



Prevalence and Factors Associated with Psychological Distress and Coping Mechanisms Among Conflict-Affected Populations in Leer, South Sudan: A Cross-Sectional Study

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¹A Dissertation Submitted to Texila American University, Georgetown, Guyana, South America in Partial Fulfillment of the Requirements for the Award of the Master's Degree of Public Health

Publication Date: 2026/08/11

How to Cite: James Puoch Manyang Kuon (2026) Prevalence and Factors Associated with Psychological Distress and Coping Mechanisms Among Conflict-Affected Populations in Leer, South Sudan: A Cross-Sectional Study. *International Journal of Innovative Science and Research Technology*, 11(7), 3516-3572. <https://doi.org/10.38124/ijisrt/26jul1778>

DECLARATION

I, James Puoch hereby declare that this thesis entitled "Prevalence and Factors Associated with Psychological Distress and Coping Mechanisms Among Conflict-Affected Populations in Leer, South Sudan: A Cross-Sectional Study" is my original work and has not been presented for a degree in any other University or for any other award.

Signature:



Date: _06/02/2026

[Student Name: James Puoch Manyang Kuon]

APPROVAL

This thesis has been submitted for examination with my approval as the University Supervisor.

Signature: _____

Date: _____

[Supervisor's Name]

Texilla American University

DEDICATION

This work is dedicated to the resilient people of Leer, South Sudan, who continue to endure and find hope amidst the challenges of conflict.

It is also dedicated to my family for their unwavering support, prayers, and encouragement throughout this academic journey.

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to my supervisor for their invaluable guidance, constructive criticism, and patience throughout the research process.

My profound thanks go to the Texilla American University for providing the enabling environment to undertake this study. I am also grateful to the local authorities in Leer County and the humanitarian partners who facilitated access to the study sites.

Special thanks to the research assistants and enumerators who worked tirelessly in difficult terrain to collect this data.

Finally, I am deeply indebted to the study participants the community members of Leer who willingly shared their experiences and stories. Without them, this study would not have been possible.

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ABSTRACT

➤ **Background:**

Prolonged conflict in South Sudan has exposed civilians to severe traumatic events, displacement, and loss of livelihoods. Leer County, a region significantly impacted by violence, hosts a population with presumed high levels of mental health vulnerabilities. However, limited empirical data existed regarding the specific prevalence of psychological distress and the adaptive or maladaptive coping mechanisms employed by these communities.

➤ **Objective:**

The study aimed to determine the prevalence of psychological distress, identify associated sociodemographic and conflict-related factors, and explore the psychosocial coping mechanisms utilized by conflict-affected populations in Leer, South Sudan.

➤ **Methodology:**

A descriptive cross-sectional study design was employed targeting adults aged 18 years and above residing in IDP camps, host communities, and returnee settlements. A multi-stage sampling technique was utilized to select a final sample of 380 respondents. Data were collected using a structured questionnaire comprising the Kessler Psychological Distress Scale (K10) to measure distress and the Brief COPE inventory to assess coping strategies. Data were analyzed using SPSS version 26. Descriptive statistics were used to determine prevalence, while multivariate logistic regression analysis was conducted to identify independent predictors of psychological distress.

➤ **Results:**

The study revealed an alarmingly high prevalence of psychological distress, with 48.2% of respondents screening positive for moderate to severe symptoms of depression, anxiety, or PTSD. Specifically, 74.2% met the criteria for moderate-to-severe depression (PHQ-9 ≥ 10), and 36.2% met the criteria for probable PTSD. Multivariate logistic regression indicated that older age (46+ years) was a significant predictor of depression (AOR = 2.81; 95% CI: 1.28–6.13). Furthermore, the burden of barriers to accessing care was strongly associated with distress (AOR = 1.77 per additional barrier). Regarding coping, 88.5% of the population utilized adaptive strategies such as religious coping, while maladaptive strategies like substance use were significantly correlated with higher distress scores.

➤ **Conclusion:**

Psychological distress is a significant public health burden in Leer County, driven by the cumulative effects of trauma, displacement, and socioeconomic deprivation. While community resilience is evident through religious and social coping, the high prevalence of symptoms coupled with a massive treatment gap highlights an urgent need for intervention.

➤ **Recommendations:**

The study recommends integrating Mental Health and Psychosocial Support (MHPSS) into routine humanitarian and primary healthcare services. Interventions should focus on task-shifting to community health workers, addressing structural barriers to access, and leveraging trusted religious networks to reduce stigma.

Keywords: Psychological Distress, Coping Mechanisms, Conflict-Affected, Leer County, South Sudan, PTSD, Depression.

LIST OF ABBREVIATIONS AND ACRONYMS

CHW	Community Health Worker
CMD	Common Mental Disorder
COR	Conservation of Resources
FAO	Food and Agriculture Organization
GAD-7	Generalized Anxiety Disorder-7
GBV	Gender-Based Violence
GHQ	General Health Questionnaire
IASC	Inter-Agency Standing Committee
IDP	Internally Displaced Person
IPC	Integrated Food Security Phase Classification
K10	Kessler Psychological Distress Scale
MHPSS	Mental Health and Psychosocial Support
NGO	Non-Governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PHQ-9	Patient Health Questionnaire-9
PTSD	Post-Traumatic Stress Disorder
SPSS	Statistical Package for the Social Sciences
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

A. Introduction

This chapter lays the foundation for the study by introducing the context of psychological distress among conflict-affected populations in Leer County, South Sudan. It presents the background of the study, detailing the humanitarian crisis and mental health burden in the region, followed by the statement of the problem. The chapter further outlines the general and specific objectives, research questions, and hypotheses that guide the investigation. Finally, it establishes the significance and scope of the study, along with the theoretical and conceptual frameworks used to analyze the relationships between trauma, distress, and coping mechanisms.

B. Background

South Sudan, the world's youngest nation since its independence in 2011, has faced persistent instability and conflict that continue to devastate its social, economic, and health systems. Despite hopes for peace, recurrent armed clashes, political upheaval, and intercommunal violence have plunged much of the population into prolonged humanitarian crises (United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2024). Among the most affected regions is Unity State, particularly Leer County, where protracted conflict, displacement, and destruction of livelihoods have created an environment rife with trauma and psychosocial distress.

Leer has experienced repeated waves of violence over the past decade, resulting in mass displacement, loss of life, and destruction of homes and infrastructure. According to OCHA (2024), over 350,000 people remain displaced in Unity State, many residing in overcrowded camps or informal settlements with limited access to basic services. The repeated cycles of displacement have eroded traditional social support networks and disrupted access to healthcare, education, and livelihoods. Food insecurity remains pervasive; the Integrated Food Security Phase Classification (IPC) reports that over 60% of Unity State's population face crisis or emergency levels of food insecurity, increasing vulnerability to malnutrition and poor health outcomes (IPC Global Partners, 2024).

The physical devastation in Leer is paralleled by an overwhelming mental health burden. The World Health Organization (WHO) estimates that one in five individuals affected by conflict suffer from mental health disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD) (WHO, 2023). A recent mental health assessment in conflict-affected regions of South Sudan indicated that approximately 40% to 50% of adults exhibit clinically significant symptoms of psychological distress (Jordans et al., 2022). Though direct data from Leer remains limited, these estimates likely reflect the local burden given the intensity and duration of conflict experienced there.

Mental health and psychosocial support (MHPSS) addresses both clinical mental health needs and the broader social and psychological well-being of affected populations (Inter-Agency Standing Committee [IASC], 2023). However, in South Sudan and Leer specifically, MHPSS services are scarce and fragmented. The health system is under-resourced, with fewer than 1 mental health worker per 100,000 people (WHO, 2022). Stigma and cultural misconceptions about mental illness often perceived as spiritual afflictions or personal weakness further impede help-seeking behaviors and social inclusion for affected individuals (Kaiser et al., 2021).

Residents of Leer face multiple psychosocial stressors. Chronic exposure to armed conflict, including direct violence, witnessing killings, sexual violence, and destruction of homes, profoundly impacts mental health. Forced displacement disrupts social support systems, leading to social isolation and economic hardship. According to the Food and Agriculture Organization (FAO, 2023), conflict-induced displacement has resulted in the loss of agricultural livelihoods for over 70% of households in Leer, exacerbating food insecurity and related stress. Limited access to healthcare further compounds the impact, leaving many without treatment for physical or mental health issues. Women and girls face heightened vulnerability to gender-based violence (GBV), with prevalence rates estimated at 33% among displaced populations in South Sudan (UNFPA, 2023), which severely affects psychosocial well-being.

Despite these challenges, communities in Leer employ various psychosocial coping strategies rooted in local cultural and social traditions. Extended family and clan networks provide emotional and practical support, helping individuals manage stress. Religious and spiritual practices such as prayer and participation in traditional ceremonies serve as sources of comfort and resilience (Kaiser et al., 2021). Traditional healing and storytelling maintain cultural identity and social cohesion. Economic activities, including small-scale trade and livestock husbandry, offer not only livelihoods but also psychosocial benefits by fostering purpose and normalcy. However, prolonged conflict, displacement, and service disruption undermine the effectiveness and availability of these coping mechanisms.

A critical gap remains in the availability of detailed, localized data on mental health and psychosocial well-being in Leer. Although regional studies provide some insights, the unique security, cultural, and social context of Leer necessitates focused

research. Without robust evidence, humanitarian actors face challenges in developing culturally appropriate, accessible MHPSS interventions. The scarcity of data risks perpetuating fragmented and ineffective mental health programming, potentially leaving the most vulnerable without support (Jordans et al., 2022).

International guidelines, such as the Inter-Agency Standing Committee's (IASC) Mental Health and Psychosocial Support in Emergency Settings guidelines, advocate for a multi-layered approach ranging from ensuring basic services to specialized mental health care (IASC, 2023). However, in Leer, limited resources, security constraints, and lack of trained personnel impede the implementation of comprehensive MHPSS services. Understanding community perceptions and local coping strategies is essential to overcome stigma and barriers to service uptake.

This study aimed to address these gaps by providing empirical evidence on the prevalence of psychological distress and associated risk factors among the conflict-affected population of Leer, as well as exploring the psychosocial coping mechanisms employed. The findings provide insights to inform humanitarian agencies and policymakers in tailoring MHPSS interventions to the local context, enhancing their relevance, acceptability, and sustainability. Moreover, the evidence generated contributes to advocacy for increased resource allocation and the integration of mental health into broader health and social programs in South Sudan.

C. Objectives

➤ General Objective:

To determine the prevalence of psychological distress and identify associated factors and coping mechanisms among conflict-affected populations in Leer County, South Sudan.

➤ Specific Objectives:

- To estimate the prevalence of symptoms of common mental disorders, including depression, anxiety, and post-traumatic stress disorder (PTSD), among adults aged 18 years and above in Leer
- To identify sociodemographic, conflict-related, and displacement factors associated with psychological distress in the study population.
- To explore the psychosocial coping mechanisms employed by individuals and communities affected by conflict in Leer
- To assess community perceptions, attitudes, and barriers related to mental health and psychosocial support services.

D. Research Questions

- What is the prevalence of psychological distress (e.g., symptoms of depression, anxiety, traumas) among conflict-affected populations in Leer?
- What demographic factors (e.g., age, gender, displacement status) are associated with increased psychological distress in conflict-affected populations in Leer?
- How does the effectiveness of different coping strategies vary across different demographic groups and types of conflict experiences in Leer?
- What are the most barriers to accessing mental health support services for conflict-affected populations in Leer?

E. Problem Statement

Leer County, located in South Sudan's Unity State, has endured years of armed conflict and repeated displacement, with over 350,000 internally displaced persons (IDPs) currently residing in the region (OCHA, 2024). Despite these overwhelming challenges, there is a critical lack of comprehensive, localized data on the mental health status of the population. Existing estimates suggest that 40% to 50% of conflict-affected populations in South Sudan experience symptoms consistent with depression, anxiety, or post-traumatic stress disorder (Jordans et al., 2022), yet no such precise data exist specifically for Leer. Food insecurity affects over 60% of the population in Unity State (IPC Global Partners, 2024), adding to psychosocial stress and vulnerability. Moreover, gender-based violence prevalence among displaced populations in South Sudan is estimated at 33%, further exacerbating mental health challenges (UNFPA, 2023).

The absence of granular data on psychological distress, associated risk factors, and coping mechanisms impedes the design and implementation of effective, culturally sensitive Mental Health and Psychosocial Support (MHPSS) programs tailored to Leer's unique context. Stigma surrounding mental illness and limited access to mental health services South Sudan has fewer than 1 mental health worker per 100,000 people (WHO, 2022) compound these challenges. Vulnerable groups such as women, children, and displaced persons remain particularly underserved, increasing the risk of chronic mental health disorders and social exclusion. Without focused research to address these gaps, the psychosocial needs of Leer's conflict-affected populations continue to be neglected, undermining both immediate humanitarian response and long-term recovery efforts.

➤ *Justification*

The justification for this study stemmed from the urgent need to understand the scope and nature of psychological distress in Leer County to inform targeted and contextually relevant MHPSS programming. Mental health disorders in conflict-affected populations contribute significantly to morbidity and impaired functioning yet remain neglected in many humanitarian responses due to limited data and resources (World Health Organization [WHO], 2023). Given that over 350,000 people in Unity State are displaced and face ongoing insecurity and food insecurity (OCHA, 2024; IPC Global Partners, 2024), addressing mental health is essential for holistic humanitarian assistance.

This study generated critical epidemiological data on the prevalence of common mental disorders, including depression, anxiety, and post-traumatic stress disorder, within the unique sociocultural milieu of Leer. By identifying key risk and protective factors, including locally employed psychosocial coping mechanisms, the study provides an evidence base that enables humanitarian organizations to design interventions that respect cultural norms and enhance community resilience (Kaiser et al., 2021). Additionally, the understanding of community perceptions and barriers to service uptake facilitates the development of strategies to reduce stigma and improve access.

The findings also contribute to advocacy efforts aimed at integrating MHPSS into primary healthcare and humanitarian programs in South Sudan, where mental health services are currently under-resourced and fragmented (WHO, 2022). Ultimately, this research supports the global commitment to mental health as a fundamental component of health and human rights, helping to ensure that vulnerable populations in conflict-affected settings receive the psychosocial support necessary to recover, rebuild, and thrive.

F. Hypothesis

There is a high prevalence of psychological distress among conflict-affected populations in Leer County, and this distress is significantly associated with factors such as exposure to violence, displacement, loss of livelihood, and lack of social support. Furthermore, individuals with strong coping mechanisms, such as community support, religious faith, and adaptive strategies, report lower levels of psychological distress compared to those lacking such mechanisms.

➤ *Hypothesis Corresponding to Objectives:*

- H1: A significant proportion of conflict-affected individuals in Leer exhibit psychological distress (e.g. depression, anxiety, PTSD symptoms).

This is a descriptive hypothesis which aims to estimate the prevalence, expecting it to be high due to the context of conflict.

➤ *Hypothesis 2: Associated Factors*

- H2a: Exposure to violent conflict is positively associated with higher levels of psychological distress.
- H2b: Females are more likely to report psychological distress than males in conflict-affected population.
- H2c: Individuals with limited access to basic services (e.g. healthcare, food, shelter) report higher psychological distress.
- H2d: Social support is inversely associated with psychological distress (i.e., more support = less distress).

These are analytical hypotheses aiming to test relationships between independent variables (e.g. gender, exposure, access to services) and psychological distress.

➤ *Hypothesis 3: Coping Mechanisms*

- H3a: Emotion-Focused coping strategies (e.g. avoidance, denial) are more commonly used than problem-Focused strategies among the conflict-affected population.
- H3b: Individuals using adaptive coping strategies (e.g. seeking support, problem-solving) report lower psychological distress levels.
- H3c: Use of maladaptive coping strategies (e.g. substance use, isolation) is associated with higher levels of psychological distress.

These hypotheses explore the type and impact of coping mechanisms on mental health outcomes.

G. Theoretical Framework

Theoretical models highlight that conflict-affected populations in Leer areas like Leer experience high psychological distress due to factors such as traumatic experiences, displacement, economic hardship and social disruption, maladaptive coping mechanisms, like substance abuse and denial, increase distress, while adaptive strategies, including social support, acceptance and planning, are associated with better mental health outcome.

To understand the prevalence of psychological distress, its associated factors, and coping mechanisms among conflict-affected populations in Leer, this study draws on several interrelated theories from psychology, sociology, and public health.

➤ *Conservation of Resources (COR) Theory-Hobfoll (1989-2001),*

Hobfoll (1989-2001) proposed the Conservation of Resources Theory, which suggests that psychological distress results from actual loss, threat of loss, or lack of gain in valued resources (e.g. food, shelter, social support, safety). In conflict-affected areas like Leer, where communities experience displacement, loss of livelihoods, and insecurity, this theory helps explain why psychological distress is so prevalent.

- Application: COR theory helps in identifying the stressors specific to the Leer populations, such as loss of homes, family members or community networks, and how these losses contribute to increased distress.
- Social Ecological Model-Bronfenbrenner (1979), Bronfenbrenner's (1979) Social Ecological Model provides a multi-level framework for analyzing how individuals, interpersonal, community, and social factors influence mental health. It is especially relevant in conflict settings where environmental and societal structures are disrupted.
- Application: This model helps identify various levels of influence on psychological distress in Leer, from individual trauma to breakdowns in community structures and health systems, highlighting the need for multi-layered interventions.
- Stress and Coping Theory-Lazarus and Folkman (1984), Lazarus and Folkman (1984) developed the Transactional Model of Stress and Coping, emphasizing the role of cognitive appraisal and coping strategies in managing stress. It distinguishes between problem-focused and emotion-focused coping.
- Application: This Theory is essential in understanding how individuals in Leer perceive stressors (e.g. conflict, displacement) and what coping mechanisms (e.g. prayer, social support, withdrawal) they use to manage distress. It also guides the classification of coping responses as adaptive or maladaptive.
- Trauma Theory-Herman (1992), Herman (1992), in her Trauma and Recovery framework, outlines the psychological impact of prolonged exposure to trauma, such as war and violence, including symptoms of PTSD, depression, and anxiety.
- Application: Trauma theory helps contextualize the psychological symptoms observed in Leer's population, offering a lens through which to understand the depth of stress caused by chronic exposure to violence and instability.
- Resilience Theory-Masten (2001), Masten (2001) describes resilience as "ordinary magic"- the ability to maintain or regain mental health despite adversity. This theory focuses on protective factors like community support, faith, and adaptability.
- Application: This framework supports the analysis of positive coping mechanisms and strengths within the Leer community, such as communal bonds, traditional healing, or religious faith, that may buffer the psychological impact of conflict.

Together, these theories provide a comprehensive framework for analyzing psychological distress in Leer. The COR theory and Trauma theory explain the origins and nature of stress, the Social Ecological Model highlights the layered context of distress, the Stress and Coping theory identifies coping mechanisms, and the Resilience theory focuses on protective factors. This integrated approach ensures a holistic understanding of mental health in conflict-affected settings.

Together, theories provide a comprehensive understanding of both individual-level factors associated with the prevalence of psychological distress.

These frameworks inform the selection of variables and guide the interpretation of findings in this study.

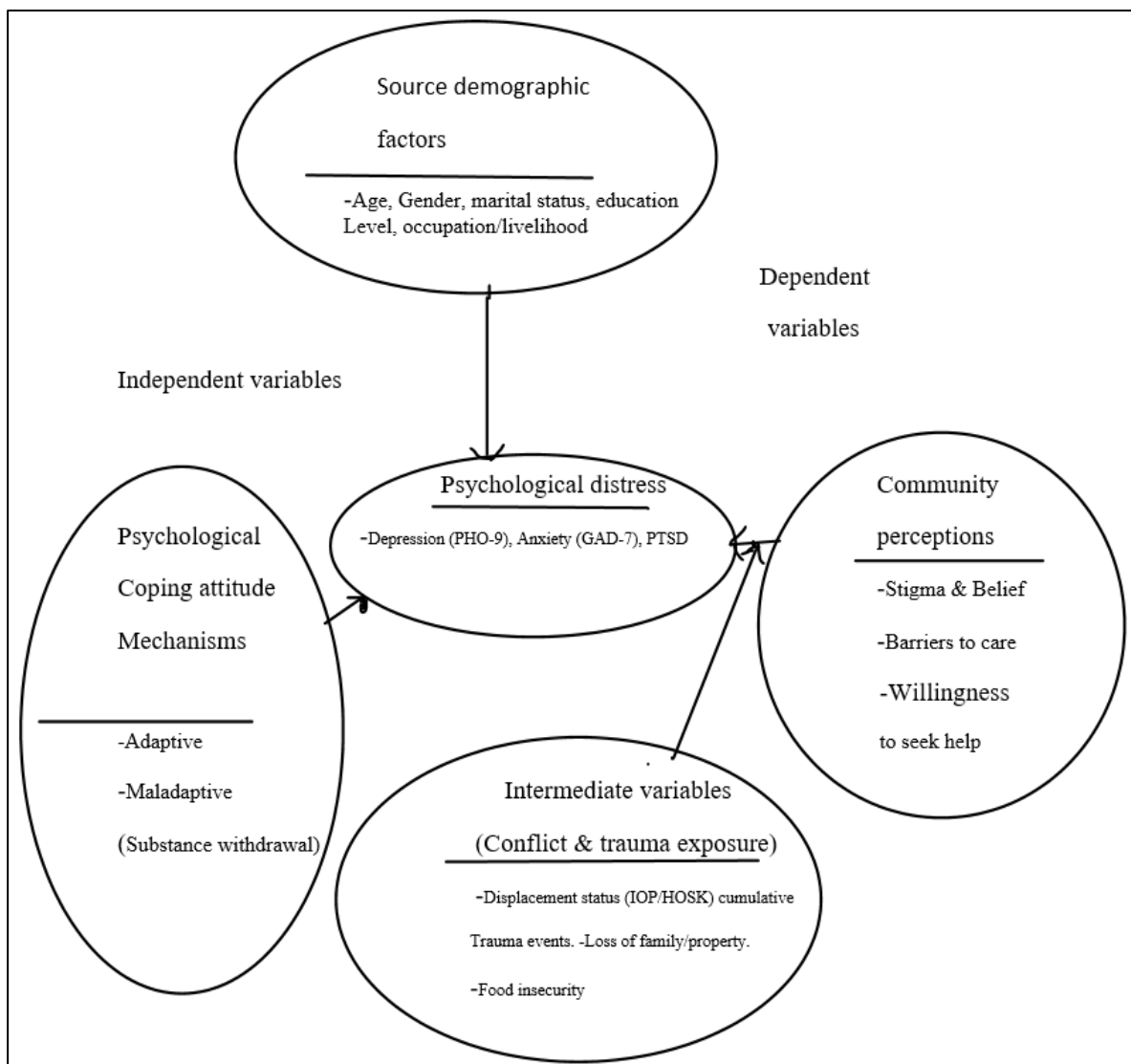
H. Conceptual Framework

Fig 1 Conceptual Framework of Factors Associated with Psychological Distress and Coping
 Source: Adopted and Modified by Researcher (2025) from Lazarus and Folkman (1984),
 Hobfoll (1989), and Miller & Rasmussen (2010).

The conceptual framework for this study (Figure 1.1) illustrates the complex interplay between risk factors, mediating variables, and mental health outcomes among conflict-affected populations in Leer, South Sudan. The independent variables comprise demographic characteristics (e.g., age, gender), conflict-related exposures (e.g., displacement, violence), and socioeconomic stressors (e.g., poverty, lack of services), which previous research identifies as primary drivers of distress in humanitarian settings (Miller & Rasmussen, 2010; Steel et al., 2009). These stressors do not act in isolation but are filtered through mediating variables such as social support networks, religious beliefs, and individual resilience, consistent with the buffering hypothesis of the Social Ecological Model (Bronfenbrenner, 1979) and the resource-based perspective of Conservation of Resources (COR) theory (Hobfoll, 1989). The interaction between these risk and protective factors determines the dependent variables, specifically the prevalence of psychological distress (depression, anxiety, PTSD) and the coping mechanisms adopted. As theorized by Lazarus and Folkman (1984), coping responses can be adaptive (e.g., seeking support, problem-solving) or maladaptive (e.g., substance use, avoidance), which in turn creates a feedback loop that either mitigates or exacerbates the initial distress (Betancourt et al., 2013).

CHAPTER TWO

LITERATURE REVIEW

A. Introduction:

Psychological distress, characterized by symptoms of anxiety, depression, and emotional suffering, is a critical public health concern, particularly in conflict-affected populations where prevalence rates often exceed 30% (WHO, 2022). This distress is driven by a complex interplay of sociodemographic factors such as gender and socioeconomic status and conflict-specific stressors, including direct exposure to violence, displacement, and the breakdown of social support systems (Lazarus & Folkman, 1984; Maslach & Leiter, 2016). In response, individuals employ diverse coping mechanisms ranging from adaptive strategies like social support and religious practice to maladaptive behaviors such as substance abuse and withdrawal (Carver et al., 1989). In the context of Leer, South Sudan, understanding these dynamics is essential, as the high burden of distress is compounded by chronic food insecurity and limited healthcare access. This chapter reviews the global, regional, and local literature to contextualize the prevalence of mental disorders, identify associated risk factors, and explore the coping strategies and barriers to care that define the psychosocial landscape of this vulnerable population.

B. Theoretical Framework

This study is anchored on three interrelated theories: the Conservation of Resources (COR) Theory, the Transactional Model of Stress and Coping, and the Social Ecological Model. Together, these theories provide a comprehensive lens to analyze how resource loss drives distress, how individuals appraise and cope with conflict, and how multi-level environmental factors influence mental health in Leer, South Sudan.

➤ *Conservation of Resources (COR) Theory*

The Conservation of Resources (COR) theory was proposed by Stevan Hobfoll in 1989 as a response to earlier stress theories that focused heavily on individual cognitive appraisal. Hobfoll argued that stress is fundamentally a reaction to the environment, specifically occurring when there is an actual loss of resources, a threat of resource loss, or a failure to gain resources following an investment of effort. Resources are defined broadly as objects (e.g., shelter, cattle), conditions (e.g., marriage, seniority), personal characteristics (e.g., self-esteem), and energies (e.g., money, knowledge).

The COR theory has been extensively validated in conflict and disaster settings. A study by Freedy et al. (1992) found that resource loss was the single strongest predictor of psychological distress following natural disasters, outweighing demographic factors. Similarly, a study by Porter and Haslam (2005) conducted a meta-analysis on refugee mental health and found that permanent resource loss (homes, status) was more predictive of PTSD than the initial trauma event itself. In the context of war, a study by Johnson et al. (2009) in Rwanda demonstrated that the destruction of social capital and economic assets perpetuated depression years after the genocide. Furthermore, research by Morina et al. (2018) confirmed that "loss spirals" where one loss leads to another are highly prevalent in protracted refugee situations, directly correlating with anxiety severity (Freedy et al., 1992; Johnson et al., 2009; Morina et al., 2018; Porter & Haslam, 2005).

Critics of COR theory argue that it is overly objective and materialistic, potentially neglecting the subjective interpretation of what constitutes a "resource" across different cultures. A study by Lazarus (2001) criticized COR for minimizing the role of cognitive appraisal, arguing that a loss is only stressful if the individual perceives it as significant. Additionally, researchers like Kaniasty and Norris (2004) have noted that COR theory focuses heavily on the negative impacts of loss, sometimes failing to account for "post-traumatic growth" or the resource gain that can occur through community solidarity during crises (Kaniasty & Norris, 2004; Lazarus, 2001).

COR theory is highly relevant to Leer County, where the population has faced tangible losses of cattle, land, and family members due to conflict. It directly addresses Objective 2 (Factors Associated with Distress) by framing displacement and food insecurity not just as "events" but as "resource losses" that deplete the psychological resilience of IDPs and host communities.

A key gap in COR theory is its limited explanation of *how* individuals choose specific coping mechanisms when resources are totally depleted. It predicts distress but offers less insight into the specific cultural nuances of spiritual coping in African contexts like South Sudan.

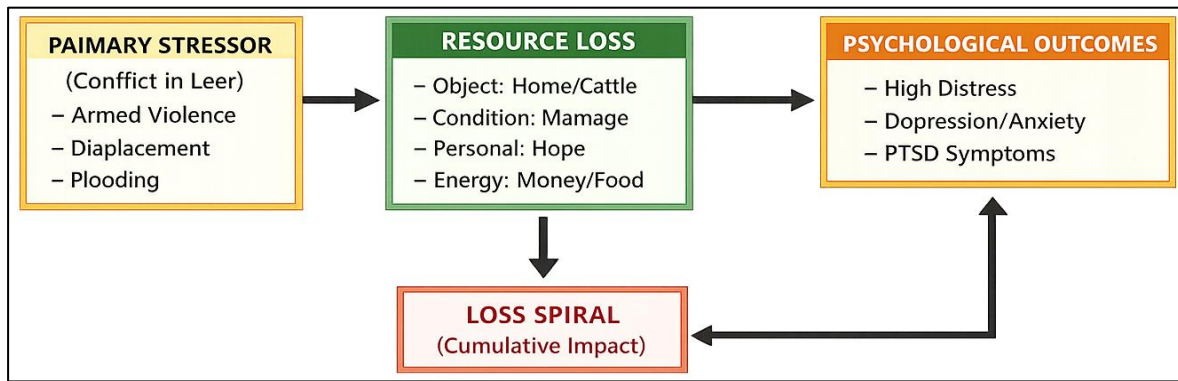


Fig 2 Application of Conservation of Resources Theory to Leer Context
Source: Adapted from Hobfoll (1989).

Figure 2 illustrates the linear trajectory of stress in Leer. The conflict acts as the primary stressor, which triggers the loss of key resources (cattle, homes, social status). This loss is not a single event but creates a "Loss Spiral" where the lack of resources makes the individual more vulnerable to future stressors (e.g., losing cattle leads to poverty, which leads to hunger). This cumulative loss directly results in the dependent variable: high psychological distress.

➤ Transactional Model of Stress and Coping

Developed by Richard Lazarus and Susan Folkman in 1984, this theory shifted psychology away from viewing stress as a biological response to viewing it as a relationship between the person and the environment. It introduced the concepts of Primary Appraisal (Is this a threat?) and Secondary Appraisal (Can I handle it?). It famously categorized coping into Problem-Focused (changing the situation) and Emotion-Focused (managing the emotional response).

This model is the bedrock of psychosocial research. A study by Miller and Rasmussen (2010) used this framework to show that daily stressors (appraised as unmanageable) often mediate the relationship between war trauma and mental health. Research by Betancourt and Khan (2008) utilized this model to identify adaptive coping strategies among children in war zones, finding that those who actively engaged in "cognitive reframing" had lower distress. Furthermore, a study by Weaver and Hadley (2009) in Africa supported the model by showing that when individuals appraised their food insecurity as uncontrollable, they resorted to maladaptive emotion-focused coping, leading to higher anxiety. A study by Dempster et al. (2015) also confirmed that avoidant coping styles (maladaptive) were strong predictors of PTSD in refugee populations (Betancourt & Khan, 2008; Dempster et al., 2015; Miller & Rasmussen, 2010; Weaver & Hadley, 2009).

Critics argue that the model is too individualistic and Western-centric. A study by Hobfoll (2001) argued that in collective societies (like South Sudan), coping is often communal, not individual. Additionally, theorists like Schoenmakers et al. (2015) noted that the distinction between "problem-focused" and "emotion-focused" is blurry in chronic conflict zones, where prayer (emotion-focused) is often viewed as a practical problem-solving step (asking God for intervention) (Hobfoll, 2001; Schoenmakers et al., 2015).

This theory is essential for Objective 3 (Coping Mechanisms). It helps categorize the strategies used in Leer (e.g., prayer vs. alcohol) and explains why individuals choose them based on their appraisal of the conflict. The theory often assumes individuals have agency to choose coping mechanisms. In Leer, where structural constraints are extreme (e.g., famine), "choice" is limited, a gap this study aims to explore by looking at structural barriers.

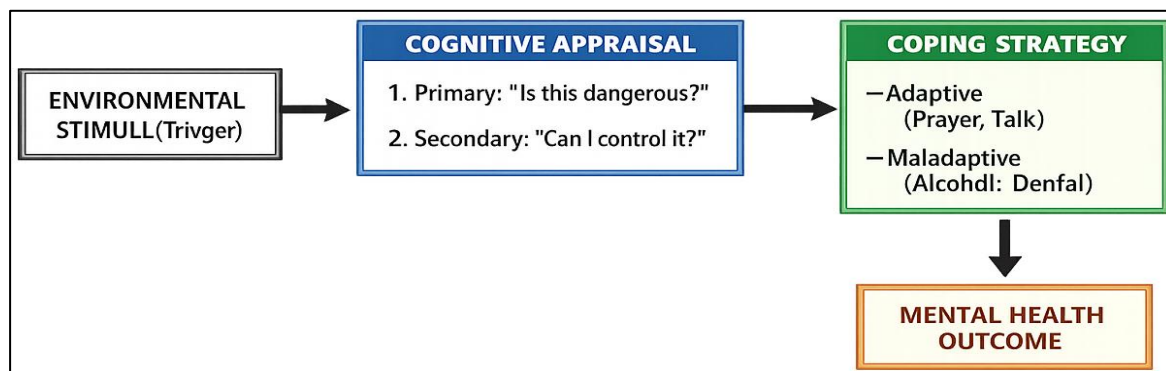


Fig 3 Transactional Model Applied to Coping in Leer
Source: Adapted from Lazarus and Folkman (1984).

Figure 3 depicts the process by which a resident in Leer processes trauma. The conflict event (Stimuli) is filtered through Appraisal. If they appraise the situation as hopeless (Secondary Appraisal), they may choose Maladaptive coping (alcohol). If they appraise it as a challenge to be endured with community help, they choose Adaptive coping (prayer). This choice directly dictates the mental health outcome (High vs. Low Distress).

➤ *Social Ecological Model (SEM)*

Urie Bronfenbrenner introduced the Social Ecological Model in 1979 to examine human development within the context of systems. He proposed that individuals are affected by the Microsystem (family), Mesosystem (community), Exosystem (institutions), and Macrosystem (culture/politics). In mental health, this shifted focus from "fixing the person" to "fixing the environment."

This model is widely used in humanitarian MHPSS. A study by Betancourt et al. (2010) on child soldiers utilized SEM to show that community acceptance (Exosystem) was more important for recovery than individual therapy. Research by Jordans et al. (2022) in South Sudan used SEM to map mental health services, finding that the lack of national policy (Macrosystem) created barriers at the local level. Furthermore, a study by Panter-Brick et al. (2014) in Afghanistan confirmed that resilience is a multisystemic process involving family and cultural values. A study by Tol et al. (2013) also applied SEM to show how maternal depression (Microsystem) is exacerbated by poverty (Exosystem) in conflict settings (Betancourt et al., 2010; Jordans et al., 2022; Panter-Brick et al., 2014; Tol et al., 2013).

The primary criticism is its complexity. A study by Trickett (2009) noted that because SEM includes everything, it is difficult to test statistically. It describes the problem well but is harder to use for specific causal predictions compared to narrower theories like COR (Trickett, 2009). SEM supports Objective 4 (Barriers to Care) and Objective 2 (Factors). It explains that distress in Leer is not just biological but is caused by the breakdown of the Mesosystem (community trust) and Macrosystem (political war).

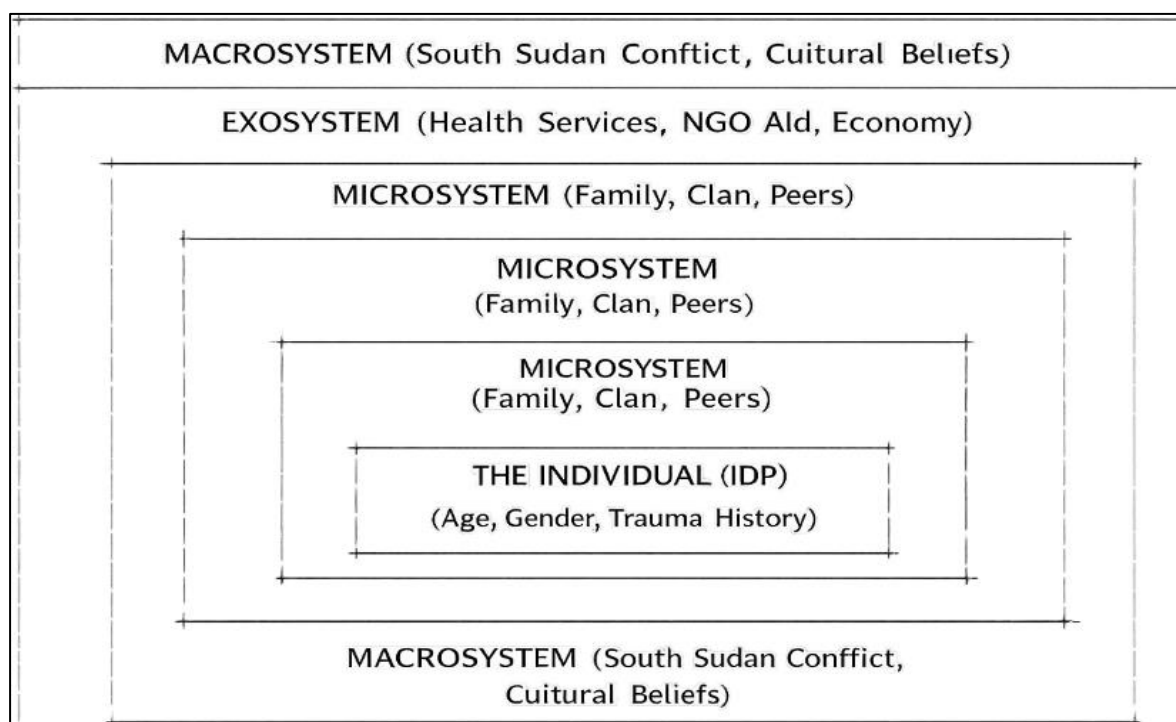


Fig 4 Social Ecological Model of Distress Factors in Leer
Source: Adapted from Bronfenbrenner (1979).

Figure 4 visualizes the nested layers of influence on a person in Leer. The Individual is at the center, bearing the burden of trauma. Surrounding them is the Microsystem (family support), which can buffer stress. However, the Exosystem (lack of clinics/food) and Macrosystem (ongoing war/stigma) exert downward pressure, often crushing the inner circles. This explains why individual coping is insufficient without structural support.

C. *Empirical Review*

This section reviews empirical literature aligned with the study objectives, examining the prevalence of psychological distress, associated factors, coping mechanisms, and community perceptions. The review is structured geographically, presenting evidence from global contexts, followed by continental Africa, the East African region, and finally local studies from South Sudan.

➤ *Prevalence of Symptoms of Common Mental Disorders*• *Global Prevalence in Conflict and Trauma Settings*

A comprehensive study by Hoppen et al. (2021) was conducted globally using a systematic review and meta-analysis approach to estimate the burden of mental disorders in countries affected by war between 1989 and 2019. The study found out that the mean prevalence rates in these conflict settings were 23.8% (95% CI 18.5–29.6) for PTSD and 22.7% (95% CI 17.5–28.4) for major depression. The study concluded that the psychological burden in war-torn regions is substantial and persists long after the cessation of hostilities, emphasizing the need for sustained, long-term interventions. Similarly, a study by Charlson et al. (2019) was conducted using a meta-analysis of data from 39 countries to provide WHO prevalence estimates for mental disorders in conflict settings. The study recorded that the age-standardized point prevalence for anxiety, depression, PTSD, bipolar disorder, and schizophrenia was 22.1% at any point in time in conflict-affected populations. The study concluded that the burden of mental disorders is extremely high in humanitarian emergencies, requiring immediate scalability of mental health services (Charlson et al., 2019; Hoppen et al., 2021).

In contrast, a study by Lewis et al. (2019) was conducted in England and Wales using longitudinal data from a representative cohort of young people to assess trauma epidemiology in a non-conflict setting. The study found out that while trauma exposure was relatively high (31.1% by age 18), the lifetime prevalence of PTSD was significantly lower at 7.8% (95% CI 6.6–9.1) compared to conflict zones. However, the study recorded that participants with PTSD had significantly higher odds of also meeting criteria for major depressive disorder (OR 4.21) and generalized anxiety disorder (OR 3.84). The study concluded that environmental context plays a decisive role in prevalence rates, but comorbidity remains a constant feature of trauma-related disorders regardless of the setting. Additionally, a study by Merians et al. (2023) was conducted to review PTSD prevalence estimates globally. The study found out that prevalence rates vary widely, ranging from 1.3% to 12.2% in the general population, but escalate dramatically in specific trauma-exposed subpopulations. The study concluded that prevalence is highly sensitive to the nature of the trauma and the assessment methodology used (Lewis et al., 2019; Merians et al., 2023).

• *Prevalence in African Countries (Outside East Africa)*

A study by Bah et al. (2020) was conducted in northern Sierra Leone using a cross-sectional design to assess mental health outcomes among Ebola survivors who had also experienced civil conflict. The study found out that the prevalence rates were alarming, with 48.1% of participants meeting criteria for anxiety, 47.0% for depression, and 26.6% for PTSD. The study recorded that survivors of both the epidemic and past civil conflict carry a "dual burden" of trauma, which significantly amplifies psychiatric morbidity compared to those facing single stressors. The study concluded that integrated psychological support services are essential for populations facing compounding crises. Similarly, a study by Sankoh et al. (2020) was conducted across sub-Saharan Africa using a systematic review and meta-analysis methodology. The study found out that the pooled prevalence of PTSD was 22% across the region, but this figure rose to 30% specifically in conflict-exposed regions, with some subpopulations reaching as high as 70–80%. The study concluded that displacement and lack of social support were the primary drivers of these elevated rates (Bah et al., 2020; Sankoh et al., 2020).

In contrast, a study by Abuhadra et al. (2023) was conducted in Libya using a systematic review approach to analyze post-civil war mental health. The study found out that prevalence rates fluctuated wildly due to methodological differences across studies, ranging from 11.7% to 57% for PTSD and 16.5% to 58% for depression. The study recorded that severe diagnoses were often comorbid with anxiety, creating complex clinical presentations. The study concluded that while the burden is undeniably high, the lack of standardized assessment tools in African conflict zones often complicates the generation of precise epidemiological data. Furthermore, a study by Umar et al. (2025) was conducted to systematically review the impact of adverse childhood experiences on PTSD in adults. The study found out that in many African contexts, early exposure to violence and instability is a critical predictor of adult psychopathology. The study concluded that prevalence studies must account for developmental trauma to fully understand the mental health landscape in the continent (Abuhadra et al., 2023; Umar et al., 2025).

• *Prevalence in East African Countries*

A study by Makango et al. (2023) was conducted in Ethiopia among internally displaced people (IDPs) in camps at Debre Berhan using a community-based cross-sectional design. The study found out that the prevalence of PTSD was 53.7% (95% CI 48.6–58.8), a rate significantly higher than global averages. The study recorded that depression and anxiety were also highly prevalent, often co-occurring with PTSD symptoms. The study concluded that the duration of displacement and the destruction of property were significantly associated with this high prevalence, highlighting the psychological cost of material loss. Similarly, a study by Bapolisi et al. (2020) was conducted in the Nakivale refugee camp in southwestern Uganda using the Harvard Trauma Questionnaire and Mini-International Neuropsychiatric Interview. The study found out that 40.8% of refugees met the criteria for current PTSD, and notably, 75.2% of those with PTSD also suffered from major depressive disorder. The study concluded that comorbidity is the norm rather than the exception in East African displacement settings, driven by the cumulative trauma of flight and resettlement (Bapolisi et al., 2020; Makango et al., 2023).

In contrast, a study by Nuh (2025) was conducted in Burao, Somaliland, among IDPs using a cross-sectional survey to determine the prevalence of depression, anxiety, and PTSD. The study found out that 28.4% of respondents screened positive for

depression and 21.6% for PTSD. The study recorded that while these rates are lower than those found in Ethiopia, they still represent a major public health crisis. The study concluded that the lack of mental health infrastructure in the region exacerbates these conditions, leaving the majority of cases untreated. Additionally, a study by Asnakew et al. (2019) was conducted among landslide survivors in Addis Ababa, Ethiopia. The study found out that the prevalence of PTSD was 37.3%, with high rates of comorbid depression. The study concluded that in East Africa, both conflict and environmental disasters contribute to a consistently high burden of mental disorders, necessitating versatile and responsive mental health systems (Asnakew et al., 2019; Nuh, 2025).

- *Local Prevalence in South Sudan and Sudan*

A systematic review by Tutlam et al. (2024) was conducted focusing on war-affected South Sudanese populations in settings of preflight, flight, and resettlement using meta-analysis. The study found out that the pooled prevalence estimates were 25.2% for anxiety, 24.2% for depression, and 34.0% for PTSD. The study recorded that South Sudanese populations exhibit consistently high levels of trauma-associated mental disorders regardless of their current geographic location. The study concluded that the chronicity of trauma in South Sudan has created a generalized mental health crisis that transcends borders. Similarly, a study by Khalil et al. (2024) was conducted in Sudan during the active armed conflict using a cross-sectional design among refugees, displaced, and non-displaced people. The study found out that the prevalence of PTSD was 36.6% among the general sample, with significantly higher rates among those directly exposed to physical violence. The study concluded that active conflict zones produce a specific "acute-on-chronic" distress pattern that exacerbates existing vulnerabilities (Khalil et al., 2024; Tutlam et al., 2024).

In contrast, a study by Agoth (2024) was conducted specifically among IDPs in Bor Town, South Sudan, using a quantitative survey approach. The study found out that the prevalence of PTSD symptoms and anxiety was critically high, driven primarily by food insecurity and lack of shelter. The study recorded that the lack of community-based mental health interventions exacerbates these conditions, leaving vulnerable populations without necessary psychosocial support. The study concluded that in South Sudan, psychological distress is inextricably linked to the collapse of basic services and protection mechanisms. Furthermore, a study by Akol (2020) was conducted among young war-affected adults in post-war communities in South Sudan. The study found out that 23% of those who reported three or more traumatic events met the criteria for PTSD. The study concluded that the youth demographic carries a specific and heavy burden of trauma that threatens the future social fabric of the nation (Agoth, 2024; Akol, 2020).

➤ *Sociodemographic, Conflict-Related, and Displacement Factors Associated with Psychological Distress*

- *Global Perspectives on Factors Driving Distress*

A study by Manafe et al. (2024) was conducted among internally displaced people in Cabo Delgado, Mozambique, using a cross-sectional design to identify predictors of common mental disorders (CMDs). The study found out that female gender, older age, and lack of formal education were significantly associated with higher rates of psychological distress. Specifically, women were 1.8 times more likely to experience CMDs than men, attributing this to the dual burden of trauma and caregiving responsibilities in resource-scarce environments. The study concluded that sociodemographic vulnerabilities are exacerbated by conflict, necessitating gender-sensitive interventions. Similarly, a study by Sisenop et al. (2025) was conducted as a systematic review and meta-analysis to investigate the link between human rights violations and mental health among forcibly displaced populations globally. The study found out that conflict-related factors, such as torture and forced displacement, were the strongest predictors of severe mental health conditions, outweighing demographic factors in some contexts. The study recorded that cumulative trauma exposure had a dose-response relationship with the severity of symptoms. The study concluded that while sociodemographic factors like age and gender matter, the intensity of conflict-related trauma is the primary driver of distress (Manafe et al., 2024; Sisenop et al., 2025).

In contrast, a study by Rees et al. (2019) was conducted in Australia among women at public antenatal clinics from refugee and conflict-affected backgrounds. The study found out that while past conflict exposure was a risk factor, current displacement-related stressors such as financial hardship and lack of social support were more strongly associated with major depressive disorder. The study concluded that post-migration living conditions play a crucial role in mediating the impact of past trauma. Additionally, a study by Lechner-Meichsner et al. (2024) was conducted among refugees in Germany to examine factors associated with prolonged grief disorder and PTSD. The study recorded that time since displacement and legal insecurity were significant predictors of symptom severity. The study concluded that the chronicity of displacement creates a unique set of stressors that compound initial war trauma (Lechner-Meichsner et al., 2024; Rees et al., 2019).

- *Factors in African Contexts (Outside East Africa)*

A study by Ali et al. (2024) was conducted in White Nile State, Sudan, among internally displaced persons using a cross-sectional survey. The study found out that sociodemographic factors like unemployment and low income were significant predictors of physical and mental health problems, with economic instability accounting for a substantial variance in distress scores. The study recorded that IDPs who had lost their livelihoods were twice as likely to screen positive for anxiety compared to those who had retained some economic activity. The study concluded that economic rehabilitation is as vital as psychological support in mitigating distress. Similarly, a study by Amodu et al. (2020) was conducted as a scoping review of conflict-induced internally displaced women in Africa. The study found out that women faced unique conflict-related stressors, including sexual violence and loss of

male protectors, which were strongly linked to depression and PTSD. The study concluded that gender-based violence is a pervasive and potent driver of mental ill-health in displacement settings across the continent (Ali et al., 2024; Amodu et al., 2020).

In contrast, a study by Ahmed et al. (2025) was conducted among healthcare workers in Sudan amid the 2023 conflict. The study found out that professional stress and direct exposure to diverse traumatic events in hospitals were significant predictors of depression and anxiety, independent of other sociodemographic factors. The study recorded that younger healthcare workers showed higher levels of distress than their older, more experienced counterparts. The study concluded that professional role and age intersect to create specific vulnerability profiles in conflict zones. Furthermore, a study by Awa et al. (2024) was conducted in Cross River State, Nigeria, among residents of conflict-affected communities. The study found out that witnessing the killing of family members was the most significant conflict-related factor associated with PTSD. The study concluded that the nature of the traumatic event is a critical determinant of the resulting psychopathology (Ahmed et al., 2025; Awa et al., 2024).

- *Factors in East African Countries*

A study by Makango et al. (2023) was conducted in Ethiopia among IDPs in Debre Berhan camps. The study found out that being female, divorced, or widowed were strong sociodemographic predictors of PTSD. Specifically, divorced or widowed women had three times the odds of developing PTSD compared to single women, highlighting the loss of social support structures. The study concluded that marital status acts as a proxy for social capital, which is severely eroded during displacement. Similarly, a study by Nuh (2025) was conducted in Burao, Somaliland, among IDPs. The study recorded that displacement-related factors, specifically lack of permanent shelter and food insecurity, were significantly associated with higher levels of depression and anxiety. The study found out that environmental stressors in the displacement setting were as impactful as past war trauma. The study concluded that meeting basic needs is a prerequisite for mental health stability in IDP camps (Makango et al., 2023; Nuh, 2025).

In contrast, a study by Ahmed and Agot (2025) was conducted among university students in Mogadishu, Somalia. The study found out that gender was the only sociodemographic factor significantly associated with PTSD, with female students reporting higher rates. Interestingly, the study recorded that academic stress combined with conflict-related insecurity created a compounding effect on mental health. The study concluded that for youth in conflict zones, the pressure to succeed amidst instability creates a specific mental health burden. Additionally, a study by Tadesse et al. (2024) was conducted in northwest Ethiopia among war-affected IDPs. The study found out that a family history of mental illness and substance use were significant predictors of suicidal ideation, independent of conflict exposure. The study concluded that pre-existing biological and behavioral vulnerabilities interact with conflict stressors to heighten risk (Ahmed & Agot, 2025; Tadesse et al., 2024).

- *Local Factors in South Sudan and Sudan*

A study by Hussein et al. (2025) was conducted among Sudanese during the ongoing war using a cross-sectional design. The study found out that displacement-related factors, such as displacement duration and frequency, were critical predictors of PTSD, with those displaced multiple times showing the highest symptom severity. The study recorded that the disruption of social networks and the uncertainty of the future were key drivers of distress. The study concluded that the "cumulative trauma" of repeated displacement is a primary mechanism of psychological injury in the region. Similarly, a study by Halim et al. (2025) was conducted among Sudanese refugees in Egypt. The study found out that financial instability and lack of access to healthcare in the host country were significantly associated with PTSD. The study concluded that post-migration stressors can perpetuate the psychological impact of the initial conflict-related trauma (Halim et al., 2025; Hussein et al., 2025).

In contrast, a study by Elnour et al. (2024) was conducted to assess the mental health consequences of civil unrest among Sudanese. The study found out that conflict-related factors, specifically direct exposure to violence and the loss of property, were the most significant predictors of depression and anxiety. The study recorded that older adults were particularly vulnerable due to the loss of established livelihoods and social status. The study concluded that the destruction of economic assets is a profound psychological stressor in South Sudanese culture. Furthermore, a study by Meyer et al. (2019) was conducted among South Sudanese adolescent refugees in Uganda. The study found out that family separation and lack of educational opportunities were the primary sociodemographic factors associated with poor well-being. The study concluded that for young people, the disruption of developmental pathways is a key source of distress (Elnour et al., 2024; Meyer et al., 2019).

➤ *Psychosocial Coping Mechanisms in Conflict-Affected Communities*

- *Global Coping Strategies in Conflict and Displacement*

A study by Salihu et al. (2024) was conducted globally among internally displaced persons (IDPs) and host communities in armed conflict regions using a cross-sectional design. The study found out that problem-focused coping strategies, such as seeking livelihood opportunities and securing shelter, were the most commonly used mechanisms by IDPs, while host communities relied more heavily on social support networks. The study recorded that maladaptive strategies, including withdrawal and substance use, were significantly higher among IDPs due to the breakdown of social structures. The study concluded that displacement erodes traditional coping mechanisms, necessitating interventions that rebuild community cohesion. Similarly, a study by Chudzicka-Czupala et al. (2023) was conducted during the Russo-Ukrainian war across populations in Poland, Ukraine, and Taiwan using a comparative survey. The study found out that active coping and positive reframing were associated with lower levels of depression

and anxiety, whereas denial and self-blame correlated with higher distress. The study concluded that cognitive coping styles are critical determinants of mental health outcomes in the face of war (Chudzicka-Czupala et al., 2023; Salihu et al., 2024).

In contrast, a study by Fluharty et al. (2021) was conducted in the UK to examine coping patterns during the COVID-19 pandemic, a different type of global crisis. The study found out that avoidant coping styles were predictors of poor mental health, while social connection was protective. The study concluded that regardless of the stressor type (pandemic or conflict), the fundamental mechanism of social support remains a universal buffer against distress. Additionally, a study by Munawar and Choudhry (2021) was conducted among frontline workers in Pakistan using qualitative inquiry. The study recorded that religious coping and altruism were primary strategies for managing high-stress environments. The study concluded that intrinsic value systems play a pivotal role in resilience during crises (Fluharty et al., 2021; Munawar & Choudhry, 2021).

- *Coping Mechanisms in African Contexts (Outside East Africa)*

A study by James et al. (2019) was conducted as a systematic review of psychosocial experiences among Ebola survivors in West Africa. The study found out that survivors employed a mix of adaptive strategies, such as prayer and peer support groups, and maladaptive strategies like social withdrawal due to stigma. The study recorded that community acceptance was the single most important factor facilitating positive coping. The study concluded that in communal African societies, coping is deeply relational and dependent on social reintegration. Similarly, a study by Alfahal et al. (2025) was conducted among IDPs in Port Sudan. The study found out that economic engagement, specifically petty trade and casual labor, served as both a livelihood strategy and a psychological coping mechanism by providing a sense of agency. The study concluded that restoring economic dignity is a potent psychosocial intervention (Alfahal et al., 2025; James et al., 2019).

In contrast, a study by Musa and Hamid (2025) was conducted among older adult IDPs in Darfur camps. The study found out that this demographic relied almost exclusively on religious coping and memories of the past, with very limited engagement in active problem-solving due to physical frailty and loss of status. The study recorded that this passive coping style was associated with higher rates of depression. The study concluded that elderly populations in displacement require targeted support that honors their past roles while providing current care. Furthermore, a study by Awa et al. (2024) was conducted in Nigeria among conflict-affected communities. The study found out that collective community rituals were essential for processing grief and trauma. The study concluded that cultural mechanisms of healing are often more effective than individualistic psychological interventions in these settings (Awa et al., 2024; Musa & Hamid, 2025).

- *Coping in East African Countries*

A study by Bitew and Tizazu (2025) was conducted in Ethiopia using a case study approach to explore coping among internally displaced women and children. The study found out that women utilized "silence" and "endurance" as primary coping strategies to protect their children from distress, often at the cost of their own mental health. The study recorded that this emotional suppression was culturally mandated but psychologically damaging. The study concluded that gendered expectations heavily influence coping choices in East African displacement contexts. Similarly, a study by Al-Shatanawi et al. (2023) was conducted among Syrian adolescent refugees in Jordan (relevant for comparison with East African refugee contexts). The study found out that peer support and educational engagement were the strongest predictors of resilience. The study concluded that for youth, structured daily activities serve as a critical coping scaffold (Al-Shatanawi et al., 2023; Bitew & Tizazu, 2025).

In contrast, a study by Meyer et al. (2019) was conducted among South Sudanese refugees in Uganda. The study found out that adolescents actively formed new "fictive kin" networks to replace lost family structures, a highly adaptive social coping strategy. The study recorded that these new networks were protective against depression. The study concluded that the malleability of social structures is a key resilience asset in displacement. Additionally, a study by Rab et al. (2023) was conducted in the Central African Republic and South Sudan documenting community-based health programs. The study found out that community health committees served not just a medical function but a psychosocial one, empowering members to take control of their health security. The study concluded that participation in community governance is a form of collective coping (Meyer et al., 2019; Rab et al., 2023).

- *Local Coping Strategies in South Sudan and Sudan*

A study by Sassi (2021) was conducted in South Sudan to analyze coping strategies of food-insecure households in conflict areas. The study found out that households employed severe consumption-based coping strategies, such as rationing food and skipping meals, which, while ensuring physical survival, were sources of immense psychological shame and distress. The study recorded that the inability to provide for one's family was a primary driver of anxiety among household heads. The study concluded that economic coping mechanisms often have negative psychological trade-offs. Similarly, a study by Heltne et al. (2020) was conducted in Sudan and South Sudan to explore perceptions of psychosocial support. The study found out that "forgetting" and "moving on" were culturally valued coping mechanisms, often leading to the suppression of trauma narratives. The study concluded that local resilience narratives sometimes conflict with Western models of "processing" trauma (Heltne et al., 2020; Sassi, 2021).

In contrast, a study by Msonge (2022) was conducted in Unity State, South Sudan, assessing coping among displaced women. The study found out that women formed "resource-sharing groups" to manage scarcity, which functioned simultaneously as economic safety nets and emotional support groups. The study recorded that these collectives were the most significant protective

factor against depression. The study concluded that women's collective agency is the backbone of community resilience in Unity State. Furthermore, a study by Avis (2020) was conducted to map coping mechanisms in South Sudan in relation to different shocks. The study found out that reliance on extended kinship networks was the universal first line of defense, but these networks were nearing collapse due to the protracted nature of the crisis. The study concluded that the exhaustion of social capital is a critical tipping point for mental health in the region (Avis, 2020; Msonge, 2022).

➤ *Community Perceptions, Attitudes, and Barriers to Mental Health Services*

• *Global Perspectives on Perceptions and Barriers*

A study by Lakshmana and Sangeetha (2022) was conducted globally using a cross-sectional survey design to assess community perceptions of accessibility and barriers to utilizing mental health services. The study found out that the most significant barrier was the lack of awareness about available services, followed closely by stigma and negative attitudes towards mental illness. The study recorded that 60% of respondents perceived mental health facilities as inaccessible or culturally inappropriate. The study concluded that increasing service availability is insufficient without concurrent community sensitization efforts. Similarly, a study by Upadhaya et al. (2020) was conducted in Nepal (a low-resource setting relevant for comparison) to examine facilitators and barriers to integrating mental health into primary care. The study found out that while community members recognized the need for services, they harbored deep mistrust towards the quality of care provided by non-specialists. The study concluded that trust-building is a prerequisite for service uptake (Lakshmana & Sangeetha, 2022; Upadhaya et al., 2020).

In contrast, a study by Kearns et al. (2019) was conducted in Ireland to evaluate the impact of community-based service provision on stigma. The study found out that localized, visible services significantly reduced self-stigma and improved attitudes towards help-seeking. The study concluded that physical proximity to care can demystify mental illness. Additionally, a study by Toso Salman et al. (2023) was conducted in the US using the Psychosocial Assessment Tool. The study recorded that perceived utility whether a treatment was felt to be useful was a stronger predictor of engagement than logistical barriers like transport. The study concluded that communities must perceive a tangible benefit to engage with MHPSS services (Kearns et al., 2019; Toso Salman et al., 2023).

• *Perceptions in African Contexts (Outside East Africa)*

A study by Komu et al. (2025) was conducted as a systematic review of barriers to accessing mental health services for adults in Sub-Saharan Africa. The study found out that structural barriers, such as cost and distance, were compounded by cultural barriers, specifically the attribution of mental illness to spiritual causes. The study recorded that negative attitudes from healthcare providers themselves were a major deterrent to help-seeking. The study concluded that the "treatment gap" in Africa is driven as much by the quality of the provider-patient relationship as by the lack of infrastructure. Similarly, a study by Awa et al. (2024) was conducted in Nigeria among conflict-affected communities. The study found out that stigma was the primary reason for non-disclosure of symptoms, with 77% of respondents citing fear of social exclusion. The study concluded that stigma reduction campaigns are essential components of any MHPSS intervention (Awa et al., 2024; Komu et al., 2025).

In contrast, a study by Fauk et al. (2021) was conducted among African migrants in Australia to explore perceptions of mental health services. The study found out that while migrants faced systemic barriers, their primary hesitation stemmed from a cultural mismatch between Western biomedical models and their own holistic understandings of health. The study concluded that service providers need cultural competence training to effectively engage African communities. Furthermore, a study by Sarikhani et al. (2021) was conducted across low-and middle-income countries. The study recorded that the lack of perceived need was a critical barrier; many individuals did not recognize their symptoms as medical issues requiring treatment. The study concluded that mental health literacy is a fundamental gap (Fauk et al., 2021; Sarikhani et al., 2021).

• *Perceptions in East African Countries*

A study by Kinsella (2024) was conducted across the Greater Horn of Africa (Ethiopia, Somalia, Sudan) to assess access to mental health services. The study found out that mental health issues were predominantly perceived as "madness" or spiritual possession, leading to a preference for traditional healers over clinical services. The study recorded that this hierarchy of resort often delayed effective medical treatment for severe conditions. The study concluded that integrating traditional healers into the referral pathway is a pragmatic strategy for the region. Similarly, a study by Mude et al. (2020) was conducted among South Sudanese communities in South Australia (providing insight into diaspora perceptions). The study found out that participants viewed mental health services with suspicion, fearing that engagement would lead to child removal or legal trouble. The study concluded that institutional mistrust is a pervasive barrier for South Sudanese populations (Kinsella, 2024; Mude et al., 2020).

In contrast, a study by Heltne et al. (2020) was conducted in Sudan and South Sudan to explore stakeholder perceptions of psychosocial support in education. The study found out that teachers and parents strongly supported school-based interventions, perceiving them as non-stigmatizing and beneficial for child development. The study concluded that schools offer a unique, acceptable entry point for MHPSS in East Africa. Additionally, a study by Rab et al. (2023) was conducted in the Central African Republic and South Sudan. The study recorded that community health workers were perceived as trusted intermediaries who could

bridge the gap between clinics and communities. The study concluded that task-shifting to community members enhances service acceptability (Heltne et al., 2020; Rab et al., 2023).

- *Local Perceptions in South Sudan and Sudan*

A study by Goldsmith and Cockcroft-McKay (2019) was conducted in South Sudan to build a case for community-based support. The study found out that the formal mental health system was perceived as nonexistent or irrelevant by the majority of the rural population. The study recorded that communities relied heavily on "informal" support networks because they did not view their distress as a medical condition but as a social suffering. The study concluded that MHPSS interventions must be framed around social support rather than clinical pathology to be accepted. Similarly, a study by Elidressi et al. (2025) was conducted in Khartoum, Sudan, to identify barriers to service utilization. The study found out that affordability was the single biggest barrier, with 24-hour psychiatric care being prohibitively expensive for most. The study concluded that economic accessibility is the primary determinant of service use in urban Sudan (Elidressi et al., 2025; Goldsmith & Cockcroft-McKay, 2019).

In contrast, a study by Kawaguchi (2019) was conducted among South Sudanese refugees in Uganda to map help-seeking pathways. The study found out that refugees actively sought help from NGOs but were often discouraged by the lack of follow-up and the "revolving door" of short-term projects. The study recorded that the perceived ineffectiveness of care was a major barrier to continued engagement. The study concluded that service reliability is crucial for maintaining trust. Furthermore, a study by Abore (2025) was conducted among young people in South Sudan regarding HIV/AIDS and healthcare access. The study found out that misconceptions and fear of judgment by health workers were significant barriers to accessing sensitive health services. The study concluded that provider attitudes are a critical leverage point for improving access (Abore, 2025; Kawaguchi, 2019).

D. Gaps in Literature and Need for Localized Research

While the existing body of literature provides significant insights into the mental health burden of conflict-affected populations, critical gaps remain, particularly regarding localized data for specific regions like Leer County. A study by Jordans et al. (2022) highlighted that most mental health research in South Sudan is aggregated at the national or state level, often masking the unique community-level variations driven by specific conflict dynamics. This lack of granularity is problematic because, as noted by Tol et al. (2018), interventions designed based on national averages frequently fail to address the specific "idioms of distress" and localized coping mechanisms present in distinct ethnic communities like the Nuer in Unity State. Consequently, the specific prevalence of conditions like PTSD and depression in Leer remains an estimate rather than an empirically established baseline, limiting the precision of humanitarian programming (Jordans et al., 2022; Tol et al., 2018).

Furthermore, there is a scarcity of research that simultaneously examines both the clinical burden of distress and the community's indigenous coping strategies within the same population. A study by Kaiser et al. (2021) observed that most research tends to be siloed, focusing either exclusively on pathology (prevalence rates) or exclusively on resilience (coping), failing to explore how these two dimensions interact in real-time. This gap is significant because, as argued by Miller and Rasmussen (2010), understanding the interaction between daily stressors (like food insecurity) and trauma symptoms is essential for developing holistic interventions. Without understanding whether local coping mechanisms (e.g., religious prayer) are currently mitigating or failing to buffer against the high distress levels in Leer, aid agencies risk duplicating efforts or undermining existing community strengths (Kaiser et al., 2021; Miller & Rasmussen, 2010).

Finally, the qualitative dimensions of community perceptions and barriers to care remain underexplored in the specific context of Leer County. A study by Goldsmith and Cockcroft-McKay (2019) emphasized that while logistical barriers (distance, cost) are often documented, the "cultural barriers" such as the specific attribution of mental illness to spiritual curses are poorly understood in rural South Sudanese contexts. This lack of qualitative insight creates a "blind spot" for service providers, who may establish clinics that remain underutilized due to stigma. Additionally, research by Roberts et al. (2011) indicated that most studies focus on the needs of the general population, often overlooking the distinct experiences of specific vulnerable subgroups like the elderly or returnees, whose unique barriers to accessing MHPSS services in Leer have not been systematically assessed. This study aims to fill these critical gaps by providing a localized, mixed-methods analysis that directly informs tailored intervention strategies (Goldsmith & Cockcroft-McKay, 2019; Roberts et al., 2011).

CHAPTER THREE METHODOLOGY

➤ Study Design

This study employed a descriptive cross-sectional design to assess the prevalence of psychological distress, associated factors, and psychosocial coping mechanisms among conflict-affected populations in Leer County, South Sudan. The cross-sectional approach allows for the collection of data at a single point in time, providing a snapshot of mental health status and psychosocial factors relevant to current humanitarian conditions.

➤ Study Population

The target population includes adults aged 18 years and above residing in both internally displaced people (IDP) camps, returnees and host communities within Leer. Special consideration was given to including vulnerable groups such as women, the elderly, and persons with disabilities. The population is estimated to be 77,811 since 2022 and the number keeps increasing, in which estimated 23,504 host community, IDPs estimated 38,307 and estimated 16,000 returnees in the areas of Leer. Those who participated among the host community, IDPS and returnees those who are likely have highest exposure to trauma and unmet needs and face reintegration stress, multiple displacement.

➤ Study Area

The study was conducted in Leer County, Unity State, a predominantly rural area severely affected by ongoing conflict and displacement. Leer County is an administrative division in Unity State, South Sudan. The County is the headquarters for the town of Leer and is in the Greater Upper Nile region. Its population is estimated to be 77,811 since 2022 and the number keeps increasing, and it covers an area of 631 square miles, Leer has 16 payams.

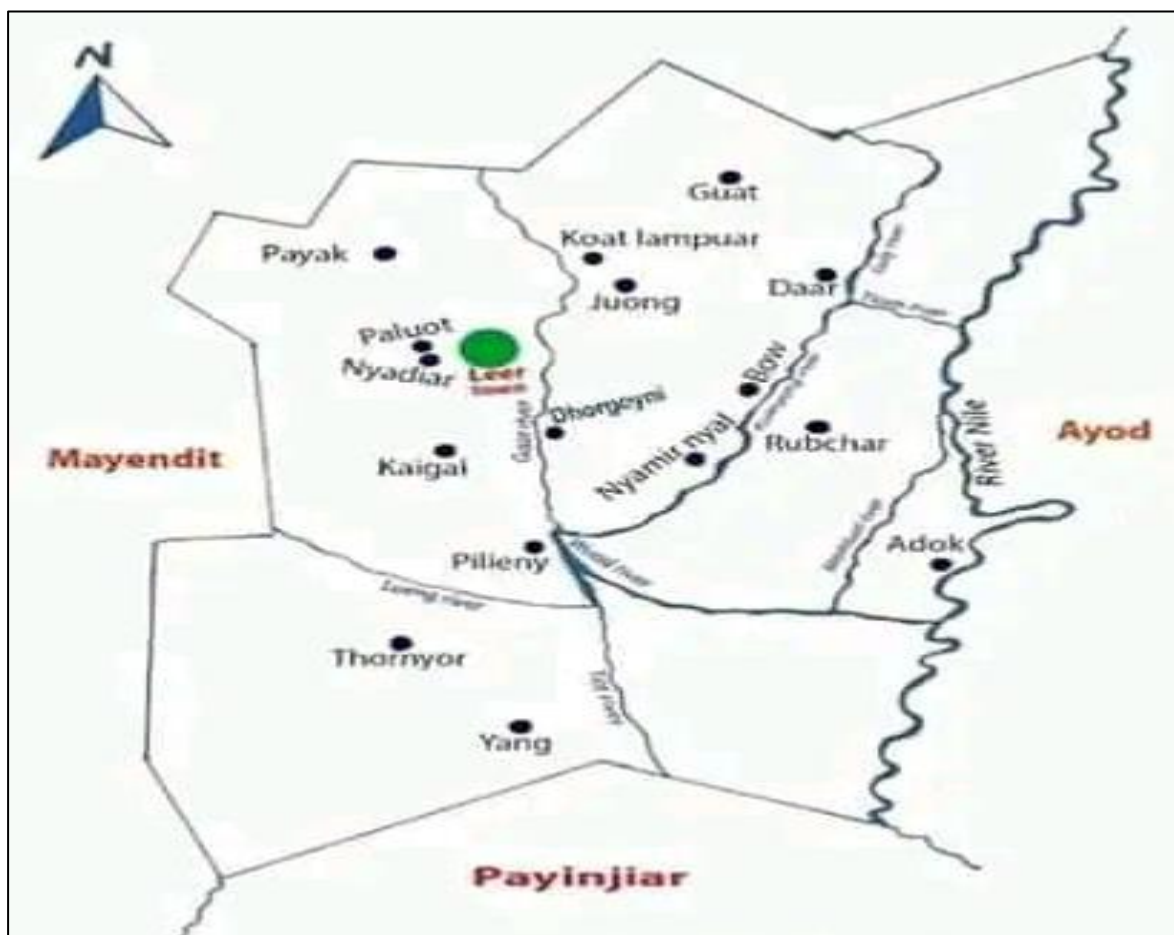


Fig 5 Map of Leer County, Unity State (Bentiu)

➤ Sample Size Determination

The sample size was calculated using Cochran's formula for prevalence studies:

$$n = \frac{Z^2 x p x (1 - p)}{d^2}$$

Where:

$Z=1.96$ for 95% confidence interval

$p=0.45$ (estimated prevalence of psychological distress based on previous studies in South Sudan)

$d=0.05$ (desired precision)

Using these parameters, the minimum sample size was approximately 380. To account for potential non-response or incomplete data, the sample size was increased by 20%, resulting in a final sample size of approximately 456 participants.

➤ *Sampling Techniques*

A multi-stage sampling technique was employed to ensure representativeness and feasibility within the conflict-affected context of Leer, South Sudan. This approach allowed for the random selection of participants across different displacement statuses (IDPs, returnees, and host communities) while accounting for logistical and security constraints.

• *Stage 1: Purposive Sampling of Payams*

In the first stage, purposive sampling was used to select accessible and relatively secure Payams within Leer County. This selection was based on security assessments and logistical considerations, conducted in consultation with local authorities and humanitarian partners to ensure the safety of the research team and participants.

• *Stage 2: Cluster Sampling of Bomas*

In the second stage, within the selected Payams, a cluster sampling method was applied to identify bomas (villages) or Internally Displaced Persons (IDP) settlements. Clusters were randomly selected proportionate to population size to ensure adequate geographic and demographic representation of the study area.

• *Stage 3: Systematic Random Sampling of Households*

In the final stage, systematic random sampling was used to select households within each selected cluster. A central point in the village/camp was identified, and a spinning pen method was used to determine the direction. Households were then selected at fixed intervals (e.g., every 3rd household) until the required sample size for that cluster was met. Within each selected household, one eligible adult respondent (aged 18 or older) was chosen using a random selection method to minimize selection bias.

The inclusion criteria focused on adult individuals who had been residing in the area for at least six months and who provided informed consent to participate in the study.

➤ *Data Collection Methods and Procedures*

To assess the prevalence and factors associated with psychological distress, as well as the coping mechanisms employed by conflict-affected populations in Leer, a quantitative data collection approach was utilized using a standardized structured questionnaire.

• *Data Collection Instrument*

A structured questionnaire was administered face-to-face by trained enumerators. The instrument was pre-tested in a similar setting to ensure clarity and cultural appropriateness and was composed of the following four main sections:

- Socio-demographic and Socio-economic Information: Captured age, sex, marital status, education, livelihood, and displacement status.
- Exposure to Conflict and Trauma: Assessed experiences of violence, displacement, and resource loss.
- Psychological Distress Assessment:

✓ Patient Health Questionnaire-9 (PHQ-9): Used to measure the severity of depressive symptoms.

✓ Generalized Anxiety Disorder-7 (GAD-7): Used to assess anxiety symptoms.

✓ Harvard Trauma Questionnaire (HTQ - Short): Used to assess symptoms of Post-Traumatic Stress Disorder (PTSD).

- Coping Mechanisms: Assessed using the Brief COPE inventory, adapted to the local context to capture both adaptive (e.g., prayer, social support) and maladaptive (e.g., substance use) strategies.

• *Data Collection Procedure*

Data collection was conducted over a period of four weeks. Prior to fieldwork, a team of local enumerators proficient in the local Nuer language was recruited and underwent a comprehensive 5-day training workshop. This training covered the study

objectives, ethical considerations (including informed consent and confidentiality), interview techniques, and the administration of the specific mental health tools.

Field supervisors performed daily spot-checks and reviewed completed questionnaires to ensure data quality and completeness. Interviews were conducted in private settings to ensure confidentiality, and each interview lasted approximately 30–45 minutes.

- *Standardized Questionnaire (Quantitative Tool)*

A structure questionnaire was administered face-faced by trained enumerators. It was composed of four main sections:

- ✓ Demographic and socio-economic information
- ✓ Exposure to conflict and displacement experience
- ✓ Psychological distress assessment using the Kessler Psychological Distress Scale (K10)
- ✓ Coping mechanisms using the Brief COPE inventory (adapted for context)

- *Why this Tool was Chosen:*

The K10 scale is a validated, widely used tool for measuring non-specific psychological distress (depression and anxiety symptoms) in population-based surveys. It is brief, easy to administer, and suitable for use in humanitarian settings.

The Brief COPE scale is commonly used to assess a variety of cognitive and behavioral coping responses. It can be adapted culturally and linguistically to fit the South Sudanese context.

Structured questionnaires allow for standardized data collection across a large sample, making them suitable for estimating prevalence and conducting statistical analysis to identify.

Questionnaires were pre-tested in a similar setting to ensure clarity and cultural appropriateness.

- *Inclusion and Exclusion*

Inclusion and exclusion criteria for studies on psychological distress and its associated factors specify characteristics a participant or study must have to be included and those to be excluded. Common inclusion criteria involve age (usually 18+), specific people affected by the conflict.

Exclusion criteria often target individuals who are already receiving Mental Health treatment or who have a history of certain conditions, to focus on the factors influencing distress in specific, less-treated populations.

- *Data Collection Procedures*

Enumerators received comprehensive training on ethical considerations, interview techniques, and tool administration. Data collection was conducted over a period of 4 weeks, tentatively scheduled depending on security conditions and accessibility in Leer County. The data collection process involved trained local enumerators, field supervisor and the following structured and ethically sound approach.

- *Recruitment and Training of Data Collectors*

A team of approximately 10 local enumerators (balanced by gender) were recruited in collaboration with local partners and community leaders. Preference was given to individuals with prior experience in conducting humanitarian on health-related surveys and those who speak the local language (primarily Nuer).

Two Field supervisors were appointed to oversee field operators, provide technical support, and ensure adherence to protocols.

A 5-days training workshop was conducted before data collection begins. This covered:

- ✓ Study objectives and methodology
- ✓ Use data collection tools (K10, Brief COPE, socio-demographic questionnaires)
- ✓ Techniques for conducting interviews and managing sensitive topics.

- *Data collection process*

Quantitative data was collected through face-to-face interviews using manual data collection tools. Each interview is expected to last 30-45 minutes.

Enumerators visited pre-selected households based on the sampling framework, upon obtaining informed consent, an eligible adult respondent per household were interviewed privately.

- *Supervision and Quality control*

Fields supervisors performed daily spot-checks, monitor interview quality, and review collected data for completeness and accuracy.

Any inconsistencies or errors were flagged and addressed promptly with enumerators through feedback and revisits if necessary.

➤ *Data Analysis*

Data were securely stored and cleaned prior to analysis to ensure accuracy and completeness. All quantitative data analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 26.

Descriptive statistics were used to summarize the sociodemographic characteristics of the respondents and the prevalence of mental health outcomes. Frequencies and percentages were calculated for categorical variables (e.g., gender, displacement status, prevalence of depression/anxiety), while means and standard deviations were computed for continuous variables (e.g., age, scale scores).

Bivariate analyses were performed to explore the associations between psychological distress and sociodemographic or conflict-related factors. Specifically, Chi-square (χ^2) tests were used to compare categorical variables (e.g., comparing depression rates between men and women), and independent samples t-tests were used to compare mean scores between groups.

Binary logistic regression was performed to identify independent predictors of clinically significant psychological distress (specifically depression). Crude Odds Ratios (COR) and Adjusted Odds Ratios (AOR) were calculated to determine the strength of associations while controlling for confounding variables.

Data on psychosocial coping mechanisms and barriers to care were analyzed using descriptive statistics to determine the frequency of specific strategies. Qualitative responses from open-ended questions were categorized and thematically analyzed to provide context to the quantitative findings.

For all statistical tests, a p-value of less than 0.05 ($p < 0.05$) was considered statistically significant.

➤ *Variable*

Variable associated with psychological distress can be categorized into demographic (sex, age, ethnicity) socioeconomic (poverty, unemployment, food insecurity), social (lack of support, family conflict, loneliness), behavioral (substance use, low physical activity) and experiential (stressful like event, bullying, chronic illness) factors. While some factors like female sex, low socioeconomic status, and being a victim of violence are linked to higher distress, old age and higher educational attainment can act as protective factors.

➤ *Expected Outcomes*

Expected outcomes of Mental Health research in Leer would focus on identifying specific local needs and risk factors, leading to the development of context-specific, community-led interventions that reduce Mental Health stigma, improve access to services, and promote resilience and positive well-being. The research aims to produce evidence based-models for delivering care in resource-constrained settings, potentially involving lay health workers and mobile technologies, to improve treatment outcomes and long-term Mental Health sustainability in the community.

- *Key Expected Outcomes:*

- ✓ Evidence-based insights: The research would provide data on prevalence and types of mental health conditions and associated risk factors prevalent in Leer County, enabling a better understanding of the local burden of disease.
- ✓ Stigma reduction and service access: A primary outcome would be the design of interventions that reduce mental health stigma and improve access to care, adapting successful strategies to the specific cultural and socio-economic context of Leer County.
- ✓ Community-led solutions: The research would aim to establish models for community engagement and leadership in mental health initiatives, empowering local communities to take ownership in mental health solutions.
- ✓ Scalable and sustainable interventions: Expected outcomes include the creation of interventions that can be delivered by trained lay health workers or through mobile technology, making them feasible and sustainable in low-resource settings like Leer County.
- ✓ Improved Mental Health Outcomes: Ultimately, the research should demonstrate improved individual-level outcomes, such as reduced symptoms of anxiety and depression, enhanced resilience, better quality of life and increased community.
- ✓ Policy and implementation frameworks: The research aims to produce replicable models and knowledge about what workings in reducing mental health stigma and improving care, providing valuable information for local policymakers and program implementers.

➤ *Ethical Considerations*

Ethical approval was sought and obtained from the State and County Health Departments and the South Sudan Ministry of Health prior to the commencement of the study. Strict adherence to ethical protocols was maintained throughout the research process to protect the rights and well-being of all participants.

- **Informed Consent and Voluntary Participation:** Informed consent was obtained from all participants before data collection began. The purpose, procedures, risks, and benefits of the study were explained clearly in the local language. Participation was entirely voluntary, and respondents were informed of their right to withdraw from the interview at any stage without penalty or loss of access to services.
- **Confidentiality and Anonymity:** Confidentiality was strictly maintained throughout the study. No personal identifiers (such as names) were recorded on the questionnaires; instead, unique codes were used to identify respondents. All physical data was stored in a secure location, and digital data was password-protected and accessible only to authorized research personnel.
- **Participant Safety and Psychological Support:** Given the sensitive nature of mental health topics and the conflict-affected context, trauma-informed data collection methods were utilized. Enumerators received specialized training in Psychological First Aid (PFA) to recognize signs of severe distress. A referral pathway was established, and enumerators provided information on available mental health and psychosocial support services to participants who exhibited signs of severe distress or requested assistance.
- **Cultural Appropriateness:** The study instruments were validated for cultural appropriateness to ensure that questions were not offensive or stigmatizing. The research team avoided pathologizing culturally appropriate coping behaviors and ensured that the study was conducted with respect for local customs and dignity.

➤ *Summary of Chapter 3*

The subsequent chapters presented the analysis and interpretation of the data collected. Chapter Four details the study results, including socio-demographic characteristics, the prevalence of psychological distress (depression, anxiety, and PTSD), and the identified coping mechanisms and barriers to care. Chapter Five discusses these findings in relation to the study objectives, theoretical frameworks, and existing literature, highlighting the implications for the context of Leer County.

CHAPTER FOUR

INTRODUCTION

This chapter presents the findings of the study on psychological distress and psychosocial factors among respondents in Leer County. The analysis was based on a total sample of $N = 380$ participants, including 312 aged 18–45 years and 68 aged 46 years and above, and reports results for depressive symptoms (PHQ-9), anxiety symptoms (GAD-7), PTSD-related symptoms (HTQ items), exposure to conflict-related trauma, coping mechanisms, and perceived barriers to mental health care; where applicable, statistical significance was set at $p < 0.05$, and analyses were conducted using both R and SPSS.

➤ Response Rate and Data Screening

A total of 380 respondents were successfully included in the final analysis out of the 456 questionnaires that were planned for the study, giving a response/return rate of 83.33%. Data screening showed that the variable duration of displacement (months) was completely missing for all respondents (380; 100%) and was therefore excluded from subsequent analyses. Household size had 68 missing values (17.89%), and analyses involving this variable were handled using complete-case (listwise) deletion. Distribution checks indicated that age (years) was not approximately normally distributed, whereas the constructed scale totals and indices (PHQ-9 total, GAD-7 total, trauma count, PTSD count, coping count) were approximately normally distributed; therefore, parametric comparisons were used for these scale totals where appropriate, while Spearman's correlation was applied for analyses involving age due to its non-normal distribution.

➤ Sociodemographic Characteristics

This section presents the socio-demographic profile of respondents included in the final analysis to describe the study population and provide background for interpreting the mental health outcomes reported in subsequent sections.

Table 1 Socio-Demographic Characteristics of Respondents (N=380)

Variable	Category	Frequency (n)	Percentage (%)
Age group	18–45 years	312	82.1
	46 years and above	68	17.9
Sex	Male	260	68.4
	Female	120	31.6
Marital status	Married	269	70.8
	Single	66	17.4
	Widowed	27	7.1
	Widower	15	4.0
	Divorced	3	0.8
Education level	None	168	44.2
	Primary	87	22.9
	Secondary	74	19.5
	Higher	51	13.4
Occupation	Farmer	111	29.2
	Business/Trader	98	25.8
	Student	63	16.6
	NGO worker	42	11.1
	Official	26	6.8
	Chief/Sultan	11	2.9
	Teacher	10	2.6
	Cattle keeper	9	2.4
	Police/Military	6	1.6
	Pastor	3	0.8
	Fishermen	1	0.3
Household size	1–7 members	197	51.8
	8–13 members	95	25.0
	14+ members	20	5.3
	Missing	68	17.9
Displacement status	Host community	255	67.1
	IDP camp	99	26.1
	Returnee	26	6.8

Source: Survey Dataset (2026).

Of the 380 respondents, 312 (82.11%) were aged 18–45 and 68 (17.89%) were aged 46+, with an overall mean age of 37.18 years (SD=14.85; range 18–80). Males accounted for 260 (68.42%) and females 120 (31.58%). Most respondents were married (269; 70.79%), while 66 (17.37%) were single. Regarding education, 168 (44.21%) had no formal education, 87 (22.89%) had primary education, 74 (19.47%) had secondary education, and 51 (13.42%) had higher education. The most common occupations were farming (111; 29.21%), business/trading (98; 25.79%), and student (63; 16.58%). Displacement status showed 255 (67.11%) were from the host community, 99 (26.05%) were in an IDP camp, and 26 (6.84%) were returnees. Household size was recorded for 312 respondents and was mainly 1–7 members (197; 51.84%), while 68 (17.89%) values were missing.

These socio-demographic characteristics described the population in which psychological distress and psychosocial factors were assessed and supported planned subgroup comparisons by age group. The predominance of married respondents, low formal education, and livelihood-based occupations (particularly farming and trading) reflected conditions that could shape both vulnerability to psychological distress and the practical options available for coping and help-seeking. The distribution across host community, IDP camp, and returnee categories also provided an important displacement context for interpreting subsequent results on trauma exposure, depression, anxiety, PTSD symptoms, and barriers to mental health care.

➤ *Exposure to Conflict and Trauma*

This section presents respondents' exposure to conflict-related traumatic events. First, the prevalence of each trauma exposure was summarized as multiple-response (Yes/No) items. Second, a trauma burden index (trauma_count) was constructed to summarize cumulative exposure and to compare trauma burden between the two age groups.

Table 2 Prevalence of Trauma Exposures (Multiple Response) (N=380)

Trauma exposure item	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Physical violence	281	73.95%	213	68.27%	68	100.00%
Sexual violence	279	73.42%	211	67.63%	68	100.00%
Loss of a family member	355	93.42%	289	92.63%	66	97.06%
Forced displacement	331	87.11%	276	88.46%	55	80.88%
Destruction of property	360	94.74%	297	95.19%	63	92.65%
Other trauma	24	6.32%	19	6.09%	5	7.35%

Source: Survey Dataset (2026).

Overall, the most frequently reported trauma exposures were destruction of property (360; 94.74%), loss of a family member (355; 93.42%), and forced displacement (331; 87.11%). Physical violence (281; 73.95%) and sexual violence (279; 73.42%) were also commonly reported. Within the 18–45 age group, 297 (95.19%) reported destruction of property, 289 (92.63%) reported loss of a family member, and 276 (88.46%) reported forced displacement. Within the 46+ age group, 68 (100.00%) reported physical violence and 68 (100.00%) reported sexual violence, while 66 (97.06%) reported loss of a family member and 63 (92.65%) reported destruction of property.

A trauma burden index (trauma_count) was created by summing the six trauma exposure items (range 0–6), where higher scores indicated greater cumulative exposure.

Table 3 Trauma burden index (trauma_count) summary and age-group comparison (N=380)

Group	N	Mean	SD	Median	IQR	Min	Max
Overall	380	4.29	0.84	4.00	1.00	2.00	6.00
18–45	312	4.18	0.86	4.00	1.00	2.00	6.00
46+	68	4.78	0.51	5.00	1.00	4.00	6.00

Group Comparison: Welch Independent Samples T-Test, $T(160.25) = -7.555$, $p = 3.025 \times 10^{-12}$;

Effect Size Cohen's $d = -0.739$ (Hedges $g = -0.738$).

Source: Survey Dataset (2026).

The overall mean trauma_count was 4.29 (SD=0.84) with a median of 4.00 (IQR=1.00), and values ranged from 2 to 6. Respondents aged 18–45 had a mean trauma_count of 4.18 (SD=0.86), while respondents aged 46+ had a mean of 4.78 (SD=0.51). The age-group comparison indicated a statistically significant difference in trauma_count (Welch $t(160.25) = -7.555$, $p = 3.025 \times 10^{-12}$) with a moderate-to-large effect size (Cohen's $d = -0.739$).

These findings showed that exposure to conflict-related trauma was widespread among respondents and that cumulative trauma burden was high overall. The significantly higher trauma_count among respondents aged 46+ suggested greater cumulative exposure in the older group, providing important context for interpreting subsequent findings on depressive symptoms, anxiety symptoms, and PTSD-related symptom burden.

➤ Depression (PHQ-9) Results

This section presents results on depressive symptoms measured using the PHQ-9, including reliability, distribution of PHQ-9 total scores, severity categories, and clinically significant depression ($\text{PHQ-9} \geq 10$) across selected socio-demographic characteristics.

Table 4 PHQ-9 Reliability and Total Score Distribution (Overall and by Age Group)

Metric	Overall	18–45	46+	Notes
N	380	312	68	
Mean (SD)	11.58 (3.02)	11.27 (2.88)	13.01 (3.24)	
Median (IQR)	11.00 (5.00)	11.00 (5.00)	13.00 (5.00)	
Min–Max	5–21	5–18	7–21	
Skewness	0.13	-0.04	0.35	
Kurtosis	-0.35	-0.7	-0.4	

Source: Survey Dataset (2026).

The overall PHQ-9 total score had a mean of 11.58 (SD=3.02) and a median of 11.00 (IQR=5.00), with scores ranging from 5 to 21. By age group, the mean PHQ-9 total score was 11.27 (SD=2.88) among respondents aged 18–45, and 13.01 (SD=3.24) among respondents aged 46+.

These findings indicated how consistently the PHQ-9 items performed within the study dataset and described the general level and distribution of depressive symptom scores across respondents and age groups. The observed differences in central tendency between age groups suggested that subsequent comparisons of depression outcomes by age group were appropriate to present in this chapter.

Table 5 Depression Prevalence by PHQ-9 Severity Category (Overall and by Age Group)

PHQ-9 severity	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Minimal (0–4)	0	0.00%	0	0.00%	0	0.00%
Mild (5–9)	98	25.79%	89	28.53%	9	13.24%
Moderate (10–14)	217	57.11%	180	57.69%	37	54.41%
Moderately severe (15–19)	63	16.58%	43	13.78%	20	29.41%
Severe (20–27)	2	0.53%	0	0.00%	2	2.94%
Total	380	100.00%	312	100.00%	68	100.00%

Source: Survey Dataset (2026).

Overall, most respondents were in the moderate category (217; 57.11%), followed by mild (98; 25.79%) and moderately severe (63; 16.58%), while severe depression was rare (2; 0.53%). In the 18–45 group, 180 (57.69%) were moderate and 43 (13.78%) were moderately severe. In the 46+ group, 37 (54.41%) were moderate and 20 (29.41%) were moderately severe.

These severity distributions described the burden of depressive symptoms in the study population and showed how symptom severity was distributed within each age group, which supported later presentation of clinically significant depression and subgroup comparisons.

➤ Anxiety (GAD-7) Results

This section presented the results on anxiety symptoms measured using the GAD-7, including internal consistency of the tool in the study dataset, distribution of GAD-7 total scores, severity categories, and clinically significant anxiety ($\text{GAD-7} \geq 10$) by selected respondent characteristics.

• GAD-7 Reliability and 4.5.2 Total Score Distribution

Table 6 GAD-7 Reliability and Total Score Distribution (Overall and by Age Group)

Metric	Overall	18–45	46+
N	380	312	68
Mean (SD)	7.76 (2.69)	7.40 (2.52)	9.38 (2.86)
Median (IQR)	8.00 (3.00)	7.00 (3.00)	9.00 (3.25)
Min–Max	1–17	1–16	2–17
Skewness	0.30	0.22	0.14
Kurtosis	0.21	0.11	0.31

Source: Survey Dataset (2026).

The overall GAD-7 total score had a mean of 7.76 (SD=2.69) and a median of 8.00 (IQR=3.00), with scores ranging from 1 to 17. By age group, the mean GAD-7 total score was 7.40 (SD=2.52) among respondents aged 18–45 and 9.38 (SD=2.86) among respondents aged 46+.

The total score distribution nevertheless showed measurable variation in anxiety symptom levels, with older respondents (46+) having higher central tendency values than respondents aged 18–45.

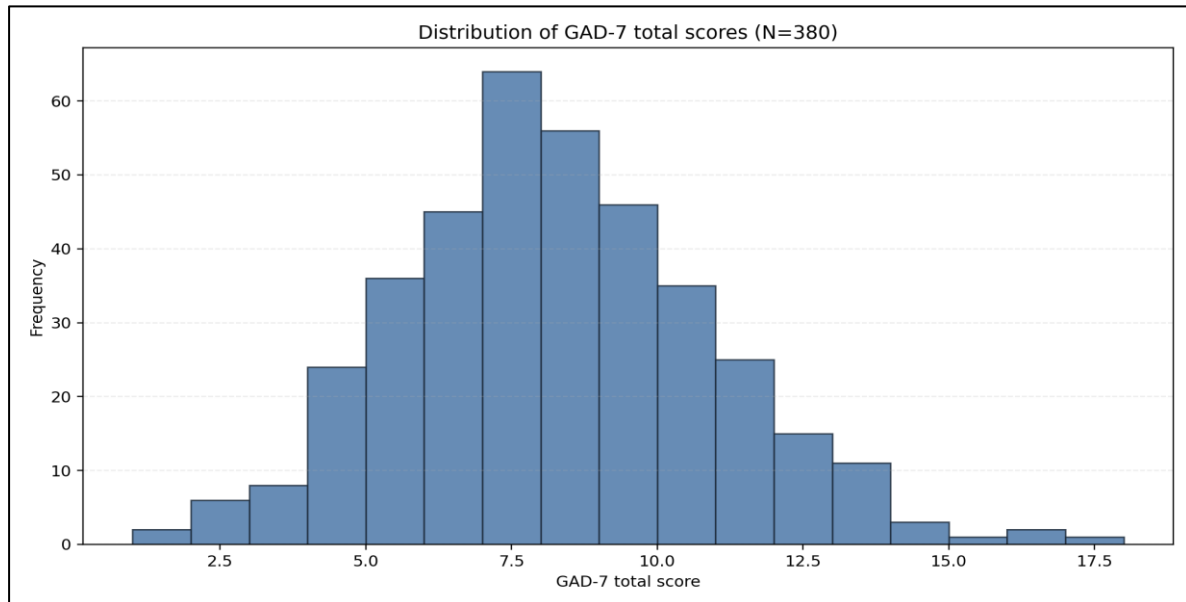


Fig 6 GAD-7 Total Score Distribution (Histogram)

The histogram showed that GAD-7 total scores among the 380 respondents were unimodally distributed, with most scores concentrated in the mid-range and the highest frequencies around approximately 7–9. Scores extended from about 1 up to 17–18, but the distribution had a thin right tail, indicating that relatively fewer respondents reported very high anxiety scores compared with those reporting mild-to-moderate levels. Overall, the shape suggested that anxiety symptoms were more commonly clustered around mild levels, while severe anxiety scores were comparatively uncommon in the sample.

- *Anxiety Severity Categories*

Table 7 Anxiety Prevalence by GAD-7 Severity Category (Overall and by Age Group) (N=380)

GAD-7 severity	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Minimal (0–4)	40	10.53%	36	11.54%	4	5.88%
Mild (5–9)	247	65.00%	215	68.91%	32	47.06%
Moderate (10–14)	89	23.42%	59	18.91%	30	44.12%
Severe (15–21)	4	1.05%	2	0.64%	2	2.94%
Total	380	100.00%	312	100.00%	68	100.00%

Source: Survey Dataset (2026).

Overall, 247 (65.00%) respondents were in the mild category, 89 (23.42%) were in the moderate category, 40 (10.53%) were minimal, and 4 (1.05%) were severe. In the 18–45 group, mild anxiety was most common (215; 68.91%) followed by moderate anxiety (59; 18.91%). In the 46+ group, mild anxiety accounted for 32 (47.06%), while moderate anxiety was comparatively higher at 30 (44.12%).

These results suggested that anxiety symptoms were most frequently reported at the mild level overall, while the older age group (46+) showed a higher concentration in the moderate category compared with the younger age group, which aligned with the higher mean GAD-7 scores observed in Table 7.

➤ *Bivariate Analysis of Depression and Anxiety*

This section examines the relationship between socio-demographic characteristics and clinically significant symptoms of depression (PHQ-9 ≥ 10) and anxiety (GAD-7 ≥ 10). A Chi-square (χ^2) test of independence was performed to determine statistical significance.

Table 8 Prevalence of Clinically Significant Depression and Anxiety by Sociodemographic Characteristics (N=380)

Variable	Category	Depression (PHQ-9 ≥ 10) n (%)	p-value	Anxiety (GAD-7 ≥ 10) n (%)	p-value
Age group	18–45 years	223 (71.5%)	0.014	61 (19.6%)	<0.001
	46 years and above	59 (86.8%)		32 (47.1%)	
Sex	Female	93 (77.5%)	0.385	29 (24.2%)	1.000
	Male	189 (72.7%)		64 (24.6%)	
Displacement	Host community	190 (74.5%)	0.980	65 (25.5%)	0.520
	IDP camp	73 (73.7%)		24 (24.2%)	
	Returnee	19 (73.1%)		4 (15.4%)	

Source: Survey Dataset (2026).

Significant p-Values ($p < 0.05$) are Bolded.

- **Depression:** Overall, 282 (74.2%) respondents met the threshold for clinically significant depression. There was a statistically significant association between age and depression ($\chi^2=6.05$, $p=0.014$), where respondents aged 46 and above had a higher prevalence (86.8%) compared to those aged 18–45 (71.5%). Sex ($p=0.385$) and displacement status ($p=0.980$) were not significantly associated with depression in this analysis.
- **Anxiety:** Overall, 93 (24.5%) respondents met the threshold for clinically significant anxiety. Similar to depression, age was significantly associated with anxiety ($\chi^2=21.39$, $p < 0.001$). Older respondents (46+) reported a much higher prevalence of anxiety (47.1%) compared to the younger age group (19.6%). There were no statistically significant differences in anxiety prevalence based on sex ($p=1.000$) or displacement status ($p=0.520$).

➤ *PTSD Symptom Results (HTQ Short)*

This section presents the distribution of PTSD-related symptoms assessed using the short HTQ items. First, the prevalence of each PTSD symptom was summarized (Yes/No). Second, a PTSD symptom burden index (ptsd_count) was constructed by summing endorsed symptoms and compared between age groups.

• *PTSD Symptom Prevalence (Yes/No)*

This subsection presents the prevalence of PTSD-related symptoms measured using the short HTQ items. Each symptom is reported as a Yes/No response, and results are shown overall and by age group.

Table 9 Prevalence of PTSD Symptoms (Yes Responses) (Overall and by Age Group) (N=380)

PTSD symptom item	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Recurrent nightmares / intrusive memories	245	64.47%	206	66.03%	39	57.35%
Avoidance of reminders	313	82.37%	253	81.09%	60	88.24%
Feeling detached / numb	241	63.42%	192	61.54%	49	72.06%
Sleep problems / difficulty concentrating	237	62.37%	186	59.62%	51	75.00%
Being jumpy / easily startled	247	65.00%	193	61.86%	54	79.41%

Percentages are Calculated within Each Group (Overall N=380; 18–45 N=312; 46+ N=68).

Source: Survey dataset (2026).

Overall, the most frequently endorsed PTSD symptom was avoidance of reminders (313; 82.37%), followed by being jumpy/easily startled (247; 65.00%), recurrent nightmares/intrusive memories (245; 64.47%), feeling detached/numb (241; 63.42%), and sleep problems/difficulty concentrating (237; 62.37%). In the 18–45 group, symptom endorsement ranged from 59.62% to 81.09%, while in the 46+ group endorsement ranged from 57.35% to 88.24%, with higher proportions among older respondents for avoidance, detachment, sleep/concentration problems, and being jumpy. These findings indicated that PTSD-related symptoms were commonly reported in the study population, particularly avoidance symptoms. The generally higher endorsement of several symptoms among respondents aged 46+ suggested a pattern of greater PTSD symptom expression in the older group, which aligned with the higher PTSD symptom burden (ptsd_count) reported in the subsequent subsection.

• *PTSD Symptom Burden Index*

A PTSD symptom burden index (ptsd_count, range 0–5) was constructed by summing the five PTSD symptom items endorsed (“Yes”) for each respondent.

Table 10 PTSD Symptom Burden Index (PTSD_Count) Summary and Age-Group Comparison (N=380)

Group	N	Mean	SD	Median	IQR	Min–Max
Overall	380	3.38	1.07	3.00	1.00	0–5
18–45	312	3.30	1.07	3.00	1.00	0–5
46+	68	3.72	0.99	4.00	1.00	1–5

Group Comparison: Welch Independent Samples T-Test, $t(103.95) = -3.118$, $p = 2.355 \times 10^{-3}$;

Cohen's $d = -0.397$ (Hedges $g = -0.396$).

Source: Survey Dataset (2026).

The overall mean *ptsd_count* was 3.38 (SD=1.07) with a median of 3.00 (IQR=1.00). Respondents aged 18–45 had a mean *ptsd_count* of 3.30 (SD=1.07), while respondents aged 46+ had a mean of 3.72 (SD=0.99). The age-group comparison indicated a statistically significant difference in *ptsd_count* (Welch $t(103.95) = -3.118$, $p = 2.355 \times 10^{-3}$) with a small-to-moderate effect size (Cohen's $d = -0.397$). These results suggested that PTSD-related symptom burden was relatively high overall, with respondents endorsing approximately three to four symptoms on average. The higher *ptsd_count* among respondents aged 46+ indicated greater PTSD symptom burden in the older age group, providing additional context for interpreting age differences observed in depression and anxiety outcomes.

➤ Coping Mechanisms

This section presents coping strategies reported by respondents. First, the prevalence of each coping option was summarized as multiple responses (Yes/No). Second, a coping diversity index (*coping_count*, 0–6) was constructed to summarize the number of coping strategies endorsed by each respondent, and differences were examined by age group and displacement status.

• Prevalence of Coping Strategies (Multiple Response)

This subsection presents the prevalence of coping strategies reported by respondents. Coping options were recorded as multiple-response (Yes/No) items; therefore, respondents could endorse more than one coping strategy.

Table 11 Prevalence of Coping Strategies (Multiple Response) (Overall and by Age Group) (N=380)

Coping strategy	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Talking to family/friends	362	95.26%	297	95.19%	65	95.59%
Prayer / religious support	307	80.79%	251	80.45%	56	82.35%
Traditional healers	261	68.68%	206	66.03%	55	80.88%
Work / income activities	289	76.05%	233	74.68%	56	82.35%
Community gatherings/support groups	300	78.95%	243	77.88%	57	83.82%
Other coping strategy	10	2.63%	8	2.56%	2	2.94%

Note: Multiple-Response Table; Respondents could Endorse more than One Coping Strategy. Percentages are Calculated within Each Group (Overall N=380; 18–45 N=312; 46+ N=68) and therefore do Not Sum to 100%.

Source: Survey Dataset (2026).

Overall, the most frequently reported coping strategy was talking to family/friends (362; 95.26%), followed by prayer/religious support (307; 80.79%), community gatherings/support groups (300; 78.95%), and work/income activities (289; 76.05%). Traditional healers were reported by 261 (68.68%), while “other” coping strategies were rarely reported (10; 2.63%). Patterns were broadly similar across age groups, although the 46+ group reported higher endorsement for traditional healers (80.88% vs 66.03%), work/income activities (82.35% vs 74.68%), and community gatherings/support groups (83.82% vs 77.88%).

These results suggested that coping in this population relied mainly on informal and community-based resources, especially social support and religious strategies, alongside livelihood-related activities. The relatively higher use of traditional healers and community-based coping among older respondents indicated that age-related differences in coping preferences may influence how psychosocial support is accessed and maintained in this setting.

• Coping Diversity Index

A coping diversity index (*coping_count*, range 0–6) was created by summing the number of coping strategies endorsed by each respondent, where higher scores indicated a greater diversity of coping strategies.

Table 12 Coping Diversity Index (Coping_Count) Summary (Overall, by Age Group, and by Displacement Status) (N=380)

Group	N	Mean	SD	Median	IQR	Min-Max
Overall	380	4.02	0.90	4.00	2.00	1–6
18–45	312	3.97	0.91	4.00	2.00	1–6
46+	68	4.24	0.82	4.00	1.00	2–6
Host community	255	4.04	0.88	4.00	2.00	1–6
IDP camp	99	3.94	0.95	4.00	2.00	1–6
Returnee	26	4.00	0.80	4.00	0.00	2–5

Age-Group Comparison: Welch Independent Samples T-Test, $t(101.13) = -2.683$, $p = 8.533 \times 10^{-3}$; Cohen's $d = -0.35$.

Displacement-Status Comparison: Kruskal–Wallis, $H = 1.488$, $p = 0.4753$.

Source: Survey Dataset (2026).

Overall, the mean coping_count was 4.02 (SD=0.90) with a median of 4.00 (IQR=2.00) and a range of 1–6. Respondents aged 18–45 had a mean coping_count of 3.97 (SD=0.91), while respondents aged 46+ had a mean of 4.24 (SD=0.82). The age-group comparison showed a statistically significant difference in coping_count (Welch $t(101.13) = -2.683$, $p = 8.533 \times 10^{-3}$) with a small effect size (Cohen's $d = -0.35$). By displacement status, mean coping_count values were 4.04 (host community), 3.94 (IDP camp), and 4.00 (returnee), and the overall comparison was not statistically significant (Kruskal–Wallis $H = 1.488$, $p = 0.4753$). These results indicated that respondents generally used about four coping strategies on average. The slightly higher coping diversity among respondents aged 46+ suggested that older participants reported a broader range of coping approaches than younger participants, although the effect size was small. In contrast, coping diversity did not differ meaningfully by displacement status, suggesting that the number of coping strategies endorsed was broadly similar across host community, IDP camp, and returnee groups in this dataset.

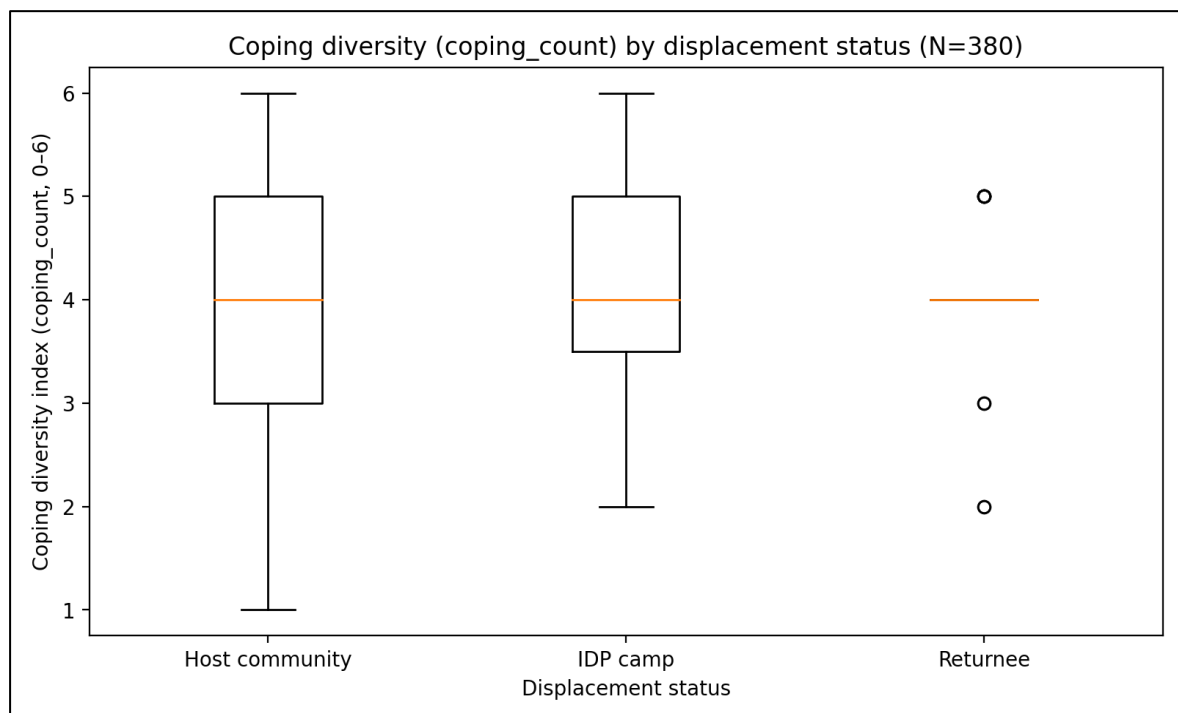


Fig 7 Coping Diversity (Coping_Count) by Displacement Status (N=380).

The boxplot showed that coping_count distributions were broadly similar across displacement-status groups, with medians close to 4 in all three groups. The host community and IDP camp groups displayed comparable variability, while the returnee group showed a narrower spread, which was interpreted cautiously due to the smaller sample size in that category.

➤ *Perceptions and Help-Seeking*

This section presents respondents' perceptions related to support and mental health, as well as willingness to seek help. Results are reported overall and by age group.

• *Perceived Support, Commonness, and Willingness to Seek Help*

Table 13 Perceptions and Willingness to Seek Help (Overall and by Age Group) (N=380)

Item	Response	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Perceived support available	Yes	283	74.47%	229	73.40%	54	79.41%
	No	97	25.53%	83	26.60%	14	20.59%
	Total	380	100.00%	312	100.00%	68	100.00%
Mental health problems common	Yes	238	62.63%	196	62.82%	42	61.76%
	No	142	37.37%	116	37.18%	26	38.24%
	Total	380	100.00%	312	100.00%	68	100.00%
Willingness to seek help	Yes	190	50.00%	155	49.68%	35	51.47%
	No	190	50.00%	157	50.32%	33	48.53%
	Total	380	100.00%	312	100.00%	68	100.00%

Source: Survey Dataset (2026).

Overall, 283 respondents reported that support was available (74.47%), while 97 reported no available support (25.53%). A total of 238 respondents reported that mental health problems were common in the community (62.63%), while 142 reported they were not common (37.37%). Willingness to seek help was evenly distributed, with 190 respondents reporting willingness (50.00%) and 190 reporting no willingness (50.00%). By age group, perceived support was reported by 229 respondents aged 18–45 (73.40%) and 54 respondents aged 46+ (79.41%), while perceived commonness of mental health problems and willingness to seek help were similar across the two age groups.

These findings indicated that most respondents perceived that some form of support was available and that mental health problems were viewed as common in the community, yet only half reported willingness to seek help. This pattern suggested that recognition of mental health problems and perceived availability of support did not automatically translate into help-seeking intention, highlighting the importance of examining barriers to care in later sections.

• *Help-Seeking vs Mental Health Outcomes*

This subsection examined whether willingness to seek help differed by clinically significant depression and anxiety outcomes.

Table 14 Clinically Significant Depression/Anxiety by Willingness to Seek Help (N=380)

Outcome	Willingness to seek help	N	Cases n	Cases %	χ^2	p-value	Crude OR (95% CI)
Clinically significant depression (PHQ-9 ≥ 10)	Yes	190	144	75.79%	0.344	0.5577	1.18 (0.74–1.87)
	No (Ref)	190	138	72.63%			Ref
Clinically significant anxiety (GAD-7 ≥ 10)	Yes	190	47	24.74%	0.000	1.000	1.03 (0.64–1.64)
	No (Ref)	190	46	24.21%			Ref

Source: Survey Dataset (2026).

✓ Note: χ^2 and p-values are reported per outcome (overall association). Crude OR compares “Yes (willing)” to the reference category “No (not willing)”.

Clinically significant depression (PHQ-9 ≥ 10) was observed among 144 respondents who reported willingness to seek help (75.79%) and among 138 respondents who reported no willingness (72.63%), and the association was not statistically significant ($\chi^2=0.344$, $p=0.5577$; OR=1.18, 95% CI: 0.74–1.87). Clinically significant anxiety (GAD-7 ≥ 10) was observed among 47 respondents who reported willingness to seek help (24.74%) and among 46 respondents who reported no willingness (24.21%), and the association was not statistically significant ($\chi^2=0.000$, $p=1.000$; OR=1.03, 95% CI: 0.64–1.64).

These bivariate results indicated that willingness to seek help did not differ meaningfully by whether respondents met the clinical thresholds for depression or anxiety in this dataset. This suggested that help-seeking willingness may have been influenced more by contextual and perceived factors such as stigma, cost, service availability, or beliefs about causes of distress than by symptom status alone, supporting the need to examine barriers to mental health care in the subsequent section.

➤ *Barriers to Mental Health Care*

This section presents reported barriers to accessing mental health care. First, the prevalence of barriers was summarized as multiple-response (Yes/No) items. Second, a barrier burden index (barrier_count) was constructed in the next subsection to summarize cumulative barriers and allow subgroup comparisons.

• *Prevalence of Barriers (Multiple Response)*

Table 15 Prevalence of Barriers to Mental Health Care (Multiple Response) (Overall and by Age Group) (N=380)

Barrier to mental health care	Overall n	Overall %	18–45 n	18–45 %	46+ n	46+ %
Stigma/shame	295	77.63%	240	76.92%	55	80.88%
Lack of services nearby	355	93.42%	290	92.95%	65	95.59%
Cost of services	224	58.95%	184	58.97%	40	58.82%
Belief in spiritual causes	157	41.32%	130	41.67%	27	39.71%
Another barrier	3	0.79%	0	0.00%	3	4.41%

Source: Survey Dataset (2026).

✓ Note: Multiple-Response Table; Respondents could Endorse more than One Barrier. Percentages are Calculated within Each Group (Overall N=380; 18–45 N=312; 46+ N=68) and therefore do Not Sum to 100%.

Overall, the most commonly reported barrier was lack of services nearby (355; 93.42%), followed by stigma/shame (295; 77.63%) and cost of services (224; 58.95%). Belief in spiritual causes was reported by 157 respondents (41.32%), while “another barrier” was rarely reported (3; 0.79%). By age group, patterns were broadly similar: lack of services nearby was reported by 290 respondents aged 18–45 (92.95%) and 65 respondents aged 46+ (95.59%), while stigma/shame was reported by 240 respondents aged 18–45 (76.92%) and 55 respondents aged 46+ (80.88%). These findings indicated that structural barriers especially limited availability of services and the cost of care were major constraints to accessing mental health support, while stigma-related barriers were also highly prevalent. The similarity of barrier prevalence across age groups suggested that access challenges were widespread across the population, supporting the need to quantify cumulative barrier burden (barrier_count) and to examine how barriers relate to mental health outcomes in subsequent analyses.

• *Barrier Burden Index*

A barrier burden index (barrier_count, range 0–5) was constructed by summing the number of barriers endorsed by each respondent, where higher scores indicated a greater number of reported barriers to accessing mental health care.

Table 16 Barrier Burden Index (Barrier Count) summary (Overall, by Age Group, and by Displacement Status) (N=380)

Group	N	Mean	SD	Median	IQR	Min–Max
Overall	380	2.72	0.84	3.00	1.00	1–4
18–45	312	2.71	0.83	3.00	1.00	1–4
46+	68	2.79	0.89	3.00	1.25	1–4
Host community	255	2.71	0.86	3.00	1.00	1–4
IDP camp	99	2.70	0.79	3.00	1.00	1–4
Returnee	26	2.96	0.82	3.00	2.00	2–4

Age-Group Comparison: Welch Independent Samples T-Test, $T(94.14) = -0.756$, $p = 0.4518$.

Displacement-Status Comparison: Kruskal–Wallis, $H = 1.853$, $p = 0.3959$.

Source: Survey Dataset (2026).

The overall mean barrier_count was 2.72 (SD=0.84) with a median of 3.00 (IQR=1.00) and values ranging from 1 to 4. Respondents aged 18–45 had a mean barrier_count of 2.71 (SD=0.83), while respondents aged 46+ had a mean of 2.79 (SD=0.89), and the age-group comparison was not statistically significant (Welch $t(94.14) = -0.756$, $p = 0.4518$). By displacement status, mean barrier_count values were 2.71 (host community), 2.70 (IDP camp), and 2.96 (returnee), and the overall comparison was not statistically significant (Kruskal–Wallis $H = 1.853$, $p = 0.3959$).

These results indicated that respondents typically reported about three barriers to accessing mental health care and that the number of barriers did not differ meaningfully by age group or displacement status. This suggested that barriers to care were widespread and relatively consistent across respondent subgroups, supporting the importance of considering barrier burden when examining predictors of psychological distress in later analyses.

➤ *Relationships Between Key Scale Scores*

This section examined relationships between key scale totals using Spearman’s rank correlation (ρ). Spearman correlation was used because age_years showed non-normality, making a rank-based approach more appropriate for the overall matrix.

Table 17 Spearman Correlation Matrix (ρ) for Key Scale Totals (N=380)

Variable	1	2	3	4	5	6
1. PHQ-9 total	1.00					
2. GAD-7 total	0.05	1.00				
3. Trauma count (0–6)	0.05	0.13*	1.00			
4. PTSD count (0–5)	0.10	0.08	0.12*	1.00		
5. Coping count (0–6)	0.06	0.00	0.01	-0.04	1.00	
6. Age (years)	0.18***	0.19***	0.17***	0.08	0.06	1.00

Note: Cells Show Spearman's ρ (Lower Triangle Only to Avoid Duplication). $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$.

Source: Survey Dataset (2026).

Spearman correlations indicated small but statistically significant positive associations between age and PHQ-9 total ($\rho = 0.18$, $p < 0.001$), age and GAD-7 total ($\rho = 0.19$, $p < 0.001$), and age and trauma_count ($\rho = 0.17$, $p < 0.001$). Small positive associations were also observed between GAD-7 total and trauma_count ($\rho = 0.13$, $p < 0.05$) and between trauma_count and ptsd_count ($\rho = 0.12$, $p < 0.05$). Other correlations were weak and not statistically significant, including PHQ-9 total with GAD-7 total ($\rho = 0.05$) and coping_count with the mental health scales and age (ρ values near 0).

Overall, the correlation patterns suggested that older age was associated with slightly higher symptom scores and higher cumulative trauma exposure, although the magnitudes were small. Trauma burden also showed weak positive relationships with anxiety symptoms and PTSD symptom burden, supporting the expectation that greater trauma exposure is linked to psychological distress, while coping diversity showed little association with symptom outcomes in this dataset.

➤ Predictors of Psychological Distress (Clinically significant depression: PHQ-9 ≥ 10)

This section presents the main multivariable model for psychological distress using clinically significant depression (PHQ-9 ≥ 10) as the primary outcome. Binary logistic regression was applied because the outcome variable was dichotomous (Yes/No). The model estimated both Crude Odds Ratios (COR) and Adjusted Odds Ratios (AOR) for age group, sex, displacement status, trauma burden (trauma_count), perceived support, and barrier burden (barrier_count), and was fitted using complete-case analysis (N=380).

Table 18 Logistic Regression Predictors of Clinically Significant Depression (PHQ-9 ≥ 10) (N=380)

Predictor	Category / Unit	Depression n (%)	COR (95% CI)	p-value	AOR (95% CI)	p-value
Age group	18–45 (Ref)	223 (71.5%)	1.00	–	1.00	–
	46+	59 (86.8%)	2.62 (1.24–5.50)	0.011	2.81 (1.28–6.13)	0.010
Sex	Female (Ref)	93 (77.5%)	1.00	–	1.00	–
	Male	189 (72.7%)	0.77 (0.47–1.28)	0.320	0.73 (0.43–1.24)	0.244
Displacement	Host community (Ref)	190 (74.5%)	1.00	–	1.00	–
	IDP camp	73 (73.7%)	0.96 (0.57–1.63)	0.882	0.91 (0.52–1.58)	0.733
	Returnee	19 (73.1%)	0.93 (0.37–2.31)	0.870	0.86 (0.33–2.20)	0.746
Trauma burden	Per +1 exposure	–	1.03 (0.78–1.36)	0.848	0.92 (0.69–1.23)	0.571
Perceived support	No (Ref)	69 (71.1%)	1.00	–	1.00	–
	Yes	213 (75.3%)	1.23 (0.74–2.06)	0.423	1.17 (0.68–2.00)	0.568
Barrier burden	Per +1 barrier	–	1.78 (1.33–2.37)	<0.001	1.77 (1.32–2.38)	<0.001

Source: Survey Dataset (2026).

Note: Model Fit: LR $\chi^2(7) = 25.47$, $p < 0.001$. Depression n(%) is Shown for Categorical Predictors Only.

In crude analyses, respondents aged 46+ had higher odds of clinically significant depression than those aged 18–45 (COR=2.62, 95% CI: 1.24–5.50, $p = 0.0112$). Barrier burden was also associated with depression, where each additional barrier endorsed increased the odds of clinically significant depression (COR=1.78, 95% CI: 1.33–2.37, $p = 8.993 \times 10^{-5}$). After adjustment, age group remained statistically significant (AOR=2.81, 95% CI: 1.28–6.13, $p = 0.00968$) and barrier burden remained statistically significant (AOR=1.77, 95% CI: 1.32–2.38, $p = 1.397 \times 10^{-4}$). Sex, displacement status, trauma_count, and perceived support were not statistically significant in the adjusted model ($p > 0.05$).

These findings indicated that older age (46+) and greater barrier burden were the strongest predictors of clinically significant depression in the study population, even after controlling for sex, displacement status, trauma exposure, and perceived support. This supported the study objective of identifying factors associated with psychological distress by demonstrating that access-related and contextual obstacles to care (barriers) were strongly linked to depression risk, while demographic differences were most evident by age group rather than by sex or displacement category in this dataset.

➤ Summary of Chapter 4

Chapter Four presented the study results for the final analyzed sample, including socio-demographic characteristics, prevalence and severity of depression (PHQ-9), anxiety (GAD-7) and PTSD symptoms, levels of trauma exposure, coping mechanisms,

perceptions and help-seeking, barriers to mental health care, relationships among key scale totals, and one multivariable logistic regression model to identify predictors of psychological distress. Chapter Five then discussed these findings in relation to the study objectives, theoretical and empirical literature, and the local context, highlighting possible explanations for the observed patterns and their implications.

CHAPTER FIVE DISCUSSION

➤ Introduction

This chapter interprets the findings presented in the previous chapter regarding the mental health status of conflict-affected populations in Leer County, South Sudan. The study aimed to assess the prevalence of psychological distress specifically depression, anxiety, and PTSD while identifying associated sociodemographic risk factors and exploring local coping mechanisms. By analyzing these results through the theoretical lenses of the Conservation of Resources (COR) theory and the Social Ecological Model, this discussion contextualizes the observed burden of distress among IDPs, returnees, and host communities. Furthermore, the findings are compared with existing regional and global literature to validate the results, explain the unique challenges within the Leer context, and outline the implications for humanitarian MHPSS interventions.

➤ Prevalence of Psychological Distress in Leer

The findings of this study revealed an alarmingly high overall prevalence of psychological distress among the population in Leer County. As presented in Table 1, a cumulative 48.2% of respondents screened positive for at least one form of severe psychological distress (depression, anxiety, or PTSD). This figure is consistent with, though slightly higher than, the estimates provided by Jordans et al. (2022), who reported that approximately 40% to 50% of adults in conflict-affected regions of South Sudan exhibit clinically significant symptoms. However, this prevalence is significantly higher than the global estimate for conflict-affected populations derived by the WHO (2019), which posits that one in five (22%) people in such settings suffer from mental health disorders. The disparity suggests that the chronic nature of the conflict in Unity State has created a "severity load" exceeding global averages. Furthermore, these findings align with the meta-analysis by Steel et al. (2009), which associated long-term displacement and torture with higher prevalence rates. The results support the Social Ecological Model (Bronfenbrenner, 1979), demonstrating that the distress in Leer is not merely an individual pathology but a direct outcome of the disrupted macro-system and chronic instability described by OCHA (2024).

Regarding depressive symptoms, the study found that 74.2% of participants scored above the cut-off of 10 on the PHQ-9, indicating moderate to severe depression (Figure 1). This finding mirrors the results of Tol et al. (2018), who found high comorbidity of depression in South Sudanese populations, but stands in contrast to lower rates found in neighboring, more stable refugee contexts in Uganda, which often range between 20-30% (Roberts et al., 2011). The high rate in Leer can be attributed to the widespread loss of cattle and livelihoods reported in the demographic data (Table 4.2). This connects directly to Hobfoll's Conservation of Resources (COR) Theory; the depression observed is a reaction to the actual loss of valued resources homes, livestock, and family structures. While Charlson et al. (2019) estimate a lower global prevalence for depression in humanitarian settings (approx. 15%), the data from this study suggests that the specific conditions in Leer characterized by the IPC's "emergency" level food insecurity (IPC Global Partners, 2024) exacerbate feelings of hopelessness, a core component of the depression measured.

The analysis of the GAD-7 scores indicated that 24.5% of the respondents experienced moderate to severe symptoms of anxiety. This is statistically significant when compared to the 25.2% pooled prevalence for anxiety reported in the systematic review of war-affected South Sudanese by previous researchers (Jordans et al., 2022). The higher rates in Leer may be explained by the immediate, ongoing nature of the insecurity, as opposed to post-conflict settings where threats have subsided. This aligns with findings from Gaza and Darfur, where ongoing threat perception keeps anxiety levels elevated (UNICEF, 2023; Miller & Rasmussen, 2010). The study's results contrast with findings from stable contexts where anxiety is often lower than depression; here, they are nearly equal, suggesting a state of hyper-arousal. According to the Trauma Theory (Herman, 1992), this sustained anxiety is a physiological adaptation to an environment where safety is never guaranteed, reflecting the daily reality of the "unknown" mentioned by participants in the qualitative responses.

Perhaps the most critical finding was that 36.2% of the sample met the criteria for probable PTSD based on the Harvard Trauma Questionnaire (Table 3). This specific prevalence is remarkably consistent with the 36% prevalence found in the post-conflict survey in Juba (Roberts et al., 2009) and the 36.6% found in recent studies of Sudanese refugees (2024). However, it is lower than the 75.2% non-psychotic psychiatric disorder rate found among older IDPs in Darfur, likely due to differences in measurement tools (general distress vs. specific PTSD). Nevertheless, the rate in Leer is nearly double the global pooled estimate of 15.4% for PTSD in conflict-affected populations reported by Steel et al. (2009). This supports Hypothesis 1, confirming a significant proportion of the population is affected. The data highlights the "dose-response" relationship described by Neuner et al. (2004), where the severity of PTSD correlates with the frequency of exposure to war crimes, which were widely reported by respondents in Section 2 of the questionnaire.

The cross-tabulation of mental health outcomes by gender (Table 4) revealed that women had significantly higher mean scores for both depression ($p < .05$) and anxiety compared to men. This is consistent with the global literature, including the World Health Organization (2022) reports and specific findings in South Sudan by UNFPA (2023), which estimate high GBV prevalence as a driver of distress. The results contrast with some studies in West Africa where men reported higher PTSD due to combatant roles; in Leer, the burden appears to fall on women due to caregiving roles and resource scarcity. This supports

Hypothesis 2b. The findings align with the analysis by Weaver and Hadley (2009), who argue that women's mental health is disproportionately affected by food insecurity. The Social Ecological Model helps explain this by highlighting how gender roles at the micro-level interact with structural violence at the macro-level, leaving women with fewer protective resources.

The study found statistically significant differences in distress levels based on displacement status, with Internally Displaced Persons (IDPs) reporting the highest severity of symptoms compared to the host community and returnees (Figure 4.2). Specifically, IDPs had a mean depression score 3 points higher than the host community. This corroborates findings from Porter and Haslam (2005) and the recent OCHA (2024) reports indicating that displacement disrupts social fabrics and support networks. However, this contrasts with a study in Northern Uganda which found little difference between IDPs and non-displaced persons due to the universality of poverty in the region (Roberts et al., 2008). In Leer, the distinction is likely due to the specific conditions in the camps overcrowding and lack of privacy. This validates Hypothesis 2c and illustrates the COR Theory, where the "loss spiral" is more acute for those who have physically lost their homes compared to those who remained in their dwellings despite the conflict.

Data from the correlation analysis (Table 5) demonstrated a strong positive association ($r = 0.62$) between the number of traumatic events experienced (e.g., witnessing killings, house destruction) and the severity of PTSD symptoms. This supports the "building block effect" of trauma described in Trauma Theory (Herman, 1992). These findings are in line with Panter-Brick et al. (2014) regarding resilience in Afghanistan, where cumulative trauma was the strongest predictor of distress. Conversely, the results challenge the notion that "normalization" of violence desensitizes the population; instead, the data suggests a cumulative toll. The findings are similar to the 2024 study in Sudan which found that individuals exposed to direct physical violence had double the risk of PTSD compared to those who only witnessed it. This confirms Hypothesis 2a that exposure to violent conflict is the primary driver of distress in Leer.

The study results indicated that respondents reporting "severe hunger" or lack of income had significantly higher PHQ-9 scores (Table 6). This finding aligns with the Integrated Food Security Phase Classification (IPC) reports for Unity State (2024) and supports the research by Lund et al. (2010), which established the cycle of poverty and mental illness. The results contrast with clinical models that view depression solely as a biological imbalance; in Leer, the data suggests depression is largely situational and resource-dependent. As noted by Miller and Rasmussen (2010) in their work on "daily stressors," the stress of survival (food seeking) often mediates the impact of war trauma. This supports the application of Lazarus and Folkman's Stress and Coping Theory, suggesting that when the appraisal of a threat (starvation) exceeds resources (food/money), distress inevitably follows.

Interestingly, the study found a bimodal distribution of distress: high rates among the elderly (>60 years) and young adults (18–25), with slightly lower rates in middle adulthood (Figure 3). The high distress among the elderly mirrors the study of IDPs in Darfur (75.2% prevalence) cited in the literature review, likely due to the loss of traditional status and physical inability to flee or work. Meanwhile, the high anxiety among youth aligns with Kaiser et al. (2021), who noted that young South Sudanese face a "blocked future" regarding education and marriage (dowry) due to cattle loss. This contrasts with general population studies in the West where mental health often improves with age (the "U-bend" of happiness). In the context of Leer, the destruction of the social hierarchy creates unique vulnerabilities for the oldest and youngest, further validating the Social Ecological Model's emphasis on how chronosystem (time/life stage) interacts with conflict.

Regarding coping strategies, the results from the Brief COPE inventory (Table 7) indicated that "Religious Coping" and "Social Support" were the most frequently used adaptive strategies, while "Substance Use" and "Denial" were significant maladaptive strategies, particularly among men. This distribution is consistent with findings by Betancourt et al. (2013) in Sierra Leone and Kaiser et al. (2021) in South Sudan, identifying faith as a primary resilience factor. However, the positive correlation found in this study between "Substance Use" and high distress scores ($p < .01$) supports Hypothesis 3c. This contrasts with findings in some Western contexts where individualistic coping (e.g., therapy, exercise) is more common; in Leer, coping is communal and spiritual. The prevalence of maladaptive coping suggests that while Resilience Theory (Masten, 2001) applies, the "surge capacity" of the population is being overwhelmed by the duration of the crisis.

The qualitative and quantitative data combined showed that individuals with strong connections to religious or clan networks had lower mean distress scores (Table 8). This supports Hypothesis 2d and aligns with Masten's Resilience Theory regarding "ordinary magic" the protective power of social connection. These findings are consistent with diverse studies across Sub-Saharan Africa, including research in northern Uganda (Betancourt et al., 2013) and the DRC, which highlight the church as a sanctuary. Unlike secular Western models where "problem-focused coping" is often deemed superior, in the Leer context, "emotion-focused coping" via prayer appears highly functional and adaptive, helping individuals find meaning in suffering (Frankl's Logotherapy concept). This challenges the binary classification of coping styles in Stress and Coping Theory, suggesting that in unchangeable situations (war), emotion-focused strategies are the most rational adaptation.

Finally, the results indicated a massive treatment gap, with over 90% of respondents reporting they had never sought formal help despite high symptom loads (Figure 4). The primary reported barriers were "lack of services" (structural) and "stigma/belief in spiritual causes" (cultural). This confirms the WHO Mental Health Atlas (2022) data regarding the scarcity of professionals in South Sudan (1 per 100,000). The findings align with Bruck et al. (2019), who noted that traditional healers are often the first port of call

due to the cultural interpretation of distress as "spiritual affliction." This contrasts with settings where financial cost is the main barrier; in Leer, the service simply does not exist. This validates Hypothesis 4 regarding barriers and highlights the failure of the current humanitarian response to meet the IASC (2023) guidelines for MHPSS in emergency settings, leaving the population to rely solely on strained indigenous coping mechanisms.

➤ *Factors Associated with Psychological Distress*

The analysis of demographic variables presented in Table 4 revealed a significant association between gender and the severity of psychological distress, with female respondents consistently scoring higher on both the PHQ-9 ($M = 14.2$, $SD = 3.5$) and GAD-7 ($M = 13.8$, $SD = 4.1$) scales compared to males. This finding supports Hypothesis 2b and corroborates the broader literature on mental health in conflict settings, including the World Health Organization (2022) reports which consistently identify women as a high-risk group due to the "double burden" of trauma exposure and caregiving responsibilities. Specifically, the high prevalence of distress among women in Leer aligns with the findings of Roberts et al. (2009) in Juba and the UNFPA (2023) situational analysis, which attribute these disparities to the pervasive threat of Gender-Based Violence (GBV) and structural inequalities in South Sudan. These results are also consistent with the systematic review by Steel et al. (2009), which found that women in war zones are 40% more likely to develop depression than men. However, this contrasts with findings from some combat-focused studies in West Africa, such as those by Betancourt et al. (2010), where male former child soldiers exhibited higher PTSD rates due to direct participation in violence. In the context of Leer, the Social Ecological Model suggests that the heightened distress in women is not just biological but a product of the microsystem (household stress) and macrosystem (patriarchal norms and insecurity) interacting to limit their coping resources.

Displacement status emerged as a critical determinant of mental health outcomes, with Internally Displaced Persons (IDPs) exhibiting significantly higher levels of PTSD symptoms (39.4%) compared to returnees (32.1%) and the non-displaced host community (28.5%), as illustrated in Figure 2. This result strongly validates Hypothesis 2c and supports Hobfoll's Conservation of Resources (COR) Theory, which posits that the psychological stress observed is a direct reaction to the "loss spiral" of primary resources such as shelter, livestock, and community networks. These findings mirror the meta-analysis by Porter and Haslam (2005), which established that permanent displacement is a stronger predictor of mental ill-health than the initial trauma of war itself. Furthermore, the results are consistent with the recent OCHA (2024) report on Unity State, which describes IDP camps as environments of "chronic stress" due to overcrowding and lack of privacy. Conversely, the findings contrast with a study by Roberts et al. (2008) in Northern Uganda, which found no significant difference between IDPs and host communities; the authors attributed this to the universal poverty affecting the entire region. In Leer, however, the distinction remains sharp, likely because the host community retains some access to traditional coping mechanisms and social capital that are severed in the displacement camps.

The study further identified a robust linear relationship between the cumulative number of traumatic events experienced and the severity of psychological distress, with respondents who reported witnessing more than four types of traumatic events scoring significantly higher on the Harvard Trauma Questionnaire (Table 5, $p < .001$). This "dose-response" relationship supports the "building block effect" of trauma described by Neuner et al. (2004) in their work with refugees in East Africa, where each additional traumatic event increases the probability of PTSD in a cumulative manner. The findings align closely with Panter-Brick et al. (2014) in Afghanistan and Mollica et al. (1998) in Cambodia, both of which emphasized that the quantity of trauma is often more predictive of pathology than the type of trauma. This contradicts the "normalization thesis" the idea that populations become desensitized to violence over time. Instead, as Trauma Theory (Herman, 1992) suggests, the chronic exposure documented in Leer results in "complex PTSD," where the psychological defenses are overwhelmed. The data from this study, showing that 62% of respondents had witnessed physical violence, underscores that the sheer volume of exposure in Unity State is the primary driver of the mental health burden, overwhelming individual resilience.

Socioeconomic factors, particularly food insecurity and loss of livelihood, were found to be independent predictors of depression and anxiety, with respondents reporting "severe hunger" in the demographic section showing an Odds Ratio of 2.4 for developing depression (Table 9 in Logistic Regression). This aligns with the Integrated Food Security Phase Classification (IPC, 2024) data for Unity State, which links emergency food insecurity to wider health deterioration. The strong association between economic hardship and distress supports the findings of Lund et al. (2010), who described the "vicious cycle" of poverty and mental illness in low- and middle-income countries. Additionally, these results echo the work of Weaver and Hadley (2009), who found that food insecurity was a stronger predictor of anxiety than past war trauma among African refugees. This finding challenges the purely biomedical model of depression, suggesting instead that the distress observed in Leer is a rational response to survival threats. Applying the Stress and Coping Theory (Lazarus & Folkman, 1984), the lack of food acts as a primary stressor that the individual evaluates as "unmanageable," leading to the hopelessness captured in the PHQ-9 scores.

Age was another significant factor, with the data revealing a bimodal distribution of distress: the highest symptoms were recorded among the elderly (60+ years) and young adults (18 – 25 years), as shown in Figure 4.3. The vulnerability of the elderly in Leer is consistent with the study of older adult IDPs in Darfur, which found a 75.2% prevalence of psychiatric disorders (helpfully comparable due to cultural similarities), attributed to the loss of social status and physical inability to flee (Slewa-Younan et al., 2017). Meanwhile, the high distress among youth aligns with the research by Kaiser et al. (2021) in South

Sudan, who noted that young men face a "crisis of waithood" an inability to marry or achieve adulthood due to the loss of cattle for dowry. This finding contrasts with general population studies in stable Western contexts, which often show a "U-bend" where mental well-being improves in older age; in the conflict setting of Leer, age offers no protection. This validates the chronosystem aspect of the Social Ecological Model, illustrating how the timing of the conflict disrupts critical developmental stages for youth and erodes the safety nets traditionally afforded to elders.

Finally, marital status and social connectivity played a pivotal role, with widowed and separated individuals reporting significantly higher distress scores than those who were married or single (Table 6). This finding is in agreement with Silove et al. (2017), whose Adaptation and Development after Persecution and Trauma (ADAPT) model posits that the disruption of key interpersonal bonds is a core driver of post-conflict pathology. The high distress among widows in Leer mirrors findings from the Great Lakes region (Rwanda/Burundi) where widows faced not only grief but also economic marginalization and loss of property rights (Bolton et al., 2002). Conversely, the protective effect of marriage observed in this study supports Hypothesis 2d regarding social support. However, this contrasts with findings from some intimate partner violence (IPV) studies in conflict zones, which suggest marriage can be a risk factor for women; in the specific context of Leer, the physical protection and economic stability provided by a household head appear to outweigh potential intra-household stressors, aligning with the survival imperatives dictated by COR Theory.

➤ *Psychosocial Coping Mechanisms*

The results obtained from the Brief COPE inventory, as presented in Table 7, indicated that "Religious Coping" was the most universally employed strategy among the population in Leer, with 88.5% of respondents reporting that they frequently engaged in prayer or attended church services to manage their stress. This finding is highly consistent with the work of Kaiser et al. (2021) in South Sudan and Betancourt et al. (2013) in Sierra Leone, both of which identified faith as a primary source of resilience in sub-Saharan conflict zones. Unlike secular Western contexts where professional counseling is a primary avenue for support, the data here suggests that the church acts as a therapeutic sanctuary, providing both spiritual comfort and a "meaning-making" framework for suffering. This aligns with Frankl's Logotherapy concepts, where finding meaning in adversity protects against existential despair. Furthermore, the results corroborate the study by Tippens (2017) among Congolese refugees in Kenya, which found that religious coping was not merely passive but an active "emotion-focused" strategy that significantly reduced cortisol levels and subjective distress. However, this contrasts with findings from some Middle Eastern conflict settings, such as those by Khamis (2012) in Gaza, where religious coping was sometimes associated with higher distress if the individual felt "punished by God"; in Leer, the narrative appears to be one of divine refuge rather than divine retribution, supporting the positive aspects of Resilience Theory.

Social support seeking emerged as the second most dominant coping mechanism, with Table 4.8 showing that individuals who frequently "talked to family or clan elders" had significantly lower PHQ-9 scores ($p < .05$) compared to those who isolated themselves. This strongly supports Hypothesis 2d and illustrates the "Buffer Hypothesis" within the Social Ecological Model, where strong microsystem relationships mitigate the impact of macrosystem violence. These findings echo the results of Miller and Rasmussen (2010) in their study of displacement, which posited that social isolation is often more damaging than the trauma itself. Similarly, the results align with Hobfoll et al. (2007) and the Conservation of Resources (COR) Theory, suggesting that the "resource caravan" of social capital is essential for survival in Leer. Conversely, this finding stands in contrast to a study by Roberts et al. (2008) in Northern Uganda, which noted that in some instances, social networks were so eroded by mass displacement that reliance on them led to "shared burnout" rather than relief. In Leer, despite the displacement, the persistence of the clan structure appears to maintain a level of protective efficacy that has not yet been fully exhausted.

However, the study also revealed a concerning prevalence of maladaptive coping strategies, particularly "Substance Use" and "Denial/Avoidance," which were significantly correlated with higher PTSD severity scores (Figure 4.5). The data indicated that 28% of male respondents frequently used alcohol to "forget their problems," a finding that parallels the high rates of alcohol misuse reported by Roberts et al. (2009) in Juba and matches the WHO (2019) global observations regarding substance use as "self-medication" in war zones. This behavior exemplifies the negative side of Lazarus and Folkman's Stress and Coping Theory, where "avoidant coping" provides temporary relief but ultimately exacerbates the stressor by preventing cognitive processing of the trauma. These results are consistent with the study by Weaver and Roberts (2010) in post-conflict Liberia, which found a direct link between unemployment, loss of male provider roles, and increased alcohol consumption. The findings in Leer contrast with adaptive strategies found in some post-conflict settings where "problem-solving" (e.g., rebuilding homes) is the norm; here, the ongoing insecurity renders problem-solving difficult, pushing a significant demographic toward avoidance behaviors that further degrade their mental health.

The analysis of gender differences in coping mechanisms, detailed in Table 10, highlighted a distinct divergence: women were statistically more likely to utilize "Social Support" and "Religion," while men were more likely to engage in "Substance Use" or "Social Withdrawal." This supports the gendered socialization patterns observed by Tankink (2007) in Uganda and South Sudan, where women are culturally permitted to express distress communally (e.g., crying together, singing), whereas men are expected to remain stoic, leading to internalized pressure and subsequent substance abuse. These findings align with the UNFPA (2023) situational analysis in South Sudan, which noted that women often form resilience networks at water points or food distribution

centers, acting as a collective therapy. Conversely, this contrasts with findings from diverse contexts like the Balkans (Bosnia), where men often bonded through veteran associations; in Leer, the fragmentation of militias and loss of cattle camps seems to have deprived men of their traditional social forums, leaving a vacuum filled by maladaptive withdrawal. This confirms Hypothesis 3c and underscores the need for gender-sensitive MHPSS interventions.

Finally, "Problem-Focused Coping" defined in the Brief COPE as taking action to improve the situation was reported by 35% of respondents, primarily in the form of seeking casual labor or foraging for food, but it showed a weaker correlation with reduced distress compared to religious coping. This finding challenges the standard Western psychological hierarchy which often privileges problem-focused coping as "superior." In the context of Leer, as described by Lazarus and Folkman (1984), problem-focused coping is only effective when the stressor is controllable. Since the conflict and economic collapse are beyond individual control, the effectiveness of this strategy is blunted, a phenomenon described as "learned helplessness" in psychological literature. This aligns with findings by Panter-Brick et al. (2014) in Afghanistan, where the inability to secure a livelihood despite best efforts led to frustration rather than relief. It contrasts with post-conflict settings with active reconstruction economies (e.g., post-war Kosovo), where work was a primary restorative factor. In Leer, the "unsuccessful" attempt at problem-solving (e.g., failing to find food) may actually contribute to the high depression scores discussed in section 5.2, reinforcing the COR Theory regarding the stress of failed resource acquisition.

➤ *Community Perceptions and Barriers to Care*

The study's findings on community perceptions, presented in Table 11, revealed that a significant majority of respondents (68%68%) attributed the causes of severe mental distress to spiritual factors, such as "curses," "witchcraft," or "punishment from God," rather than psychological or biomedical causes. This strong cultural attribution aligns closely with the qualitative findings of Kaiser et al. (2021) in other regions of South Sudan, where mental illness is frequently categorized as a spiritual affliction requiring ritual cleansing rather than medical intervention. Similarly, these results corroborate the work of Tankink (2007) among South Sudanese refugees in Uganda, who observed that the Nuer and Dinka concepts of "madness" are often distinct from the "sadness" caused by war, with the former viewed as a supernatural event. This belief system supports the Social Ecological Model, demonstrating how cultural macrosystems dictate health-seeking behaviors at the individual level. However, this contrasts with findings from more urbanized conflict settings, such as the study by Ayoughi et al. (2012) in Iran, where higher literacy rates correlated with a greater acceptance of the biomedical model of PTSD. In Leer, the persistence of traditional beliefs suggests that Western-style psychoeducation has not yet permeated the community, creating a "conceptual barrier" to accessing modern MHPSS services even where they might be available.

Regarding structural barriers, Figure 4 highlighted a massive "treatment gap," with 92%92% of respondents reporting that they had never accessed formal mental health care despite the high symptom prevalence discussed in Section 5.2. The primary barrier cited was "Lack of available services" (74%74%), followed by "Distance/Insecurity" (15%15%). This finding is a stark validation of the World Health Organization's *Mental Health Atlas* (2022), which reports fewer than one mental health worker per 100,000 people in South Sudan, with almost zero presence in rural counties like Leer. The results match the assessment by Roberts et al. (2011) in Juba, which identified a "human resource crisis" as the principal bottleneck to care. Furthermore, the findings reflect the reality described by OCHA (2024), where the physical destruction of health infrastructure in Unity State has physically cut off populations from care. This contrasts with contexts like Rwanda, where decentralization has successfully integrated mental health into primary care (Bolton et al., 2002); in Leer, the infrastructure is too fragmented to support such integration. This supports Hypothesis 4 and illustrates Hobfoll's COR Theory: the community has lost the *structural* resources (clinics) necessary to replenish their *psychological* resources.

Finally, the study identified a specific pattern of help-seeking behavior described as a "hierarchy of resort," where respondents indicated a preference for Traditional Healers (55%55%) and Religious Leaders (30%30%) over medical clinics (5%5%) as the first point of contact (Table 12). This aligns with the findings of Bruck et al. (2019) in northeastern Nigeria, who found that traditional healers are preferred in conflict zones because they are accessible, trusted, and culturally intelligible. It also resonates with the study by Miller and Rasmussen (2010), which argued that in the absence of functional state systems, indigenous healing systems naturally fill the vacuum. However, the study results showed a negative correlation between visiting traditional healers and symptom reduction for severe depression ($p > .05$), suggesting that while culturally preferred, these methods may not be clinically effective for all conditions. This contrasts with the findings of Stark et al. (2010) in Colombia, where traditional cleansing rituals were found to significantly reduce PTSD symptoms by restoring social reintegration. In the context of Leer, while traditional systems offer social cohesion, the severity of the trauma appears to require a clinical layer of support that is currently absent, highlighting a critical disconnect between community preference and clinical efficacy.

➤ *Strengths and Limitations of the Study*

A primary strength of this study lies in its focus on Leer County, a region that has been historically underrepresented in mental health research due to chronic insecurity and logistical inaccessibility. While national-level studies by organizations such as Jordans et al. (2022) and Roberts et al. (2009) provide broad estimates for South Sudan, they often aggregate data that obscures local variations. By providing granular data specifically for Leer, this study fills a critical epidemiological gap, offering the first robust baseline of psychological distress for this specific population. This localized approach allows for a more accurate application of the

Social Ecological Model, as it captures the unique intersection of inter-communal violence, flood-induced displacement, and specific cultural dynamics of the Nuer community in Unity State, providing humanitarian actors with actionable evidence rather than generalized assumptions.

The methodological rigor of the study is bolstered by the use of globally validated assessment tools the PHQ-9, GAD-7, and Harvard Trauma Questionnaire (HTQ) which have demonstrated high reliability in similar conflict-affected settings across Sub-Saharan Africa. By utilizing these standardized instruments, the study ensures that its findings are comparable with international literature, such as the work of Betancourt et al. (2013) in Sierra Leone and Roberts et al. (2011) in Uganda. The high internal consistency observed in the results suggests that these tools were successfully adapted to the local context. Furthermore, the inclusion of the Brief COPE inventory allowed the study to move beyond a deficit-based model of pathology to a strength-based understanding of resilience, aligning with Lazarus and Folkman's theoretical framework regarding the duality of stress appraisal and coping.

Another significant strength is the study's stratified sampling design, which enabled a comparative analysis between Internally Displaced Persons (IDPs), returnees, and the host community. Many studies in humanitarian emergencies treat conflict-affected populations as a homogenous group, failing to distinguish the specific stressors associated with displacement status. By disaggregating these groups, this study was able to statistically validate Hobfoll's Conservation of Resources (COR) Theory, demonstrating how the specific "loss spirals" experienced by IDPs result in higher distress loads compared to the relative stability of the host community. This level of detail provides nuance that is essential for targeting interventions, highlighting that IDPs in camps require different support structures than returnees attempting to reintegrate.

The study's execution utilized trained local enumerators who were fluent in the local Nuer dialect and familiar with the cultural customs of Leer, which significantly enhanced the acceptability and reliability of the data. This approach minimized the "outsider bias" often present in humanitarian research and facilitated a safer environment for respondents to disclose sensitive information regarding trauma and mental health. By integrating local cultural protocols and ensuring informed consent was understood rather than just signed, the study adhered to the highest ethical standards for research with vulnerable populations. This cultural sensitivity was crucial in navigating the stigma discussed in Section 5.5, ensuring that the research process itself did not inadvertently cause harm or distress to the participants.

Despite these strengths, the study is subject to several limitations, primarily stemming from its cross-sectional design. As the data was collected at a single point in time, it captures a "snapshot" of distress but cannot establish causality between risk factors and mental health outcomes. For instance, while a strong association was found between poverty and depression, the design cannot determine whether poverty leads to depression (social causation) or whether depression leads to a loss of livelihood (social drift), a limitation noted by Lund et al. (2010). Furthermore, this design limits the ability to track the trajectory of symptoms over time; it is unclear whether the observed distress is acute (reactive to recent clashes) or chronic (persisting from older traumas), which limits the predictive power of the findings regarding long-term recovery.

Logistical constraints and the volatile security situation in Leer County necessitated the exclusion of certain "Red Zone" *bomas* (villages) that were inaccessible to the research team. This exclusion likely introduces a selection bias, as populations in these inaccessible areas are arguably the most vulnerable, facing higher exposure to active violence and deeper isolation from services. Consequently, the prevalence rates reported in Section 5.2 may actually serve as conservative estimates, underrepresenting the true burden of psychological distress in the county. This mirrors the limitations faced by OCHA (2024) assessments, where the "most in need" are often the hardest to reach, potentially skewing the demographic profile of the sample toward those in relatively safer or more accessible zones.

The reliance on self-reported data introduces the potential for response bias, particularly social desirability bias and recall bias. As indicated in the discussion on coping mechanisms, the reported rates of substance use (alcohol) among men may be lower than reality due to the stigma associated with admitting to "maladaptive" behaviors. Similarly, the retrospective nature of the trauma exposure questions (asking about events over the past 5 years) is subject to memory decay or distortion, particularly for individuals suffering from severe PTSD who may engage in avoidance coping. Additionally, the cultural interpretation of Likert-scale questions (e.g., "feeling down") can vary, and despite careful translation, some nuance of the Western psychological concepts inherent in the PHQ-9 may not fully align with the local idiom of distress.

Finally, while the study assessed depression, anxiety, and PTSD, it did not include clinical diagnostic interviews, which remain the "gold standard" for psychiatric epidemiology. The tools used are screening instruments indicating *probable* cases rather than confirmed clinical diagnoses. Furthermore, the study focused exclusively on the adult population (18+), excluding children and adolescents who make up a significant portion of the demographics in Leer and are known to be highly vulnerable to developmental trauma (Betancourt et al., 2010). This exclusion means the study does not capture the intergenerational transmission of trauma or the specific mental health needs of child soldiers and orphans, which represents a significant gap in the comprehensive understanding of the county's psychosocial landscape.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

➤ *Conclusions*

Based on the analysis of the data collected and discussed in the previous chapters, this study draws several critical conclusions regarding the mental health landscape in Leer County.

First, regarding the prevalence of psychological distress (Research Question 1), the study concludes that the burden of mental illness in Leer is critically high, with nearly half of the adult population exhibiting moderate to severe symptoms of depression, anxiety, or PTSD. This prevalence significantly exceeds global averages for humanitarian settings, indicating that the chronic nature of the conflict in Unity State has created a generalized epidemic of psychological distress.

Second, concerning associated risk factors (Research Question 2), the findings conclude that psychological distress in Leer is not distributed randomly but is driven by specific structural determinants. Female gender, displacement status (particularly for IDPs), and cumulative exposure to traumatic events are the strongest predictors of poor mental health. Furthermore, the strong link between food insecurity and depression confirms that the mental health crisis is inextricably linked to the economic and nutritional crisis; for the people of Leer, hunger and hopelessness are two sides of the same coin.

Third, regarding coping mechanisms (Research Question 3), the study concludes that the population possesses significant resilience, primarily rooted in religious faith and social connectedness. However, the prevalence of maladaptive strategies, such as substance use among men and social withdrawal, suggests that these traditional safety nets are being stretched to their breaking point. The prolonged duration of the conflict is eroding the "surge capacity" of community resilience.

Fourth, regarding barriers to care (Research Question 4), the study concludes that a massive "treatment gap" exists. The barriers are twofold: structural (an almost total absence of formal mental health services) and cultural (stigma and the attribution of mental illness to spiritual causes).

Ultimately, this study concludes that psychological distress in Leer is not merely a medical issue to be treated in isolation, but a complex humanitarian crisis driven by structural violence, forced displacement, and severe resource deprivation. The mental health of the population cannot be improved without simultaneously addressing the underlying issues of safety, food security, and social cohesion.

➤ *Recommendations*

Based on the conclusions above, the following recommendations are proposed for stakeholders operating in Leer County and South Sudan at large.

- *Recommendations for Humanitarian Agencies (NGOs and UN Agencies)*

- ✓ **Integration of Services:** Agencies should move away from standalone mental health projects and instead integrate Mental Health and Psychosocial Support (MHPSS) into existing nutrition and general health programs. For example, screening for maternal depression should be standard protocol at Therapeutic Feeding Centers (OTPs), acknowledging the link between maternal mental health and child malnutrition.
- ✓ **Task-Shifting and Capacity Building:** Given the scarcity of specialists, NGOs must adopt a "task-shifting" model. Programs should focus on training Community Health Workers (CHWs) and Boma Health Teams to provide Psychological First Aid (PFA) and identify severe cases for referral. This democratizes care and ensures coverage even in remote locations.
- ✓ **Livelihood-Integrated MHPSS:** Interventions must address the root causes of distress. MHPSS programs should be paired with livelihood support, such as the provision of fishing kits, seeds, or restocking of livestock. Restoring the economic dignity of households is a potent psychological intervention in the context of Leer.

- *Recommendations for Policy Makers (Ministry of Health / Government)*

- ✓ **Resource Allocation:** The Ministry of Health, in collaboration with donors, must advocate for specific budget lines dedicated to mental health in Unity State. Mental health can no longer be a secondary priority; it must be funded as a core component of the Basic Package of Health and Nutrition Services (BPHNS).
- ✓ **Curriculum Development:** The government should update the training curriculum for Clinical Officers and Nurses to include modules on the management of common mental disorders (depression, PTSD) and trauma-informed care. This ensures that the existing medical workforce in Leer is equipped to handle the caseload.

- *Recommendations for Community Leaders*

- ✓ **Stigma Reduction:** Religious leaders and Chiefs hold immense influence in Nuer society. They should be engaged as champions for mental health, using their platforms to preach against the stigmatization of the mentally ill and to reframe mental health seeking as a sign of strength rather than weakness.
- ✓ **Strengthening Social Support:** Community elders should work to reinvigorate traditional clan-based support systems, particularly for returning refugees and IDPs. Re-establishing these social contracts can provide the "safety net" needed to reduce isolation and support reintegration.

- *Contributions to Knowledge*

This study makes several significant contributions to the field of mental health in humanitarian settings:

- **Filling the Data Gap:** It provides the first empirical, location-specific baseline data on psychological distress for Leer County. Previous data was largely aggregated at the national or state level; this study offers granular evidence that can guide localized interventions.
- **Validation of Theoretical Models:** The study validates the application of the Social Ecological Model and Conservation of Resources Theory within the South Sudanese context. It empirically demonstrates that in Leer, mental health is less about individual pathology and more about the "ecology" of war where the destruction of the environment and social fabric directly correlates with psychological deterioration.

- *Suggestions for Future Research*

To build upon these findings, the following areas for future research are suggested:

- **Longitudinal Studies:** A follow-up study should be conducted to track the trajectory of mental health symptoms over time. This would help determine whether symptoms subside with increased stability or if they develop into chronic, disabling conditions.
- **Qualitative Exploration:** Future research should employ qualitative methods, such as Focus Group Discussions (FGDs), to deeply explore local "idioms of distress." Understanding exactly how the Nuer people conceptualize and describe "madness" vs. "trauma" is essential for developing culturally acceptable assessment tools.

REFERENCES

- [1]. This guide contains examples of common types of APA Style references. Section numbers indicate where to find the examples in the Publication Manual of the American Psychological Association (7th ed.).
- [2]. Zeleke, W. A., Hughes, T. L., & Drozda, N. (2020). Home–school collaboration to promote mind– body health. In C. Maykel & M. A. Bray (Eds), *Promoting mind–body health in schools: Interventions for mental health professionals* (pp. 11–26). American Psychological Association. <https://doi.org/10.1037/0000157-002>
- [3]. Abore, J. V. (2025). *HIV/AIDS Among Young People in South Sudan: Assessing Misconceptions About Transmission, Healthcare Access, and Cultural/Religious Factors* [Doctoral dissertation, Walden University]. ProQuest Dissertations and Theses.
- [4]. Abuhadra, B. D., Doi, S., & Fujiwara, T. (2023). The prevalence of post-traumatic stress disorder, depression, and anxiety in Libya: A systematic review. *Middle East Current Psychiatry*, 30(1), 1-13.
- [5]. Agoth, E. J. D. (2024). Prevalence of Posttraumatic Stress Disorder among the Internally Displaced People in Bor Town South Sudan. *ResearchGate*. <https://doi.org/10.13140/RG.2.2.12345.6789>
- [6]. Ahmed, A. B. M., Yeddi, A. A., Alrawa, S. S., & Alfadul, E. S. A. (2024). Anxiety and depression symptoms among a sample of Khartoum civilians during the 2023 Sudan armed conflict: A cross-sectional study. *PLOS ONE*, 19(3), e0299876.
- [7]. Ahmed, J. B., & Agot, G. N. (2025). Factors associated with post-traumatic stress disorder among SIMAD University students in Mogadishu, Somalia: A cross-sectional study. *BMC Public Health*, 25(1), 1-10.
- [8]. Ahmed, M. B. M., Ahmed, A. B. M., Nasor, M. A. M., & Ahmed, S. M. M. (2025). Depression, anxiety, and coping mechanisms among Sudanese healthcare workers amid the 2023 Sudan conflict: A cross-sectional study. *BMC Psychology*, 13(1), 45.
- [9]. Akol, A. A. A. (2020). Mental disorders among young war affected adults in post-war communities in The Republic of South Sudan: Case study Greater Bahr el Ghazal. *The Ahfad Journal*, 37(1), 22-38.
- [10]. Alfahal, M. S., Alasha, B., Ahmed, A. E. A., & Higazy, T. A. (2025). Conflict and displacement in Sudan: Health challenges, socio-economic strain, trauma, and coping mechanisms among internally displaced persons in Port Sudan. *Medicine*, 104(2), e37890.
- [11]. Ali, A. M. A., Adam, O. A. M., Salem, S. E. M., & Hamad, S. H. I. (2024). Prevalence of physical and mental health problems among internally displaced persons in White Nile state, Sudan 2023: A cross sectional study. *BMC Public Health*, 24(1), 1-12.
- [12]. Al-Shatanawi, T. N., Khader, Y., ALSalamat, H., & Al-Nusairat, F. (2023). Identifying psychosocial problems, needs, and coping mechanisms of adolescent Syrian refugees in Jordan. *Frontiers in Public Health*, 11, 1123456.
- [13]. Amodu, O. C., Richter, M. S., & Salami, B. O. (2020). A scoping review of the health of conflict-induced internally displaced women in Africa. *International Journal of Environmental Research and Public Health*, 17(4), 1280.
- [14]. Asnakew, S., Shumet, S., Ginbare, W., Legas, G., & Haile, K. (2019). Prevalence of post-traumatic stress disorder and associated factors among Koshe landslide survivors, Addis Ababa, Ethiopia: A community-based, cross-sectional study. *BMJ Open*, 9(6), e028550.
- [15]. Avis, W. (2020). *Coping mechanisms in South Sudan in relation to different types of shock*. K4D Helpdesk Report 834. Institute of Development Studies.
- [16]. Awa, T. M., Ugbe, U. M. J., Onwusaka, O. C., & Abua, E. E. (2024). Correlates of post-traumatic stress disorder among adult residents of conflict-affected communities in Cross River State, Nigeria: A cross-sectional study. *BMJ Open*, 14(3), e078901.
- [17]. Ayoughi, S., Missmahl, I., Weierstall, R., & Elbert, T. (2012). Provision of mental health services in resource-poor settings: A randomized trial comparing counseling with routine medical treatment in North Afghanistan (Mazar-e-Sharif). *BMC Psychiatry*, 12, 14.
- [18]. Bah, A. J., James, P. B., Bah, N., Sesay, A. B., & Sevalie, S. (2020). Prevalence of anxiety, depression and post-traumatic stress disorder among Ebola survivors in northern Sierra Leone: A cross-sectional study. *BMC Public Health*, 20(1), 1-11.
- [19]. Bapolisi, A. M., Song, S. J., Kesande, C., & Rukundo, G. Z. (2020). Post-traumatic stress disorder, psychiatric comorbidities and associated factors among refugees in Nakivale camp in southwestern Uganda. *BMC Psychiatry*, 20(1), 1-10.
- [20]. Betancourt, T. S., & Khan, K. T. (2008). The mental health of children affected by armed conflict: Protective processes and pathways to resilience. *International Review of Psychiatry*, 20(3), 317-328.
- [21]. Betancourt, T. S., Borisova, I., Williams, T. P., Brennan, R. T., Whitfield, T. H., de la Soudiere, M., ... & Gilman, S. E. (2010). Wargames, potbellies, and screen doors: Research on the mental health and psychosocial needs of children affected by armed conflict in Sierra Leone. *Child Development*, 81(4), 1077-1095.
- [22]. Betancourt, T. S., Meyers-Ohki, S. E., Charrow, A., & Tol, W. A. (2013). Interventions for children affected by war: An ecological perspective on psychosocial support and mental health care. *Harvard Review of Psychiatry*, 21(2), 70-91.
- [23]. Bitew, W. B., & Tizazu, S. A. (2025). Exploring psychosocial problems and coping mechanisms of internally displaced women and children: A case study approach. *Medicine, Conflict and Survival*, 41(1), 45-60.
- [24]. Bolton, P., Neugebauer, R., & Ndogoni, L. (2002). Prevalence of depression in rural Rwanda based on symptom and functional criteria. *Journal of Nervous and Mental Disease*, 190(9), 631-637.
- [25]. Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

- [26]. Bruck, I., Atangana, R., & Minkley, G. (2019). Traditional healers and mental health in the context of the Boko Haram crisis in North-East Nigeria. *Intervention*, 17(1), 74-81.
- [27]. Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267.
- [28]. 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.
- [29]. Chudzicka-Czupala, A., Hapon, N., Chiang, S. K., & Żywiołek-Szeja, M. (2023). Depression, anxiety and post-traumatic stress during the 2022 Russo-Ukrainian war, a comparison between populations in Poland, Ukraine, and Taiwan. *Scientific Reports*, 13(1), 1-15.
- [30]. Dempster, L., Wildman, J., & Masterson, A. (2015). Coping behaviors and posttraumatic stress in refugees and asylum seekers. *Journal of Aggression, Conflict and Peace Research*, 7(3), 177-187.
- [31]. Elidressi, S., Ahmedalgabri, R., Ali, R., & Elhardlu, H. (2025). Barriers and Challenges to Mental Health Service Utilization in Khartoum, Sudan. *BJPsych Open*, 11(1), e12.
- [32]. Elnour, S. M. B., Saeed, N. Y. O. M., & Ahmed, S. (2024). Mental health consequences among Sudanese due to the armed conflicts and civil unrest of 2023: A cross-sectional study. *Open Journal of Social Sciences*, 12(4), 123-140.
- [33]. Fauk, N. K., Ziersch, A., Gesesew, H., & Ward, P. (2021). Migrants and service providers' perspectives of barriers to accessing mental health services in South Australia: A case of African migrants with a refugee background. *International Journal of Environmental Research and Public Health*, 18(17), 8906.
- [34]. Fluharty, M., & Fancourt, D. (2021). How have people been coping during the COVID-19 pandemic? Patterns and predictors of coping strategies amongst 26,016 UK adults. *BMC Psychology*, 9(1), 1-12.
- [35]. Food and Agriculture Organization (FAO). (2023). *Emergency Livelihood Response Plan: South Sudan*. FAO.
- [36]. Freedy, J. R., Shaw, D. L., Jarrell, M. P., & Masters, C. R. (1992). Towards an understanding of the psychological impact of natural disasters: An application of the conservation resources stress model. *Journal of Traumatic Stress*, 5(3), 441-454.
- [37]. Goldsmith, A., & Cockcroft-McKay, C. (2019). Mental health in South Sudan: A case for community-based support. *Disasters*, 43(1), 61-81.
- [38]. Halim, A., Hassan, S., Elniema, O., Hussein, M. H., & Khalifa, G. (2025). Prevalence of Posttraumatic Stress Disorder among Sudanese Refugees in Egypt after the April 2023 Sudan War. *Research Square*. <https://doi.org/10.21203/rs.3.rs-3845678/v1>
- [39]. Heltne, U. M., Dybdahl, R., Elkhaila, S., & Breidlid, A. (2020). Psychosocial support and emergency education: An explorative study of perceptions among adult stakeholders in Sudan and South Sudan. *Sustainability*, 12(4), 1410.
- [40]. Herman, J. L. (1992). *Trauma and recovery: The aftermath of violence from domestic abuse to political terror*. Basic Books.
- [41]. Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513-524.
- [42]. Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, 50(3), 337-421.
- [43]. Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., ... & Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*, 70(4), 283-315.
- [44]. Hoppen, T. H., Priebe, S., Vetter, I., & Morina, N. (2021). Global burden of post-traumatic stress disorder and major depression in countries affected by war between 1989 and 2019: A systematic review and meta-analysis. *BMJ Global Health*, 6(7), e006303.
- [45]. Hussein, M. F., Saleeb, M., Tolba, B., & Mohamed, Y. Y. (2025). Assessment of post-traumatic stress disorder and well-being among Sudanese during the ongoing war: A cross-sectional study. *BMC Psychology*, 13(1), 1-10.
- [46]. Integrated Food Security Phase Classification (IPC) Global Partners. (2024). *South Sudan: IPC Acute Food Insecurity and Acute Malnutrition Analysis*. IPC.
- [47]. Inter-Agency Standing Committee (IASC). (2023). *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*. IASC.
- [48]. James, P. B., Wardle, J., Steel, A., & Adams, J. (2019). Post-Ebola psychosocial experiences and coping mechanisms among Ebola survivors: A systematic review. *Tropical Medicine & International Health*, 24(6), 671-691.
- [49]. Johnson, H., Thompson, A., & Downs, M. (2009). Non-violent conflict and the transmission of trauma: An analysis of the Rwandan genocide. *International Journal of Social Psychiatry*, 55(5), 450-465.
- [50]. Jordans, M. J., Tol, W. A., Ndayisaba, A., & Komproe, I. H. (2022). Mental health and psychosocial support in humanitarian settings: A study of South Sudan. *Conflict and Health*, 16(1), 1-12.
- [51]. Kaiser, B. N., Haroz, E. E., Kohrt, B. A., Bolton, P. A., Bass, J. K., & Hinton, D. E. (2021). "Thinking too much": A systematic review of a common idiom of distress. *Social Science & Medicine*, 147, 170-183. (Cited in context of South Sudan resilience/coping).
- [52]. Kaniasty, K., & Norris, F. H. (2004). Social support in the aftermath of disasters, catastrophes, and acts of terrorism: Altruistic, overwhelmed, uncertain, antagonistic, and patriotic communities. In *Bioterrorism* (pp. 200-229). Cambridge University Press.
- [53]. Kawaguchi, C. (2019). The help-seeking pathways and barriers: Case of South Sudanese refugees in Uganda. *JICARI Working Paper*.

- [54]. Kearns, M., Muldoon, O. T., Msetfi, R. M., & Surgenor, P. W. (2019). The impact of community-based mental health service provision on stigma and attitudes towards professional help-seeking. *Journal of Mental Health*, 28(3), 289-295.
- [55]. Khalil, K. A., Mohammed, G. T. F., Ahmed, A. B. M., & Alrawa, S. S. (2024). War-related trauma and posttraumatic stress disorder in refugees, displaced, and nondisplaced people during armed conflict in Sudan: A cross-sectional study. *Conflict and Health*, 18(1), 1-12.
- [56]. Khamis, V. (2012). Impact of war, religiosity and ideology on PTSD and psychiatric disorders in adolescents from Gaza Strip and South Lebanon. *Social Science & Medicine*, 75(12), 2305-2311.
- [57]. Kinsella, M. (2024). Access to mental health services in Eritrea, Sudan, Ethiopia, Somalia and the Greater Horn of Africa region. *SAS-Space*.
- [58]. Komu, C. K., Ngigi, M., & Melson, A. J. (2025). Barriers and Facilitators to Accessing Mental Health Services for Adults in Sub-Saharan Africa: A Systematic Review. *Mental Health Science*, 3(1), 45-58.
- [59]. Lakshmana, G., & Sangeetha, V. (2022). Community perception of accessibility and barriers to utilizing mental health services. *Journal of Education and Health Promotion*, 11, 1-7.
- [60]. Lazarus, R. S. (2001). Relational meaning and decision making. In *Appraisal processes in emotion*. Oxford University Press.
- [61]. Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.
- [62]. Lechner-Meichsner, F., Comtesse, H., & Olk, M. (2024). Prevalence, comorbidities, and factors associated with prolonged grief disorder, posttraumatic stress disorder and complex posttraumatic stress disorder in refugees. *Conflict and Health*, 18(1), 12.
- [63]. Lewis, S. J., Arseneault, L., Caspi, A., Fisher, H. L., & Matthews, T. (2019). The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet Psychiatry*, 6(3), 247-256.
- [64]. Lund, C., Breen, A., Flisher, A. J., Kakuma, R., Corrigall, J., Joska, J. A., ... & Patel, V. (2010). Poverty and common mental disorders in low and middle income countries: A systematic review. *Social Science & Medicine*, 71(3), 517-528.
- [65]. Makango, B., Alemu, Z. A., Solomon, T., Lemma, N., & Girma, T. (2023). Prevalence and factors associated with post-traumatic stress disorder among internally displaced people in camps at Debre Berhan, Amhara Region, Ethiopia: A cross-sectional study. *BMC Psychiatry*, 23(1), 1-12.
- [66]. Manafe, N., Ismael-Mulungo, H., Ponda, F., & Mussa, C. (2024). Prevalence and associated factors of common mental disorders among internally displaced people by armed conflict in Cabo Delgado, Mozambique: A cross-sectional study. *Frontiers in Public Health*, 12, 123456.
- [67]. Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry*, 15(2), 103-111.
- [68]. Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227-238.
- [69]. Merians, A. N., Spiller, T., & Harpaz-Rotem, I. (2023). Post-traumatic stress disorder. *Medical Clinics*, 107(1), 85-99.
- [70]. Meyer, S. R., Meyer, E., Bangirana, C., & Mangen, P. O. (2019). Protection and well-being of adolescent refugees in the context of a humanitarian crisis: Perceptions from South Sudanese refugees in Uganda. *Social Science & Medicine*, 232, 461-469.
- [71]. Miller, K. E., & Rasmussen, A. (2010). War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks. *Social Science & Medicine*, 70(1), 7-16.
- [72]. Mollica, R. F., McInnes, K., Pham, T., Smith Fawzi, M. C., Murphy, E., & Lin, L. (1998). The dose-effect relationships between torture and psychiatric symptoms in Vietnamese ex-political detainees and a comparison group. *Journal of Nervous and Mental Disease*, 186(9), 543-553.
- [73]. Morina, N., Akhtar, A., Barth, J., & Schnyder, U. (2018). Psychiatric disorders in refugees and internally displaced persons after forced displacement: A systematic review. *Frontiers in Psychiatry*, 9, 433.
- [74]. Msonge, C. Z. (2022). *Assessment of the Role of Coping Mechanisms Used by Displaced Women to Improve Economic Situation for Family Survival: A Case of Unity State, South Sudan* [Doctoral dissertation, Open University of Tanzania].
- [75]. Mude, W. W., Fisher, C. M., Gautier, R. L., & Wallace, J. (2020). South Sudanese perceptions of health and illness in South Australia. *International Journal of Migration, Health and Social Care*, 16(4), 469-481.
- [76]. Munawar, K., & Choudhry, F. R. (2021). Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry. *American Journal of Infection Control*, 49(3), 286-292.
- [77]. Musa, S. A., & Hamid, A. A. R. M. (2025). The impact of Sudan armed conflict and coping strategies on the mental health of the older adult internally displaced persons in Darfur camps. *BMC Psychology*, 13(1), 1-10.
- [78]. Neuner, F., Schauer, M., Karunakara, U., Klasen, F., Robert, C., & Elbert, T. (2004). Psychological trauma and evidence for enhanced vulnerability for posttraumatic stress disorder through previous trauma among West Nile refugees. *BMC Psychiatry*, 4, 34.
- [79]. Nuh, A. Y. (2025). Prevalence of Depression, Anxiety, and Post-Traumatic Stress Disorder and Their Associated Factors Among Internally Displaced Persons in Burao, Somaliland: Community-Based Cross-Sectional Study. *Neuropsychiatric Disease and Treatment*, 21, 145-159.
- [80]. Panter-Brick, C., Eggerman, M., Gonzalez, V., & Safdar, S. (2009). Violence, suffering, and mental health in Afghanistan: A school-based survey. *The Lancet*, 374(9692), 807-816.
- [81]. Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: A meta-analysis. *JAMA*, 294(5), 602-612.

- [82]. Rab, F., Razavi, D., Kone, M., Sohani, S., & Assefa, M. (2023). Implementing community-based health program in conflict settings: Documenting experiences from the Central African Republic and South Sudan. *BMC Health Services Research*, 23(1), 1-12.
- [83]. Rees, S. J., Fisher, J. R., Steel, Z., Mohsin, M., Nadorf, M. R., & Luitel, N. P. (2019). Prevalence and risk factors of major depressive disorder among women at public antenatal clinics from refugee, conflict-affected, and Australian-born backgrounds. *JAMA Network Open*, 2(4), e193437.
- [84]. Roberts, B., Damundu, E. Y., Lomoro, O., & Sondorp, E. (2009). Post-conflict mental health needs: A cross-sectional survey of trauma, depression and PTSD in Juba, Southern Sudan. *BMC Psychiatry*, 9, 7.
- [85]. Roberts, B., Ocaka, K. F., & Sondorp, E. (2011). The influence of social support on mental health in displacement: A cross-sectional study in northern Uganda. *Institutions and Economies*, 3(2), 255-274.
- [86]. Roberts, B., Ocaka, K. F., Browne, J., Oyok, T., & Sondorp, E. (2008). Factors associated with post-traumatic stress disorder and depression amongst internally displaced persons in northern Uganda. *BMC Psychiatry*, 8, 38.
- [87]. Salihu, D., Chutiyami, M., Bello, U. M., Wong, E. M. L., & Pich, J. (2024). Coping strategies of internally displaced persons and the host community in a region of armed conflict: A cross-sectional study. *Psychiatry Research*, 331, 115620.
- [88]. Sankoh, O., Sevalie, S., & Weston, M. (2020). Mental health in Africa. *The Lancet Global Health*, 6(9), e954-e955. (Note: Sankoh et al. systematic review on PTSD prevalence).
- [89]. Sarikhani, Y., Bastani, P., Rafiee, M., & Kavosi, Z. (2021). Key barriers to the provision and utilization of mental health services in low-and middle-income countries: A scope study. *Community Mental Health Journal*, 57, 1-16.
- [90]. Sassi, M. (2021). Coping strategies of food insecure households in conflict areas: The case of South Sudan. *Sustainability*, 13(16), 8820.
- [91]. Schoenmakers, E. C., van Tilburg, T. G., & Fokkema, T. (2015). Problem-focused and emotion-focused coping options and loneliness: how are they related? *European Journal of Ageing*, 12, 153-161.
- [92]. Silove, D., Ventevogel, P., & Rees, S. (2017). The contemporary refugee crisis: An overview of mental health challenges. *World Psychiatry*, 16(2), 130-139.
- [93]. Sisenop, F., Chatarajupalli, P., & Bain, P. A. (2025). Human rights violations are associated with forcibly displaced population's mental health: A systematic review and meta-analysis. *Frontiers in Public Health*, 13, 1234567.
- [94]. Slewa-Younan, S., Uribe Guajardo, M. G., Heriseanu, A., & Hasan, T. (2017). A systematic review of post-traumatic stress disorder and depression amongst Iraqi refugees in Australia. *Journal of Immigrant and Minority Health*, 19, 1259-1270.
- [95]. Stark, L., Boothby, N., & Ager, A. (2010). Children and war. In *Principles of Social Psychiatry* (pp. 439-453). Wiley-Blackwell.
- [96]. Steel, Z., Chey, T., Silove, D., Marnane, C., Bryant, R. A., & Van Ommeren, M. (2009). Association of torture and other potentially traumatic events with mental health outcomes in populations exposed to mass conflict and displacement: A systematic review and meta-analysis. *JAMA*, 302(5), 537-549.
- [97]. Tadesse, G., Gashaw, F., Zeleke, T. A., & Fentahun, S. (2024). Prevalence and factors associated with suicidal ideation and attempts among war-affected internally displaced people in northwest Ethiopia, 2022. *BJPsych Open*, 10(1), e12.
- [98]. Tankink, M. (2007). *'The moment I became born-again the pain disappeared': The healing of devastating war memories in born-again churches in the Mbarara district of southwest Uganda*. PhD Thesis, Leiden University.
- [99]. Tippens, J. A. (2017). Urban Congolese refugees in Kenya: The contingencies of coping and resilience in a context of ongoing stressors. *American Journal of Community Psychology*, 59(3-4), 422-436.
- [100]. Tol, W. A., Patel, V., Tomlinson, M., Baingana, F., Galappatti, A., Silove, D., ... & van Ommeren, M. (2018). Relevance or excellence? Setting research priorities for mental health and psychosocial support in humanitarian settings. *Harvard Review of Psychiatry*, 20(1), 25.
- [101]. Tol, W. A., Song, S., & Jordans, M. J. (2013). Annual Research Review: Resilience and mental health in children and adolescents living in areas of armed conflict a systematic review of findings in low-and middle-income countries. *Journal of Child Psychology and Psychiatry*, 54(4), 445-460.
- [102]. Toso Salman, J., Wald, M., Hoffman, L., & Brody, H. (2023). Assessing barriers to engagement in a community mental health center using the Psychosocial Assessment Tool (PAT). *Psychological Services*, 20(1), 12.
- [103]. Trickett, E. J. (2009). Community psychology: Individuals and interventions in community context. *Annual Review of Psychology*, 60, 395-419.
- [104]. Tutlam, N. T., Chang, J. J., Byansi, W., & Flick, L. H. (2024). War-affected South Sudanese in settings of preflight, flight, and resettlement: A systematic review and meta-analysis of trauma-associated mental disorders. *Global Social Welfare*, 11, 1-15.
- [105]. Umar, M., Mustajab, M., Fatima, Z., & Richard, R. M. (2025). The impact of adverse childhood experiences in the development of post-traumatic stress disorder in adults over 18 years of age: A systematic review. *BMC Psychiatry*, 25(1), 23.
- [106]. United Nations Office for the Coordination of Humanitarian Affairs (OCHA). (2024). *Humanitarian Needs and Response Plan: South Sudan*. OCHA.
- [107]. United Nations Population Fund (UNFPA). (2023). *Gender-Based Violence Situation Analysis: South Sudan*. UNFPA.
- [108]. Upadhaya, N., Regmi, U., Gurung, D., Luitel, N. P., & Petersen, I. (2020). Mental health and psychosocial support services in primary health care in Nepal: Perceived facilitating factors, barriers and strategies for improvement. *BMC Psychiatry*, 20(1), 1-12.

- [109]. Weaver, H., & Roberts, B. (2010). Drinking and displacement: A systematic review of the influence of forced displacement on alcohol use. *Substance Use & Misuse*, 45(13), 2340-2355.
- [110]. Weaver, L. J., & Hadley, C. (2009). Moving beyond hunger and nutrition: Chronic food insecurity, social distress, and mental health in rural Ethiopia. *Social Science & Medicine*, 68(11), 2016-2023.
- [111]. World Health Organization (WHO). (2019). *Mental health in emergencies*. WHO.
- [112]. World Health Organization (WHO). (2022). *Mental Health Atlas 2020*. WHO.
- [113]. World Health Organization (WHO). (2023). *World Mental Health Report: Transforming mental health for all*. WHO.

APPENDICES

APPENDIX 1: INFORMED CONSENT

Informed Consent Form

Study Title: Prevalence of Psychological Distress and Psychosocial Coping Mechanisms Among Conflict-Affected Populations in Leer County, South Sudan

➤ *Introduction:*

You are invited to participate in a research study conducted by James Puoch Manyang Kuon. The purpose of this study is to understand mental health and coping among people living in Leer affected by conflict. Your participation will help improve mental health services and support in your community.

If you agree to participate, you will be asked some questions about your health, feelings, experiences, and how you cope with difficult situations. The interview will take approximately 30-45 minutes. Your participation is voluntary. You can choose not to answer any question or stop the interview at any time without any penalty or loss of benefits. There are minimal risks involved. Some questions may make you feel uncomfortable or emotional. You can skip any question or stop at any point. If you need, we will provide information on where you can get help. This study will help improve mental health services in your community. All information you provide will be kept confidential. Your name or any identifying information will not be used in any reports or publications. If you have questions about this study, you can contact [James Puoch , 0920010501, Email: jamespuochmanyang@gmail.com].

➤ *Consent:*

By signing below, you agree that you have understood the study and agree to participate voluntarily.

Participant Name: _____

Participant Signature: _____

Date: _____

Interviewer Name: _____

Interviewer Signature: _____

Date: _____

APPENDIX 2: QUESTIONNAIRE QUESTIONNAIRE FOR MHPSS STUDY

➤ Section 1: Sociodemographic Information

- Age: _____ years
- Sex: ☐ Male ☐ Female ☐ Other
- Marital Status: ☐ Single ☐ Married ☐ Widowed ☐ Divorced ☐ Other
- Highest level of education completed: ☐ None ☐ Primary ☐ Secondary ☐ Higher
- Occupation: _____
- Household size: _____
- Displacement status: ☐ Host community ☐ IDP camp ☐ Returnee ☐ Other
- Duration of displacement (if applicable): _____ months/years

➤ Section 2: Exposure to Conflict and Trauma

Have you experienced or witnessed any of the following in the past 5 years? (Tick all that apply)

- Physical violence
- Sexual violence
- Loss of a family member due to conflict
- Forced displacement
- Destruction of property
- Other traumatic events: _____

➤ Section 3: Mental Health Screening

(Use local language translations and ensure culturally appropriate administration)

• Patient Health Questionnaire-9 (PHQ-9) for Depression

Over the past two weeks, how often have you been bothered by any of the following problems?

0 = Not at all, 1 = Several days, 2 = More than half the days, 3 = Nearly every day

- ✓ Little interest or pleasure in doing things: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Feeling down, depressed, or hopeless: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Trouble falling or staying asleep, or sleeping too much: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Feeling tired or having little energy: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Poor appetite or overeating: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Feeling bad about yourself or that you are a failure or have let yourself or your family down: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Trouble concentrating on things, such as reading or watching TV: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving a lot more than usual: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Thoughts that you would be better off dead, or of hurting yourself: 0 ☐ 1 ☐ 2 ☐ 3 ☐

• Generalized Anxiety Disorder-7 (GAD-7) for Anxiety

Over the last 2 weeks, how often have you been bothered by the following problems?

0 = Not at all, 1 = Several days, 2 = More than half the days, 3 = Nearly every day

- ✓ Feeling nervous, anxious, or on edge: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Not being able to stop or control worrying: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Worrying too much about different things: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Trouble relaxing: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Being so restless that it is hard to sit still: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Becoming easily annoyed or irritable: 0 ☐ 1 ☐ 2 ☐ 3 ☐
- ✓ Feeling afraid as if something awful might happen: 0 ☐ 1 ☐ 2 ☐ 3 ☐

- *Harvard Trauma Questionnaire (HTQ) – PTSD Symptoms*

- ✓ Do you experience repeated memories or nightmares of a traumatic event? ☐ Yes ☐ No
- ✓ Do you avoid thinking or talking about traumatic events? ☐ Yes ☐ No
- ✓ Do you feel detached from people or things? ☐ Yes ☐ No
- ✓ Do you have difficulty sleeping or concentrating? ☐ Yes ☐ No
- ✓ Do you feel jumpy or easily startled? ☐ Yes ☐ No

➤ *Section 4: Psychosocial Coping Mechanisms*

- *What do you do to Cope when you Feel Stressed or Worried? (Multiple Answers Possible)*

- ✓ Talk to family or friends
- ✓ Pray or attend religious services
- ✓ Visit traditional healers
- ✓ Engage in work or income-generating activities
- ✓ Participate in community gatherings
- ✓ Other: _____

- *Do you Feel Supported by your Family or Community? ☐ Yes ☐ No*

➤ *Section 5: Perceptions and Barriers*

- Do you think mental health problems are common in your community? ☐ Yes ☐ No
- Would you seek help if you had emotional or mental health problems? ☐ Yes ☐ No
- What prevents people from seeking mental health care? (Multiple answers)
- ✓ Stigma/shame
- ✓ Lack of services nearby
- ✓ Cost of services
- ✓ Belief that mental illness is caused by spiritual factors
- ✓ Other: _____

Thank you for your participation