health Organization. (2017). *Mental health policy and service guidance package: Module 2 – Guidance on mental health policy and strategic action plans*.
- World Health Organization. (2021). *Self-Help Plus (SH+): A group-based stress management course for adults. Generic field-trial version 1.0*. World Health Organization.
- World Health Organization. (2023). *Disasters in numbers 2023*.

PreventionWeb. <https://www.preventionweb.net/media/95285/download?startDownload=20250322>

World Health Organization. (2023). *Earthquake emergency response in Türkiye and the Syrian Arab Republic: Situation report, March 2023*. WHO Regional Office for Europe. <https://iris.who.int/bitstream/handle/10665/366403/WHO-EURO-2023-7145-46911-68628-eng.pdf?sequence=1>

Yüncü, Ö., & Aktan, E. A. (2024). The impact of Acceptance and Commitment Therapy on trauma and psychological flexibility among university students affected by the earthquake. *Experimental and Applied Medical Sciences*, 4(3), 559–572. <https://doi.org/10.46871/eams.1417521>

APPENDIX 1: Consort Flow Diagram



APPENDIX 2: Sessions of the Self-Help Plus (SH+)

Session 1: Grounding

The first session of the SH+ (Self-Help Plus) intervention focused on the theme of grounding and aimed to introduce participants to the concept of stress and its impact on daily functioning. To ensure a more personalized and culturally relevant delivery, the original voice recordings included in the SH+ manual were not used. Instead, the facilitator deciphered and conveyed the content of the recordings conversationally during the session. This adaptation allowed for a more interactive and responsive facilitation style.

Prior to each session, the facilitator printed two copies of the corresponding visual materials—one for the participant and one for herself—allowing participants to follow along and engage with the visuals throughout the session. The session began with the facilitator discussing the concept of stress, using the prompt: “It wasn’t easy for you to come here today, but now that you are, what were your reasons for making this effort?”. This question aimed to validate participants’ experiences and motivate reflection on personal values and goals.

Participants were then asked to define what stress meant to them and to identify common sources of stress in their lives. Using Picture 1.1, the facilitator introduced the SH+ metaphor of “getting hooked” by difficult thoughts and emotions. She continued by showing Picture 1.2, encouraging participants to interpret its meaning before providing the intended explanation. Picture 1.3 was used to illustrate how individuals often become entangled in stress, which pulls them away from their values and meaningful activities.

To support experiential learning, the facilitator introduced an exercise titled “awareness of drinking” aligned with the original manual. As a culturally grounded engagement strategy, participants were offered “süvari” coffee—an expression of hospitality and respect in Hatay, Türkiye. The facilitator invited participants to share the coffee with her, following the structure of the original SH+ script, while normalizing any feelings of awkwardness they might experience during the

unfamiliar exercise. The facilitator emphasized the importance of approaching the experience with curiosity, drawing parallels to how young children explore the world for the first time. For participants who had children, she invited them to reflect on their children's behaviors. For those without children, she provided similar examples to illustrate the same concept. Participants were then guided to engage all five senses while drinking the coffee: holding the cup as if seeing it for the first time, smelling its aroma, feeling its texture, and tasting it slowly and mindfully.

At the end of the exercise, participants were invited to reflect on whether the experience differed from their usual drinking habits. The facilitator highlighted that intentionally paying full attention to everyday activities is an essential step in managing stress more effectively. She then opened a space for discussion with the prompt: "How would your life improve if you gave the same kind of attention to the people and activities that matter to you?"

The session continued with the introduction of the concept of "emotional storms". The facilitator explained that when people are stressed, they often experience an overwhelming influx of difficult thoughts and emotions. This experience, referred as an "emotional storm" can disrupt one's connection with values and increase psychological distress. To visually support this explanation, the facilitator presented Pictures 1.5 and 1.6 and asked participants to reflect on their meanings. She then used the following metaphor to convey the concept: "Imagine a sudden, powerful storm. The wind is so strong that you're desperately holding onto a branch to avoid falling. You just want to get to the ground as quickly as possible. While reaching the ground won't stop the storm, it is clearly the safest place to be. The same is true for emotional storms. Connecting with the world doesn't stop painful thoughts or feelings, but it reduces their power over us."

The session concluded with a grounding exercise as a strategy to help participants "unhook" from distressing experiences. Participants were invited to either close their eyes or focus on a fixed point in the room—whichever felt more comfortable—while the facilitator guided them through a slow breathing exercise. Participants were then instructed to open their eyes, name five things they could see, three to four things they could hear, and touch their surroundings. This sensory grounding technique aimed for participants anchor themselves in the present moment.

To reinforce the practice, the facilitator invited participants to reflect on how the exercise felt and assigned it as homework, encouraging them to repeat the practice several times throughout the week.



Session 2: Unhooking

In Session 2, the facilitator begins by thanking the participant for attending and briefly revisiting the key points from the previous session. The session starts with a discussion about the participant's past week and their reflections on the homework assigned, guided by the image in Picture 2.1. This picture depicts a man "hooked" by his thoughts and emotions, unable to fully engage with his children despite their importance to him. The facilitator uses this visual aid to prompt reflection on how overwhelming thoughts and feelings can limit presence and focus.

The conversation transitions to strategies for coping with difficult emotions and thoughts, particularly in the context of earthquake-related distress. The facilitator introduces and normalizes the idea that although there are many ways people try to rid themselves of distressing emotions—such as avoiding the thoughts, distracting themselves, or engaging in certain behaviors (smoking, drinking)—these strategies tend to be effective only in the short term. In the long run, such thoughts and feelings typically re-emerge, often with greater intensity. The facilitator explores these ideas with the participant in a conversational manner and invites them to share examples of how they personally cope with stress.

The facilitator then lists common short-term coping strategies that individuals often use to avoid painful emotions and thoughts, such as trying to suppress unpleasant memories, smoking or using substances, staying in bed, engaging in interpersonal conflict, or self-blame. The facilitator explains that thoughts and feelings are not under complete voluntary control, and that efforts to eliminate them often have the paradoxical effect of amplifying their intensity. This leads to a crucial distinction between “unhooking” from thoughts and feelings versus trying to force oneself to “cheer up” or “stop crying” which are common societal messages.

Picture 2.2 is introduced at this point to support the concept of "unhooking". The facilitator explains that while we cannot eliminate painful inner experiences, we can learn to relate to them differently so that they no longer govern our actions. This principle reflects the core Acceptance and Commitment Therapy (ACT) approach utilized within the SH+ framework.

To support experiential learning, the facilitator leads a brief unhooking exercise. Participants are guided to imagine placing everything that matters to them—along with their thoughts and emotions—"out in front" of them. The facilitator demonstrates by holding one hand palm-up and pointing beyond it to clarify the metaphorical space. Participants are asked to bring their hands together, palms up, mimicking the pages of an open book. The facilitator then models how, when we are "hooked" it is as though our hands (thoughts and feelings) cover our eyes—we are overwhelmed and disconnected from the present moment. In contrast, by lowering the hands into the lap (while keeping them present), one can symbolically unhook and regain focus on what is meaningful. The participant is then encouraged to share their reflections on this exercise, followed by a short grounding practice similar to that used in Session 1.

The session continues with psychoeducation on the relationship between emotions, bodily sensations, and stress. The facilitator provides examples of common physical symptoms associated with distress—such as chest tightness, increased heart rate, stomach discomfort, sweating, or trembling—particularly when experiencing emotions such as sadness, anger, fear, guilt, or shame. Participants are then invited to complete Worksheet 2.1 by using a red pen to mark areas on the body outline where they typically experience physical sensations of stress. This helps them increase awareness of the somatic manifestations of emotional distress.

In the final segment, the facilitator introduces the practice of "noticing and naming" difficult thoughts and emotions as a way to promote unhooking. This approach involves observing inner experiences with curiosity and labeling them (e.g., "here is anxiety," "here is guilt"), which can reduce their power and influence. Picture 2.3 is used to highlight the key summary points of the session. Given the cultural prevalence of somatization, particular emphasis is placed on Worksheet 2.1 for the week's homework. The participant is encouraged to place the worksheet somewhere visible (e.g., on top of their refrigerator) and to monitor any bodily signs of discomfort or tension throughout the week until the next session.

Session 3: Acting on Values

In Session 3, the facilitator thanks the participant for returning and acknowledges their commitment to the five-session stress management program. As in previous sessions, the facilitator invites the participant to reflect on the main reasons they have chosen to dedicate their time and energy to attending: caring for themselves, caring for their family, and caring for their community. The facilitator then reviews the key points from the previous session and discusses the participant's experience with their assigned homework, asking how it may have been beneficial.

Following this, the facilitator and participant practice the skills and exercises from the previous session, reinforcing that unhooking from difficult thoughts and feelings can be helpful. They revisit the hand exercise demonstrated previously and review the three steps for unhooking: Step 1: Notice; Step 2: Name; and Step 3: Refocus, using Picture 1.3 as a visual aid. After addressing any difficulties experienced, the facilitator introduces the concepts of values, actions, and goals. By discussing Picture 3.3, the facilitator emphasizes the importance of acting on values even under challenging circumstances. The facilitator then introduces Picture 3.2 and poses an important new question: "What do we do after we have unhooked or grounded ourselves?" The answer provided is: "We reconnect with our values and use them to guide our actions". Anticipating further participant curiosity — "How will this help us?" — the facilitator explains that values represent our deepest desires regarding how we wish to behave as human beings, the kind of person we aspire to be, and how we want to relate to ourselves and others. A value serves as a direction for life (e.g., being kind, caring, or trustworthy), rather than a specific achievement or outcome.

The facilitator encourages the participant to begin identifying their personal values by reflecting on questions such as: "What truly matters to you?" "What do you want to build your life around?" "What kind of person do you want to become?" "What kinds of relationships do you want to foster?" To facilitate this exercise, the facilitator provides a list of common values (e.g., kindness, protection, trustworthiness, fairness) and asks the participant to select those most meaningful to them personally.

Importantly, the facilitator clarifies the distinction between values and goals: goals involve tangible achievements (e.g., obtaining a job, getting married), whereas values define how one wishes to behave while pursuing goals and even when goals are not immediately attainable.

The session then transitions to the section titled “Putting Values into Action”, where the facilitator discusses the behavioral aspects of values. Actions include what we do with our arms, hands, legs, feet, the words we speak, and the way we communicate. The facilitator highlights that acting wisely in alignment with one's values involves carefully considering the long-term effects of one's actions on oneself, loved ones, and society at large, and reflecting on whether one's actions contribute to making their world a better place.

To operationalize this, the facilitator asks the participant to identify one or two small, specific actions they can take in the upcoming week that align with their values. They are encouraged to specify precisely what they will do and say, and when and where they will perform these actions. The facilitator prompts the participant to assess the feasibility and realism of their plan and to consider whether they believe they can carry it out.

The facilitator gently wraps up the session by reminding the participant that only two sessions remain and offers a brief preview: in Session 4, they will focus particularly on the role of one specific value — “Kindness”. The facilitator assigns the participant the task of implementing their action plan over the following week as their homework.

Session 4: Being Kind

In this session, the facilitator explains that today's focus will be on how to be kind to others and ourselves, and how such kindness can help us during stressful times. Participants are then asked to hold up Picture 4.2 and reflect on its meaning. The facilitator explains that the image represents a person unhooking themselves from difficult thoughts and feelings — these thoughts and feelings remain present but no longer control the individual's actions.

Following this, the facilitator revisits the previous week's homework, asking participants which actions they took that aligned with their values and what benefits they experienced. The facilitator prompts a discussion on what it feels like to act in accordance with one's values, even in stressful situations, and become the kind of person one aspires to be. For those who were unable to complete the homework, the facilitator invites them to share one small action they could take in the coming week and how they believe it might benefit them.

The facilitator then introduces Picture 4.3, explaining that unhooking from self-critical judgments and practicing kindness can be highly beneficial. The facilitator emphasizes that kindness extends both to how we treat others and how we treat ourselves. It is highlighted that being kind to ourselves and others is crucial, and that, in difficult situations, having a supportive and compassionate friend makes coping easier. Participants are asked to consider the kind of friend they would prefer to have by their side — one who is kind, compassionate, and supportive, or one who is harsh and indifferent. Naturally, everyone would prefer a kind and caring friend; however, the facilitator points out that many people often do not treat themselves with the same kindness, particularly when caught up in harsh self-judgments.

Before proceeding, the facilitator introduces the topic of how to distance ourselves from these critical thoughts.

Participants are asked whether they have ever experienced harsh self-critical thoughts. The facilitator refers back to each participant's previous disclosures, mentioning examples such as feelings of insufficiency, weakness, or worthlessness, to help participants feel seen and heard. The facilitator then normalizes these experiences by explaining that everyone has such thoughts and that it is common. However, it is also noted that becoming entangled with these

thoughts is unhelpful. These harsh, judgmental thoughts often surface, especially under stress, and, in this session, the goal is not to determine whether these thoughts are true or false. Rather, the focus is on recognizing that allowing such thoughts to trap us makes it harder to manage problems, act in accordance with our values, stay focused, and connect with others. Although we cannot prevent these thoughts from arising, we can learn to “unhook” from them.

The facilitator proceeds by reading a list of common unkind self-judgments that often emerge under stress, such as: "I am bad," "I am weak," "I am stupid," "I am shameful to my family," "I am worthless," and "There is something wrong with me" and underlines that these sentences may be things we say to ourselves or beliefs we have internalized from others.

Following a thorough discussion on self-judgment, the facilitator leads a grounding and breathing exercise to help participants regulate before continuing. Participants are then invited to look at Picture 4.4, which depicts small acts of kindness, such as helping someone or offering a listening ear to someone who is upset. The facilitator asks participants to reflect: “How do you feel when someone treats you kindly, shows they care, or supports you?”. Most people report feeling better — more energetic, alive, and motivated. Life seems a bit better. Conversely, when someone is unkind or indifferent, participants often report feeling worse — angry, demoralized, sad, less energetic, and less motivated. Life appears more difficult when we lack supportive companionship.

Next, the facilitator invites participants to think about the people who matter most to them — such as family members, friends, or children. Participants are asked to discuss what kinds of words or actions they could use to show these individuals that they care and wish to help. Examples of kind words include: "I am here for you," "I can see you are in pain," and "I appreciate having you in my life". Participants are also encouraged to consider physical gestures, such as how they might use their arms or posture, and how they would deliver these words — for instance, by spending time with someone or inviting them for a cup of "süvari" coffee.

The facilitator then transitions to the theme of "befriending yourself" by introducing Picture 4.5. It is explained that harsh self-treatment drains energy and reduces motivation, ultimately hindering one's ability to help or care for others. Thus, befriending oneself is presented as an essential aspect of fostering healthy relationships with others. Picture

4.5 features an arrow with the word "kindness", symbolizing the importance of treating oneself with compassion. The facilitator underscores that sometimes, in moments when we desperately need kindness, no external support is available. In such times, befriending oneself becomes vital. Furthermore, it is emphasized that the kinder and more supportive we are to ourselves, the more energy and motivation we have to support others in our lives. Before concluding, the facilitator gently reminds participants that next week will be the final session. As homework for the week, participants are asked to engage in an act of kindness toward themselves.



Session 5: Making Room

The facilitator initiates the session by warmly thanking the participant for returning for the final meeting and reminding them that this would be their last session together. Acknowledging the participant's visible sadness, the facilitator briefly welcomes them and reviews the key concepts discussed throughout the five-week program. The facilitator then revisits the previous week's homework by asking, "What kind words or actions did you offer yourself over the past week?"

This session primarily focuses on closure and consolidation of the material covered. The facilitator introduces Picture 5.2 and invites the participant to reflect on its meaning. After eliciting the participant's interpretations, the facilitator explains the intended message:

"First, imagine you are confronting a distressing situation or problem. Notice, with curiosity, the thoughts and emotions that arise — perhaps painful physical sensations emerge in your chest, stomach, or head, or you experience difficult emotions such as anger, sadness, fear, or guilt. Approach these experiences with a childlike curiosity, simply observing them. As you notice these sensations, select one particularly troubling thought or feeling and name it. Then, imagine that these thoughts and feelings are like the air, and you are like the sky. Your aim is to allow these experiences to come, remain, and eventually pass, just as the weather moves across the sky. Choose one present thought or feeling, observe it with great curiosity, and, while doing so, slowly exhale, emptying your lungs completely. Once emptied, pause and silently count to three before inhaling very slowly again, imagining your breath moving through and around your pain, as if making space for it."

The facilitator emphasized that, just as the sky accommodates all types of weather—sunshine, rain, and wind—we too can create space for all kinds of emotions, including happiness, sadness, anger, and worry. Following the exercise, the facilitator encouraged reflection by asking participants: "What is the one thing you most remember from this course?" and "If you were to share one takeaway with others, what would it be?". Sharing feedback and emotional

experiences constituted the central focus of this final session. After heartfelt goodbyes, the facilitator formally concluded the program.



APPENDIX 3: Demographics Form**Yaşınız:** _____**Cinsiyetiniz:**

- Kadın
- Erkek
- Diğer (lütfen belirtiniz): _____

Medeni Durumunuz: _____**Eğitim Durumunuz:**

- İlköğretim mezunu
- Lise mezunu
- Üniversitede eğitim görüyor
- Üniversite mezunu
- Yüksek lisans/doktora eğitimi görüyor

APPENDIX 4: Earthquake Experiences Questionnaire

Aşağıdaki soruları 6 Şubat 2023 tarihinde Kahramanmaraş'ta gerçekleşen depremlere ve sonrasındaki sürece göre yanıtlayınız.

1. Aşağıda belirtilen olaylardan herhangi birini (Kahramanmaraş Depremi'nden önce) tecrübe ettiniz veya şahit oldunuz mu?
 - a. Şiddetli depremler
 - b. Diğer doğal afetler
 - c. Şiddetli trafik kazası
 - d. Diğer şiddetli kazalar, yangın, patlama
 - e. Şiddet (fiziksel, duygusal, cinsel)
 - f. İhmal (çocukluk döneminde)
 - g. Şiddetli hastalık
 - h. Diğer _____
 - i. Hiçbirini deneyimlemedim
2. Daha önce hiç psikiyatrik hastalık geçirdiniz mi?
 - a. Evet, geçirdim ve hala tedavi görüyorum.
 - b. Evet, daha önce geçirdim ama sonra tamamen iyileştim.
 - c. Hayır
3. Psikolojik tedavi gördünüz mü?
 - a. Evet, hala tedavi görüyorum.
 - b. Evet, daha önce tedavi gördüm ama şimdi görmüyorum.
 - c. Hayır.

4. Deprem sırasında depremin etkilediği şehirlerden birinde miydiniz?
- a. Evet
 - b. Hayır
5. Evet ise, hangi şehirdeydiniz? _____
6. Evet ise, deprem sırasında içinde bulunduğunuz bina hasar aldı mı?
- a. Hayır, hiç hasar almadı.
 - b. Evet, az hasar aldı.
 - c. Evet, orta derece hasar aldı fakat yıkıntı gerçekleşmedi.
 - d. Evet, orta derece hasar aldı ve bir miktar yıkıntı gerçekleşti.
 - e. Evet, ağır derece hasar aldı.
 - f. Evet, tamamen yıkıldı.
7. Evet ise, depreme ilişkin deneyiminizi hangisi açıklar? (Birden fazla seçenek uyuyorsa durumunuzu açıklayan seçeneklerin tümünü işaretleyebilirsiniz)
- a. Deprem sırasında bedensel olarak yaralanmadım.
 - b. Deprem sırasında bedensel olarak yaralandım ancak durumum hastanede tedavi görmemi gerektirmedi.
 - c. Deprem sırasında bedensel olarak yaralandım ve hastanede tedavi gördüm.
 - d. Deprem sırasında aldığım bedensel yaralar sonucunda bedenimde kalıcı yeti yitimi (engel) oluştu.
8. Depremdeki kayıplarınızı hangisi açıklar? (Birden fazla seçenek uyuyorsa durumunuzu açıklayan seçeneklerin tümünü işaretleyebilirsiniz)
- a. Tanıdığım biri hayatını kaybetti
 - b. Evcil hayvanımı kaybettim

- c. Evimi kaybettim
- d. İş yerimi/işimi kaybettim
- e. Ev/iş/iş yeri kaybı dışında finansal kayıplarım oldu
- f. Hiçbir kaybım olmadı
- g. Diğer _____

9. (Herhangi bir kaybı olduysa) İnsanlar yaşadığım kayıp(lar) için çektiğim acıya hak veriyor.

- a. Hiç katılmıyorum
- b. Çoğunlukla katılmıyorum
- c. Biraz katılmıyorum
- d. Ne katılıyorum ne katılmıyorum
- e. Biraz katılıyorum
- f. Çoğunlukla katılıyorum
- g. Tamamen katılıyorum

10. Eğer 8. Soruya “Tanıdığım biri hayatını kaybetti” şeklinde yanıt verdiyseniz bu kişiyi tanımlamak için hangi seçenek uygundur?

- a. Çekirdek aile üyelerinden biri (anne, baba, kardeş, çocuk)
- b. Akraba (kuzen, amca, teyze, anneanne, dede vb.)
- c. Arkadaş
- d. İş arkadaşı
- e. Komşu
- f. Diğer _____

g. Birden fazla yakınımı kaybettim _____

11. (8. Soruya “Tanıdığım biri hayatını kaybetti” şeklinde yanıt verildiyse) Kayıplarımın ardından kültürel ve/veya dini ritüellerimi (cenaze merasimi, okuma vb.) yerine getirebildim.

- a. Hiç katılmıyorum
- b. Çoğunlukla katılmıyorum
- c. Biraz katılmıyorum
- d. Ne katılıyorum ne katılmıyorum
- e. Biraz katılıyorum
- f. Çoğunlukla katılıyorum
- g. Tamamen katılıyorum

12. Bu olayda hayatta kaldığım için suçluluk ve utanç hissettim.

- a. Hiç katılmıyorum
- b. Çoğunlukla katılmıyorum
- c. Biraz katılmıyorum
- d. Ne katılıyorum ne katılmıyorum
- e. Biraz katılıyorum
- f. Çoğunlukla katılıyorum
- g. Tamamen katılıyorum

13. Depremden bu yana psikolojik destek aradınız mı?

- a. Evet
- b. Hayır

14. Depremden bu yana psikolojik destek aldınız mı?

- a. Evet
- b. Hayır

15. Deprem nedeniyle finansal zorluklarla karşılaştınız mı?

- a. Hiç
- b. Biraz
- c. Orta seviyede
- d. Oldukça
- e. Çok fazla

16. Finansal zorluklar konusunda ne kadar endişelisiniz?

- a. Hiç
- b. Biraz
- c. Orta seviyede
- d. Oldukça
- e. Çok fazla

APPENDIX 5: Kessler Psychological Distress Scale (K10)

Aşağıdaki sorular son 30 gün içinde kendinizi nasıl hissettiğiniz hakkındadır. Lütfen her soruda söz konusu duyguyu hangi sıklıkta hissettiğinizi en iyi açıklayan sayıyı işaretleyiniz.

Bu ay içinde kendinizle ilgili olarak aşağıdakileri ne sıklıkla hissettiniz?	Hiç olmadı	Seyrek olarak	Arada sırada	Çoğu zaman	Sürekli olarak
1. ... herhangi bir sebep olmadan aşırı yorgunluk	1	2	3	4	5
2. ... sinirli	1	2	3	4	5
3. ... hiçbir şekilde sakinleşemeyecek kadar sinirli	1	2	3	4	5
4. ... umutsuz	1	2	3	4	5
5. ... huzursuz veya tedirgin	1	2	3	4	5
6. ... yerinde duramayacak kadar huzursuz	1	2	3	4	5
7. ... çökkün	1	2	3	4	5
8. ... hiçbir şekilde neşelenemeyecek kadar çökkün	1	2	3	4	5
9. ... her şeyin çok zor gelmesi	1	2	3	4	5
10. ... değersiz	1	2	3	4	5

APPENDIX 6: The WHO Disability Assessment Schedule 2.0 (WHODAS 2.0)

Son 30 gün içinde ne kadar zorluk yaşadınız?		Hiç	Hafif	Orta	Şiddetli	Çok Şiddetli
S1	30 dakika gibi uzun bir süre ayakta kalabiliyor musunuz?	1	2	3	4	5
S2	Ev içindeki sorumluluklarınızı yerine getirebiliyor musunuz?	1	2	3	4	5
S3	Bir yere nasıl gidileceğini öğrenmek gibi yeni bir şey öğrenmek?	1	2	3	4	5
S4	Diğer insanların yaptığı gibi sosyal etkinliklere (şenlikler, dini veya diğer etkinlikler) katılırken ne kadar zorlandınız?	1	2	3	4	5
S5	Sağlık sorunlarınızdan duygusal olarak nasıl etkilendiniz?	1	2	3	4	5
S6	10 dakika boyunca bir şeye odaklanmak?	1	2	3	4	5
S7	Bir kilometrelik (ya da eşdeğeri) gibi uzun bir mesafede yürümek?	1	2	3	4	5
S8	Banyo yapmak?	1	2	3	4	5
S9	Giyinmek?	1	2	3	4	5
S10	Tanımadığınız insanlarla ilgilenmek?	1	2	3	4	5

S1 1	Arkadaşlık ilişkisi sürdürmek?	1	2	3	4	5
S1 2	Günlük işiniz/okulunuz?	1	2	3	4	5
Genel olarak, son 30 günde, yaşadığınız bu zorluklar kaç gün sürdü?						Gün sayısını not edin
Son 30 günde, herhangi bir sağlık durumu yüzünden kaç gün günlük etkinliklerinizi yapamadınız veya çalışamadınız?						Gün sayısını not edin
Son 30 günde, tamamen iş yapamayacak durumda olduğunuz günleri saymazsak, herhangi bir sağlık durumundan dolayı kaç gün boyunca işlerinizi azalttınız veya yarıda bıraktınız?						Gün sayısını not edin

APPENDIX 7: Patient Health Questionnaire (PHQ-9)

Aşağıda bazı cümleler verilmiştir. **Son 2 hafta içerisinde** aşağıdaki sorunlardan herhangi biri sizi ne sıklıkla rahatsız etti?

Bu ay içinde kendinizle ilgili olarak aşağıdakileri ne sıklıkla hissettiniz?	Hiçbir zaman	Bazı günler	Günlerin yarısından fazlasında	Hemen hemen her gün
1. Bir şeyleri yapmaya az ilgi duymak veya zevk almak	0	1	2	3
2. Üzgün, depresif veya umutsuz hissetmek	0	1	2	3
3. Uykuya dalmada veya uyumaya devam etmekte zorluk çekmek veya çok uyumak	0	1	2	3
4. Yorgun hissetmek veya enerjinizin az olması	0	1	2	3
5. İştahsızlık veya çok fazla yemek yemek	0	1	2	3
6. Kendinizi kötü/başarısız hissetmeniz ya da kendinizi /ailenizi hayal kırıklığına uğrattığınızı düşünmeniz	0	1	2	3

7. Gazete okumak veya televizyon seyretmek gibi faaliyetlerde dikkatinizi toplamakta güçlük çekme	0	1	2	3
8. Başkalarının fark edebileceği kadar yavaş hareket etmeniz/konuşmanız ya da tam aksine – normalden çok daha fazla hareket edecek kadar kıpır kıpır veya huzursuz olmanız	0	1	2	3
9. Ölmüş olsanız veya bir şekilde kendinize zarar verseniz daha iyi olacağınız düşünceleri	0	1	2	3
Bu sorunlardan herhangi birini işaretlediyseniz, bu sorunlar işinizi yapmanızda, evinizle ilgili işleri halletmenizde veya diğer insanlarla olan ilişkilerinizde ne kadar zorluk yarattı?	Hiç zorluk yaratmadı	Oldukça zorluk yarattı	Çok zorluk yarattı	Aşırı derece de zorluk yarattı

APPENDIX 8: Generalized Anxiety Disorder-7 (GAD-7)

Son 2 hafta içinde yaşadıklarınızı değerlendirerek size uygun seçeneği işaretleyebilir misiniz?

	Hiç	Birçok gün	Günlerin yarısından fazla	Hemen hemen her gün
1. Sinirli, kaygılı, endişeli olma	0	1	2	3
2. Endişelerinizi kontrol edememe ya da durduramama	0	1	2	3
3. Farklı konularda çok fazla endişelenme	0	1	2	3
4. Gevşeyip rahatlayamama	0	1	2	3
5. Yerinizde duramayacak kadar kıpır kıpır huzursuz olma	0	1	2	3
6. Çabuk sinirlenme, kızma ya da huzursuz olma	0	1	2	3
7. Çok kötü bir şey olacak diye korkma	0	1	2	3

Bu sorunlardan herhangi birini işaretlediyseniz, bu sorunlar işinizi yapmanızda, evinizle ilgili işleri halletmenizde veya diğer insanlarla olan ilişkilerinizde ne kadar zorluk yarattı?	Hiç zorluk yaratmadı	Oldukça zorluk yarattı	Çok zorluk yarattı	Aşırı derecede zorluk yarattı
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APPENDIX 9: The PTSD Checklist for DSM-5 (PCL-5)

GEÇEN AY içinde aşağıda yer alan durumlar sizi ne ölçüde bunalttı?:	Hiç	Çok az	Orta derecede	Oldukça fazla	Aşırı
1. Stresli olayın tekrarlayan, rahatsız eden ve istenmeyen anılar sizi ne kadar bunalttı?	0	1	2	3	4
2. Stresli olaya ilişkin tekrarlayan, rahatsız eden rüyalar sizi ne kadar bunalttı?	0	1	2	3	4
3. Aniden stresli olayı sanki gerçekten bir daha yaşıyormuş gibi hissetmek veya davranmak (sanki gerçekten olayın yaşandığı ana geri dönmüş yeniden yaşıyormuş gibi) sizi ne kadar bunalttı?	0	1	2	3	4
4. Bir şeyler size stresli olayı anımsattığı zaman yaşadığınız	0	1	2	3	4

üzüntü hissi sizi ne kadar bunalttı?					
5. Bir şeyler size stresli olayı anımsattığı zaman güçlü fiziksel tepkiler vermek (örneğin, kalp çarpıntısı, nefes almada güçlük, terleme gibi) sizi ne kadar bunalttı?	0	1	2	3	4
6. Stresli olayla ilişkili anılardan, düşüncelerden ve duygulardan kaçınmaya çalışmak sizi ne kadar bunalttı?	0	1	2	3	4
7. Stresli olayı anımsatan etraftaki hatırlatıcı şeylerden (örneğin, insanlardan, yerlerden, konuşmalardan, etkinliklerden, nesnelerden veya durumlardan) kaçınmaya çalışmak sizi ne kadar bunalttı?	0	1	2	3	4

8. Stresli olaya ilişkin önemli kısımları hatırlamada yaşanan güçlükler sizi ne kadar bunalttı?	0	1	2	3	4
9. Kendiniz, diğer insanlar veya dünya hakkında güçlü olumsuz düşüncelere sahip olmak (<i>örneğin, kötü biriyim, bende ciddi şekilde yanlış olan bir şeyler var, kimseye güvenilmez, dünya tümüyle tehlikeli bir yerdir gibi düşünceler</i>) sizi ne kadar bunalttı?	0	1	2	3	4
10. Stresli olay veya bu olayın sonrasında ortaya çıkan durumlar için kendinizi veya bir başkasını suçlamak sizi ne kadar bunalttı?	0	1	2	3	4
11. Korku, dehşete kapılma, öfke, suçluluk veya utanç gibi güçlü olumsuz duygular sizi ne kadar bunalttı?	0	1	2	3	4

12. Daha önce yapmaktan keyif aldığınız etkinliklere olan ilginizi kaybetmek sizi ne kadar bunalttı?	0	1	2	3	4
13. Başka insanlardan uzak veya kopmuş hissetmek sizi ne kadar bunalttı?	0	1	2	3	4
14. Olumlu duyguları yaşayamamak (<i>örneğin, mutluluğu hissedememek veya size yakın insanlara sevgi dolu hisler duyamamak</i>) sizi ne kadar bunalttı?	0	1	2	3	4
15. Asabi davranışlar, öfke patlamaları veya öfkeli hareketler sizi ne kadar bunalttı?	0	1	2	3	4
16. Çok fazla risk almak veya size zarar verebilecek şeyler yapmak sizi ne kadar bunalttı?	0	1	2	3	4
17. Aşırı tetikte olmak veya temkinli davranmak veya	0	1	2	3	4

hazırda beklemek sizi ne kadar bunalttı?					
18. Yerinden sıçramak veya kolayca irkilmek sizi ne kadar bunalttı?	0	1	2	3	4
19. Dikkati toplamada güçlükler sizi ne kadar bunalttı?	0	1	2	3	4
20. Uykuya dalma veya uykuyu devam ettirme güçlükleri sizi ne kadar bunalttı?	0	1	2	3	4

APPENDIX 10: Prolonged Grief Questionnaire (PG-13)

Lütfen aşağıdaki her bir madde için size en uygun olan seçeneği işaretleyiniz.

1. Geçtiğimiz ay içerisinde, ölen yakınınızın özlemini ve hasretini ne sıklıkla duydunuz?

- a. Hiç
- b. En az bir kere
- c. En az haftada bir kere
- d. En az günde bir kere
- e. Günde birçok kere

2. Geçtiğimiz ay içerisinde, ölen yakınınızla ilgili olarak ne sıklıkla duygusal ızdırap, yoğun üzüntü ya da keder hissettiniz?

- a. Hiç
- b. En az bir kere
- c. En az haftada bir kere
- d. En az günde bir kere
- e. Günde birçok kere

3. Kaybınızın ardından en az 6 ay geçmesine rağmen, Soru 1 veya 2'deki belirtilerin herhangi birini, “en az günde bir kere” olmak üzere yaşadınız mı?

- a. Evet
- b. Hayır

4. Geçtiğimiz ay içerisinde, size ölen yakınınızı hatırlatan şeylerden ne sıklıkla kaçınmaya çalıştınız?

- a. Hiç
- b. En az bir kere
- c. En az haftada bir kere
- d. En az günde bir kere
- e. Günde birçok kere

5. Geçtiğimiz ay içerisinde, ne sıklıkla kaybınız nedeniyle afallamış, hayrete düşmüş ya da şaşkına dönmüş hissettiniz?

- a. Hiç
- b. En az bir kere
- c. En az haftada bir kere
- d. En az günde bir kere
- e. Günde birçok kere

Aşağıdaki soruları şu anda kendinizi nasıl hissettiğinizi göz önünde bulundurarak yanıtlayınız.

6. Yaşamınızdaki rolünüzle ilgili kafa karışıklığı ya da benlik duygunuzda bir azalma (bir parçanızın öldüğü gibi) hissediyor musunuz?

- a. Hiç
- b. Çok az
- c. Biraz
- d. Çok

e. Oldukça çok

7. Kaybınızı kabullenmekte güçlük çektiniz mi?

a. Hiç

b. Çok az

c. Biraz

d. Çok

e. Oldukça çok

8. Bu kaybı yaşadığınızdan beri, başkalarına güvenmek sizin için zor oldu mu?

a. Hiç

b. Çok az

c. Biraz

d. Çok

e. Oldukça çok

9. Kaybınız nedeniyle buruk hissediyor musunuz?

a. Hiç

b. Çok az

c. Biraz

d. Çok

e. Oldukça çok

10. Artık hayatınıza devam etmenin (örneğin, yeni arkadaşlar edinmek, yeni ilgi alanları oluşturmak vb.) sizin için zor olacağını hissediyor musunuz?

- a. Hiç
- b. Çok az
- c. Biraz
- d. Çok
- e. Oldukça çok

11. Bu kaybı yaşadığınızdan beri duygusal olarak hissizleşmiş gibi hissediyor musunuz?

- a. Hiç
- b. Çok az
- c. Biraz
- d. Çok
- e. Oldukça çok

12. Bu kaybı yaşadığınızdan beri hayatın boş ya da anlamsız olduğunu, doyum vermediğini

hissediyor musunuz?

- a. Hiç
- b. Çok az
- c. Biraz
- d. Çok
- e. Oldukça çok

Aşağıdaki maddeyi size uygun seçeneğe işaret koyarak yanıtlayınız.

13. Sosyal, mesleki veya diğer önemli alanlar açısından işlevselliğinizde önemli bir azalma yaşadınız mı? (Örneğin evdeki sorumluluklarınızı yerine getirememek gibi)

a. Evet

b. Hayır



APPENDIX 11: Suicide Risk Assessment

1. Az önce, insanların tecrübe edebileceği çeşitli duygusal zorluklar hakkında bazı sorulara cevap verdiniz. Kişiler çok üzgün ve umutsuz hissettiklerinde, bazen kendi ölümleri hakkında ve hatta hayatlarına son vermek hakkında çeşitli düşüncelere sahip olabilirler. Bu düşünceler nadir değildir ve dönem dönem kişiler bu düşüncelere sahip olabilir. Takip eden sorular, bu tip düşünceler hakkındadır. Bu sorular sizin için uygun mu?



2. Geçtiğimiz ay hayatınızı sonlandırmak için ciddi düşünceleriniz veya planınız oldu mu?
 - a. Evet
 - b. Hayır
3. Hayatınızı sonlandırmak için herhangi bir aksiyon aldınız mı?
 - a. Evet
 - b. Hayır
4. Önümüzdeki iki hafta içinde hayatınızı sonlandırmayı düşünüyor musunuz?
 - a. Evet
 - b. Hayır