

Washington University in St. Louis

Washington University Open Scholarship

Brown School Theses and Dissertations

Brown School

Summer 5-15-2023

Parent and Child Wellbeing in a Humanitarian Context By Flora Cohen,

Flora Cohen

Washington University in St. Louis, flora.cohen@wustl.edu

Follow this and additional works at: https://openscholarship.wustl.edu/brown_etds

Recommended Citation

Cohen, Flora, "Parent and Child Wellbeing in a Humanitarian Context By Flora Cohen," (2023). *Brown School Theses and Dissertations*. 11.

https://openscholarship.wustl.edu/brown_etds/11

This Dissertation is brought to you for free and open access by the Brown School at Washington University Open Scholarship. It has been accepted for inclusion in Brown School Theses and Dissertations by an authorized administrator of Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu.

Washington University in St. Louis

Brown School

Dissertation Examination Committee:

Dr. Patricia Kohl, Chair

Dr. Jean-Francois Trani

Dr. Ilana Seff

Dr. Tonya Edmond

Dr. Sabrina Hermosilla

Dr. Joshua Jackson

Parent and Child Wellbeing in a Humanitarian Context

By

Flora Cohen, LMSW

A dissertation presented to the Brown School at Washington University in St. Louis in partial fulfillment of the requirements for the degree of Doctor of Philosophy

April, 2023

St. Louis, Missouri

© 2023 Flora Cohen

Acknowledgements

The accomplishment of my doctoral degree is due to my professors, parents, siblings, and friends worldwide.

Foremost, I express my sincere and deepest appreciation for my academic advisor and chair Professor Trish Kohl for her continuous support and encouragement. Thank you for taking me under your wing when I needed it the most. This dissertation would not have been possible without your guidance.

I also want to especially thank my committee members. I am so fortunate that each of my committee members provided invaluable contributions to my research. Professor Jean-Francois Trani for guiding me from when I first entered the program until today, encouraging me to center communities throughout my work and find methods that matched my passion. Thank you Research Professor Ilana Seff for all of the phone calls and frantic emails, answered with your kindness, intelligence, and patience. My sincerest appreciation to Dean Tonya Edmond, who encouraged me to pursue a path that would wake me up, and to move towards primary data collection. Thank you Professor Joshua Jackson for your patience with me in statistical methods. And last, but certainly not least, Professor Sabrina Hermosilla whose ongoing support for the past few years has been invaluable to my growth not only as a researcher but as a thoughtful human.

This work would not have been possible without the co-PIs of the study, Lindsay Stark, DrPH and Patrick Onyango, MSc. My sincerest thank you for this opportunity to work on this study. I especially appreciate our funders at USAID HEARD for their support of this exciting work.

Finally, I want to thank my parents, Mark and Elissa, my siblings Ariel, Sam, and Miranda, and my friends who have provided support, care, warmth, and encouragement throughout my doctoral education years. I also want to thank my husband Basel who has provided his steadfast encouragement along the way, and my best friends, especially Molly and Braveheart.

Flora Cohen, LMSW

Washington University in St. Louis

April 2023

Table of Contents

List of Tables	iv
List of Figures	v
Abstract	vi
Chapter 1: Introduction	1
Rationale	1
Theory	3
Figure 1	6
Structure	7
Chapter 2: Exploring the child’s concerns within a humanitarian setting	8
Introduction	8
Methods	9
Setting	9
Participants	10
Data collection	11
Image 1	13
Image 2	14
Analysis	14
Ethics	15
Findings	16
Table 1	16
Forced Marriage	16
Poverty and Lack of Basic Needs	19
Separation from parents	21
Denial of children’s rights	22
Neglect and Physical Abuse	24
Points of Divergence	26
Figure 2	26
Discussion	28
Limitations	29
Conclusion	31
Chapter 3: The Psychometric Properties of the Kessler-6 Psychological Distress Scale to Assess Mental Health among Forcibly Displaced Caregivers in Uganda	33

Methods.....	35
Setting	35
Participants.....	36
Data collection	36
Analysis.....	38
Ethics.....	42
Results.....	42
Table 1	43
Table 2	44
Figure 3	44
Table 3	45
Confirmatory Factor Analysis.....	45
Table 4	46
Table 5	46
Discussion.....	47
Conclusion	49
Chapter 4: Mental distress among forcibly displaced caregivers and associations with caregiving behaviors: differences in intervention effectiveness by clinical levels of distress	51
Background.....	51
Methods.....	55
Setting	55
Study Design.....	55
Recruitment.....	56
Sample.....	56
Data collection	57
The intervention	59
Ethics.....	61
Measures of interest	62
Analysis.....	65
Results.....	72
Descriptive statistics	72
Table 1	72
Figure 1	73

Table 2	74
Regressions	74
Table 3	76
Mean Differences by Group.....	77
Figure 1	78
Discussion	80
Limitations	82
Conclusion	83
Chapter 5: Conclusion.....	84
Introduction.....	84
Discussion.....	84
Figure 1	85
Implications.....	90
Conclusion	90
References.....	91

List of Tables

Table 1 Child Perceptions of Community Concerns	16
Table 1 Sample Descriptive Statistics.....	43
Table 2 Means, standard deviations, correlations, and factor loadings from exploratory factor analysis of K6 items	44
Table 3 Rotated factor loadings, pattern matrix and unique variances.....	45
Table 4 Kessler-6 Confirmatory Factor Analysis fit statistics	46
Table 5 Standardized and Unstandardized Factor Loadings for Confirmatory Factor Analysis Models	46
Table 1 Mental distress groups	72
Table 2 Distribution of the covariates before and after applying weights	74
Table 3 Coefficients showing changes in outcome variables according to distress groups.....	76

List of Figures

Figure 1 Ecological Systems Theory	6
Image 1 Example participatory ranking method result.....	13
Image 2 Example participatory ranking method result.....	14
Figure 2 Venn diagram concerns across participant groups	26
Figure 3 Screeplot of eigenvalues	44
Figure 1 The matching-smooth method assessing heterogeneity in treatment and control groups....	73
Figure 1 Differences by distress group	78
Figure 1 Ecological systems theory findings from children and caregivers	85

Abstract

Parent and Child Wellbeing in a Humanitarian Context

By

Flora Cohen, LMSW

Doctor of Philosophy in Social Work

The Brown School, Washington University in St. Louis, 2023

Professor Patricia Kohl, Chair

There are increasingly more children and families affected by conflict and displacement. Conflict and displacement can cause severe mental health challenges and social fragmentation. Programs that support the mental health and wellbeing of communities and families living in humanitarian contexts are vital to improving future outcomes. This dissertation utilizes evidence from a psychosocial support intervention designed to support caregivers living in Kiryandongo refugee settlement, Uganda. Findings from this study highlight the importance of utilizing children's voices in the development of programs, equipping researchers with instruments that have been tested for reliability and validity in differing contexts, and evaluating differing program outcomes for population subgroups. Study findings are vital to enhancing mental health and psychosocial policies, programming, and research for the burgeoning population experiencing forced displacement.

Chapter 1: Introduction

Rationale

There are currently 103 million forcibly displaced people worldwide, 1.5 million are living in Uganda (UNHCR, 2023). Forcibly displaced people face extensive stressors. The stressors that forcibly displaced people face include direct exposure to conflict, extended periods of time without access to medical care, food, or water, and even discrimination along their migration trajectories. Additionally, opportunities to seek financial stability and safety are limited. These significant challenges contribute to extensive psychological difficulties – effecting individual mental health and community wellbeing.

Parents and caregivers in particular face exacerbated stressors due to their responsibility to not only take care of themselves but also to take care of their children. There are 36.5 million forcibly displaced people globally who are under the age of 18 (UNHCR, 2022a). The stressors of food insecurity and lack of resources for educational attainment that face forcibly displaced people have compounding effects on caregivers and the children within their care. Due to these unique challenges, displaced caregivers suffer from higher rates of mental health symptoms as compared to their non-displaced counterparts, including higher rates of depression, anxiety, and post-traumatic stress disorders (Gerritsen et al., 2006; Porter & Haslam, 2005; Pumariega et al., 2005; Steel et al., 2002; Taylor et al., 2014).

A burgeoning body of literature suggests that caregiver mental health and functioning influences the mental health outcomes of forcibly displaced children (Betancourt & Khan, 2008; Meyer, Steinhaus, et al., 2017a; Sim et al., 2018; Tol et al., 2013). Children are subject to compounded vulnerabilities including loss of social and structural resources, traumatic event exposure, and distressed relationships with their families (Lustig et al., 2004; Williams, 2010).

Additionally, research has found that maternal depression and post-traumatic stress (PTS) predicted PTS symptoms, behavioral problems, and somatic complaints for their children aged 0-6 years (Slone & Mann, 2016). The prevalence of mental disorders among children exposed to crisis is high, with an average of 47% meeting criteria for Post-Traumatic Stress Disorder (PTSD), 43% meeting criteria for depression, and 27% with anxiety (Attanayake et al., 2009; Tol et al., 2013).

Children in Kiryandongo refugee settlement, Uganda have reported that their experience living in refugee settlements has had a significant impact on their wellbeing (Meyer et al., 2019). For example, as refugees continue to settle in to the aforementioned settlements, food rations and the provision of land has significantly decreased. While families have grown to rely on food from organizations like the World Food Programme, the rations decrease over time as families are meant to create more sustainable livelihoods through their own farms (Kimani et al., 2020). However, as more refugees enter, the provided land is in smaller parcels, and sometimes land is even taken away from families who have been living there longer in order to accommodate for newer refugees. Additionally, as refugees stay longer and family sizes become larger, soil fertility decreases (Berke & Larsen, 2022). School closures during COVID-19 contributed to increased vulnerabilities, including rising use of alcohol and drugs and a rise in teenage pregnancies (Bourgault et al., 2021; Kar S.K. et al., 2020; Sakondo, 2020).

Programs for forcibly displaced caregivers have shown effective results, however, there is limited rigorous evidence of tailored approaches. A recent systematic review found that participation on caregiving programs led to improvements in parenting skills or attitudes, child psychosocial outcomes, and caregiver mental health (Gillespie et al., 2022). Parenting programs that emphasize teaching parents the knowledge and skills to reduce harsh parenting and foster

more positive parent-child interactions have been shown to lead to the creation of safe and nurturing environments for children (Biglan et al., 2012; Miller et al., 2020). However, efforts to understand and strengthen child protection systems have frequently taken a top-down or organization-centered approach rather than child-led which can lead to a misalignment of programming and decreased effectiveness (Wessells, 2015). Furthermore, common indicators to assess mental health globally have not been evaluated for their validity among forcibly displaced populations. Since programs are not always tailored to populations, and assessment tools are not always evaluated for validity, it follows that caregiver interventions may not be effective for every forcibly displaced population.

The following three papers discuss findings from the parent study, “Journey of Life” in Kiryandongo Refugee Settlement, Uganda. The parent study is a hybrid type 2 effectiveness-implementation study that evaluated the effectiveness and implementation of the Journey of Life (JoL) intervention in a humanitarian setting using a quasi-experimental waitlist control design (Cohen et al, 2021). The study involved qualitative data collection at baseline and endline to assess implementation strategies and outcomes, and quantitative data collection to evaluate program effectiveness. Additional information about data collection, methods, and analysis are provided in the following chapters.

Theory

Overall, this dissertation utilizes systems theory to explain how individual and contextual levels interact to influence the child and caregiving environment (Belsky, 1980, 1984; Bronfenbrenner, 1989; Garbarino, 1977). Caregivers are subject to multiple levels of influence, are affected by their social environment, and are a product of interactions between themselves and their environments. Systems theory posits that systems are a collection of components, or

parts, that are organized around a common purpose or goal and that this goal holds the system or organizations, families, and children together. All systems then reflect this larger structure. In cases of child protection children are embedded in families or kin, who live in communities, and exist in a wider social system. Given the nested nature of systems, it is important to pay specific attention to the larger picture in addition to the interaction of subsystems and how they serve to reinforce each other. Systems can then be seen as bidirectional, in that any changes to one layer of the system can influence another (Munsell et al., 2012). For example, in a family subsystem a caregiver's distressed wellbeing influences caregiving behaviors, which then influence children's wellbeing, and can then further drain caregiver wellbeing. However, when one factor is adjusted (i.e. caregiver wellbeing), this can have positive impacts on the subsystem, and within the community as a whole when the caregiver interacts with their peers. Examining the three different systems levels (microsystem, mesosystem, and macrosystem) as well as potentiating (risk) factors and compensatory (protective) factors), can assist in developing a comprehensive view of caregiver wellbeing and child needs in humanitarian settings.

The macrosystem includes cultural and political elements of an individual's environment (Bronfenbrenner, 1989). Contextual stressors in the macrosystem can affect individual mental health. There is evidence to suggest that post-migratory stressors such as difficulty in securing accommodation, finding employment, concerns regarding safety, and social isolation (which has increased during the COVID-19 pandemic from February 2020 to present), lead to adverse mental health outcomes (Bernardes et al., 2010; den Hertog et al., 2016; Riley et al., 2017). In addition to physical and socioeconomic stressors, interpersonal challenges are compounded for forcibly displaced persons during their migration experience. Interpersonal challenges include discrimination, socioeconomic disadvantages, acculturation challenges, loss of social support,

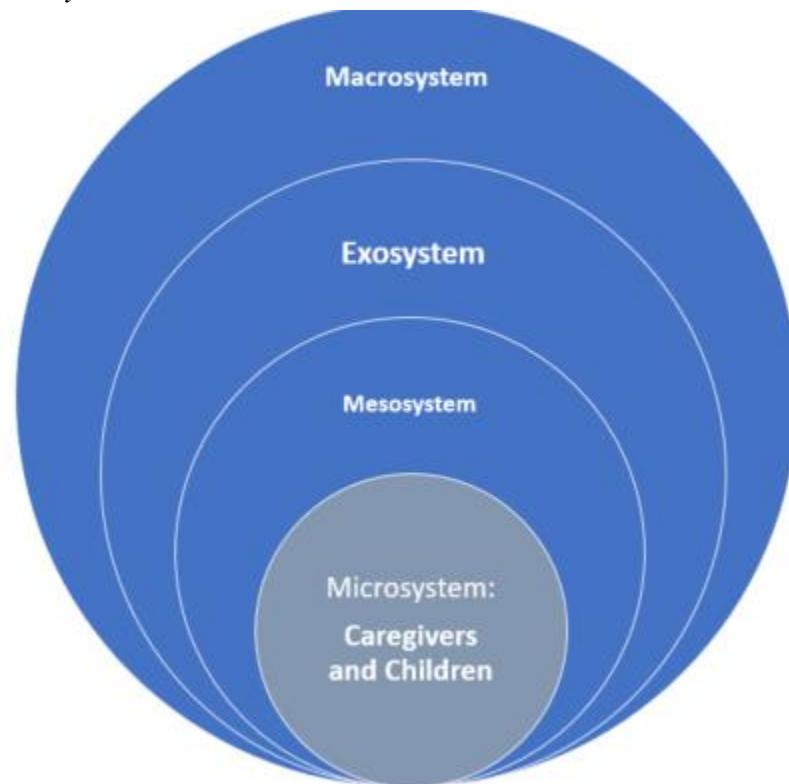
and “cultural bereavement” (Bhugra & Becker, 2005; Eisenbruch, 1991). These additional challenges have, at times, had more dramatic adverse impacts for forcibly displaced people than the traumatic events they experienced during the conflict or disaster that caused their displacement (Kohrt & Hruschka, 2010; Riley et al., 2017).

The exosystem is the formal or informal social structures surrounding the individual (Bronfenbrenner, 1989). These structures can include the neighborhood, friends, and religious communities (Bronfenbrenner, 1989). In collectivist cultures, such as within the majority of low and middle income countries, community members share an experience, come together in solidarity to face the threat as a community, providing support to one another, defining, and interpreting the event collectively. Strategies are then communally generated in order to cope with the new reality and various manifestations of distress (Somasundaram, 2014). Research shows that social support has a positive effect on caregiving behaviors (Stark, Seff, et al., 2018). Children’s development is also promoted through supportive links with institutions and systems (Bermudez et al., 2018; Meyer et al., 2015). For example, formal institutions such as schools provide safe spaces for children to engage in identity development, play, and intellectual growth (Ager et al., 2011). However, in a context where schools are inaccessible due to financial, political, or health reasons, children are at risk. Furthermore, relationships with neighbors and peers in the community can influence methods of childrearing and conceptualizing caregiving practices.

The microsystem includes the people or things that have direct contact with an individual’s immediate environment. The microsystem includes parents, siblings, teachers, and school peers. The mesosystem refers to the interactions between different parts of an individual’s microsystem (Bronfenbrenner, 1989). Relationships in the microsystem are bi-directional,

meaning that a child can be influenced by their mother, and a mother can be influenced by their child. Interactions with the microsystem are very personal, and include the behaviors within that dynamic. For example, a nurturing relationship between a caregiver and child can affect the wellbeing of the caregiver and the child. The interactions a caregiver has with a child on a micro level are influenced by the caregivers' own wellbeing and previous experience with their own caregivers. Furthermore, caregiver wellbeing may be influenced by their children in a bidirectional manner. Children in humanitarian settings may be influenced by their challenging environments, and exhibit trauma-reactions or excessive anxieties that alter their behavior at home. These behaviors may become unfriendly and cause significant distress to caregivers, thus impairing their abilities to help the child regulate, and potentially exponentially increasing the burdens of both caregiver and child.

Figure 1
Ecological Systems Theory



Structure

In paper one, I untangle child concerns about their social ecologies from caregiver and service provider concerns. Leading from a standpoint of wanting to understand child perceptions of their social ecologies, I use participatory ranking methods to outline key challenges that children face in a Ugandan refugee settlement. This qualitative descriptive information was assessed alongside the perspectives of service providers and caregivers to determine points of convergence and divergence.

The second paper aims to identify the underlying factor structure of a mental distress scale (Kessler-6 Psychological Distress Scale; Kessler et al., 2003) that was used to assess mental health characteristics within a cross-sectional sample of forcibly displaced caregivers residing in Kiryandongo refugee settlement, Uganda. This work builds on existing research that utilizes the Kessler-6 to assess mental distress but has not evaluated its underlying factor structure with forcibly displaced populations globally, nor with forcibly displaced caregivers in Uganda more specifically.

The third paper builds upon existing research about forcibly displaced caregiver interventions to determine the effectiveness of the Journey of Life intervention for caregivers residing in Kiryandongo refugee settlement, Uganda. For the purposes of this effectiveness analysis, data from pre- and post-intervention was stratified by clinical distress category and evaluated for changes on outcome variables (mental distress, social support, functioning, parenting behaviors, and attitudes towards violence against children).

Chapter 2: Exploring the child's concerns within a humanitarian setting

Introduction

There are currently 103 million forcibly displaced people worldwide, 36.5 million (41%) of whom are children below 18 years of age (UNHCR, 2023). Children in humanitarian settings face particularly exacerbated stressors. As current crises endure over extended periods, increasingly more children (one million between 2018 to 2020) are born into humanitarian settings (UNHCR, 2021). During crises, children have limited access to education, health care, and the support of community networks, which are significant facilitators for wellbeing and future success (Halevi et al., 2016; Kibret, 2015).

Children in humanitarian settings contend with ongoing threats to their safety and well-being. Children are vulnerable to physical and sexual violence, early marriage, and child labor (Halevi et al., 2016; Kibret, 2015). Due to these exposures, forcibly displaced children and adolescents often suffer from significant distress (Lustig et al., 2004). The prevalence of mental disorders among children exposed to war are high, with an average of 47% meeting criteria for Post-Traumatic Stress Disorder (PTSD), 43% meeting criteria for depression, and 27% with anxiety (Attanayake et al., 2009; Tol et al., 2013). Approximately 75% of mental disorders have their onset in youth, and persistent disorders in adulthood tend to be those with onset during the 12-24 year age group (Patel et al., 2007). In Uganda, youth violence exposure is associated with increased odds of high anxiety and depressive symptoms (Meyer, Steinhaus, et al., 2017a; Meyer, Yu, et al., 2017). Therefore, the social environment of children and adolescents has a large impact on their psychological wellbeing.

There is increasing research about children in humanitarian settings, but this research doesn't always inform practice (Ager et al., 2011; Bennouna et al., 2018; Hermosilla et al., 2019; Metzler et al., 2019). For example, while there is widespread acknowledgement about the role of children's social ecologies in shaping their wellbeing (Betancourt et al., 2013; Miller & Rasmussen, 2010), existing expert-driven approaches are often characterized as misaligned with children's perspectives and needs (Wessells, 2015). Efforts to understand and strengthen child protection systems have frequently taken a top-down or organization-centered approach rather than child-led. In order to develop research and programs that are aligned with children's interests, it is important to gauge their own understanding of their social ecologies.

While existing studies have confirmed concerns for children in humanitarian settings, they provide an inadequate evidence-base to inform programming. It is important to triangulate perspectives in order to develop a clear picture of factors that influence child-wellbeing within the humanitarian setting. In order to develop this picture, this paper will present findings from key informant interviews and focus group discussions with children living in Kiryandongo refugee settlement, Uganda. I will present evidence about the ways in which children perceive their environment and factors that impact their wellbeing. I will then compare child perceptions with the perceptions of adults in their social ecologies, including their caregivers and staff from organizations that operate in the Kiryandongo setting.

Methods

Setting

Key informant interviews (KIIs) and focus group discussions (FGDs) as part of the Journey of Life study to investigate the effectiveness and implementation of an intervention for forcibly displaced caregivers living in Kiryandongo refugee settlement, Uganda (Cohen et al.,

2021). Kiryandongo is home to 63,156 forcibly displaced people, primarily from South Sudan. The remainder of forcibly displaced people in Kiryandongo are from the Democratic Republic of Congo, Sudan, Kenya, Burundi, and Rwanda (OPM, 2022).

Children in Kiryandongo were greatly affected by the Ugandan COVID-19 lockdowns, which culminated in two years of school closures. Many children, who had travelled to Uganda with their families to seek better educational opportunities, felt trapped in the settlement and forced to contend with idle time (Sakondo, 2020). Approximately 61% of the Kiryandongo forcibly displaced population is under the age of 18, leaving many children vulnerable to dangerous circumstances (UNHCR, 2022b). Additionally, children and adolescents in Kiryandongo report high levels of distress, with 30 to 50% meeting criteria for anxiety and depression (Meyer, Steinhaus, et al., 2017a; Meyer et al., 2020).

Participants

Participants were recruited from within the Kiryandongo refugee settlement (n = 93). All participants in the KIIs were over the age of 18. Participants in KIIs included representatives from the implementing organization for the Journey of Life, partner non-governmental and governmental entities active in the settlement, and community members themselves. All participants were over the age of 18 and represented both men and women. The primary goal of the KIIs was to understand the perceptions of caregivers, partner organization staff, and implementing organization staff in regards to implementing the Journey of Life intervention, which is an intervention that engages caregivers to consider their own personal life stories in order to help their children. Data collection occurred before the implementation of the Journey of Life intervention (baseline) and after program implementation. The primary purpose of baseline data collection was to collect information about implementation components in order to

inform and adapt programming. Endline qualitative data was collected in order to assess implementation outcomes such as program reach, adoption, implementation, and maintenance. The key informants at baseline included community partners (n = 6), implementation staff (n = 8), and caregivers (n = 8). At endline, key informants included community partners (n = 5), implementation staff (n = 6), and caregivers (n = 10). Baseline and endline participants were different, in order to elicit opinions from a more representative sample. Caregivers who participated in key informant interviews represented community members who participated in the intervention, as well as caregivers who did not participate. This approach was used to capture a breadth of understanding about children's ecologies.

Participants in FGDs were boys and girls ages 10 to 19. Participants were selected through convenience sampling to represent participants who were aware of the Journey of Life intervention, and those who had no interactions with it (Adler et al., 2019). There were five children in each FGD, and there were a total of ten FGDs (n=50). All participants in FGDs were from South Sudan, as is representative of the Kiryandongo settlement demographics. The FGDs were mixed-gender, except for one group that included all female participants. All groups were not purposefully disaggregated by gender due to prioritizing the inclusion of participants from different tribal affiliations and ages. There were eight FGDs with South Sudanese refugees, where a translator supported either Arabic or Dinka translations. Two FGDs were completed with Ugandan youth who also resided in the Kiryandongo settlement, and spoke English.

Data collection

Participants were informed that the activity would take approximately one hour and that all identifying information would be omitted during transcription. All KIIs and FGDs were

conducted in settings where other people could not overhear, they were all audio-recorded on a portable recording device. Both KIIs and FGDs took approximately one hour to complete.

While most KIIs were conducted in English, interpreters were needed for the interviews with caregivers in the community and focus group discussions with children. The languages represented in these groups included Arabic and Dinka. Two interpreters were used to support KIIs and FGDs. Both interpreters were trained in qualitative research techniques and ethical research practices. The interpreters and research team also reviewed data collection instruments together in depth before data collection processes. After each session, the researchers and interpreters met to debrief and clarify any meanings behind certain statements that may not have been understood fully during the session.

Since KIIs were conducted before and after the implementation of the JoL intervention, half of the participants at the latter data collection were people who had participated in the JoL intervention. The partner organization staff included partners from different sectors of humanitarian aid including agriculture, camp management, and water sanitation and hygiene (WASH). The implementing organization is a psychosocial support organization that implements a various group and individual interventions for individuals within the refugee settlement. The implementing organization staff who were interviewed in the KIIs largely had a personal connection to the Journey of Life intervention, either through implementing directly, supervising, managing, or peripherally supporting.

FGDs with the youth were conducted only following program implementation, at endline data collection. FGDs, participants discussed key questions and the last 15 minutes of each discussion was dedicated to the participatory ranking method (PRM) exercise. PRM is an effective consensus methodology with children and adolescents, it elicits opinions and ideas

about participant priorities (Ager, Stark, & Potts, 2010; Ager, Stark, Sparling, et al., 2010). Child and adolescent participants were invited to answer the question “*Can you tell me about the problems here for boys and girls your age?*” by free-listing suggestions about key concerns. The facilitator encouraged open discussion and confirmed when there was sufficient agreement among group members. Once confirmed, the facilitator identified an object to represent each concept. A sample of the listings is provided in Image 1 and 2. The facilitator validated participant’s interpretation of each concept before proceeding to the subsequent suggestion. Once the group had decided on the top three suggestions, they were asked to rank them collectively with the ‘biggest concern’ in the top position. Participants were then asked to explain their decisions behind their comparative rankings and adjust until consensus was reached. Following the PRM activity, participants also discussed the potential solutions to the pressing concerns that they were presently aware of within the settlement.

Image 1

Example participatory ranking method result



Image 2

Example participatory ranking method result



Due to limited resources, one recording device was used for each session. In translated sessions the recording device was near the group facilitator who spoke in English and the translator, therefore the majority of answers that were in Arabic and Dinka were not clearly recorded, but their English translations were. Following the interview, a research assistant uploaded the audio file to a secure server to share with the research manager. The research assistant alongside two translators transcribed all recorded interviews into English word documents, statements in native languages were omitted from the final transcript. The word documents were then uploaded to Dedoose for coding, the research team from Washington University in St. Louis completed the coding with some consultation from the facilitator and translators in Uganda. The results of the PRM activity were photographed and notated.

Analysis

This analysis represents findings that emerged during the data collection process. Systematic analysis of the data was conducted using a grounded theory approach. Grounded

theory analysis required that data was analyzed throughout data collection, so that theories generated from the data could be used to direct and inform subsequent research efforts. The initial observations were then summarized into conceptual categories, and the coherence of the categories was tested in the research setting with additional observations in order to evolve and expand the theory. On-going qualitative analysis was conducted over the course of the study to explore new and unexpected themes, including those that were not related to the original questions regarding the Journey of Life intervention. The process to identify new themes included discussions with the research manager and data collectors (Ugandan staff), in addition to study staffers who supported qualitative coding. Themes were discussed, explored, and confirmed with consensus between study team members. Using Dedoose, multiple study staffers from Washington University in St. Louis who were students in the Social Work Master's degree program and had training in qualitative data collection and analysis independently double-coded 10% of the transcripts to compare the application of the coding scheme to assess its reliability and robustness, all disagreements were resolved through discussion.

Ethics

Multiple strategies were used to ensure that the research was conducted in an ethical manner, particularly for the vulnerable group of forcibly displaced caregivers and their children. All research staff and interpreters were trained over the course of three weeks in research ethics, interview methods, transcription methods, consent procedures, and referrals in cases of adverse events. Participants were offered a soda for their participation in data collection activities, as is common practice in this setting.

All study procedures were approved by an in-country IRB (TASO Uganda) and by the Washington University in St. Louis Institutional Review Board (IRB). Eligible participants were

systematically screened by interviewers to determine that they meet the inclusion criteria and were competent to be interviewed. Consent was explained to participants verbally and in a written format, participants signed or fingerprinted written consent for participation. All participants in KIIs provided written consent to participate. For FGD participants under the age of 18, written parental informed consent was obtained prior to approaching children and adolescents for written informant assent.

Findings

Analysis of the PRM results across FGDs produced a wealth of concerns within children's ecologies, pertaining to resource constraints, their treatment from their caregivers and communities, and cultural challenges. These correspond with some of the key concerns from caregivers, implementation staff, and partner organization staff. Findings from KIIs highlight the pathways that promote and maintain child concerns within their ecologies.

Table 1

Child Perceptions of Community Concerns, Participatory Ranking Methods

Theme	Frequency	Mean rank
Forced marriage	2	1
Poverty/lack of basic needs	2	1
Lack of water	2	1.5
Lack of school fees	6	1.67
Separation from parents	7	2
Denial of children's rights	1	2
Neglect	6	2.5
Physical abuse	6	2.67
Lack of food	2	3

Note: There were ten FGDs, frequencies listed have a denominator of 10, and the mean rank is the average ranking across ten groups with equal numbers of participants (5). For example, if all FGDs ranked forced marriage as a top (1) concern, the frequency would be 10 and the mean rank would be 1.

Forced Marriage

Forced marriage was ranked as the most pressing concern across FGDs, meaning that when it was discussed in the groups, the children agreed that it was the biggest issue for their communities. However, forced marriage was only mentioned in two FGDs out of ten. Children believed that forced marriage was a common issue in the settlement, which was exacerbated by COVID-19-related restrictions. Other key informants agreed that teenage pregnancy and early marriage were concerning phenomena that affected the wellbeing of children and adolescents, and the common precursors were school lock-downs, a lack of recreational activities that led to risk-taking behaviours, and cultural norms.

For children, forced marriage was related to educational and social norms. One child highlighted this relationship, she stated, *“we even want to go to school. But there’s no school, we are just staying at home. We are...locked in our house[s]...so many girls are involving into early marriages...”* (Ugandan girl, age 15-19). There was a common understanding among the children that, *“sometimes it is the girls and the boys who want to forced it to themselves, it is them who brings the problems”* (South Sudanese boy, age 10-15). Children believed that they brought forced marriages on themselves by engaging with other boys and girls. When their caregivers see them going to spend time with those boys and girls, they *“have to force you...to your husbands place”* (South Sudanese boy, age 10-14). However, children expressed that they wanted to go to school for themselves and for their families. One child stated that their parents, *“really want us to go to school because...they are illiterate. They really want us to go to school because most people in this place, they didn't go to school. They really want us to study hard and become something big in life. They want us to be big in life, achieve a lot in life”* (South Sudanese girl, age 10-15)

School closures were also associated with idle time and risk taking behaviours, leading to teenage pregnancy. Adult participants agreed that since the schools closed, more and more girls became pregnant or entered into early marriage because they *“are just at home”* (Male, community partner, age 30-34). Implementing organization staff discussed school closures, and concerns that children *“turned into doing so many things, some of them they do smoke opium, they drink alcohol, you know”* (Male, implementing organization middle management) because they no longer have productive activities like school. Community partners also found that *“there’s a...increase as far as teenage pregnancy is concerned...from April the number used to be in the 60s, and now May, June, July you are seeing moving 150, 200 cases.”* (Male, community partner, age 30-34). Caregivers agreed that teenage pregnancy is especially detrimental because pregnant and young mothers will not be able to return to schools when they reopen and may be likely to engage in early marriage. One caregiver highlighted the relationship between school closures, risk taking behaviors, pregnancy, and early marriage when she stated, *“caring for adolescent girls is not very easy ...during these COVID19 crisis we came to discover...some of these adolescent girls are already pregnant and are now not returning...to school. Simply because we don't have...a group of people within...each community...responsible for advising these girls...And what to do during this time when school is...opening and not containing all the learners. Some of these kids are still in low levels, even the adolescent ones...are still in primary three...So they look at primary two a long way to primary seven, resorting to now doing their own things at the end of the day. And because of this current situation of poverty now...some parents feels good to see that their girls even at an early age is married, their girls are married so that they can be supported.”* (Female, caregiver, age 35-39)

Early marriage was also related to financial concerns. Caregivers and service providers agreed that it was typical for young girls to become involved in early marriages in order to bring more money to their family through the bride price. Alternatively, early marriage might be supported as a way for the girl to have more stability if her family is not doing well financially. However, this finding was not as apparent within the FGDs with children and adolescents.

In order to address teenage pregnancy and forced marriage, study participants recommended additional activities for children. One adolescent stated that seeing her peers engage in early marriage was upsetting, *“when they are still young.”* Her recommendation was to *“at least give [girls and boys] some activities that will make us busy”* (Ugandan girl, age 15-19). Caregivers requested additional activities, or trainings for their young girls. Implementation staff agreed that more psychosocial programming would be beneficial, however, it should be coupled with more livelihood support. One implementation staff member provided specific recommendations, *“maybe she can join hair dressing, maybe we get her a salon...maybe we say you make liquid soap and sell and earn money because that would keep them busy. That is what we are lacking, the services is received very well but their spices that we should add to so that community will receive it better.”* (Male, implementing organization middle management)

Poverty and Lack of Basic Needs

Children were concerned that their families not only had insufficient funds, but that their parents may be mismanaging their resources too. Some children stated that their caregivers *“are always borrow[ing] money from other people”* (South Sudanese girl, age 10-14), so when *“food distribution comes and...money from NGOs...we always give money to the owners then we remain without food”* (South Sudanese girl, age 10-14). Because their families were always indebted to other community members, the children felt that there was a strong connection

between poverty and stealing. One child said that a lack of money for school and basic needs means that “*they...[start] stealing people’s properties, doing bad things just cause there’s no one who can handle them and pay them.*” (Ugandan girl, age 15-19).

Implementation staff agreed that children in Kiryandongo are lacking basic needs. They were able to provide clear examples, where for instance, “*you find a mother is having six children, where they are sleeping [in] the shelter is really bad, it is leaking...the parents can’t afford school fees, books, uniform...even food*” (Female, implementing organization social worker). Similar to children, they saw a relationship between poverty and stealing.

Implementation staff were concerned that stealing due to household poverty could lead to even worse outcomes for children. One implementation staff explained that “ [There was a program] *to sensitize people on how...children should be protected at community level. Since the Covid came in, this service was not there so now the children in the community [have] become criminals.*” He explained that there are children under age 17 who are being arrested every day. They are “*now thieves, they steal chicken... Then unfortunately, last year one child was caught and was murdered.*” (Male, implementing organization social worker).

Families did the best they could despite the circumstances, and poverty was not the only precursor to a lack of food at home. Caregivers also highlighted that families did not have enough food because the rations provided in the settlement had been reduced. One parent highlighted that “*food should be enough at home for children, even food these days....[is] not enough.*” (Female, caregiver). The reductions of food rations to families, has caused greater challenges for families and children. Additionally, many caregivers prioritized school fees, and children were appreciative, some children stated that their fathers did not support them, and somehow their mothers “paid [for] all of us...even they can send me out of school because of

school fees. But still she fights and give me school fees. I don't know where she gets the money but she always pays my school fees...So she has helped me a lot in many ways.” (Ugandan girl, age 15-19)

All key informants and children agreed that there was a dire need for more resources, including support for families, school fees, scholastic materials, and other supplies.

Implementation staff highlighted that children “*need case management facilitation where children also need some support...[for] basic [needs], Scholastic materials to push them to school... [and] necessary fees.* (Male, implementing organization middle management)

Additionally, it would be useful to provide “*soap for washing their clothes... [and] food like rice or sugar at home... (Male, implementing organization middle management).* Children recommended that an organization “*should involve themselves in supporting those ones who are still interested in studying, so that they can continue their studies and providing them school fees [when schools reopen].*” (Ugandan girl, age 15-19). Caregivers also believed that in addition to programs for basic needs and school fees, there should be more programs to “*sensitize about...farming. Because most of these people...are depending on what they get from UN...so they are not minding that what they have, they should have to add something*” (Female, caregiver). Children also recommended more access to water. They said that the water boreholes and taps are often far from their homes, and they requested that NGOs “*provide a tap in our communities here*” (South Sudanese girl, age 10-14).

Separation from parents

Separation from parents was not ranked as the most pressing concern, but it was the most frequently mentioned in the FGDs. Children recognized that they enjoyed being children because they “*don't have problems [that can give them] stress because [their] parents...provide for*

everything” (Ugandan girl, age 15-19). They worried about their peers who did not have parents to care for them, and were therefore burdened to care for themselves by finding money and food.

Implementation staff and community partners spoke about child separation and its effects on child well-being. Implementation staff were concerned about care for separated children, they had noticed that there are sometimes unaccompanied or separated children who are forgotten in the community, and other community members weren’t interested in “[*caring*] for these children” (Implementing organization staff). Some implementation staff were more aware of these efforts because of their work reunifying children with their caregivers. One staff recalled, “*we know children are not supposed to grow up from residential care homes. They’re supposed to have a home, to have a belonging, so that they’re instilled into disciplines of children.*” (Male, implementing organization middle management). Fortunately, following the implementation of the Journey of Life intervention, caregivers who participated in the program agreed about their duty to support all children in their communities, not just their own biological children. One father stated, “*I...see all of the neighboring children as mine. I treat them equal. What is needed for them, if I have I must give them. What they require, if they require something, it is there, as a father you have to give*” (Male, caregiver, age 25-29).

Denial of children’s rights

One group of children and adolescents ranked “denial of children’s rights” as the second most pressing concern. When asked what was included in children’s rights, they discussed not being forced into child labor and being able to play with their friends. Children and the implementing staff agreed that there are expectations for children to work in order to support their families. Interestingly, this was not a concern addressed by caregivers or partner organizations. Most of the jobs that children participated in included domestic labor to support

their parents. One girl stated, *“I wake in the morning, fetch water, sweep the compound, I cook food, ...dig...when I come back home I cook and when the compound is dirty I also slash...wash clothes for my younger brothers, bathing them, keeping them clean, and staying with them at home”* (South Sudanese boy, age 10-14). Implementation staff were concerned about forcing children to work for a long time. One social worker recalled,

“a girl that I handle her case...the mother overworks her, [s]he goes to the garden, she come[s] home, does everything, but the mother doesn't support her with her needs. She doesn't have [the] clothes that she needs. She doesn't have smearing oil, she wants sandals, the mother doesn't buy for her. So, she decided to leave her mother and go to stay with another woman who supports her with those things....a girl might tell you, “am selling myself to men because I want clothes because I want to dress well, because I want to eat well.” (Female, implementing organization social worker)

The data point to a gender difference in labor expectations for children. FGD participants were asked about the typical expectations for girls and for boys in their communities.

Participants stated that girls were expected to help with more domestic tasks within their homes, such as taking care of their younger siblings while boys were expected to work in the gardens to dig and harvest crops. One girl participant highlighted this difference in expectations, *“Mine, sometimes at home, I wash clothes... Sometimes I cook, I slash... In this area... me, I always see boys they do digging, slashing, weeding the garden, that's what they mostly do, plant. Then girls, girls fetch water, cook, sweep, clean the laundry, wash clothes...”* (South Sudanese girl, age 10-15).

Children perceived playing as a child's right. Many children expressed their love of playing games, including sports, and socializing with peer. One child remarked, *“as girls and*

boys in this community, we are engaging in football activity, sport activity [in] general, like playing football” (Ugandan girl, age 15-19). Despite an interest in these activities, many children lamented that there was “*no youth friendly space that boys and girls can engage in*” (Ugandan girl, age 15-19) and a lack of supplies such as balls. Again, children connected this theme to teenage pregnancies and early marriage, because children are not able to engage in playing outside.

Healthcare is a child right, however, it was not discussed explicitly by children in the focus group discussions. However, implementation staff, community partners, and caregivers discussed the right to health and mental health care as vital to child protection mechanisms. Caregivers especially were disheartened by a lack of medications at the health centres for their children and themselves.

Neglect and Physical Abuse

Neglect and physical abuse were interrelated concerns, and they were both some of the most frequently named issues among children and adolescents in focus group discussions. Abuse and neglect were described as beating children, and not giving them advice in a supportive manner. However, the definition of these terms remained quite unclear, as one community partner noted that traditional methods of disciplining children may be seen as child abuse to some people. Most children agreed that their parents often beat them, and when they needed support or advice they would rather go to their friends, although their friends were not always positive influences. However, children whose parents participated in the Journey of Life intervention did notice a significant change in caregiver behaviours. A caregiver who participated in the Journey of Life recognized that,

“the children you do not treat...well...he also grows up, when you mislead her or you don’t give what is needed as the children’s right,...your child will even go to steal...but if you forget to teach, you misuse yourself, you don’t even be with your children...in the evening time, especially...you should be home and should be watching these children. What are they doing? If someone did not bathe there, you guide them. Pick the water, you can do this and this, you arise time to do this. Because with the children you cannot stop them playing, especially this time, because there’s no school yet they can play. But when they play reaching that time whereby find that it is good for them to be clean, you tell them go on, do this do this at the right time... Not that if he does a mistake, you come and you beat [him], no that is not how you protect your child. You first counsel what is the problem, why did he do this, but I maybe did it with the anger. Something whereby you as a father, you were not aware of it. Come immediately when, the time when you were drunk, start beating. That one will lead, leads to what, a mental [disorder for] the child. Cause when you beat...you will grow you will grow all of the time, when they see you now you start running as a father, he will run away from you. He will lose the child protection from the father also” (Male, caregiver, age 25-29).

Community partners also highlight that communities may try to conceal what is happening with children. One partner stated that if the caregivers are concerned about how the community will respond, they will not discuss any cases of abuse or neglect. For example, when a family has a child who is mentally ill and being neglected, they may be more likely not to seek help with existing organizations or community members.

Children recommended more programs to *“advise the guardians to stop beating children”* (South Sudanese boy, age 10-14). Children felt that the program had been effective for

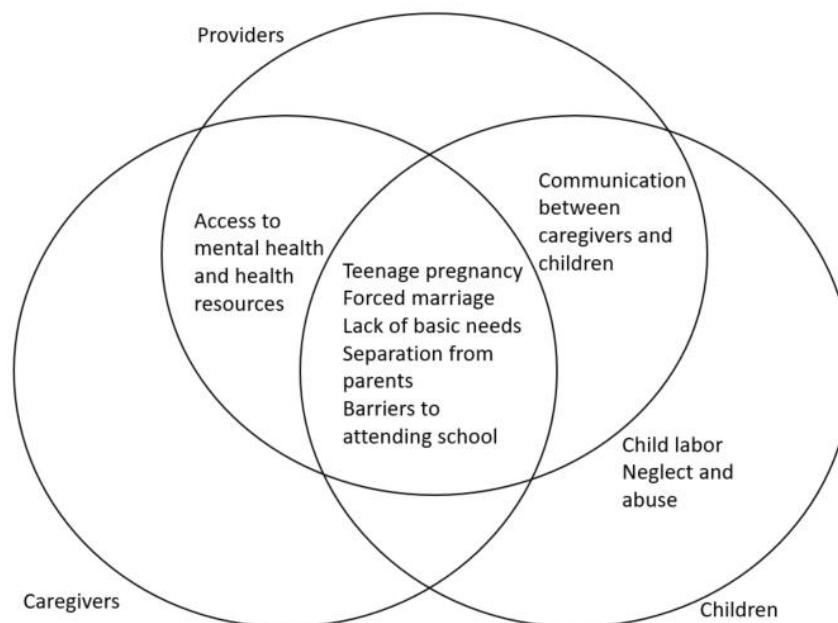
them because their parents didn't beat them anymore, instead they *"give us good advice"* (South Sudanese girl, age 10-15). Caregivers who participated in Journey of Life agreed that there are a lot of children who are *"lacking advice"* and that there should be more trainings for caregivers so that they can learn how to *"continue with life, how to protect themselves...to be busy..It will also stop them from other [negative] things"* (Female, caregiver).

Points of Divergence

The perspectives of children, caregivers, and organization staff in Kiryandongo settlement regarding child concerns are well-aligned. Children perceive that their wellbeing is largely affected by forced marriage, poverty and a lack of access to basic needs, separation from parents, denial of children's rights, neglect and abuse. Caregivers and organization staff bring additional depth in understanding about these concerns. For example, forced marriage is connected to a lack of access to education and cultural norms about adolescents spending time with people of the opposite gender.

Figure 2

Venn diagram concerns across participant groups



There were areas where perspectives about child concerns in their ecologies diverged between children and their caregivers. Children were concerned about their caregivers' treatment of them, as didn't like being physically disciplined and preferred to be counselled. They also liked playing with their friends instead of working at their homes, but they understood their responsibility to support their struggling families. Caregivers highlighted similar concerns about taking the time to counsel their children, and to support them by providing food and paying for school fees. Additionally, caregivers discussed a severe lack of access to resources that could help their children including services for mental health, eye problems, or physical developmental delays. Caregivers recommended more services for children and adults with mental health disorders, which was not mentioned by children.

Children's opinions about concerns in their setting largely converged with organization staff perspectives but there were a few minor differences. While children were concerned about their caregiving and familial environment, organization staff highlighted concerns about their caregivers not knowing where to seek resources and many resources being discontinued due to the nature of humanitarian aid. They also felt that it was important not only for caregivers to provide advice to children, but for caregivers to also help children understand the caregiver concerns.

The implementation staff for the Journey of Life intervention had very similar perspectives to the children, most likely due to their close involvement with child and family programming. They agreed that caregivers need more support with positive parenting and should be engaged in ongoing discussions with their children. They also believed that it is important for children to not lose hope about their circumstances. They hope to instill key values in children, including patience, kindness, and understanding.

Discussion

Children have minimal control over their social ecologies, and are subject to severe detriments in their new environments. Our findings show that children are concerned about a lack of access to basic resources such as food, water, shelter, medical, and educational institutions. The interviewed children have also found ways to support their families, to engage in important activities for their development such as play, and to seek support when they need guidance.

Children, caregivers, and organization staff were concerned about similar issues. Barriers to attending to basic needs, school, and child rights were highlighted. In fact, even when schools were open before COVID, families often struggled with the resources to pay school fees, buy materials, and ensure food for their children. Poverty and a lack of basic needs, including food, water, and resources to pay school fees were ranked among the highest concerns in FGDs. Poverty mainly meant money to buy goods, while basic needs was primarily food and clothes, and water was likely due to the location of the available taps and boreholes.

Fortunately, the perspectives of actors in the social ecologies of children are well-aligned with children's concerns. Caregivers and organization staff support more programs for children, more avenues for them to seek support, and more resources to support their growth and development. However, there are significant constraints. As with much of humanitarian aid, the parachute nature of programming and budget constraints leave caregivers and children struggling to find sustainable resources to support their wellbeing, or even to promote self-reliance. Without agricultural support, families can't grow more crops to supplement meager food rations from international actors like the World Food Program. Without good healthcare and education,

caregivers and children find themselves in a predicament and getting out of the precarious settlement feels even more like swimming upstream.

Perspectives on the physical discipline of children, or violence against children, were misaligned between caregivers and children. Children believed physical discipline was a concern for themselves and their peers. However, caregivers and service providers did not echo these same sentiments as extensively. This finding is particularly interesting because the majority of prior studies have focused on parental beliefs about physical discipline or their actual use of physical discipline and related child outcomes (Chen et al., 2021). However, there has been limited research about child perspectives on physical discipline. Additionally, even less of this research has been conducted in humanitarian settings. While existing evidence shows that while physical discipline can be associated with child behavior problems, there may be cultural differences that moderate the severity of its effects (Lansford et al., 2005). Simply, cultural acceptance of physical discipline may moderate potential negative impacts among children. Therefore, the issue may not be the physical discipline but rather the rationale behind it, i.e. if caregivers justify the use of physical discipline as normative and supportive then children may not experience the same consequences as if it is seen as non-normative and malicious.

Limitations

This study was limited in scope because it only included participants from Kiryandongo refugee settlement. Kiryandongo settlement has unique features because the majority refugee population there has been displaced for four years or more. Firstly, recent data shows that there are high rates of psychological distress associated less accepting parenting behaviors within this specific population (Meinhart et al., 2023). While psychological distress is common among displaced populations, its relationship with parenting behaviors may not be comparable in other

contexts. These characteristics may cause differences in perceptions of this population compared to other displaced populations globally. However, this study has strong implications for the ways in which humanitarian programs are fit to context according to the key concerns of the community. Where there are key concerns regarding poverty, lack of basic needs, child separation, denial of child rights, and lack of school fees, these are all key target areas for future research and programming. Additionally, further research is needed about child perspectives of physical discipline and their related outcomes.

Secondly, girls and boys were not separated in all of the FGDs, which could cause some bias in the discussions. When boys and girls are in the same groups, there may be power dynamics that limit the freedom of participants to discuss their key concerns. Furthermore, older and younger children of the opposite sex may have different interests, desires, and attitudes that can negatively affect group dynamics in mixed gender and age groups. A recommendation would be to have single-gender focus groups with children and teens who are not familiar with one another and whose ages differ by less than two years in order to obtain more diverse opinions and elicit more fruitful conversations (Adler et al., 2019; Daley, 2013).

Thirdly, the different languages spoken in the settlement also presented concerns for qualitative data collection processes. When cross-lingual focus groups are conducted with researchers who are not fluent in those languages, there can be concerns about the rigor of the findings. There are benefits and challenges to real-time interpretation during focus group discussions. Using an interpreter can leave room for error during the translation process, either from the data collector or the participants. Furthermore, participants may not feel as comfortable speaking in a group where the data collector is not as aware of cultural and linguistic dynamics. However, utilizing an interpreter can also allow for the data collector to take a more active role

in leading the discussion and building upon the responses from the interpreter in real time. A benefit of interpretation is that key points of confusion can be untangled in real time (Alzyood et al., 2020; Quintanilha et al., 2015). Future research efforts may benefit from testing different arrangements of focus group discussions (with and without interpreters) to assess if findings are significantly different.

Lastly, findings show that it is important to involve children themselves in determining programs to support their own wellbeing. Child wellbeing is inclusive of psychological development in addition to physical, social, moral, and spiritual development (Ben-Arieh, 2006). In order to fully support children and their wellbeing it is critical to utilize a perspective that both accounts for children's rights and considers childhood as a unique stage of identity inclusive of unique needs (Ben-Arieh, 2006). A Community-Based Participatory Research (CBPR) approach may be beneficial in humanitarian settings in order to clearly elicit children's opinions on research efforts through the development, implementation, and evaluation of programs. Efforts like Community Based System Dynamics (CBSD) have shown promise in humanitarian settings to understand complex issues and pinpoint areas for intervention (Trani et al., 2016, 2019). At this stage of development, children have unique and informative perspectives of their own wellbeing and levers to support their success.

Conclusion

Children have a strong understanding of the concerns in their social environment. Through dialogue between children, their caregivers, and humanitarian actors, strong programs can be developed that are child-focused and child-led. Children's rights should be incorporated into policy and programming, in alignment with the Convention on the Rights of the Child

(Office of the High Commissioner of Human Rights, 1989). Children's rights include the right to non-discrimination, decisions that are in the best interests of the child, the right to life and development, and the right to have children's views respected. Keeping these rights in mind, it is justified to align programming efforts with children's perspectives of their own needs and rights. Key recommendations from this work include additional educational activities for children in order to reduce vulnerability to risky behaviors, keep the amount of household chores they are tasked with to a reasonable level, additional livelihood resources such as food and water, and more support for caregivers to learn how to support their children. These findings have strong implications for humanitarian programming in Uganda and globally. Policy implications include the need for inclusive refugee policies that support vulnerable youth, especially in regards to protecting their education and basic needs. Research activities should aim to elevate the voices of children, and assess outcomes based on child-perceived needs in their communities.

Chapter 3: The Psychometric Properties of the Kessler-6 Psychological Distress Scale to Assess Mental Health among Forcibly Displaced Caregivers in Uganda

Armed conflicts, natural disasters, and related forced displacement can cause significant psychological and social challenges for affected populations (IASC, 2007). The mental health and psychosocial consequences of crisis are manifold, encompassing social problems, emotional distress, common mental health disorders (such as anxiety, depression, and PTSD), severe mental health disorders (e.g. schizophrenia and bipolar disorder), alcohol and substance abuse disorders, and intellectual disabilities (Gerritsen et al., 2006; Porter & Haslam, 2005; Pumariega et al., 2005; Steel et al., 2002; Taylor et al., 2014). Forcibly displaced people suffer from high rates of depression, anxiety, and post-traumatic stress disorders (Gerritsen et al., 2006; Porter & Haslam, 2005; Pumariega et al., 2005; Steel et al., 2002; Taylor et al., 2014). Some evidence suggests that due to the ongoing stressors of experiencing crisis and displacement, forcibly displaced people are ten times more likely to have PTSD than their non-displaced counterparts (Craig et al., 2009). Furthermore, a recent WHO study estimated that one in five people in (post)-conflict settings suffer from depression, anxiety disorder, PTSD, bipolar disorder, or schizophrenia (Kessler et al., 2010; WHO, 2018, 2021). These psychosocial challenges undermine long term health and wellbeing, threatening future development.

While there are studies evaluating the psychological wellbeing of forcibly displaced caregivers, assessment tools have seldom been evaluated for their validity and reliability in humanitarian settings. In fact, there is inconsistent empirical support for a universal factor structure of psychological distress. Although the Kessler-6 (K6) psychological distress scale has been adopted widely and has been included in the World Health Organization World Mental Health Survey Initiative and translated into 14 languages (Kessler et al., 2010), evidence of its cross-cultural reliability and underlying factor structure is scarce.

The K6 is a brief dimensional measure of non-specific psychological distress that has been used globally (Stolk et al., 2014). Due to its brevity, ease of use, and reliability in predicting mental disorders, it has been included in major national health assessment surveys, through the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) and the Substance Abuse and Mental Health Services (SAMHSA), National Survey on Drug Use and Health (NSDUH). However, it is limited in its use as a diagnostic measure due to its lack of breadth in items, and omitting suicidality or psychotic disorders (Brooks et al., 2006). When compared to other screening scales used to identify cases of severe mental illness in adults, including the Composite International Diagnostic Interview (CIDI) – Short Form and the General Health Questionnaire 12-item, the K6 has superior sensitivity and specificity (Furukawa et al., 2003; Kessler et al., 2003).

Although there is robust evidence about the psychometric properties of the K6 with adult populations, it has not been evaluated for its validity among adults in humanitarian settings. The K6 is an abbreviated version of the original K10 scale to evaluate mental distress (R. Kessler et al., 2002). The initial models of the K6 and K10 established by Kessler and his colleagues were based on general community samples in the United States, and showed evidence for a one-factor, unidimensional, structural model using principal axis factor analysis (Kessler et al., 2002; Kessler et al., 2003). However, some studies have found multidimensional factor structures. In Australia, principle axis factoring indicated good model fit for a two factor model of depression and anxiety (O'Connor & Parslow, 2010). Sunderland, Mahoney, and Andrews (2012) examined the K6 and K10 in Australian community and clinical samples. They tested three theoretical structure models of the K10 (unidimensional model from Kessler et al., 2002, one-factor loading with correlated errors, and two second-order factors model of Brooks et al., 2006) and a

unidimensional K6 model (Sunderland et al., 2012). Additionally, K6 validity was assessed with many non-Western populations (Brazil, Bulgaria, Colombia, India, Japan, Lebanon, Mexico, Morocco, New Zealand, Nigeria, China, Romania, South Africa, and Ukraine) and reported a one or two factor structure (Fassaert et al., 2009; Kessler et al., 2010). Previous studies prove several implications for using the K6 or K10, with applications cross-culturally. The existing psychometric research suggests that the K6 is a valid measure of general psychological distress. However, there is a dearth of information about the factor structure for the K6 when used with an adult forcibly displaced population.

Findings from the current study will determine the underlying factor structure of the K6 among forcibly displaced caregivers in Uganda, with a comparatively large (n=1,532) sample. In order to confirm a factor structure for the K6 with an adult forcibly displaced population, an exploratory factor analysis was conducted to explore underlying factor structures, and a confirmatory factor analysis was conducted to confirm the proposed factor structure. The K6 was analyzed for convergent and discriminant validity.

Methods

Setting

The study was carried out in Kiryandongo refugee settlement, located in western Uganda. In Uganda, the largest host of forcibly displaced people in the African continent, 22% of refugee households reported that at least one member was in psychological distress (UNHCR, 2020a). Furthermore, recent evidence during the COVID-19 pandemic found that 47% of refugees living in Nakivale refugee settlement, Uganda met criteria for depressive disorders (Kabunga & Anyayo, 2020). These high rates of depression, and psychological distress are also correlated with high rates of suicide within refugee settlements (Bwesige & Snider, 2021).

The majority of forcibly displaced people in Kiryandongo (99%) have fled conflict in South Sudan, while the rest are from the Democratic Republic of Congo, Sudan, Kenya, Burundi, and Rwanda (UNHCR, 2020b). Children and adolescents within Kiryandongo report high levels of distress, with 30 to 50% meeting criteria for depression and anxiety (Meyer et al., 2017b, 2020). Additionally, 77% of refugees in Kiryandongo reported that when a family member was in psychological distress they were not able to access mental health services (UNHCR, 2018).

Participants

The current analyses used baseline data from a longitudinal study of the effectiveness of the Journey of Life intervention for conflict-affected caregivers in Uganda. Participants were caregivers over 18 years of age. Participant recruitment was conducted in collaboration with the staff of the implementing organization and community partners. Inclusion criteria for participation in the parent study was any person (man or woman) ages 18 or over who lives with a child under 18 years old or has caregiving responsibilities for someone under the age of 18. Participants could be refugees or Ugandan nationals living in the study location; they did not need to meet any criteria for adverse mental health, including stress or mild mental illness. Exclusion criteria for the intervention included anyone aged 17 and under and anyone who was not able to consent to participate due to any cognitive impairments.

Data collection

The survey instrument was translated into four languages (Dinka, Nuer, Acholi, and Juba Arabic) by a professional translator and adapted to fit contextual factors for the data collectors through cognitive interviewing workshops. The K6 had not previously been translated into the aforementioned languages. The translated survey went through a one week process of cognitive

interviewing with data collectors from the community who were trained in data collection processes. Cognitive interviewing is a technique used to provide insight into perceptions of interview questions (Beatty & Willis, 2007; Miller, 2011). Participants were invited to verbalize thoughts and feelings related to questions and answers on the survey instrument. For example, questions on the K6 such as “In the past 30 days, how many days did you feel hopeless?” with potential answers of “all of the time”, “most of the time”, “some of the time,” and “a little of the time” were presented to data collectors. Participants were invited to identify translations of “hopeless,” to consider how community members tracked time (i.e. did they use calendar days or days between food distribution), and different ways of distinguishing how often a symptom was experienced (i.e. “most of the time” is at least three weeks per month or only had specific times of day every day). Cognitive interviewing was performed for each question on the survey instrument, and consensus was developed across languages. In some cases, prompts were added to the survey in order to support a consistent definition across survey languages during data collection processes. While the original translated survey was initially used for testing, some items were changed to include prompts or slight changes were made to spelling in specific languages due to the dialects spoken within the Kiryandongo settlement (i.e. Dinka speakers from the East versus the West have small variations in minor words or spelling). All surveys used the Latin alphabet, which was comfortable for data collectors. Each item was translated and back translated independently according to WHO criteria (Easton et al., 2017). The survey was entered into KoboCollect, which is a free program that works offline, and is a program the data collectors had used previously. All translated versions of survey were available in Kobo and data collectors were instructed to use the translated survey while collecting data in order to ensure uniformity in the method for asking questions and eliciting responses. Data collection used a

CAPI (computer-assisted personal interviews) technique where the survey was uploaded onto tablets. Data collectors used the tablets to ask the survey questions to participants and enter participant responses. Each survey took approximately 30-60 minutes to complete.

Measure of Psychological Distress

The 6-item version of the Kessler-10 (Furukawa et al., 2003; Kessler et al., 2002; Kessler et al., 2003) assesses the frequency that participants experienced feelings of nervousness, hopelessness, restlessness, sadness, listlessness, and worthlessness in the past thirty days. The scale has been previously documented among refugees in Uganda and other conflict-affected populations (Nguyen et al., 2022; Tol et al., 2020). However, the majority of evidence about the factor loadings of the K6 has not been completed with conflict-affected populations (Kang et al., 2015; Kessler et al., 2010; Mewton et al., 2016).

The K6 reflects the Diagnostic Statistical Manual of Mental Disorders (DSM-IV; APA, 2014) criteria for serious mental illnesses, specifically major depression and generalized anxiety disorder (Kessler et al., 2002). The K6 utilizes a 5-point Likert-type scale with responses ranging from “0 – None of the time” to “4 – All of the time” (Kessler et al., 2010). Scores were summed across all six items for a total score range between 0 and 24. According to the K6 criteria, a score of 0-7 indicates low distress, 8-12 moderate distress, and 13 to 24 is considered high distress (Yiengprugsawan et al., 2014). The K6 has been found to be reliable in other populations, with a Cronbach’s α of 0.89-0.92 (Kessler et al., 2002). All of the responses in the factor loading table are in the same direction, and are not reverse coded.

Analysis

The psychometric properties of the K6 were evaluated using complete case samples from baseline data of Journey of Life participants (Meinhart et al., 2023). Descriptive analyses were

performed on pertinent study variables, including mean and standard deviation. Internal reliability was measured using Cronbach's alpha and consistency by item-to-total score correlations. Consistent with recommended practice when a dataset has minimal missing data (i.e., <5%), list wise deletion was used (Schafer, 1999). Before reporting univariate statistics for demographic and correlated variables, multivariate normality was examined and confirmed for the K6. Construct validity and correlation with other health-related measures was assessed with Spearman's rank (ordinal variable). Construct validity (whether the test measures what it intends to measure) was assessed through examining the factor structure of the K6 by conducting a random split-sample EFA and CFA exploring several theoretical models (Hoffman et al., 2022).

The first stage of the factor analysis was aimed at exploring the most appropriate factor model for the Kessler-6 by conducting an ordinal Exploratory Factor Analysis (EFA) on the baseline sample of participants (n=1,532) (Fabrigar & Wegener, 2011). A factor is an unobservable variable that influences more than one observed measure, and accounts for the correlations among those observed measures. This first exploratory step was used because of the dearth of pre-existing evidence about the factor structure of this scale with the identified population. All factor loadings were freely estimated. Moreover, all error variances, factor variances, and the factor covariance were also freely estimated. All error covariances and indicator cross-loadings were fixed to zero (Little, 2013). An unrotated EFA with a random sample of half of the data was carried out to determine whether the K6 items measured a single underlying construct in this sample of forcibly displaced caregivers. One-dimensionality of the K6 scale was supported if EFA revealed a large first eigenvalue and a second eigenvalue less than 1.0 (Peiper et al., 2015). According to the default criterion, a factor must have an eigenvalue greater than one to be retained (cite). An orthogonal (varimax) rotation was then completed to

improve interpretability. In the rotation each factor accounts for a certain percentage of variation in the measured variables, and the factors are uncorrelated (Osborne, 2015).

The second stage included confirming which factor structure (one and two factor structures) provided an acceptable measurement model for the K6 (Bessaha, 2015). The one-factor model included all variables (Kessler et al., 2002; Kessler et al., 2003), while the two factor model separated depression and anxiety as indicated in previous studies (Bessaha, 2015). To address the second stage, Confirmatory Factor Analysis (CFA) was used with each of the two factor structures to evaluate each model's goodness of fit, using a different random sample of data than used for the EFA. CFA is a method of confirming the number of latent variables or factors that contribute to variation and covariation within a set of observed measurements (Brown, 2006; Harrington, 2009). Initial models of the K6 have shown evidence for a one-factor, unidimensional, structural model using principal axis factor analysis (Mewton et al., 2016; Sunderland et al., 2012). Data were treated as continuous, which is consistent with prior research (Kessler et al., 2002; Kessler et al., 2003).

The first fit statistic, chi-square (χ^2), was used to examine the goodness of fit between the sample covariance matrix and the restricted covariance matrix. A non-significant χ^2 indicates a good fit and a large significant χ^2 indicates poor fit. The root mean square error of approximation (RMSEA) assessed how far the hypothesized model is from the perfect model, in this case values less than 0.05 indicate close model fit, and values exceeding 0.10 indicate poor fit (Browne & Cudeck, 1992). The comparative fit index (CFI) compared the fit of the hypothesized model with a baseline model, current guidelines suggest that CFI values greater than or equal to 0.90 indicate acceptable fit while values greater than or equal to 0.95 imply very good fit (Hu & Bentler, 1999). The Tucker-Lewis Index (TLI) is an incremental fit index wherein values exceeding 0.95

are better. The difference between the TLI and CFI is that the TLI comes from the ratios of chi-square and degrees of freedom while the CFI contains differences between the chi-square and degrees of freedom. The standardized root mean square residual (SRMR) is the square root of the difference between the residuals of the sample covariance matrix and the hypothesized model. The SRMR values less than 0.08 indicate good model fit (Hu & Bentler, 1999). The Akaike information criterion (AIC) and Bayesian information criterion (BIC) measure comparative fit in non-nested models, in this case the lower scores are better fitting models. In the context of a good fitting model, the parameter estimates will be evaluated to ensure they make statistical and substantive sense in regards to the conceptual framework. The CFA model was evaluated for interpretability, strength, and statistical significance of parameter estimates through factor loadings.

There are different ways to assess discriminant validity, it can be the extent to which the latent variable discriminates from other latent variables. Discriminant validity therefore would mean that a latent variable is able to account for more variance in the observed variables associated with it than any measurement error or other constructs within the conceptual framework. If the latent variable is not unique and explaining the variance in observed variables then the validity of the individual indicators of the construct is questionable (Fornell & Larcker, 1981). In this scenario, discriminant validity can be assessed using the CFA structure coefficients or in the EFA to explore cross-loadings. Another way to assess discriminant validity is to use generalizability theory to assess if scores are reliable across a sample, in this case inter-rater reliability and testing if there are significant differences across language groups and locations would be presented to assess reliability and discriminant validity (Kraiger & Teachout, 1990; Rönkkö & Cho, 2022). Both of these strategies are utilized to assess discriminant validity.

Furthermore, the Wilcoxon rank sum test was used to compare the K6 mean and differences between subgroups stratified on non-mental health characteristics (gender, age, functioning). Construct and discriminant validity hypotheses were rejected/accepted based on the magnitude and statistical significance of tests. All analyses will be performed using Stata v.16 (StataCorp, 2019).

Ethics

All study procedures were approved by an in-country IRB (TASO Uganda) and the Washington University in St. Louis Institutional Review Board (IRB). Eligible participants were systematically screened by interviewers to determine that they met the inclusion criteria and were competent to be interviewed. Everyone participating in the intervention were invited to participate in the baseline and endline surveys to track participant changes. Data collection staff were trained and available to respond to any questions on the consenting process.

Results

A sample of participants aged 18 and above were included in this study. Table 1 presents descriptive characteristics about the participants. Respondents' ages are presented in the data set in age ranges of 18-25, 26-35, and 35 and above due to a participant lack of information about their exact ages. The sample included majority females (n=1,398, 91%), participants were mostly 36 years old or older (n=896, 58.52%), they were largely married or cohabitating (n=991, 64%), originally from South Sudan (n=1,458, 95%), approximately half of respondents had never attended school (n=786, 51%), and the majority had experienced food insecurity in the past three months according to the question "*Was there a time in the past three months that you did not have food to eat of any kind in your house because of a lack of resources to get food?*" (n=1,273, 84%).

Table 1
Sample Descriptive Statistics (n=1,533)

Variable	N	%
<i>Age (total)</i>	<i>1,531</i>	
18-25 years	140	9.14
26-35 years	495	32.33
36+ years	896	58.52
<i>Gender</i>	<i>1,533</i>	
Male	135	8.81
Female	1,398	91.19
<i>Marital status</i>	<i>1,533</i>	
Married or cohabitating	991	64.64
Other	542	35.36
<i>Country of origin</i>	<i>1,533</i>	
South Sudan	1,458	95.11
Other	75	4.89
<i>Education</i>	<i>1,529</i>	
No school	786	51.41
Less than primary school	471	30.80
Primary or higher	272	17.79
<i>Food insecurity</i>	<i>1,520</i>	
Yes	1,273	83.75
No	247	16.25

Prior to conducting the EFA analysis, sample descriptive statistics were examined and distributions of the 6-item responses skewness and kurtosis were screened for nonnormality. Absolute values greater than 2 for skewness or 7 for kurtosis were considered problematic (Cohen et al., 2013). Skewness ranged from 0.00-0.49, kurtosis was 0.16. The skewness of the full scale was 0.24 and the kurtosis was 0.16. These findings suggest that the data were normally distributed and would not be problematic for conducting either EFA or CFA analysis. The K6 items were revealed to be significantly correlated with each other, with correlations ranging from 0.31 to 0.43 (Table 2). The determinant of the correlation matrix indicates no issue with multicollinearity because it is greater than 0.0001 (Watkins, 2018). The current sample revealed strong internal consistency with a Cronbach's α of 0.78, although this was lower than previous studies which indicates that this may not be as reliable as a measure for forcibly displaced adults.

To first examine the K6 factor structure, exploratory factor analysis was used. An exploratory approach was used first due to the dearth of prior instrument validation with forcibly displaced populations. Additionally a scree plot (Figure 3) showed eigenvalues leveling off at a cut off eigenvalue of one.

Table 2

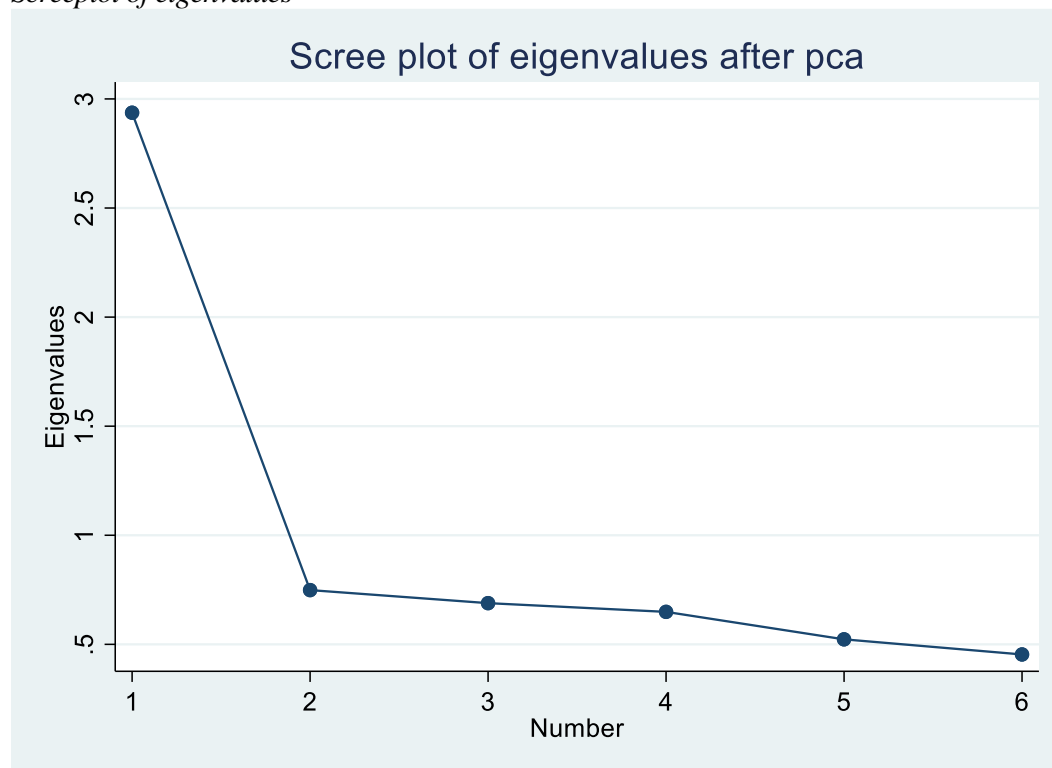
Means, standard deviations, correlations, and factor loadings from exploratory factor analysis of K6 items (n=1,533)

	Nervous	Hopeless	Restless	Depressed	Effort	Worthless
Nervous	1					
Hopeless	0.43	1				
Restless	0.41	0.39	1			
Depressed	0.41	0.32	0.31	1		
Effort	0.39	0.35	0.43	0.37	1	
Worthless	0.33	0.43	0.32	0.34	0.42	1
Mean	2.23	2.16	2.40	2.37	2.43	2.09
SD	(1.32)	(1.17)	(1.23)	(1.19)	(1.16)	1.20

The six eigenvalues from the exploratory factor analysis: 2.19, 0.02, -0.01, -0.02, -0.16, -0.21

Figure 3

Screeplot of eigenvalues



While in the unrotated EFA only factor 1 was retained, an orthogonal (varimax) rotation was used to improve the interpretability of the EFA factor structure. The orthogonal (varimax) rotation also only retained one factor (eigenvalue = 1.01). The rotated loadings and model fit are shown in Table 3.

Table 3

Rotated factor loadings, pattern matrix and unique variances

Variable	Factor 1	Factor 2	Uniqueness
Nervous	0.28	0.78	0.32
Hopeless	0.55	0.37	0.56
Restless	0.56	0.27	0.62
Depressed	0.41	0.37	0.69
Effort	0.63	0.22	0.55
Worthless	0.61	0.24	0.56

Note: Factor 1 explains 27% of the variance, and Factor 2 explains 18% of the variance, cumulatively they explain 45%. A factor loading of above 0.40 is considered to be a strong loading. Uniqueness indicates the variance that is unique to the specific variable and not shared with other variables.

Confirmatory Factor Analysis

To confirm the factor structure identified in the EFA, confirmatory factor analysis (CFA) was used. In order to investigate the dimensionality of the K6 further, three CFA models were implemented and model fit statistics compared (Table 4). Table 4 includes fit statistics for the two CFA models: the first is a one factor structure, and the second is a two factor structure where items one and three which indicate symptoms of anxiousness are distinguished from depressive symptoms as factors (Bessaha, 2015). A third factor structure with a second-order model was tested but it is not reported due to low reliability, which limited model convergence.

All models had significant χ^2 ($p < .001$), although model one was slightly higher, which indicates poor model fit. Although this is not to be ignored, χ^2 is sensitive to discrepancies in large sample sizes so other indexes may be more pertinent (Byrne, 2012; Kline, 2011). Neither model had good fit according to the RMSEA and TLI, but they both had acceptable fit on the

CFI (Browne & Cudeck, 1992, Hu & Bentler, 1999). The SRMR also showed good fit. There were minimal differences in the AIC and BIC, but model 2 had a better AIC while model 1 had a better BIC.

Table 4

Kessler-6 Confirmatory Factor Analysis fit statistics

Model	$\chi^2(df)$	RMSEA	CFI ^a	TLI ^a	SRMR	AIC ^b	BIC ^b
CFA Model 1	54.75(9)	0.09	0.95	0.92	0.04	12366.49	12448.12
CFA Model 2	54.70(8)	0.09	0.95	0.91	0.04	12368.43	12454.61

Note: ^a>0.90 indicates good fit, ^blower value indicates better fit, RMSEA: root mean square error of approximation, CFI: comparative fit index, TLI: Tucker Lewis Index, SRMR: standardized root mean square residual, AIC: Aikake information criteria, BIC: Bayesian information criteria

The unstandardized and standardized factor loadings for each model are presented in Table 5. The factor loadings of each model had acceptable fit to the data, with statistically significant factor loadings ($p < .001$) and in the expected direction. Ideally, the standardized factor loadings should be over 0.70, to prove convergent validity. However, an acceptable cut off is 0.40 (Kline, 2011), which fits the data described in Table 5. This indicates that there are correlations between each indicator and its factor.

Table 5

Standardized and Unstandardized Factor Loadings for Confirmatory Factor Analysis Models

Item	Two Factor							
	One Factor		SE	Anxiety		Depression	SE	
How often do you feel nervous?	0.594	(1)*	0.031	0.591	(1)*		0.034	
How often do you feel restless or fidgety?	0.623	(0.993)*	0.029	0.619	(0.992)*		0.034	
How often did you feel that everything was an effort?	0.704	(1.077)*	0.027			0.497	(1)*	0.034
How often did you feel hopeless?	0.497	(0.771)*	0.034			0.657	(1.254)*	0.029
How often did you feel so sad or depressed that nothing could cheer you up?	0.657	(0.968)*	0.028			0.703	(1.396)*	0.027

How often did you feel down
on yourself, no good, or
worthless?

0.597 (0.935)* 0.031

0.596 (1.209)* 0.031

Note: unstandardized factor loading values are in the parentheses. SE = standard error

* $p < .001$ for standardized factor loadings

Convergent validity with functioning (WHODAS) was assessed with Spearman's rank (ordinal variable). Construct validity was assessed based on relations with functioning, with 1477 observations, and a Spearman's rho of 0.26. $p < .05$; this means that there was a statistically significant relationship between mental health and functioning, wherein improved functioning was associated with improved mental health with a two-tailed significance. There was also a correlation with education, wherein a higher education was associated with higher mental health scores (Spearman's rho = 0.105, $p < .05$). There were no statistically significant correlations with age or gender. Additional tests showed income source was not significantly associated with differences on K6 scores.

In order to determine if the K6 was an acceptable measurement tool, tests of validity and reliability were conducted. Convergent validity was tested through high factor loadings in the CFA, discriminant validity was tested with factors that were determined to not be correlated (Hoffman et al., 2022; Rönkkö & Cho, 2022; Watkins, 2018). The Cronbach's alpha showed good reliability, or internal consistency of each indicator in the K6. Reliability was tested using χ^2 , there were significant differences across interviewers ($p < .001$), and languages ($p < .001$) (Carroll et al., 2020; Rönkkö & Cho, 2022).

Discussion

This study assessed the psychometric properties for the K6, a widely used measure of mental distress. The factor structure and validity of the K6 was tested with a large sample of

conflict-affected people living in Uganda. The results of the EFA suggested a one factor model had the best fit. The CFA confirmed that either a one or two factor model could be utilized with this population – which is consistent with previous research (Bessaha, 2015). A comparison was performed between the goodness-of-fit indices of different models used in the literature: the one-dimensional original abbreviated K6, and a two-factor model. The one factor model replicates a study by Nguyen et al (2022) with conflict-affected people in Cox’s Bazar, Bangladesh (Nguyen et al., 2022). The two-factor model replicates a model proposed by Bessaha (2015) that separates symptoms of anxiety and depression into different latent factors. The results obtained through the CFA indicated a goodness-of-fit level were quite similar in the standardized model. These results are consistent with those demonstrated in previous research (Peixoto et al., 2021). Results indicate that a two factor model may represent distinct domains of psychological distress among emerging adults. The constructs of anxiety and depressive symptoms were significantly correlated with each other in the two factor model. Furthermore, a one factor model also has a strong fit. The existence of equivalent models is common in structural equation modeling (SEM), and routinely used in practice (MacCallum & Austin, 2000). Equivalent models that fit data should be utilized according to related hypothesis. Results indicate that the K6 is an appropriate tool to assess psychological distress with forcibly displaced populations, either as a one factor or two factor model. Both models had good model fit and factor structures that were correlated with each other. However, it is important to note that it might not be appropriate with every language group or forcibly displaced people from different countries of origin.

Although the K6 has been promoted to evaluate psychological distress among different cultural and linguistic groups, there is a dearth of evidence about their reliability across different populations (Bessaha, 2015; Easton et al., 2017; O’Connor & Parslow, 2010; Tol et al., 2020;

Yiengprugsawan et al., 2014). In fact, a recent review showed that the conceptual and linguistic equivalence of translated and adapted Kessler scales may be related to changes in item connotation and differential item functioning. Evidence for structural evidence is inconsistent, as is support for criterion equivalence (Stolk et al., 2014).. This EFA and CFA add to evidence about the cross cultural utility of the K6 with a humanitarian population. However, more evidence is needed about the validity and reliability of this scale across different cultural and linguistic groups in humanitarian settings.

There were several limitations to this study, largely related to limited pre-existing data about instrument use with this population. As no standardized manual or guidelines have been located for administering the K6, and for scoring and interpreting scores with culturally diverse or conflict-affected respondents, administrative and method equivalence cannot be ensured. Method and scalar equivalence are compromised by differing methods for scoring items (0-4 and 1-5), and for calculating total scores. These differences prevent comparison of findings across cultures, and provide little in the way of guidance to clinical practitioners. Furthermore, although some publications state that this instrument has been validated in various languages, there is limited information to support these claims as translations and adaptations have provided inconsistent evidence of cultural equivalence (Stolk et al., 2014). Strengths of this study included a large sample size and relatively fast time to complete the survey (60 minutes).

Conclusion

Conflicts globally have led to large numbers of forcibly displaced people who seek refuge in neighboring countries. Both conflict and globalization have increased the movement of people between countries who have different cultural backgrounds, generating methodological and ethical challenges for research. The study assessed the underlying factor structure of the K6

among conflict-affected people living in Uganda. The models showed good psychometric properties, with a high internal consistency and no evidence of differential item functioning by age or gender. This study demonstrates the feasibility and importance of psychometric evaluations. Future studies must explore the properties of their instruments to assure internal validity and allow for cross-study comparisons, thus improving our understanding of psychological wellbeing. Given the plethora of available tools to assess psychological wellbeing, and the heterogeneity of displaced populations globally, these findings can be useful to humanitarian workers and healthcare professionals to help inform the selection of screening tools.

Chapter 4: Mental distress among forcibly displaced caregivers and associations with caregiving behaviors: differences in intervention effectiveness by clinical levels of distress

Background

Caregiver mental distress has a significant influence on the ways in which caregivers interact with their children, especially in humanitarian settings. Forcibly displaced caregivers are exposed to expansive psychosocial stressors, inclusive of barriers to accessing water and food and decreased community supports. Due to these extensive stressors, forcibly displaced caregivers suffer from high rates of common mental disorders such as depression, anxiety, and post-traumatic stress disorders (Gerritsen et al., 2006; Porter & Haslam, 2005; Pumariega et al., 2005; Steel et al., 2002; Taylor et al., 2014). Caregiver chronic stress can lead to negative coping mechanisms such as drug or alcohol abuse, self-harm behaviors, and worsening mental disorders among adults (Kaltenbacher, 2019). High stress also depletes caregiver's abilities to provide a supportive environment for their children, leading to behaviors such as unresponsive, overprotective, and harsh caregiving (Biglan et al., 2012). Likely related to these harsh practices, caregiver depression is also correlated with increased symptoms of depression in children (Meyer, Steinhaus, et al., 2017a).

Caregiver mental distress must be understood from a broader perspective that encompasses daily functioning and behaviors. Disturbances to daily functioning in the physical, cognitive, and social domains place limitations on individual wellbeing. Individuals who have experienced conflict or crisis may have impairments in their physical and social functioning. As disturbances to daily functioning affect an individual's ability to work, they can also strain economic resources even further. For forcibly displaced individuals, who have increased exposure to physical and mental health risks, daily functioning may be even more limited. Evidence shows that forcibly displaced individuals may be at a higher risk for functional

impairments. In fact, forcibly displaced individuals with functional impairments may also have a higher prevalence of common mental disorders, and suicide ideation (Tay et al., 2019).

Contemporary conceptualizations of wellbeing for people in humanitarian settings are moving beyond a solely mental health-focus view to a continuum that incorporates positive holistic wellbeing. Redefining wellbeing allows for a more careful integration of trans-diagnostic indicators of mental health, including indicators of wellbeing such as relational dynamics and relational behaviors. Research has suggested that positive wellbeing constructs include caregiver self-compassion, mindfulness, and reflective functioning (Risi et al., 2021). For forcibly displaced populations specifically, caregiver wellbeing can be compromised by traumatic experiences, strained social support during displacement experiences, and the novel challenges of parenting during uncertainty. Detriments to functioning among caregivers are associated with adverse family functioning and child functioning outcomes (Sullivan et al., 2018). Although caregiver wellbeing has received minimal attention, current evidence shows that caregiver wellbeing and its effect on caregiving interactions are likely to be central factors in children's development (Meyer, Steinhaus, et al., 2017a). When a caregiver's functioning is strained, this has the potential to impact their ability to support and care for their children.

For forcibly displaced caregivers, who are already contending with significant mental distress and functional impairments, caregiving may present another challenge. Research shows that caregivers with poorer mental health and wellbeing may have less capacity to show patience and cultivate warm relationships with their children (Risi et al., 2021). The psychological barriers to caregiving can then create reinforcing cycles where children continue to exhibit challenging behaviors, with the consequence of worsening caregiver mental health. However, disrupting this cycle within the family by addressing caregiver mental health and functioning can

have extensive impacts on this pattern and improve the wellbeing of the family as a whole. Improvements in the family lead to further improvements for caregivers and their children.

Research suggests psychosocial support for caregivers can improve wellbeing and caregiving behaviors. Psychosocial support programs help individuals and communities overcome and deal with psychosocial problems that may have arisen from the shock and effects of crises (Patel & Goodman, 2007). These psychosocial support interventions often include paying particular attention to coping skills, meaning-making at the individual level (Akello et al., 2010), the role of caregiving relationships, caregiver health and mental health (Meyer, Steinhaus, et al., 2017), resources and connection within families, peer support, and extended social networks (Betancourt & Khan, 2008). These factors contribute to the building of resilience in the face of new crises or other challenging life circumstances. Community-based programs that support the psychosocial wellbeing of caregivers have also proven to be effective for improving child protection mechanisms, including decreasing rates of child marriage and increasing educational attainment (Wessells, 2009). This contributes to improved longitudinal outcomes for children and their caregivers, as when children are safe and able to attend school, they are more able to break the cycles of compounded stressors.

Family-based mental health interventions have been shown to be effective in improving caregiver and child wellbeing in humanitarian contexts. While there is burgeoning research about family-based mental health interventions for improving refugee wellbeing across the migration continuum, additional research is critical (Bunn et al., 2022). Additional evidence is needed in order to determine the range of outcomes that can be achieved from programming, and which programs work for whom. Both rigorous effectiveness and implementation studies, especially located within humanitarian settings, are critical to advancing current evidence.

There is a dearth of literature about the associations between psychological health and other indicators of wellbeing among forcibly displaced caregivers. Where there is literature on characteristics of populations, studies about intervention effectiveness according to these domains is lacking. Most importantly, there is a severe paucity of data about the changes that occur over time for people who have differing levels of mental distress (both changes that occur naturally and the outcomes of family-level mental health interventions). An intent-to-treat analysis previously showed that the family based intervention under consideration here, the Journal of Life (JoL) intervention, was effective on the identified outcomes (Meinhart et al., under review). Overall, Cohen's d analysis showed that participation was strongly associated with improvements in mental distress, undifferentiated rejection (inverse-coded), functioning, and attitudes related to violence against children. There were weaker intervention effectiveness findings from adjusted models for social support and warmth/affection towards children. While these findings are important, there are certain limitations. A major limit of the intent-to-treat analysis is that it focuses on the average effect of the intervention. Focusing on the average effect of the intervention can be misleading because it can ignore the possibility of substantial benefits for some and limited benefits for others. In other words, for people who start with different degrees of mental distress, the intervention may be effective in different ways. The aim of this study is to evaluate the differences in intervention effectiveness compared to a waitlist control group among caregivers who fall within varying levels of clinical distress. This study tests the hypotheses that people in the intervention group who start with much greater levels of distress will experience more significant improvements in mental distress compared to their peers who are either in the control group or started the intervention at lower levels of distress. Further, the hypothesis that the treatment effect on social support, functioning, parental warmth towards

children, rejecting behaviors towards children, and endorsement of violence against children will vary for people with different levels of clinical distress at baseline.

Methods

Setting

Uganda, the largest host of forcibly displaced people in the African continent, is home to 1.6 million forcibly displaced people. Due to the high rates of crisis and conflict-exposure, 22% of refugee forcibly displaced households report that at least one member was in mental distress (UNHCR, 2020). Furthermore, recent evidence showed high rates of distress among caregivers in Kiryandongo, which were associated with detriments to functioning, social support, caregiving behaviors, and child protection attitudes (Meinhart et al., 2023).

Study Design

The study (trial registration: NCT04817098) employed a quasi-experimental design where participants were divided into treatment or control groups based on geographic location in order to reduce spill-over effect (Cohen et al., 2021). The settlement was divided into three ranches, Ranch 1, Ranch 37, and Ranch 18. Since Ranch 1 and Ranch 37 are the most populated, one was chosen as the control group, and one was the waitlist control group. The wait list control group received care as usual and received the intervention after the completion of the study. To ensure sufficient power, a sample size calculation for the primary outcome measure of mental distress (Kessler-6, see *Measures of Interest* section below) was conducted. The proposed minimum sample size ($n = 960$; assuming 80% retention of an initial $n = 1200$) was adequate for detecting an effect size of 11% with 80% power. R (base library, command `power.prop.test`) was

used to conduct the power analysis. There was no blinding of participants employed during study procedures.

Recruitment

During program implementation, facilitators for the intervention met a large group of mobilized community members in a central location within each cluster (sub-divisions of ranches, or study locations), introduced the study, informed community members about the risks and benefits to participation, and recorded on standardized recruitment forms the name, age, gender, household refugee ID number, individual ID number, role in the community (e.g., caregiver, teacher, farmer, etc.), and primary language of community members who were interested in participating who met the inclusion criteria (the participant has a child they care for who is under 18 years old). Data was then entered into the recruitment database for monitoring.

Sample

The data used for this analysis is from the baseline and endline data of a larger evaluation of the JoL intervention, a psychosocial intervention designed to support caregiver wellbeing through enhanced problem-solving skills and caregiving knowledge (additional information is provided in the section *The intervention*). The study employed a quasi-experimental design where participants were divided into treatment or waitlist control groups (Cohen et al., 2021). The control group received the intervention after the completion of the study. A total of 1323 participants were recruited from two geographically demarcated areas of Kiryandongo settlement in Uganda. Residents in the settlement were primarily from South Sudan, but also included forcibly displaced people from the Democratic Republic of Congo, Sudan, Kenya, Burundi, Rwanda, Somalia, and Uganda. The majority of participants were between 26-45 years old (74.76%), never attended school (46.71%), cared for more than three children (81.52%), had

experienced food insecurity in the past three months (82.78%), were women (92.42%), and were from South Sudan (95.60%) (Meinhart et al., 2023).

Data collection

Participant recruitment was conducted in collaboration with TPO Uganda staff and partners in the community. TPO Uganda staff coordinated with village health teams (VHTs) and cluster leaders to organize participants to meet in a central location in order to introduce the intervention, along with the study, inform community members about the risks and benefits to participants, and record key information on ‘intervention recruitment forms’ of those interested in participating in the JoL program (e.g. name, age, gender, household refugee ID number).

All of the participants who attended information sessions and met the eligibility criteria for the study were invited to participate in data collection. The ‘intervention recruitment forms’ then served as a list of participants for data collection, they were interviewed from May-June 2021 for baseline data collection, and September-November 2021 for endline data collection. Program facilitators then gave the recruitment forms to the research manager, who coordinated the research activities, trained and managed the data collectors. The research manager randomly assigned the data collectors by language to the intervention location or the waitlist control location in order to minimize potential differences in data collection between the intervention and control sites. Those who provided their written consent to enroll in the study were assigned unique study IDs.

Twenty-seven data collectors were employed across baseline and endline data collection. Each data collector was from the Kiryandongo community, they each spoke the main languages of the settlement, Dinka, Nuer, Juba Arabic, and Acholi. Data collectors and participants were

matched by language. Unfortunately, data collectors were not consistently matched by gender due to a much larger ratio of women to men who expressed interest in participation.

The survey was translated to each of the primary study languages by a professional translator and further validated through one week of cognitive interviewing. Cognitive interviewing is a technique used to provide insight into perceptions of interview questions (Beatty & Willis, 2007; Miller, 2011). Participants were invited to verbalize thoughts and feelings related to questions and answers on the survey instrument. For example, questions on the K6 such as “In the past 30 days, how many days did you feel hopeless?” with potential answers of “all of the time”, “most of the time”, “some of the time,” and “a little of the time” were presented to data collectors. Participants were invited to identify translations of “hopeless,” to consider how community members tracked time (i.e. did they use calendar days or days between food distribution), and different ways of distinguishing how often a symptom was experienced (i.e. “most of the time” is at least three weeks per month or only had specific times of day every day). Cognitive interviewing was performed for each question on the survey instrument, and consensus was developed across languages. In some cases, prompts were added to the survey in order to support a consistent definition across survey languages during data collection processes. While the original translated survey was initially used for testing, some items were changed to include prompts or slight changes were made to spelling in specific languages due to the dialects spoken within the Kiryandongo settlement (i.e., Dinka speakers from the East versus the West have small variations in minor words or spelling). All surveys used the Latin alphabet, which was comfortable for data collectors. Each item was translated and back translated independently according to WHO criteria (Easton et al., 2017). The survey was entered into KoboCollect, which is a free program that works offline, uploads data when it is

connected to the internet. It is a program the data collectors had used previously. All translated versions of survey were available in Kobo and data collectors were instructed to use the translated survey while collecting data in order to ensure uniformity in the method for asking questions and eliciting responses. Data collection used a CAPI (computer-assisted personal interviews) technique where the survey was uploaded onto tablets. Data collectors used the tablets to ask the survey questions to participants and enter participant responses. Each survey took approximately 30-60 minutes to complete. Data were uploaded on a daily basis to a secure server.

Baseline and endline interviews were in central locations, where data collectors met with respondents and moved to nearby more private locations for the interview process so that they would not be overheard. Pilot data collection was completed over the course of two days, where each interviewer was paired to complete at least three interviews and assess inter-rater reliability. During full data collection, data checks were conducted daily by the research manager, including checks on skip logic, total participants surveyed per day, length of each interview, and inter-rater reliability. When issues were flagged, such as extremely brief or long interviews, they were discussed with the data collectors the following day before data collection. There were some discrepancies at the beginning of data collection where surveys appeared to take only ten minutes to complete, these surveys were removed from the full sample because they were assessed to be fabricated by data collectors.

The intervention

JoL was developed by REPSSI (REgiona PsychoSocial Support Initiative), a regional organization based in South Africa, to raise awareness among adults about the psychosocial needs of vulnerable children, especially children affected by HIV/AIDs (Lanhuang & Adefrsew,

2013; Matikanya et al., 2006; The Government of Malawi, 2016). The JoL intervention provides an opportunity for caregivers impacted by conflict and displacement to examine the ways they support children in their communities. JoL has never been evaluated for use in a humanitarian setting. Therefore, for the purposes of this study JoL was expanded and adapted for the humanitarian context by Transcultural Psychosocial Organization (TPO) Uganda and Washington University in St. Louis (WUSTL).

This JoL adaptation focused on engaging caregivers in building awareness around their own mental health and problem solving in order to foster psychosocial support for children through reflection, dialogue, and action. The original JoL intervention was a two-day workshop for community members. However, feedback showed that participants wanted more time to implement and track their process. Therefore, JoL was adapted and expanded to a series of twelve sessions that include: problem management, positive parenting, understanding children's needs, identifying children who need help, and building on children's strengths. Four sessions of problem management components were developed from elements of Problem Management Plus (PM+), developed by the World Health Organization. PM+ was developed to help people with mental distress manage their own stressors with the ultimate goal of improving mental health and psychosocial wellbeing (WHO, 2016). PM+ has been successful with other forcibly displaced populations globally (Alozkan Sever et al., 2021; de Graaff et al., 2020; Van'T Hof et al., 2020; WHO, 2016). The four sessions of PM+ were placed before the JoL parenting components, based on the hypothesis that improvements in caregiver mental health would lead to increased capacity to learn and utilize parenting skills and knowledge learned through JoL.

The manualized protocol for 12 sessions was designed to be implemented by non-specialized humanitarian workers. The protocol was implemented with a ratio of one facilitator and one

translator to ten participants in mixed gender groups. Each facilitator held a minimum of a Bachelor's degree in social work, psychology, or a related field, and had experience in the humanitarian sector from several months to nearly ten years at varying degrees of frontline implementation or management. Each facilitator completed two weeks of training on the adapted JoL program, which included practice sessions and role plays. Each translator held a minimum of a high school diploma and had experience translating between English and their native languages (Dinka, Acholi, Arabic, Nuer, Kakwa, etc.). Facilitators were provided with a digital version of the manual, a tablet, and paper files for record-keeping. The files were reviewed weekly by the program coordinator and research management to review attendance and fidelity, and to provide feedback.

The intervention was provided in a common space that was agreed upon by all group members. Common spaces included watering holes, churches, child-friendly spaces that were not in use, next to the market, or beneath mango trees. Some groups met directly outside participant homes, if the homes were nearby and the participants all lived in the same vicinity. All of the groups were primarily conducted outside in the open air, for the comfort of participants, and because of COVID-19 safety protocols. Often, participants brought plastic chairs from home, or borrowed from community members or community spaces such as churches in order to comfortably attend the sessions. Sessions were held weekly and lasted an average of two hours, although they ranged from one to four hours.

Ethics

All study procedures were approved by an in-country IRB (TASO Uganda) and the Washington University in St. Louis Institutional Review Board (IRB). Eligible participants were systematically screened by interviewers to determine that they met the inclusion criteria and

were competent to be interviewed. Everyone participating in the intervention were invited to participate in the baseline and endline surveys to track participant changes. Each data collector received two weeks of training in data collection, study methodology, consenting processes and ethics, tablet use for data collection purposes, and appropriate handling of adverse events. Consent was explained to participants verbally and in a written format, participants either signed or fingerprinted written consent for participation. All consent forms were stored in a locked cabinet.

Measures of interest

The primary variable of interest for this analysis was the Kessler-6 (K6), a measure of mental distress. The 6-item version of the Kessler-6 (Furukawa et al., 2003; Kessler et al., 2002; Kessler et al., 2003) assesses the frequency that participants experienced feelings of nervousness, hopelessness, restlessness, sadness, listlessness, and worthlessness in the past thirty days. The scale has been previously utilized for research with refugees in Uganda and other conflict-affected populations (Nguyen et al., 2022; Tol et al., 2020). The K6 reflects the Diagnostic Statistical Manual of Mental Disorders (DSM-IV; APA, 2014) criteria for serious mental illnesses, specifically major depression and generalized anxiety disorder (Kessler et al., 2002). The K6 utilizes a 5-point Likert-type scale with responses ranging from “0 – None of the time” to “4 – All of the time” (Kessler et al., 2010). All of the responses load in the same direction. When summed, higher values on the K6 denoted more indicators of mental distress. Scores were summed across all six items for a total score range between 0 and 24. According to the K6 criteria, a score of 0-7 indicates low distress, 8-12 moderate distress, and 13 to 24 is considered high distress (Yiengprugsawan et al., 2014). These were the three groups used for analysis. The current sample revealed strong reliability with a Cronbach’s α of 0.78.

Functioning was also assessed in this study, measured using the World Health Organization Disability Assessment Schedule (WHODAS), which assesses functioning through six domains of cognition, mobility, self-care, interpersonal skills, life activities, and community participation. The WHODAS has been used in international settings including Uganda (Bachani et al., 2016). The scale presents a range of responses from “0 – None of the time” to “4 – Extreme or cannot do” indicating the level of functional impairments. The Cronbach’s alpha for the WHODAS at baseline was 0.87. The WHODAS was reverse-coded for the purposes of the analysis wherein higher scores denoted more positive functioning. Baseline findings showed that functioning was associated with parenting warmth and affection towards children (Meinhart et al., 2023).

Social support was assessed using the mMOS, which measures social support across five dimensions, including: 1) emotional, 2) informational, 3) tangible, 4) positive social interactions, and 5) affection. It has been used to assess social support among individuals affected by HIV in Uganda (Bajunirwe et al., 2009; Stangl et al., 2012; Takada et al., 2014, 2014). The scale presents a range of responses from “1 – None of the time” to “5 – All of the time” indicating various aspects of social support. The Cronbach’s alpha for the mMOS at baseline was 0.86. A higher score on this scale indicated more expansive available social support for the respondent. Social support was also found to be associated with parenting behaviors in the baseline data from the study sample (Meinhart et al., 2023).

Parenting behaviors were measured using a subscale of the Parenting Acceptance and Rejection Questionnaire (PARQ). For the purposes of this study, the subscales of warmth/affection, hostility/aggression, indifference/neglect, and undifferentiated rejection were used (Rohner & Khaleque, 2005). The PARQ has been used in similar settings to assess

parenting behaviors (Stark et al., 2018). The scale presents a range of responses from “1 – Almost never true” to “4 – Almost always true” indicating various aspects of parenting acceptance and rejection. Questions about rejection were reverse coded, including “*I see my child as a big nuisance,*” “*I resent my child,*” “*I make my child feel unloved if she or he misbehaves,*” and “*I let my child know she or he is not wanted.*” The Cronbach’s alpha at baseline was 0.83 for the warmth/affection subscale, and 0.56 for the undifferentiated rejection subscale. Parenting warmth and affection towards children was found to be associated with social support, functioning, and attitudes towards violence against children in baseline data unadjusted models. Additionally, the inverse of parenting undifferentiated rejection was associated with mental distress, functioning and violence against children attitudes in adjusted models within the baseline study sample data (Meinhart et al., 2023).

Attitudes towards child protection were measured using the Child Protection Index (CPI), which included items related to perceptions on the treatment of children, child rearing, and educating children. Developed in collaboration with the United Nations High Commission for Refugees (UNHCR), Association of Volunteers in International Service (AVSI), and the Child Protection in Crisis (CPC) Learning Network, the CPI, assesses child protection outcomes in displacement settings (Meyer et al., 2015), and has been used previously in Uganda (Meyer, Steinhaus, et al., 2017a; Meyer, Yu, et al., 2017). The scale presents options of responses from “0 – No” to “1 – Yes” indicating the use of physical discipline for a range of scenarios with children. However, four questions were opinion-based, such as “children should be treated the same regardless of the differences among them. Do you (0) strongly disagree, (1) disagree, (2) agree, (3) strongly agree.” These questions were treated as binomial, with strongly disagree and disagree grouped together as “0” and agree and strongly agree grouped as “1”. The Cronbach’s α

for the CPI at baseline was 0.76. Attitudes towards child protection was also strongly associated with the aforementioned measures of interest in the baseline study sample data (Meinhart et al., 2023).

Categorical demographic variables included age, income source, school attainment, years in Uganda, and number of children in the respondents' care. Dichotomous demographic variables included past three-month experience of food insecurity, marital status, country of origin (South Sudan), and gender. Demographic covariates for all adjusted models included age, gender, marital status, school attainment, number of children in respondent's care, and food insecurity.

Analysis

We used a quasi-experimental approach with propensity score weighting to evaluate the impact of the JoL intervention on clusters of individuals with differing levels of mental distress. Two waves of data were analyzed (baseline and endline) from the treatment and control groups, however, there was slight attrition due to illness and relocation. The process of analysis included grouping participants based on K6 cut-off scores, assessing descriptive statistics, studying treatment effect heterogeneity, weighting baseline data according to mental distress groups and covariates, and testing changes across outcome variables from baseline to endline.

The first step in the analysis was estimating descriptive statistics, and assigning K6 groups from the baseline study sample (Fassaert et al., 2009; Kang et al., 2015; Yiengprugsawan et al., 2014), stratified by the intervention and waitlist control group. Chi-square tests (χ^2) were used to determine if there was a significant difference in the baseline K6 means for the intervention and control groups. χ^2 tests were also used to determine if there were statistically significant differences on several demographic variables in the means of mental distress groups at baseline, and K6 outcomes by intervention or control groups. Then, a probit regression was

used to determine the associations between demographic variables and mental distress groups. We calculated the likelihood of exposure using a probit model, with the variables of mental distress group, age, highest level of school attainment, language, number of children cared for, experiences of food insecurity, gender, household composition, country of origin (South Sudan or other) and marital status. Different iterations of probit models were tested with matching to determine the best-fitting matched model. Fit was determined by the R^2 , number of missing observations after matching, and statistical significance between the covariates and treatment condition. Highest level of educational attainment, number of children in care, gender, household composition, country of origin, language, and marital status were found to be statistically significantly associated with allocation to the treatment or control groups ($p < .05$).

In order to examine differences among mental distress groups, I assessed the average treatment effect (ATE), average treatment effect for the treated (ATT), and the average treatment effect for the untreated (TUT). These three quantities should not always be identical, and differences reveal treatment effect heterogeneity. The standard estimator for the ATE is valid if and only if the treatment effect heterogeneity is absent (Xie et al., 2012). The ATE is the expected difference between two outcomes, or $ATE = E(Y_1 - Y_0)$. Using the iterative expectation rule, the ATE can be further decomposed as:

$$ATE = [E(Y_1 | W = 1) - E(Y_0 | W = 0)] - [E(Y_0 | W = 0)] - (TT - TUT)q$$

In this case, q is the proportion of untreated participants. Additionally, $[E(Y_1 | W = 1) - E(Y_0 | W = 0)]$ is the ATE estimated by the standard estimator. The estimator is valid and unbiased only if the last two terms are equal to zero. When these two terms are not equal to zero or when treatment effect heterogeneity is present, using the standard estimator for ATE is biased. The second term, $E(Y_0 | W = 0) - [E(Y_0 | W = 0)]$ is the average differences between the two

groups in outcomes if neither group receives the treatment, this is called “pretreatment heterogeneity bias” (Xie et al., 2012). The source of this bias exists when there are confounding variables associated with selection to treatment allocation. The term $(TT-TUT)q$ indicates the difference in the average treatment effect between the two groups, TT and TUT, weighted by the proportion of the sample that is untreated, q . This difference in ATE is called “treatment-effect heterogeneity bias” (Xie et al., 2012). The treatment-effect heterogeneity bias is a self-selection bias, where for example the evaluation of the effect of an intervention needs to account for people self-selecting for the intervention are more likely to benefit from it.

It is important to note that treatment effects are not usually uniform across subpopulations (Guo & Fraser, 2015). In order to support the analysis of treatment-effect heterogeneity, I used the Stata command `hte` (Jann et al., 2014). The approach of `hte` is to assume conditional unconfoundedness given a set of covariates and then analyze the treatment effect across the propensity score. For this approach, we used the matching-smoothing method and stratified the data by distress group. After estimating the propensity score (i.e. the conditional probability to receive treatment) given the covariates using `probit`, we matched the treated units to the control units with a matching algorithm based on the propensity score and computed counterfactual outcomes for each observation based on the matched observations from the other group. Then we plotted the differences between observed and potential outcomes against the propensity score. We applied a nonparametric model, local polynomial regression, to the matched differences to yield a pattern of treatment effect heterogeneity across the propensity score.

Since there were significant differences found in the mental distress groups, propensity score weighting was used to balance the data. The intervention and control groups were

originally determined due to location characteristics, i.e. they lived in different geographically demarcated segments of Kiryandongo refugee settlement. However, there were natural variations found between the intervention and control groups according to clinical levels of mental distress. Therefore, it was determined that a weighting approach would be important to account for covariates before comparison. Propensity score weighting uses the inverse probability of treatment assignment as a weight in a multivariate outcome analysis. Instead of making control participants similar to treated participants on propensity scores, like in propensity score matching, or creating subclasses such that participants are treated as homogenous across treatment and control groups, propensity score weighting takes a differential amount of information from each participant depending on the participant's conditional probability of receiving the intervention. This method takes the estimate of the sample average treatment effect or its inference to the population average treatment effect, a weighted average of the difference between observed and potential outcomes. This approach is beneficial because it permits most types of multivariate outcome analyses and does not require an outcome variable that is continuous or normally distributed. It also permits retaining most study participants in the outcome analysis unlike other approaches like greedy matching or trimming (Guo & Fraser, 2015). Because of this, propensity score weighting is preferable to propensity score matching for robust analysis (Jiang et al., 2019).

Since the treatment effect measure is confounded given the heterogeneous distribution of individual characteristics at baseline, a weighting formula was used to calculate the unconfounded marginal estimation of the ATE that is given for binary treatment by:

$$ATE = \sum w [P(Y = 1 | A = 1, W = w) - P(Y = 1 | A = 0, W = w)] P(W = w)$$

$$\text{where, } P(Y = 1 | A = a, W = w) = (P(W = w, A = a, Y = 1)) / (\sum_y P(W = w, A = a, Y = y))$$

In this case, the conditional probability distribution of the outcome $Y = y$, given the exposure or treatment $A = a$, and the set of covariates $W = w$. This formula requires the use of the total law of probability and the expectation of random variables. In probability theory, the total probability is a fundamental rule relating marginal and conditional probabilities. Therefore, marginal and conditional probabilities are used to estimate the expectation of random variables (Smith et al., 2020). In order to balance the exposure risk, we increased the weight for individuals on the outcome variable by the inverse of their probability of treatment or exposure (i.e. propensity score), so that they represent themselves but also the other individuals with similar characteristics who were in the control group. Concurrently, we increased the weight for people that were unlikely to be exposed to the intervention. The resulting dataset is unchanged apart from now separating treatment and covariates. Therefore, the comparison of $Y(1)$ and $Y(0)$ gives a marginal causal effect under the three identification assumptions. The identification assumptions are: counterfactual consistency whereby the observed outcome for all exposed individuals equals their outcome if they had been exposed and likewise for unexposed, conditional exchangeability whereby if all exposed individuals had not been exposed they would have the same average outcome as the unexposed, and positivity whereby the conditional probability of being exposed or unexposed is greater than 0. The inverse probability of treatment weighting (IPTW) estimators therefore computes parametrically based on the inverse probability of treatment or exposure. Originally, this method was motivated from the classical Horvitz and Thompson survey estimator used to increase the weight on the outcome variable by the inverse probability that is observed to account for the missingness process (Horvitz & Thompson, 1952).

First, we fitted the model using a logistic regression for a binary treatment, then the sampling weights were generated based on the inverse probability of treatment. We explored the

distribution of the weights in order to evaluate the extent to which they balance the distribution of covariates across the levels of treatment to ensure it did not violate the positivity assumption. Then we explored the balance of the distribution, or that the distribution of the covariates was balanced between intervention and control groups, after re-weighting the contributions of participants using IPTW. A variance ratio equal to 1 before and after weighting would show that the distribution of the exposure across the levels of the covariate is the same, or perfectly balanced. There is no definitive value at which the exposure is considered unbalanced, however, a variance ratio of less than 0.5 must clearly indicate that the data is not balanced and the potential for the positivity violation should be explored (i.e. when $P(A=a | C = c)$ is near to zero or one). If very large weights were identified, this would confirm a violation of the positivity assumption. One method to reduce non-positivity would be to truncate the distribution of the covariate to the 5th and 95th percentiles. However, truncating or trimming introduces bias. Independently of the balance, we also checked for violations of the identifiability conditions. Starting with the positivity assumption, overlapping the weights would give a visual impression of whether the weights are balanced (Smith et al., 2020).

Xie et al (2012) recommend focusing on the interaction of the treatment effect and the propensity score as one useful way to study effect heterogeneity. According to Xie et al (2012), the interaction between the propensity score and the treatment is the only interaction that warrants attention if selection bias in models of treatment effect heterogeneity is a concern (Guo & Fraser, 2015). A marginal structural model (MSM) was used as a weighted regression model for the outcome and treatment exposure. This model differs from the original probit model with the full set of weighted covariates because the MSM uses either a unstabilized weight or stabilized weight to calculate the interaction between the outcome and treatment exposure. In this

model, the coefficient for the treatment is an ATE estimate, and sampling weights were used to compute the inverse probability of treatment. It is important to note that the ATE estimated variance can be inflated in a non-saturated MSM due to the presence of large weights, which could be the result of a violation of the positivity assumption. In order to counter potential violations, we used a stabilized version of weights where they do not take a simple inverse but instead divide the baseline probability of selecting a treatment (estimated from a model with no covariates) by the probability of selecting the treatment condition given the covariates. The stabilized weights produce ATE estimates that have smaller variance, making the model more robust against near-positivity violations. Finally, we accounted for statistical inference using `vce(robust)` to estimate the correct SE for the ATE using the Delta method. Once the intervention exposure was predicted, the next step was to calculate the intervention effectiveness through comparing the intervention and control group outcomes.

Since intervention effectiveness was proven elsewhere (Meinhart et al., under review), we investigated intervention effectiveness according to mental distress groups (low, moderate and high) and relationships with other covariates. Linear regressions were used to evaluate the associations between independent variables and outcomes. In the first unadjusted regression model, outcomes were regressed with groups of mental distress. In the fully adjusted model, additional covariates (specifically, the other outcome variables of interest) were included (Kahan et al., 2014). It is important to note that control variables used for weighting were not included in the regression model because this would make the model doubly robust, it would be counterproductive, there is no bias to reduce, there is an increase in variance, and the normal standard errors would become more difficult to interpret (Freedman & Berk, 2008; Funk et al., 2011). Interaction terms were not used because, according to the counterfactual framework, the

potential outcome can be estimated only at the group level, so the meaning of interactions in an outcome regression using individuals as units would not be clearly defined and would not truly show treatment heterogeneity (Xie et al, 2012).

Results

Descriptive statistics

In the full baseline sample, approximately 90% of participants met criteria for moderate to high distress. In fact, 57% of participants met criteria for high distress in the intervention and control groups. The total sample for the final analysis included 1,388 participants. The high distress group (scores 13-24) represented 51.56% of the intervention group, and 62.36% of the control group. This difference was statistically significant and an indicator for the need to balance the data with propensity score weighting. The moderate distress group (scores 8-12) represented 39.94% of the intervention group and 28.01% of the control group. These differences between groups also indicated the utility of propensity score weighting. In the low distress group (0-7) represented 8.50% of the intervention group and 9.68% of the control group. There were statistically significant differences in the distress group allocations between the intervention and control group ($p < .001$).

Table 1

Mental distress groups

				Full	Intervention	Control
Mental distress+	High distress	13-24	n	789	364	425
			%	56.84%	51.56%	62.32%
	Moderate distress	8-12	n	473	282	191
			%	34.08%	39.94%	28.01%
	Low distress	0-7	n	126	60	66
			%	9.08%	8.50%	9.68%
Total				1388***	706***	682***

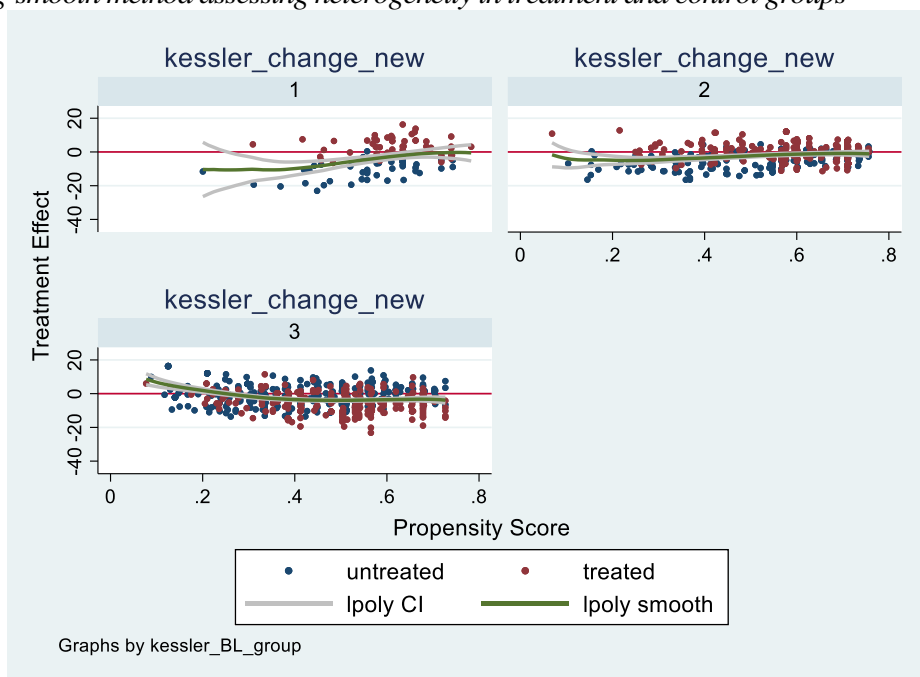
Note: there were statistically significant differences in the raw sample, ***: $p < .001$.

Testing treatment effect heterogeneity

The matching-smoothing method was used to estimate heterogeneous treatment effects, overcoming the assumption of homogeneity within strata. In this case, data was clustered by mental distress group, and plotted to assess different treatment effects in the treated and untreated groups. Data was matched with 580 untreated and 566 treated. The graph visually indicates that there are differences in mental distress groups in the intervention and control group, these results are statistically significant at $p < .001$.

Figure 1

The matching-smooth method assessing heterogeneity in treatment and control groups



Weight application

After weighting, the treated and untreated groups appear to be better balanced. Prior to weighting, there was some imbalance (the absolute values of the standardized differences were close to or beyond 10%). A variance ratio equal to 1 before and after weighting shows that the distribution of the exposure across the levels of the covariate is the same (perfectly balanced).

Table 2
Distribution of the covariates before and after applying weights

Covariate	Standardized differences		Variance ratio	
	Raw	Weighted	Raw	Weighted
<i>Distress group</i>				
Moderate distress	0.28	0.03	1.24	1.02
High distress	-0.27	-0.01	1.10	1.00
<i>Educational achievement</i>				
Some school	-0.15	-0.07	0.89	0.93
Primary or higher	0.00	0.12	1.00	1.19
<i>Number of people in the home</i>				
2	-0.12	-0.08	0.47	0.56
3-6	-0.25	-0.03	0.77	0.97
>6	0.37	-0.11	0.75	1.07
<i>Number of children in care</i>				
1-2 children	-0.18	-0.01	0.72	0.98
3-6 children	0.01	-0.06	1.00	1.01
>6 children	0.38	-0.05	1.70	0.93
<i>Married</i>	0.45	-0.12	0.71	1.07
<i>South Sudanese</i>	0.20	-0.32	0.36	2.82
<i>Language</i>				
Acholi	-0.67	0.02	0.28	1.03
Dinka	0.42	-0.09	1.25	0.95
Juba Arabic	0.30	-0.04	1.32	0.95
Nuer	-0.12	-0.01	0.73	0.97

Regressions

There were varying associations for mental distress across different outcome variables in the two panels (unadjusted and adjusted) per outcomes described in Table 3. In the unadjusted model, there were statistically significant differences in mental distress outcomes for people from the moderate distress and high distress groups compared to low distress (*coef* = -4.59 and -9.97 respectively, $p < .001$), indicating that distress decreased significantly from baseline to endline. The intervention was also associated with decreases in mental distress (*coef* = -1.43, $p < .001$). This indicates that people of differing distress groups improved on distress outcomes (they felt better), and the intervention was associated with improvements.

Social support was significantly associated with the intervention in the unadjusted and fully adjusted model ($coef = 2.14$, $p < .001$ and $coef = 1.17$, $p < .01$) indicating that participants experienced improvements in social support associated with intervention participation. However, there were minimal statistically significant differences for people of varying distress groups.

Participants in the moderate and high distress groups had statistically significant decreases in functioning outcomes in the fully adjusted model that includes other outcome covariates ($coef = -2.18$, $p < .01$ and -2.75 , $p < .001$ respectively), without accounting for intervention effect. There were strong statistically significant improvements associated with participation in the intervention condition in the unadjusted and fully adjusted models ($coef = 4.06$, $p < .001$, $coef = 3.62$, $p < .001$). This indicates that people experiencing moderate and high distress had significantly depleted functioning from baseline to endline, however, those who participated in the intervention had significantly improved functioning (increases in functioning scores) (Table 3).

Parental acceptance and warmth toward children associations were not significant in the low, moderate, or high distress groups. However, the intervention was associated with statistically significant improvements in parental acceptance and warmth in the unadjusted and fully adjusted models ($coef = 0.69$, $p < .01$ and $coef = 1.94$, $p < .001$ respectively). This indicates that participation in the intervention was associated with increased warmth towards children. However, there were no significant associations found for people of differing mental distress groups.

Parental rejection, wherein higher scores represent more positive behaviors towards children, showed significant differences for participants of a low distress group compared to no distress indicated, wherein more distress was associated with more negative behaviors towards

children ($coef = -1.42$, $p < .001$). Interestingly, this was only found to be statistically significant in the unadjusted model, meaning that there may be other covariates that account for that difference in the fully adjusted model. Furthermore, there were significant improvements in caregiver behaviors towards children according to the parental rejection scale for people who participated in the intervention, in both the unadjusted and fully adjusted models ($coef = 1.82$ and 1.04 respectively, $p < .001$).

The low distress group was associated with improvements on the child protection index (CPI) in the unadjusted and partially adjusted models ($coef = 1.76$ and $coef = 1.44$ respectively, $p < .001$). Additionally, the moderate distress group was associated with improvements on the CPI in the fully adjusted model ($coef = 1.30$, $p < .001$). Importantly, participation in the intervention was also associated with improvements on the child protection index in both the unadjusted and fully adjusted models ($coef = 1.11$ and $coef = 1.62$ respectively, $p < .001$). Additional findings are presented in Table 3, a partially adjusted model was not included because the control variables that would be used in the model were previously used in matching, which could bias the results for the regression (Freedman & Berk, 2008). Interaction terms were not used because according to the counterfactual framework, the potential outcome can be estimated only at the group level and including an interaction term would utilize individuals as units. Since it was proven earlier that this is a significantly heterogeneous sample, including interaction terms is not recommended (Guo & Fraser, 2015; Xie et al., 2012).

Table 3

Coefficients showing changes in outcome variables according to distress groups

	coef. [95% CI]	adjusted (full) coef. [95% CI]	coef. [95% CI]	adjusted (full) coef. [95% CI]	coef. [95% CI]	adjusted (full) coef. [95% CI]
	Mental Distress		Social Support		Functioning+	
Low distress	Mean = 5.89 SD = 4.89		-1.64 (-4.07 .78)	-0.50 (-2.32 1.32)	1.15 (-1.59 3.89)	-1.16 (-3.22 .90)

Moderate distress	-4.59*** (-5.75 -3.45)	-5.02*** (-6.19 -3.86)	2.13* (.28 3.98)	0.66 (-.73 2.05)	-1.45 (-3.66 .76)	-2.18** (-3.83 -.53)
High distress	-9.97*** (-11.0 -8.86)	-9.75*** (-10.87 -8.6)	0.30 (-1.47 2.08)	-1.28 (-2.62 .07)	0.13 (-1.99 2.26)	-2.75*** (-4.34 -1.15)
Intervention	-1.43*** (-2.05 -.80)	-1.14*** (-1.77 -.51)	2.14*** (1.13 3.15)	1.17** (.39 1.94)	4.06*** (2.93 5.19)	3.63*** (2.76 4.49)
	Parental Acceptance/Warmth		Parental rejection+		Child Protection Index	
Low distress	-0.22 (-1.46 1.03)	0.38 (-.49 1.25)	-1.42*** (-2.16 -.68)	0.10 (-.43 .63)	1.76*** (.82 2.70)	1.44*** (.65 2.23)
Moderate distress	0.34 (-.65 1.33)	0.27 (-.42 .95)	-0.15 (-.74 .44)	0.23 (-.19 .65)	0.60 (-.15 1.35)	1.30*** (.67 1.94)
High distress	-0.23 (-1.18 .72)	0.39 (-.27 1.06)	0.29 (-.27 .86)	0.21 (-.19 .62)	-0.07 (-.79 .66)	0.48 (-.13 1.10)
Intervention	0.69** (.17 1.22)	1.94*** (1.57 2.31)	1.82*** (1.51 2.14)	1.04*** (.81 1.26)	1.11*** (.71 1.51)	1.62*** (1.28 1.95)

Note: A total of 12 models are presented in this table. Fully adjusted models include all outcome measures of interest, other demographic covariates (age, gender, educational attainment, number of children in care) are not included since they were utilized in propensity score matching. Each column is a separate model with the interaction effects of distress group and intervention or control group. 95% CI: 95% Confidence Interval; *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$; + reflects an inverted score.

Mean Differences by Group

Figure 1 shows significant changes from baseline to endline across intervention and control groups. The intervention high distress group had a strong decline from baseline to endline, while the intervention moderate and low distress groups increased slightly in distress. Meanwhile, the control group had a slight decrease in distress from baseline to endline among the high distress group, and slight increases in distress in the moderate and low distress groups. Interestingly, all mental distress groups in the control group had worse outcomes at endline, above all intervention groups.

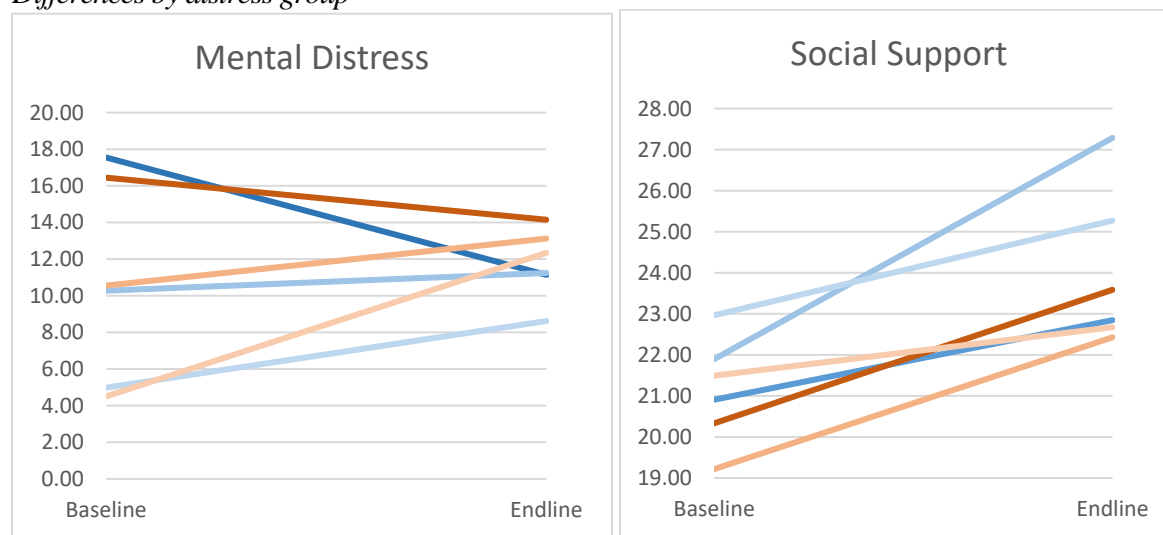
Although mental distress groups were not associated with differences in social support outcomes, it is clear that the intervention groups in general had improvements in social support from baseline to endline. Intervention groups also had improvements in functioning, ending with

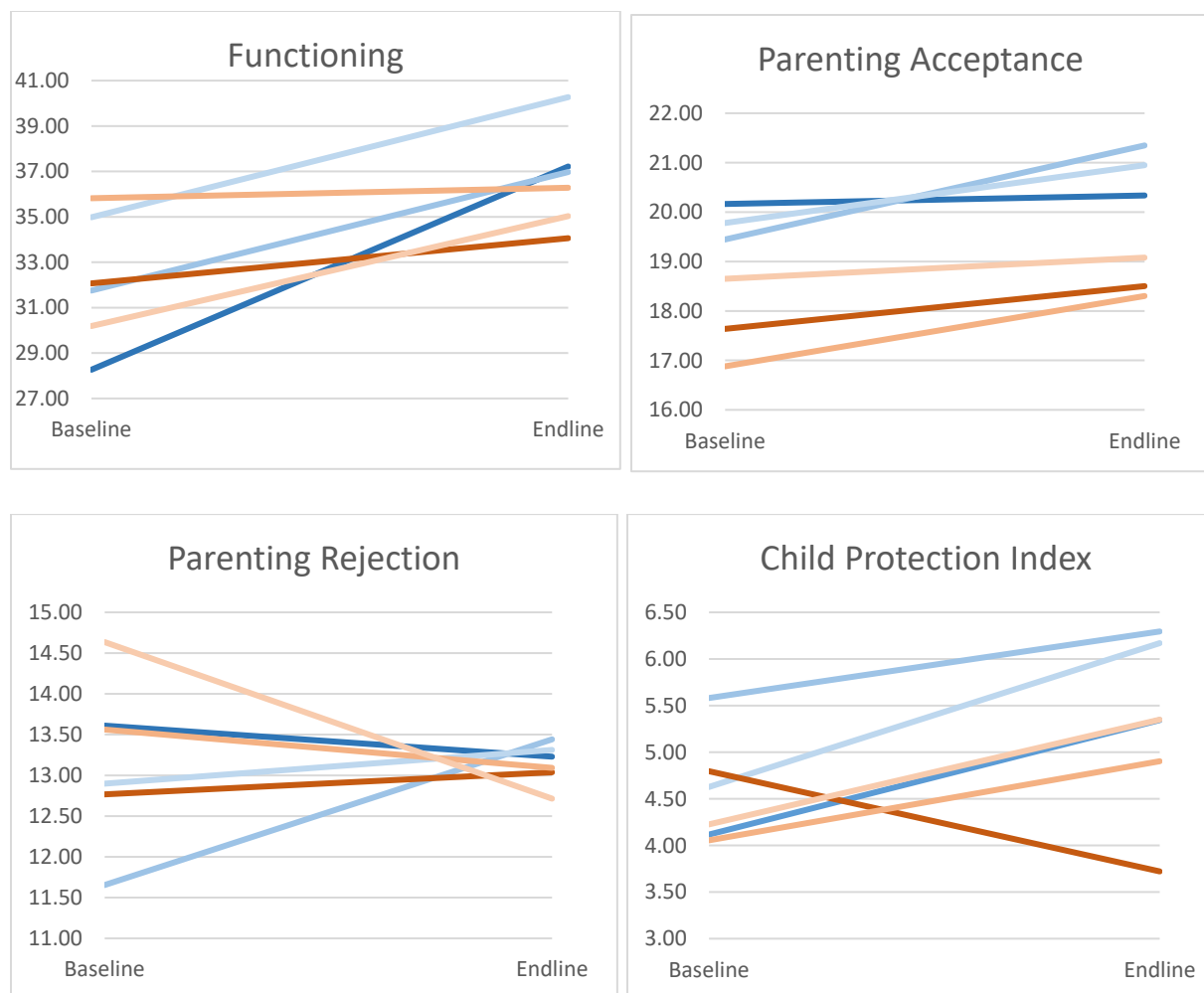
better outcomes across all groups when compared to the control. Unfortunately, the sample was not weighted on parenting acceptance behaviors, so it is clear that the intervention group started with higher scores in acceptance across all mental distress groups compared to the treatment groups. However, it is interesting to note that while the low and moderate distress groups saw improvements in parenting acceptance from the beginning to the end of the intervention, the high distress group remained steady.

Regarding parenting rejecting behaviors (inversely interpreted as more positive behaviors) and the child protection index, the intervention group had significant increases from baseline to endline across all mental distress groups. However, the control group mostly saw decreases, except for improvements on the child protection index in the low and moderate distress groups.

Figure 1

Differences by distress group





Note: Colors are used as follows: **control high distress**, **control moderate distress**, **control low distress**, **intervention high distress**, **intervention moderate distress**, **intervention low distress**.

In the intervention group, the high distress group saw the greatest improvements with a mean decline in distress of 5.89, while low and moderate distress groups increased in distress scores. In the control group, there was also a slight improvement in the high distress group, with a decline of 2.28. However, the moderate and low distress control groups had increases in their mental distress from baseline to endline. The intervention and control group did not have any statistically significant improvements across groups in social support. Regarding functioning,

there was a statistically significant difference across intervention groups, where the high distress group saw the most dramatic improvements in functioning ($M=8.05$, $SD = 10.56$).

Parenting acceptance behaviors significantly changes across mental distress groups, in the intervention and control. The strongest improvements were in the moderate distress intervention group ($M = 1.90$, $SD = 4.13$). Parenting rejection (inverse coded, so higher scores are more positive), also had significant improvements across groups from baseline to endline. The high distress intervention group experienced the strongest improvement ($M=1.79$, $SD = 3.25$). The control group low and moderate distress groups experienced declines on this scale, indicating increased rejecting behaviors towards children from baseline to endline. Finally, there were significant differences between mental distress groups in the control group where the most dramatic finding was that the high distress group experienced a decline on the child protection index, indicating more endorsement of physically disciplining children ($M=-0.96$, $SD = 3.53$).

Discussion

This study builds on existing evidence about the effectiveness of psychosocial interventions on mental health and parenting outcomes for individuals in humanitarian settings. In addition to existing information about the effectiveness of the Journey of Life intervention, this study contributes to evidence about the effect of differences in mental distress on a range of relevant outcomes. Importantly, level of mental distress contributed to differences in change on mental health and functioning from baseline to endline. Furthermore, differences in mental distress also contributed to differences in parenting outcomes among respondents.

Mental distress group membership (low, moderate and high) was not significantly associated with social support changes in the intervention group from baseline to endline. This is interesting to note because variable social support has been known to mediate the effects of

existing stressors including mental distress stressors, financial stressors, or other concerns (Andreson & Telleen, 1992). A mothers' perception of emotional and material support are positively related to parenting behaviors including frequency of place, responsiveness to children's needs, and the quality of verbal interactions (Andreson & Telleen, 1992). However, data about the relationship between social support and caregiving for resource-constrained and chronically stressed families has shown that social support may not have as much of an impact when there are heightened neighborhood and community stressors (Green et al., 2007). The lack of significant differences in social support outcomes across groups warrants further investigation, perhaps through structure equation modeling.

Some evidence has suggested strong associations between mental health and functioning among forcibly displaced populations (Al-Krenawi A. et al., 2009; Nissen et al., 2022; Tay et al., 2019). This evidence is highlighted in our results, showing strong associations according to mental distress groups on functioning outcomes, with people in the highest distress group who did not receive the intervention showing the most dramatic decrease in functioning outcomes, but there were improvements across all groups who participated in the intervention. This reiterates research about the strong relationship between the two components of wellbeing – mental distress and functioning.

Caregiver attitudes and behaviors are often strained when caregivers are experiencing significant mental distress such as trauma (Babcock Fenerci et al., 2016). Caregiving attitudes and behaviors include the caregiver's perceptions of their roles and tasks as a caregiver and their caregiving styles (i.e. harsh or more positive discipline strategies). Positive discipline styles can be characterized by the presence of warmth in the parent's behavior, provision of reasoning and explanations for disciplining behaviors so that children understand, and promotion of more

positive communication. Negative discipline styles incorporate more punitive and power-focused behavior such as physical discipline and harsh reprimand or even disparaging remarks towards the child (Newland, 2015). Caregiving attitudes and behaviors also include satisfaction with parenting, involvement with children, communication, limit setting, promoting child autonomy, and gender-role orientation (Babcock Fenerci et al., 2016). Caregiving attitude and behaviors are often dependent on culture, context, and caregiver wellbeing. Importantly, caregiver interventions have shown promise at reducing the negative effects of forced displacement, including effects on caregiver mental health and functioning, and improving caregiving behaviors (Gillespie et al., 2022). This finding is supported by our results, showing that mental distress across groups is associated with improved changes in parenting behaviors and attitudes.

Limitations

This study includes several limitations. First, while it is important to consider change in mental distress over time across the intervention and control group, it is also vital to note certain limitations in this analysis. Germane to this analysis is the understanding that people in the lowest distress group, the ability for the group to increase in wellbeing scores was met with a floor of zero. Therefore, people who were already low on the scale could not experience as drastic of an improvement compared to those with moderate and high levels of distress due to the limited potential range of growth. Secondly, this evidence has limited generalizability. Although this rigorous study was conducted in a humanitarian setting, the population was largely from South Sudan and represented only a few main tribes. Other forcibly displaced populations from different countries, tribes, or languages may have differing beliefs about parenting that could be associated with differences in mental distress. Future research efforts would benefit from looking at differences in effectiveness among varying groups. Therefore, this intervention

and its effects might be quite different. Lastly, there is limited evidence about the sustained effects of interventions. This study only contains evidence from baseline data collection (immediately before program implementation), and endline data collection (immediately after program implementation). Further studies would benefit from more longitudinal assessments of outcomes beyond the immediate study period.

Conclusion

This study contributes to evidence about the effectiveness of interventions for forcibly displaced caregivers. In humanitarian settings with extreme hardship, participants in this study face competing challenges to their financial security, parenting behaviors, and navigation of challenges within their setting. Amidst these challenges, managing mental distress is formidable. Despite these circumstances, findings from this study demonstrate that psychosocial caregiver interventions can contribute to not only improved mental distress, but also improvements on a range of other parenting outcomes. As parenting programs continue to develop, it is important to consider an emphasis on mental distress in tandem with parenting skills and knowledge. These findings illuminate the effectiveness of programs that support caregivers, and children in their care. Implications for practice include advanced awareness of the intersection between mental health and caregiving wherein mental health must be addressed in order to support advancements in caregiver warmth and affection towards children. Furthermore, policies that support caregivers and their children should incorporate psychosocial support as integral to the effectiveness of interventions.

Chapter 5: Conclusion

Introduction

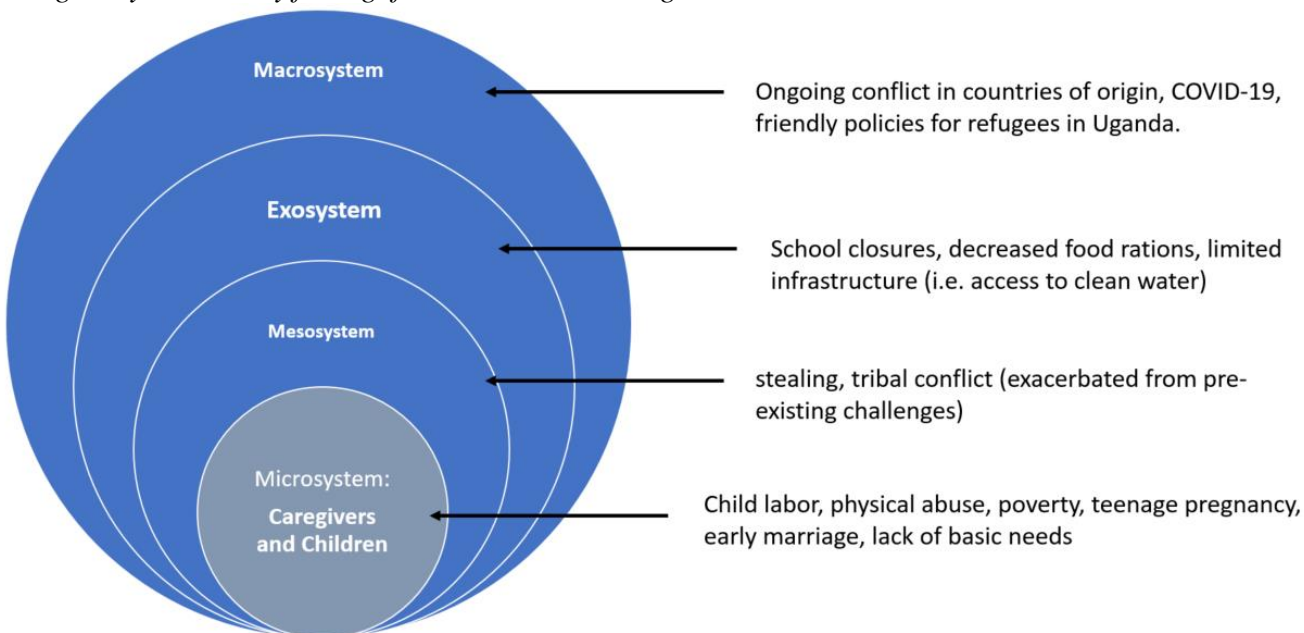
Children are influenced by their social ecologies through intersecting systems. Caregivers are uniquely positioned to moderate the effects of the social environment on children, either through mitigating or perpetuating challenges. In the humanitarian setting especially, children and caregivers require investments into their wellbeing through evidence-based programming that is tailored to their unique needs. The purposes of the three dissertation papers have been: (1) to explore the social ecologies of children in Kiryandongo settlement, Uganda, (2) to assess the factor structure of a common mental distress scale for use in a cross-sectional sample of forcibly displaced people, and (3) to empirically test the effectiveness of a caregiver psychosocial support intervention among forcibly displaced caregivers who began the intervention with differing levels of mental distress. These papers together describe ecological factors that affect mental health in a humanitarian setting, and the reverberating effects of poor caregiver mental health.

Discussion

The first paper (chapter 2) built upon assumptions about the humanitarian context for children, by engaging children in discussing their own ecologies using participatory methods. The results indicate that children and adults in their social ecologies are thinking about many similar aspects of wellbeing. They are concerned about school closures, decreased food rations, limited infrastructure and access to basic needs, teenage pregnancy, and early marriage. These concerns map clearly onto the ecological systems theory (Figure 1).

Figure 1

Ecological systems theory findings from children and caregivers



It is well known that children in humanitarian settings are faced with myriad stressors. Children are likely to experience increased exposure to violence, separation from their parents, and risks to their physical and mental health (Bennouna et al., 2018; Boothby et al., 2006; Carballo et al., 2005). The ongoing global crises therefore increase children's vulnerability to immediate physical harm, and perpetuate lasting detriments to their development. During COVID-19 these challenges increased substantially, as children lost access to schools in many parts of the world, including Uganda (Bourgault et al., 2021; Kimani et al., 2020; Sakondo, 2020). From an ecosystems perspective, humanitarian crises erode the social fabric of communities, undermining the capacity of institutions and individual to support children (Bronfenbrenner, 1989; Bronstein & Montgomery, 2011). School closures, decreased food rations due to strained resources in non-governmental and governmental organizations, and limited infrastructure fracture access to basic needs such as food and water (UNHCR, 2018). However, the impact of poverty and tribal conflict is lesser known (Ajoba, 2020). Furthermore,

there has been limited integration of children's voices into programs that are aimed to support their wellbeing (Wessells, 2015).

When undertaking ethical research involving children in humanitarian settings, it is vital to ensure that children's rights are respected throughout research and programmatic efforts (UNICEF, 2015). In fact, children should be centered in programs that are directed at improving their wellbeing (Wessells, 2015). Our research findings illuminate existing evidence about concerns for children in humanitarian settings, including issues related to access to basic needs, child labor, teenage pregnancy, and early marriages. While these concerns were shared among children, caregivers, and service providers, there was also a misalignment on perspectives related to violence against children. In fact, while there is evidence about the pervasive nature of violence against children and its related consequences (Clarke et al., 2016; Mootz et al., 2019; Stark & Landis, 2014), it appears that caregivers and services providers may not prioritize physical violence as concerns in their communities, while it appears clearly do place high priority on this. It is therefore even more necessary to elevate child concerns in order to influence programs. However, the integration of programs that target physical violence against children may be complicated by caregiver mental health, wherein if a caregiver has strained mental health and functioning they may be less sensitive to their children's needs, this relationship is even more prevalent in humanitarian settings (Meinhart et al., under review; Newland, 2015; Risi et al., 2021).

The second paper (chapter 3) confirmed factor structure for the Kessler-6 when used to assess caregiver mental distress in Kiryandongo refugee settlement. Findings show that a one factor structure is ideal for assessing mental distress within this population. However, a two factor structure is feasible with this population, according to pre-existing evidence (Bessaha,

2015). The two factor structure would account for symptoms of anxiety and depression separately to generate the composite mental distress scale. Further research should be aimed at evaluating different psychometric tools for displaced populations to ensure they are valid and reliable for individuals who have experienced crisis and displacement, and in order to evaluate existing interventions more effectively.

Although the Kessler-6 and Kessler-10 has been promoted to evaluate psychological distress among different cultural and linguistic groups, there is a dearth of evidence about their reliability across different populations (Bessaha, 2015; Easton et al., 2017; O'Connor & Parslow, 2010; Tol et al., 2020; Yiengprugsawan et al., 2014). In fact, a recent review showed that the conceptual and linguistic equivalence of translated and adapted Kessler scales may be related to changes in item connotation and differential item functioning. Evidence for structural evidence is inconsistent, as is support for criterion equivalence (Stolk et al., 2014).. This EFA and CFA add to evidence about the cross cultural utility of the Kessler-6 with a humanitarian population. However, more evidence is needed about the validity and reliability of this scale across different cultural and linguistic groups in humanitarian settings.

The findings from paper two support evidence developed in the third paper (chapter 4), which shows that not only was the intervention effective, it was effective for people with differing levels of mental distress. This is important because children of mentally ill parents have an increased risk of impairments due to their caregivers' cognitive, emotional, and social limitations (Smith, 2004). Caregiver PTSD has been found to be associated with harsh caregiving practices across multiple humanitarian contexts, including Sri Lanka (Catani et al., 2008), northern Uganda (Saile et al., 2014), Israel (Halevi et al., 2016), and among resettled refugees in the Netherlands (van Ee et al., 2012). A recent study among refugees in Uganda

found that a one-unit increase in a caregiver's depression score tripled the odds that the adolescent in their care would have high levels of anxiety symptoms (Meyer et al, 2017). In order to establish the associations between caregiver distress and caregiver behaviors, a propensity score matching was first utilized to match the baseline sample across clinical levels of mental distress, differentiated by pre-existing cut-off scores. After matching, a series of analyses were completed in order to see the associations between mental distress groups, treatment condition and outcomes of interest. Interestingly, the intervention was quite effective for people with low, middle, and high distress across several outcomes (functioning and parenting behaviors). However, the intervention did not show significant improvements for people of varying levels of mental distress and their social support outcomes. The intervention only appeared to influence functioning for people in the moderate and high distress groups when compared to the low distress intervention group. Parenting behaviors also improved, with people in the intervention group experiencing improvements in parenting warmth towards their children (on the parenting warmth/affection subscale and the parenting rejection subscale of the PARQ). Importantly, the high distress group experienced more behaviors endorsing violence against children when compared to the moderate and low distress groups. Given this point of divergence with paper one that children indicated physical abuse was a concern while other providers and caregivers did not indicate this, there appears to be a misalignment with children's concerns when parents are experiencing significant distress.

Caregivers are critical to supporting the wellbeing of children, and mediating the effects of forced displacement. Unfortunately, forcibly displaced caregivers contend with their own compounded stressors which can be detrimental to their caregiving abilities. Caregiver stress and distress is associated with increased anger, hyper arousal, irritability, emotional numbing, and

withdrawal. These interpersonal patterns heighten the risk for harsh or absent parenting (Timshel et al., 2017). In turn, caregiver mental health has compounded effects on children. In one study among refugees in Uganda, a one-unit increase in a caregiver's depression scores tripled the odds that the adolescent in their care would have high levels of anxiety symptoms (Meyer, Steinhaus, et al., 2017a).

Caregiver programs in humanitarian settings have shown promising results, including strengthening knowledge and skills to reduce harsh parenting and foster more positive parent-child interactions. Participation in caregiving programs has been shown to lead to improvements in parenting skills or attitudes, child psychosocial outcomes, and caregiver mental health (Gillespie et al., 2022). However, the relationship between caregiver mental health and parenting behaviors is less clear. Existing interventions typically target mental health or parenting, but rarely both. Findings from paper three present novel evidence about differences in mental and their relationship with parenting outcomes following a caregiver intervention that addresses both mental health and parenting behaviors.

Taken together, it is clear that children's perceptions of their ecologies align well with providers but there are important points of divergence that should be addressed in caregiver programming. In order to improve the social ecologies for children, their access to resources and their caregiving environment are crucial. Furthermore, while it is beneficial to address and improve caregiver wellbeing, it is also crucial to enhance caregiver knowledge about the impacts of physical discipline. Lastly, it is crucial to note that the Journey of Life intervention was effective for all identified outcomes, and for individuals with different levels of mental distress at baseline, this indicates that it would not be beneficial to have specific inclusion or exclusion criteria for participation in future Journey of Life programs.

Implications

Future programs and research initiatives would benefit from looking more carefully at caregiver intervention impacts on children. Researchers could take more time at the beginning of studies to integrate child perspectives in programming and assessment initiatives through more participatory designs that are culturally congruent and tailored to local perspectives. Additional effectiveness research that evaluates child outcomes alongside caregiver outcomes would also be beneficial. Furthermore, other measures to assess improvements in social ecologies and family self-reliance could be useful in future research efforts. Lastly, although the effectiveness of the Journey of Life intervention as proven, there are barriers to scale-up of effective interventions in humanitarian settings due to short term and limited funding. In order to improve outcomes it would be beneficial to also adjust granting, programming, and policy efforts to allow for the maintenance and scale-up of effective interventions.

Conclusion

Caregiver programs are critical to improving child wellbeing in humanitarian settings. Caregiver programs should align with children's perspectives and needs, while also integrating assessment tools that are valid and reliable for the target populations. Furthermore, it is critical to engage caregivers in interventions that address both their mental health and their parenting behaviors simultaneously, and critically interrogate cultural perspectives on parenting in context. Evidence from these findings can improve practices, humanitarian workers should be aware of children's needs, current research, and effective programming. Findings should be elevated to programmers, funders, and policy-makers to ensure scale-up of impactful interventions for populations that will find the most benefit. These findings have implications for refugees in Uganda, and globally.

References

- Adler, K., Salanterä, S., & Zumstein-Shaha, M. (2019). Focus Group Interviews in Child, Youth, and Parent Research: An Integrative Literature Review. *International Journal of Qualitative Methods*, 18, 1609406919887274.
<https://doi.org/10.1177/1609406919887274>
- Ager, A., Akesson, B., Stark, L., Flouri, E., Okot, B., McCollister, F., & Boothby, N. (2011). The impact of the school-based Psychosocial Structured Activities (PSSA) program on conflict-affected children in northern Uganda. *Journal of Child Psychology and Psychiatry*, 52(11), 1124–1133. <https://doi.org/10.1111/j.1469-7610.2011.02407.x>
- Ager, A., Stark, L., & Potts, A. (2010). *Participative Ranking Methodology: A Brief Guide*. Columbia University Mailman School of Public Health and World Vision International.
<http://www.cpcnetwork.org/research/methodology/participative-ranking-methodology/>
- Ager, A., Stark, L., Sparling, T., & Ager, W. (2010). *Rapid Appraisal in Humanitarian Emergencies Using Participatory Ranking Methodology (PRM)*.
<https://doi.org/10.13140/2.1.3543.7447>
- Ajoba, B. (2020). Intertribal tension in Kiryandongo Refugee Settlement. *Global History Dialogues*. <https://globalhistorydialogues.org/projects/intertribal-tension-in-kiryandongo-refugee-settlement/>
- Akello, G., Reis, R., & Richters, A. (2010). Silencing distressed children in the context of war in northern Uganda: An analysis of its dynamics and its health consequences. *Social Science & Medicine* (1982), 71(2), 213–220. <https://doi.org/10.1016/j.socscimed.2010.03.030>
- Al-Krenawi A., Graham J.R., & Kanat-Maymon Y. (2009). Analysis of trauma exposure, symptomatology and functioning in Jewish Israeli and Palestinian adolescents. *British*

- Journal of Psychiatry*, 195(5), 427–432. Embase.
<https://doi.org/10.1192/bjp.bp.108.050393>
- Alozkan Sever, C., Cuijpers, P., Mittendorfer-Rutz, E., Bryant, R. A., Dawson, K. S., Holmes, E. A., Mooren, T., Norredam, M. L., & Sijbrandij, M. (2021). Feasibility and acceptability of Problem Management Plus with Emotional Processing (PM+EP) for refugee youth living in the Netherlands: Study protocol. *European Journal of Psychotraumatology*, 12(1), Article 1. <https://doi.org/10.1080/20008198.2021.1947003>
- Alzyood, M., Jackson, D., Aveyard, H., & Brooke, J. (2020). Use of focus group data from countries with linguistic differences: Translation, analysis and presentation. *Nurse Researcher*, 28(1), 17–24. <https://doi.org/10.7748/nr.2020.e1679>
- Andreson, P., & Telleen, S. (1992). The relationship between social support and maternal behaviors and attitudes: A meta-analytic review. *American Journal of Community Psychology*, 20, 753–744.
- Attanayake, V., McKay, R., Joffres, M., Singh, S., Burkle, F., & Mills, E. (2009). Prevalence of mental disorders among children exposed to war: A systematic review of 7,920 children. *Medicine, Conflict, and Survival*, 25(1), 4–19.
<https://doi.org/10.1080/13623690802568913>
- Babcock Fenerci, R. L., Chu, A. T., & DePrince, A. P. (2016). Intergenerational Transmission of Trauma-Related Distress: Maternal Betrayal Trauma, Parenting Attitudes, and Behaviors. *Journal of Aggression, Maltreatment & Trauma*, 25(4), 382–399.
<https://doi.org/10.1080/10926771.2015.1129655>
- Bachani, A. M., Galiwango, E., Kadobera, D., Bentley, J. A., Bishai, D., Wegener, S., Zia, N., & Hyder, A. A. (2016). Characterizing disability at the Iganga-Mayuge Demographic

- Surveillance System (IM-DSS), Uganda. *Disability and Rehabilitation*, 38(13), 1291–1299. <https://doi.org/10.3109/09638288.2015.1079928>
- Bajunirwe, F., Tisch, D. J., King, C. H., Arts, E. J., Debanne, S. M., & Sethi, A. K. (2009). Quality of life and social support among patients receiving antiretroviral therapy in Western Uganda. *AIDS Care*, 21(3), 271–279. <https://doi.org/10.1080/09540120802241863>
- Beatty, P. C., & Willis, G. B. (2007). Research Synthesis: The Practice of Cognitive Interviewing. *Public Opinion Quarterly*, 71(2), 287–311. <https://doi.org/10.1093/poq/nfm006>
- Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist*, 35(4), 320.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 83–96.
- Ben-Arieh, A. (2006). *Measuring and monitoring the well-being of young children around the world* (2007/ED/EFA/MRT/PI/5). UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000147444>
- Bennouna, C., Fischer, H. T., Wessells, M., & Boothby, N. (2018). Rethinking child protection in emergencies. *International Journal of Child Health and Nutrition*, 7(2), 39–46.
- Berke, T., & Larsen, L. (2022). Using Land to Promote Refugee Self-Reliance in Uganda. *Land*, 11(3), Article 3. <https://doi.org/10.3390/land11030410>
- Bermudez, L. G., Williamson, K., & Stark, L. (2018). Setting global research priorities for child protection in humanitarian action: Results from an adapted CHNRI exercise. *PLOS ONE*, 13(8), e0202570. <https://doi.org/10.1371/journal.pone.0202570>

- Bernardes, D., Wright, J., Edwards, C., Tomkins, H., Difo, D., & Livingstone, A. (2010). Asylum Seekers' Perspectives on their Mental Health and Views on Health and Social Services: Contributions for Service Provision Using a Mixed-Methods Approach. *International Journal of Migration, Health and Social Care*, 6(4), 3–19. <https://doi.org/10.5042/ijmhsc.2011.0150>
- Bessaha, M. (2015). Factor Structure of the Kessler Psychological Distress Scale (K6) Among Emerging Adults. *Research in Social Work Practice*, 27(5), 616–624.
- 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.
- Betancourt, T., ScD, M., Meyers-Ohki, S., Charrow, A., & Tol, W. (2013). Interventions for Children Affected by War: An Ecological Perspective on Psychosocial Support and Mental Health Care. *Harv Rev Psychiatry*, 21(2), 70–91. <https://doi.org/10.1097/HRP.0b013e318283bf8f>
- Bhugra, D., & Becker, M. A. (2005). Migration, cultural bereavement and cultural identity. *World Psychiatry*, 4(1), 18–24.
- Biglan, A., Flay, B. R., Embry, D. D., & Sandler, I. N. (2012). The critical role of nurturing environments for promoting human well-being. *The American Psychologist*, 67(4), 257–271. <https://doi.org/10.1037/a0026796>
- Boothby, N., Strang, A., & Wessells, M. G. (2006). A world turned upside down: Social ecological approaches to children in war zones. *Kumarian Press*.
- Bourgault, S., Peterman, A., & O'Donnell, M. (2021). *Violence Against Women and Children During COVID-19—One Year On and 100 Papers In: A Fourth Research Round Up*.

- Center for Global Development. <https://www.cgdev.org/publication/violence-against-women-and-children-during-covid-19-one-year-and-100-papers-fourth>
- Bronfenbrenner, U. (1989). Ecological Systems Theory. *Annals of Child Development*, 6, 187–249.
- Bronstein, I., & Montgomery, P. (2011). Psychological distress in refugee children: A systematic review. *Clinical Child and Family Psychology Review*, 14(1), 44–56.
<https://doi.org/10.1007/s10567-010-0081-0>
- Brookhart, M. A., Schneeweiss, S., Rothman, K. J., Glynn, R. J., Avorn, J., & Stürmer, T. (2006). Variable selection for propensity score models. *American Journal of Epidemiology*, 163(12), 1149–1156. <https://doi.org/10.1093/aje/kwj149>
- Brooks, R. T., Beard, J., & Steel, Z. (2006). Factor structure and interpretation of the K10. *Psychological Assessment*, 18, 62–70. <https://doi.org/10.1037/1040-3590.18.1.62>
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. Guildford Press.
- Browne, M. W., & Cudeck, R. (1992). Alternative Ways of Assessing Model Fit. *Sociological Methods & Research*, 21(2), 230–258.
- Bunn, M., Zolman, N., Smith, C. P., Khanna, D., Hanneke, R., Betancourt, T. S., & Weine, S. (2022). Family-based mental health interventions for refugees across the migration continuum: A systematic review. *SSM - Mental Health*, 2, 100153.
<https://doi.org/10.1016/j.ssmmh.2022.100153>
- Bwesige, M. M., & Snider, L. (2021). Despair and Suicide-Related Behaviours in Palorinya Refugee Settlement, Moyo, Uganda. *Intervention*, 19(2), 224–232.
- Byrne, B. M. (2012). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

- Carballo, M., Heal, B., & Hernandez, M. (2005). Psychosocial aspects of the Tsunami. *J R Soc Med*, 98(9), 396–399.
- Carroll, H. A., Hook, K., Rojas Perez, O. F., Denckla, C., Cooper Vince, C., Ghebrehiwet, S., Ando, K., Touma, M., Borba, C. P. C., Fricchione, G. L., & Henderson, D. C. (2020). Establishing Reliability and Validity for Mental Health Screening Instruments in Resource-Constrained Settings: Systematic Review of the PHQ-9 and Key Recommendations. *Psychiatry Research*, 291, 113236.
<https://doi.org/10.1016/j.psychres.2020.113236>
- Catani, C., Jacob, N., Schauer, E., Kohila, M., & Neuner, F. (2008). Family violence, war, and natural disasters: A study of the effect of extreme stress on children's mental health in Sri Lanka. *BMC Psychiatry*, 8(1), 33. <https://doi.org/10.1186/1471-244X-8-33>
- Chen, J.-K., Pan, Z., & Wang, L.-C. (2021). Parental Beliefs and Actual Use of Corporal Punishment, School Violence and Bullying, and Depression in Early Adolescence. *International Journal of Environmental Research and Public Health*, 18(12), 6270.
<https://doi.org/10.3390/ijerph18126270>
- Clarke, K., Patalay, P., Allen, E., Knight, L., Naker, D., & Devries, K. (2016). Patterns and predictors of violence against children in Uganda: A latent class analysis. *BMJ Open*, 6(5), e010443. <https://doi.org/10.1136/bmjopen-2015-010443>
- Cohen, F., Hermosilla, S., Knox, J., Agaba, G. S., Obalim, G., Kajungu, R., Mangen, P. O., & Stark, L. (2021). Protocol for a caregiver psychosocial support intervention for populations affected by displacement in Uganda. *BMC Public Health*, 21(1), Article 1.
<https://doi.org/10.1186/s12889-021-10921-7>

Cohen, J., Cohen, P., West, S., & Aikan, L. (2013). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (3rd ed.). Routledge.

<https://www.perlego.com/book/1705377/applied-multiple-regressioncorrelation-analysis-for-the-behavioral-sciences-pdf>

Craig, T., Jajua, P. M., & Warfa, N. (2009). Mental health care needs of refugees. *Psychiatry*, 8(9), 351–354. <https://doi.org/10.1016/j.mppsy.2009.06.007>

Daley, A. M. (2013). Adolescent-friendly remedies for the challenges of focus group research. *Western Journal of Nursing Research*, 35, 1043–1059.

<https://doi.org/10.1177/0193945913483881>

de Graaff, A. M., Cuijpers, P., McDaid, D., Park, A., Woodward, A., Bryant, R. A., Fuhr, D. C., Kieft, B., Minkenberg, E., & Sijbrandij, M. (2020). Peer-provided Problem Management Plus (PM+) for adult Syrian refugees: A pilot randomised controlled trial on effectiveness and cost-effectiveness. *Epidemiology and Psychiatric Sciences*, 29(e162).

<https://doi.org/10.1017/S2045796020000724>

den Hertog, T. N., de Jong, M., van der Ham, A. J., Hinton, D., & Reis, R. (2016). “Thinking a Lot” Among the Khwe of South Africa: A Key Idiom of Personal and Interpersonal Distress. *Culture, Medicine and Psychiatry*, 40(3), 383–403.

<https://doi.org/10.1007/s11013-015-9475-2>

Easton, S. D., Safadi, N. S., Wang, Y., & Hasson, R. G. (2017). The Kessler psychological distress scale: Translation and validation of an Arabic version. *Health and Quality of Life Outcomes*, 15(1), 215. <https://doi.org/10.1186/s12955-017-0783-9>

- Eisenbruch, M. (1991). From post-traumatic stress disorder to cultural bereavement: Diagnosis of Southeast Asian refugees. *Social Science & Medicine* (1982), 33(6), 673–680.
[https://doi.org/10.1016/0277-9536\(91\)90021-4](https://doi.org/10.1016/0277-9536(91)90021-4)
- Fabrigar, L. R., & Wegener, D. T. (2011). *Exploratory Factor Analysis*. Oxford University Press.
- Fassaert, T., De Wit, M. a. S., Tuinebreijer, W. C., Wouters, H., Verhoeff, A. P., Beekman, A. T. F., & Dekker, J. (2009). Psychometric properties of an interviewer-administered version of the Kessler Psychological Distress scale (K10) among Dutch, Moroccan and Turkish respondents. *International Journal of Methods in Psychiatric Research*, 18(3), 159–168.
<https://doi.org/10.1002/mpr.288>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Freedman, D., & Berk, R. (2008). *Weighing Regressions by Propensity Scores* (SES-0437169; Ensemble Methods for Data Analysis in the Behavioral, Social and Economic Sciences).
- Furukawa, T. A., Kessler, R. C., Slade, T., & Andrews, G. (2003). The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. *Psychological Medicine*, 33(2), 357–362.
<https://doi.org/10.1017/s0033291702006700>
- Garbarino, J. (1977). The human ecology of child maltreatment: A conceptual model for research. *Journal of Marriage and the Family*, 721–735.
- Gerritsen, A. A. M., Bramsen, I., Devillé, W., van Willigen, L. H. M., Hovens, J. E., & van der Ploeg, H. M. (2006). Physical and mental health of Afghan, Iranian and Somali asylum seekers and refugees living in the Netherlands. *Social Psychiatry and Psychiatric Epidemiology*, 41(1), 18–26. <https://doi.org/10.1007/s00127-005-0003-5>

- Gillespie, S., Banegas, J., Chan, A., Ali Saleh Darawsha, N., Wasil, A., Marsalis, S., & Gewirtz, A. (2022). Parenting Interventions for Refugees and Forcibly Displaced Families: A Systematic Review. *Clinical Child and Family Psychology Review*, 25, 1–18. <https://doi.org/10.1007/s10567-021-00375-z>
- Green, B. L., Furrer, C., & McAllister, C. (2007). How Do Relationships Support Parenting? Effects of Attachment Style and Social Support on Parenting Behavior in an At-Risk Population. *American Journal of Community Psychology*, 40(1), 96–108. <https://doi.org/10.1007/s10464-007-9127-y>
- Halevi, G., Djalovski, A., Vengrober, A., & Feldman, R. (2016). Risk and resilience trajectories in war-exposed children across the first decade of life. *Journal of Child Psychology and Psychiatry*, 57(10), 1183–1193. <https://doi.org/10.1111/jcpp.12622>
- Harrington, D. (2009). *Confirmatory Factor Analysis*. Oxford University Press.
- Hermosilla, S., Metzler, J., Savage, K., Musa, M., & Ager, A. (2019). Child friendly spaces impact across five humanitarian settings: A meta-analysis. *BMC Public Health*, 19(1), 576. <https://doi.org/10.1186/s12889-019-6939-2>
- Hoffman, J., Cossie, Q., Ametaj, A. A., Kim, H. H., James, R., Stroud, R. E., Stevenson, A., Zingela, Z., Stein, D. J., & Gelaye, B. (2022). Construct validity and factor structure of the Kessler-10 in South Africa. *BMC Psychology*, 10(1), 177. <https://doi.org/10.1186/s40359-022-00883-9>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>

- IASC. (2007). *IASC guidelines on mental health and psychosocial support in emergency settings*. IASC.
- Kabunga, A., & Anyayo, L. G. (2020). Prevalence of Depressive Disorders and Associated Demographic Factors Among Refugees Amidst COVID-19 in Nakivale Refugee Camp in Southwestern Uganda. *Journal of Neurology Research Reviews & Reports*, 3(132).
<https://www.medrxiv.org/content/10.1101/2020.10.21.20216754v1.full>
- Kahan, B. C., Jairath, V., Doré, C. J., & Morris, T. P. (2014). The risks and rewards of covariate adjustment in randomized trials: An assessment of 12 outcomes from 8 studies. *Trials*, 15(1), 139. <https://doi.org/10.1186/1745-6215-15-139>
- Kaltenbacher, S. (2019). *UNHCR Uganda Mental Health and Psychosocial Support Strategy*. UNHCR.
- Kang, Y., Guo, W., Xu, H., Chen, Y., Li, X., Tan, Z., Li, N., Gesang, Z.-R., Wang, Y., Liu, C., Luo, Y., Feng, J., Xu, Q., Lee, S., & Li, T. (2015). The 6-item Kessler psychological distress scale to survey serious mental illness among Chinese undergraduates: Psychometric properties and prevalence estimate. *Comprehensive Psychiatry*, 63, 105–112. <https://doi.org/10.1016/j.comppsy.2015.08.011>
- Kar S.K., Arafat S.M.Y., Sharma P., Dixit A., Marthoenis M., & Kabir R. (2020). COVID-19 pandemic and addiction: Current problems and future concerns. *Asian Journal of Psychiatry*, 51((Kar S.K., drsujita@gmail.com) Department of Psychiatry, King George's Medical University, Lucknow, U.P., India). Embase.
<https://doi.org/10.1016/j.ajp.2020.102064>
- Kessler, R., Andrews, G., Colpe, L., EE, H., Mroczek, D., Normand, S.-L., Walters, E., & Zaslavsky, A. (2002). Short Screening Scales to Monitor Population Prevlances and

- Trends in Non-Specific Psychological Distress. *Psychological Medicine*, 32, 959–976.
<https://doi.org/10.1017/S0033291702006074>
- Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., Howes, M. J., Normand, S.-L. T., Manderscheid, R. W., Walters, E. E., & Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*, 60(2), 184–189. <https://doi.org/10.1001/archpsyc.60.2.184>
- Kessler, R. C., Green, J. G., Gruber, M. J., Sampson, N. A., Bromet, E., Cuitan, M., Furukawa, T. A., Gureje, O., Hinkov, H., Hu, C.-Y., Lara, C., Lee, S., Mneimneh, Z., Myer, L., Oakley-Browne, M., Posada-Villa, J., Sagar, R., Viana, M. C., & Zaslavsky, A. M. (2010). Screening for serious mental illness in the general population with the K6 screening scale: Results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*, 19(S1), 4–22.
<https://doi.org/10.1002/mpr.310>
- Kibret, B. (2015). Armed Conflict, Violation of Child Rights and Implications for Change. *Journal of Psychology & Psychotherapy*, 05. <https://doi.org/10.4172/2161-0487.1000202>
- Kimani, E., Lanthorn, H., Stein, D., & Bergemann, R. (2020). *Cash transfers and COVID-19: Experiences from Kiryandongo, Uganda* (pp. 1–13). IDinsight.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Routledge.
- Kohrt, B. A., & Hruschka, D. J. (2010). Nepali concepts of psychological trauma: The role of idioms of distress, ethnopsychology and ethnophysiology in alleviating suffering and preventing stigma. *Culture, Medicine and Psychiatry*, 34(2), 322–352. Scopus.
<https://doi.org/10.1007/s11013-010-9170-2>

- Kraiger, K., & Teachout, M. S. (1990). Generalizability Theory as Construct-Related Evidence of the Validity of Job Performance Ratings. *Human Performance*, 3(1), 19–35.
https://doi.org/10.1207/s15327043hup0301_2
- Lanhuang, L., & Adefrsew, A. (2013). *An evaluation of Journey of Life implementation within Pact Yekokeb Berhan program* (pp. 1–60). REPSSI.
- Lansford, J. E., Chang, L., Dodge, K. A., Malone, P. S., Oburu, P., Palmérus, K., Bacchini, D., Pastorelli, C., Bombi, A. S., Zelli, A., Tapanya, S., Chaudhary, N., Deater-Deckard, K., Manke, B., & Quinn, N. (2005). Physical Discipline and Children's Adjustment: Cultural Normativeness as a Moderator. *Child Development*, 76(6), 1234–1246.
<https://doi.org/10.1111/j.1467-8624.2005.00847.x>
- Little, T. D. (2013). *The Oxford Handbook of Quantitative Methods, Vol. 2: Statistical Analysis*. Oxford University Press.
- Lustig, S. L., Kia-Keating, M., Knight, W. G., Geltman, P., Ellis, H., Kinzie, J. D., Keane, T., & Saxe, G. N. (2004). Review of child and adolescent refugee mental health. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(1), 24–36.
<https://doi.org/10.1097/00004583-200401000-00012>
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201–226.
- Matikanya, R., James, V., & Maksud, N. (2006). *End of Programme Support Evaluation of Regional Psychosocial Support Initiative (REPSSI)* (No. 06/20; pp. 1–60). Swedish International Development Cooperation Agency.

- McKight, P. E., & Najab, J. (2010). Kruskal-Wallis Test. In *The Corsini Encyclopedia of Psychology* (pp. 1–1). John Wiley & Sons, Ltd.
<https://doi.org/10.1002/9780470479216.corpsy0491>
- Meinhart, M., Hermosilla, S., Cohen, F., & Stark, L. (under review). Improving Psychosocial Wellbeing and Parenting Practices Among Refugees in Uganda: Results of the Journey of Life Effectiveness Trial. *Global Mental Health*.
- Meinhart, M., Onyango Mangan, P., Hermosilla, S., Cohen, F., Samuel Agaba, G., Kajungu, R., Knox, J., Obalim, G., & Stark, L. (2023). Refugee caregivers: Associations between psychosocial wellbeing and parenting in Uganda. *Stress And Health*, 1–12.
- Metzler, J., Diaconu, K., Hermosilla, S., Kaijuka, R., Ebulu, G., Savage, K., & Ager, A. (2019). Short- and longer-term impacts of Child Friendly Space Interventions in Rwamwanja Refugee Settlement, Uganda. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 60(11), Article 11. <https://doi.org/10.1111/jcpp.13069>
- Mewton, L., Kessler, R. C., Slade, T., Hobbs, M. J., Brownhill, L., Birrell, L., Tonks, Z., Teesson, M., Newton, N., Chapman, C., Allsop, S., Hides, L., McBride, N., & Andrews, G. (2016). The psychometric properties of the Kessler Psychological Distress Scale (K6) in a general population sample of adolescents. *Psychological Assessment*, 28(10), 1232–1242. <https://doi.org/10.1037/pas0000239>
- Meyer, D. S., Steinhaus, M., & Stark, D. L. (2015). *MEASURING IMPACT THROUGH A CHILD PROTECTION INDEX*. 84.
- Meyer, S. R., Meyer, E., Bangirana, C., Mangan, P. O., & Stark, L. (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*, 221, 79–86.

<https://doi.org/10.1016/j.socscimed.2018.11.034>

Meyer, S. R., Steinhaus, M., Bangirana, C., Onyango-Mangen, P., & Stark, L. (2017a). The influence of caregiver depression on adolescent mental health outcomes: Findings from refugee settlements in Uganda. *BMC Psychiatry*, 17(1), 405.

<https://doi.org/10.1186/s12888-017-1566-x>

Meyer, S. R., Steinhaus, M., Bangirana, C., Onyango-Mangen, P., & Stark, L. (2017b). The influence of caregiver depression on adolescent mental health outcomes: Findings from refugee settlements in Uganda. *BMC Psychiatry*, 17(1), 405.

<https://doi.org/10.1186/s12888-017-1566-x>

Meyer, S. R., Yu, G., Hermosilla, S., & Stark, L. (2017). Latent class analysis of violence against adolescents and psychosocial outcomes in refugee settings in Uganda and Rwanda.

Global Mental Health, 4. <https://doi.org/10.1017/gmh.2017.17>

Meyer, S. R., Yu, G., Rieders, E., & Stark, L. (2020). Child labor, sex and mental health outcomes amongst adolescent refugees. *Journal of Adolescence*, 81, 52–60.

<https://doi.org/10.1016/j.adolescence.2020.04.002>

Miller, K. (2011). Cognitive Interviewing. In *Question Evaluation Methods* (pp. 49–75). John

Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118037003.ch5>

Miller, K. E., Arnous, M., Tossyeh, F., Chen, A., Bakolis, I., Koppenol-Gonzalez, G. V., Nahas, N., & Jordans, M. J. D. (2020). Protocol for a randomized control trial of the caregiver support intervention with Syrian refugees in Lebanon. *Trials*, 21(1), 277.

<https://doi.org/10.1186/s13063-020-4175-9>

- 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 (1982)*, *70*(1), 7–16.
<https://doi.org/10.1016/j.socscimed.2009.09.029>
- Mootz, J. J., Stark, L., Meyer, E., Asghar, K., Roa, A. H., Potts, A., Poulton, C., Marsh, M., Ritterbusch, A., & Bennouna, C. (2019). Examining intersections between violence against women and violence against children: Perspectives of adolescents and adults in displaced Colombian communities. *Conflict and Health*, *13*(1), 25.
<https://doi.org/10.1186/s13031-019-0200-6>
- Munsell, E. P., Kilmer, R. P., Cook, J. R., & Reeve, C. L. (2012). The Effects of Caregiver Social Connections on Caregiver, Child, and Family Well-Being. *The American Journal of Orthopsychiatry*, *82*(1), 137–145. <https://doi.org/10.1111/j.1939-0025.2011.01129.x>
- Newland, L. A. (2015). Family well-being, parenting, and child well-being: Pathways to healthy adjustment. *Clinical Psychologist*, *19*(1), 3–14. <https://doi.org/10.1111/cp.12059>
- Nguyen, A., Bhardwaj, A., Rahaman, K. S., Barua, S., Le Roch, K., Lasater, M., Schojan, M., Lee, C., Berg, K., & Murray, S. M. (2022). Measuring the psychosocial wellbeing of Rohingya mothers in Cox's Bazar, Bangladesh: Psychometric properties of an MHPSS assessment battery. *F1000Research*, *11*, 1402.
<https://doi.org/10.12688/f1000research.125654.1>
- Nissen, A., Hynek, K. A., Scales, D., Hilden, P. K., & Straiton, M. (2022). Chronic pain, mental health and functional impairment in adult refugees from Syria resettled in Norway: A cross-sectional study. *BMC Psychiatry*, *22*(1), 571. <https://doi.org/10.1186/s12888-022-04200-x>

- O'Connor, D. W., & Parslow, R. A. (2010). Mental health scales and psychiatric diagnoses: Responses to GHQ-12, K-10 and CIDI across the lifespan. *Journal of Affective Disorders, 121*(3), 263–267. <https://doi.org/10.1016/j.jad.2009.06.038>
- Office of the High Commissioner of Human Rights. (1989). *Convention on the Rights of the Child*. <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>
- OPM. (2022). *Uganda—Active Population by Settlement—August 2022*. UNHCR Operational Data Portal (ODP). <https://data.unhcr.org/fr/documents/details/95617>
- Osborne, J. W. (2015). What is Rotating in Exploratory Factor Analysis? *Practical Assessment, Research, and Evaluation, 20*(2). <https://doi.org/10.7275/HB2G-M060>
- Patel, V., Flisher, A. J., Hetrick, S., & McGorry, P. (2007). Mental health of young people: A global public-health challenge. *Lancet (London, England), 369*(9569), 1302–1313. [https://doi.org/10.1016/S0140-6736\(07\)60368-7](https://doi.org/10.1016/S0140-6736(07)60368-7)
- Patel, V., & Goodman, A. (2007). Researching protective and promotive factors in mental health. *International Journal of Epidemiology, 36*(4), 703–707.
- Peiper, N., Clayton, R., Wilson, R., & Illback, R. (2015). The performance of the K6 Scale in a large school sample. *Psychological Assessment, 27*, 228–238. <https://doi.org/10.1037/pas0000025>
- Peixoto, E. M., Zanini, D. S., & de Andrade, J. M. (2021). Cross-cultural adaptation and psychometric properties of the Kessler Distress Scale (K10): An application of the rating scale model. *Psicologia: Reflexão e Crítica, 34*(1), 21. <https://doi.org/10.1186/s41155-021-00186-9>

- 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. <https://doi.org/10.1001/jama.294.5.602>
- Pumariega, A. J., Rothe, E., & Pumariega, J. B. (2005). Mental health of immigrants and refugees. *Community Mental Health Journal*, *41*(5), 581–597. <https://doi.org/10.1007/s10597-005-6363-1>
- Quintanilha, M., Mayan, M. J., Thompson, J., & Bell, R. C. (2015). Different Approaches to Cross-Lingual Focus Groups: Lessons From a Cross-Cultural Community-Based Participatory Research Project in the ENRICH Study. *International Journal of Qualitative Methods*, *14*(5), 1609406915621419. <https://doi.org/10.1177/1609406915621419>
- Refugees, U. N. H. C. for. (n.d.-a). *Figures at a Glance*. UNHCR. Retrieved May 11, 2020, from <https://www.unhcr.org/figures-at-a-glance.html>
- Refugees, U. N. H. C. for. (n.d.-b). *UNHCR - Refugee Statistics*. UNHCR. Retrieved February 3, 2021, from <https://www.unhcr.org/refugee-statistics/>
- Riley, A., Varner, A., Ventevogel, P., Taimur Hasan, M. M., & Welton-Mitchell, C. (2017). Daily stressors, trauma exposure, and mental health among stateless Rohingya refugees in Bangladesh. *Transcultural Psychiatry*, *54*(3), 304–331. <https://doi.org/10.1177/1363461517705571>
- Risi, A., Pickard, J. A., & Bird, A. L. (2021). The implications of parent mental health and wellbeing for parent-child attachment: A systematic review. *PLOS ONE*, *16*(12), e0260891. <https://doi.org/10.1371/journal.pone.0260891>

- Rönkkö, M., & Cho, E. (2022). An Updated Guideline for Assessing Discriminant Validity. *Organizational Research Methods*, 25(1), 6–14.
<https://doi.org/10.1177/1094428120968614>
- Saile, R., Ertl, V., Neuner, F., & Catani, C. (2014). Does war contribute to family violence against children? Findings from a two-generational multi-informant study in Northern Uganda. *Child Abuse & Neglect*, 38(1), 135–146.
<https://doi.org/10.1016/j.chiabu.2013.10.007>
- Sakondo, M. (2020). *COVID-19 in Uganda: No school means no safe space for young refugees*.
<https://www.oxfam.org/en/blogs/covid-19-uganda-no-school-means-no-safe-space-young-refugees>
- Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, 8(1), 3–15. <https://doi.org/10.1177/096228029900800102>
- Sim, A., Bowes, L., & Gardner, F. (2018). Modeling the effects of war exposure and daily stressors on maternal mental health, parenting, and child psychosocial adjustment: A cross-sectional study with Syrian refugees in Lebanon. *Global Mental Health*, 5.
<https://doi.org/10.1017/gmh.2018.33>
- Slone, M., & Mann, S. (2016). Effects of War, Terrorism and Armed Conflict on Young Children: A Systematic Review. *Child Psychiatry & Human Development*, 47(6), 950–965. <https://doi.org/10.1007/s10578-016-0626-7>
- Smith, M. (2004). Parental mental health: Disruptions to parenting and outcomes for children. *Child & Family Social Work*, 9(1), 3–11. <https://doi.org/10.1111/j.1365-2206.2004.00312.x>

- Somasundaram, D. (2014). Addressing collective trauma: Conceptualisations and interventions. *Intervention, 12*, 43–60. <https://doi.org/10.1097/WTF.0000000000000068>
- Staff, S., & Zurakowski, D. (2018). Five Steps to Successfully Implement and Evaluate Propensity Score Matching in Clinical Research Studies. *Anesthesia & Analgesia, 127*(4), 1066–1073.
- Stangl, A. L., Bunnell, R., Wamai, N., Masaba, H., & Mermin, J. (2012). Measuring quality of life in rural Uganda: Reliability and validity of summary scores from the Medical Outcomes Study HIV Health Survey (MOS-HIV). *Quality of Life Research, 21*(9), 1655–1663. <https://doi.org/10.1007/s11136-011-0075-5>
- Stark, L., Asghar, K., Seff, I., Yu, G., Tesfay Gessesse, T., Ward, L., Assaznew Baysa, A., Neiman, A., & Falb, K. L. (2018). Preventing violence against refugee adolescent girls: Findings from a cluster randomised controlled trial in Ethiopia. *BMJ Global Health, 3*(5), e000825. <https://doi.org/10.1136/bmjgh-2018-000825>
- Stark, L., & Landis, D. (2014). *Measuring violence against children in humanitarian settings: (500792015-230)* [Data set]. American Psychological Association. <https://doi.org/10.1037/e500792015-230>
- Stark, L., Seff, I., Asghar, K., Roth, D., Bakamore, T., MacRae, M., Fanton D'Andon, C., & Falb, K. L. (2018). Building caregivers' emotional, parental and social support skills to prevent violence against adolescent girls: Findings from a cluster randomised controlled trial in Democratic Republic of Congo. *BMJ Global Health, 3*(5), e000824. <https://doi.org/10.1136/bmjgh-2018-000824>
- StataCorp. (2019). *Stata Statistical Software: Release 16*. StataCorp LLC.

- Steel, Z., Silove, D., Phan, T., & Bauman, A. (2002). Long-term effect of psychological trauma on the mental health of Vietnamese refugees resettled in Australia: A population-based study. *Lancet (London, England)*, *360*(9339), 1056–1062. [https://doi.org/10.1016/S0140-6736\(02\)11142-1](https://doi.org/10.1016/S0140-6736(02)11142-1)
- Stolk, Y., Kaplan, I., & Szwarc, J. (2014). Clinical use of the Kessler psychological distress scales with culturally diverse groups. *International Journal of Methods in Psychiatric Research*, *23*(2), 161–183. <https://doi.org/10.1002/mpr.1426>
- Sullivan, K., Kintzle, S., Barr, N., Gilreath, T. D., & Castro, C. A. (2018). Veterans' social-emotional and physical functioning informs perceptions of family and child functioning. *Journal of Military, Veteran and Family Health*, *4*(2), 37–47. <https://doi.org/10.3138/jmvfh.2017-0008>
- Sunderland, M., Mahoney, A., & Andrews, G. (2012). Investigating the factor structure of the Kessler Psychological Distress Scale in community and clinical samples of the Australian population. *Journal of Psychopathology and Behavioral Assessment*, *34*, 253–259. <https://doi.org/10.1007/s10862-012-9276-7>
- Takada, S., Weiser, S. D., Kumbakumba, E., Muzoora, C., Martin, J. N., Hunt, P. W., Haberer, J. E., Kawuma, A., Bangsberg, D. R., & Tsai, A. C. (2014). The Dynamic Relationship Between Social Support and HIV-Related Stigma in Rural Uganda. *Annals of Behavioral Medicine*, *48*(1), 26–37. <https://doi.org/10.1007/s12160-013-9576-5>
- Tay, A. K., Rees, S., Miah, M. A. A., Khan, S., Badrudduza, M., Morgan, K., Fadil Azim, D., Balasundaram, S., & Silove, D. (2019). Functional impairment as a proxy measure indicating high rates of trauma exposure, post-migration living difficulties, common

- mental disorders, and poor health amongst Rohingya refugees in Malaysia. *Translational Psychiatry*, 9(1), Article 1. <https://doi.org/10.1038/s41398-019-0537-z>
- Taylor, E. M., Yanni, E. A., Pezzi, C., Guterbock, M., Rothney, E., Harton, E., Montour, J., Elias, C., & Burke, H. (2014). Physical and mental health status of Iraqi refugees resettled in the United States. *Journal of Immigrant and Minority Health*, 16(6), 1130–1137. <https://doi.org/10.1007/s10903-013-9893-6>
- The Government of Malawi. (2016). *Journey of Life: Community Awareness and Mobilisation Tool in Achieving Child Protection Results in Malawi*. (pp. 1–72). UNICEF.
- Timshel, I., Montgomery, E., & Dalgaard, N. T. (2017). A systematic review of risk and protective factors associated with family related violence in refugee families. *Child Abuse & Neglect*, 70, 315–330. <https://doi.org/10.1016/j.chiabu.2017.06.023>
- Tol, W. A., Leku, M. R., Lakin, D. P., Carswell, K., Augustinavicius, J., Adaku, A., Au, T. M., Brown, F. L., Bryant, R. A., Garcia-Moreno, C., Musci, R. J., Ventevogel, P., White, R. G., & van Ommeren, M. (2020). Guided self-help to reduce psychological distress in South Sudanese female refugees in Uganda: A cluster randomised trial. *The Lancet. Global Health*, 8(2), e254–e263. [https://doi.org/10.1016/S2214-109X\(19\)30504-2](https://doi.org/10.1016/S2214-109X(19)30504-2)
- Tol, W. A., Song, S., & Jordans, M. J. D. (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. <https://doi.org/10.1111/jcpp.12053>
- Trani, J.-F., Bakhshi, P., Mozaffari, A., Sohail, M., Rawab, H., Kaplan, I., Ballard, E., & Hovmand, P. (2019). Strengthening child inclusion in the classroom in rural schools of Pakistan and Afghanistan: What did we learn by testing the system dynamics protocol for

- community engagement? *Research in Comparative and International Education*, 14(1), 158–181. <https://doi.org/10.1177/1745499919829230>
- Trani, J.-F., Ballard, E., Bakhshi, P., & Hovmand, P. (2016). Community based system dynamic as an approach for understanding and acting on messy problems: A case study for global mental health intervention in Afghanistan. *Conflict and Health*, 10(25).
- UNHCR. (2018). *Joint Multi-Sector Needs Assessment—Identifying humanitarian needs among refugee and host community populations in Uganda (August 2018)—Uganda*. ReliefWeb. <https://reliefweb.int/report/uganda/joint-multi-sector-needs-assessment-identifying-humanitarian-needs-among-refugee-and>
- UNHCR. (2020a). *Uganda Country Refugee Response Plan* (pp. 1–72). UNHCR.
- UNHCR. (2020b). *Uganda—Active Population by Settlement_December 2020*. UNHCR Operational Data Portal (ODP). <https://data2.unhcr.org/en/documents/details/84149>
- UNHCR. (2021). *COVID-19 Supplementary Appeal 2021*. <https://reporting.unhcr.org/sites/default/files/COVID-19%20Supplementary%20Appeal%202021%20-%2018%20December%202020.pdf>
- UNHCR. (2022a). *Figures at a Glance*. UNHCR. <https://www.unhcr.org/figures-at-a-glance.html>
- UNHCR. (2022b). *Uganda—Refugee Statistics May 2022—Kiryandongo* (p. 1).
- UNICEF. (2015). *Procedure for ethical standards in research, evaluation, data collection and analysis*. <https://www.unicef.org/media/54796/file>
- van Ee, E., Kleber, R. J., & Mooren, T. T. M. (2012). War trauma lingers on: Associations between maternal posttraumatic stress disorder, parent–child interaction, and child

- development. *Infant Mental Health Journal*, 33(5), 459–468.
<https://doi.org/10.1002/imhj.21324>
- Van’T Hof, E., Sangraula, M., Luitel, N. P., Turner, E. L., Marahatta, K., Van Ommeren, M., Shrestha, P., Bryant, R., Kohrt, B. A., & Jordans, M. J. D. (2020). Effectiveness of Group Problem Management plus (Group-PM+) for adults affected by humanitarian crises in Nepal: Study protocol for a cluster randomized controlled trial. *Trials*, 21(1).
<https://doi.org/10.1186/s13063-020-04263-9>
- Watkins, M. (2018). Exploratory Factor Analysis: A Guide to Best Practice. *Journal of Black Psychology*, 44(3). <https://doi.org/10.1177/0095798418771807>
- Wessells, M. (2009). *What Are We Learning About Protecting Children in the Community?* (p. 110).
https://www.unicef.org/protection/files/What_We_Are_Learning_About_Protecting_Children_in_the_Community_Full_Report.pdf
- Wessells, M. G. (2015). Bottom-up approaches to strengthening child protection systems: Placing children, families, and communities at the center. *Child Abuse & Neglect*, 43, 8–21. <https://doi.org/10.1016/j.chiabu.2015.04.006>
- WHO. (2016). *Problem management plus (PM+): Individual psychological help for adults impaired by distress in communities exposed to adversity*.
<https://www.who.int/publications-detail-redirect/WHO-MSD-MER-16.2>
- WHO. (2018). *Mental health promotion and mental health care in refugees and migrants*. WHO.
- WHO. (2021). *Mental health and forced displacement*. <https://www.who.int/news-room/factsheets/detail/mental-health-and-forced-displacement>

Williams, N. (2010). Establishing the boundaries and building bridges: A literature review on ecological theory: implications for research into the refugee parenting experience.

Journal of Child Health Care: For Professionals Working with Children in the Hospital and Community, 14(1), 35–51. <https://doi.org/10.1177/1367493509347116>

Yiengprugsawan, V., Kelly, M., & Tawatsupa, B. (2014). Kessler Psychological Distress Scale.

In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 3469–3470). Springer Netherlands. https://doi.org/10.1007/978-94-007-0753-5_3663