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Globalization and Mental Health:
The impact of war and armed conflict on families

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CHAPTER 1

Introduction: An overview of globalization and mental health
Introduction and dissertation structure

“Safety and security don’t just happen, they are the result of collective consensus and public investment. We owe our children, the most vulnerable citizens in our society, a life free of violence and fear.” – Nelson Mandela, Former President of South Africa

Background

This dissertation presents several articles that combine to take a mixed-methods approach to understanding the effects of war and armed conflict on children, the intergenerational stress when they become adults and have children, and the predictors of mental distress when survivors migrate to a host country. At the heart of this dissertation lies an interest in understanding the impact of war and armed conflict from multiple perspectives and in multiple stages of the life course. I aimed to evaluate the impact of war and armed conflict in these three different developmental phases across the life course: childhood/adolescence, early adulthood (as new parents), and adulthood (after migrating to a host country). Since access to children who are actively in armed conflict as child soldiers is quite difficult and humanitarian conflict involves migrating individuals that are difficult to follow up over multiple time points, the research took place in various settings – former child soldiers in post-conflict Burundi and Sierra Leone and resettled survivors of torture in the United States. A common theme to the dissertation is the impact of globalization at all levels of understanding – from the conceptualization of mental distress in a low-income setting to the treatment of the consequences of political violence and human rights violations in the United States (US). The overall objective is to contribute to the field of mental health and psychosocial support in providing a framework for understanding and
treating survivors of armed conflict in the rehabilitation and post-migration stages in diverse socio-cultural settings.

Mental health is a pressing global health issue with mental and behavioral disorders accounting for 7.4% of Disability-Adjusted Life Years (DALYs) in 2010, and major depressive disorder the 11th highest cause of DALYs¹. Mental and behavioral disorders comprise the highest burden of any disease category, at 22.7%, of Years Lived with Disability (YLDs)². Low-income countries carry a higher proportion of the global mental health burden with lower spending on mental healthcare and difficulty in obtaining funding³. Mental health care in many low- and middle-income countries can be characterized by low levels of detection, socio-cultural stigmas against mental illness, human rights abuses, centralized institutional care, and a lack of both political commitment and policy frameworks to prioritize mental healthcare⁴,⁵,⁶. In high-income countries, there is an estimated 35-50% treatment gap for serious mental disorders, and a gap of 76-85% in lower-income countries⁷. There are growing inequities regarding access to care around the world, with mental health treatments in poorer countries not equally distributed, of limited effectiveness, and accompanied with a concomitant high economic burden⁸. It is widely recognized that mental illness, poverty, and physical illness are intertwined, with those with mental illness more likely to be poor and vice versa. Countries with high poverty and physical illness are likely to experience high mental illness, leading to global inequities and challenges⁹.

British sociologist, Anthony Giddens, has characterized globalization as a major force in transforming our lives, but now creating a world that we have little control over¹⁰. Globalization at the same time, has allowed the world to become more attuned to human
rights violations, political violence, and humanitarian emergencies. With the ease of media communication, we are more aware of the wars and armed conflict\(^1\) around the world, yet the consequences are under-researched. Media and the population movements created by armed conflict displace people and families bringing these critical global issues into our communities and households. International migration is growing, with more than 200 million people living outside their country of birth, a workforce that is more mobile, and more countries experiencing movements of people across borders\(^11\). The lack of social and economic opportunities and security in “failed” states or countries under-going armed conflict can lead to cross-border migration for safety and improved livelihoods.

With the growing cross-border migration of immigrants, refugees, and asylum-seekers, and the increase in communication and awareness that technology has brought, it is no wonder that more researchers and aid workers have taken interest in the global community. There are an estimated 51.2 million forcibly displaced persons worldwide, with 16.7 million refugees, 33.3 million people internally displaced within their home country, and over one million persons who submitted asylum applications (not including those awaiting asylum procedures)\(^12\). Nevertheless, there remains a paucity of mental health research in low-income countries (LIC), specifically in humanitarian crises and areas of armed conflict, with most studies on the psychosocial effects of armed conflict conducted by researchers from high-income countries\(^13\). The developing world carries the majority of the problem, so we need to provide attention to the problems of conflict-affected people both in LIC as well as HIC that eventually house them. Therefore, this dissertation focused on war-affected LIC, as well as the HIC where some conflict-affected families eventually resettle.

\(^1\) For reader ease, the term “armed conflict” will be used, to encompass armed conflict that may or not be defined as war.
The increase in survivors of extreme violence and armed conflict crossing into high-income host countries (HIC), and the increase in numbers of researchers and humanitarian workers from HIC into areas of armed conflict in LIC, require a framework that incorporates an understanding of cultural manifestations of mental distress. There have been recent critiques of the narrow biomedical approach in global mental health, including the negative effects of inappropriate diagnoses, interventions that are not locally relevant, and stigma that arise from the urgency to attempt to fill the needs in global health. However, framing the problem of global mental health in terms of treatment gaps over-emphasizes the role of mental health professionals. An approach that is both developmentally and socially relevant with cultural resonance would include assessments appropriate for local contexts, social solutions with social problems (as opposed to mental health treatment), and supporting local ways of understanding and coping with mental distress at the individual and family level. At the community and systems of care levels, an effective approach would incorporate and prioritize the structural and political economic determinants of mental health and work with local systems of mental healing that are part of the social fabric of a community. This approach would take into account globalization, with a priority of the political, social, and economic determinants of mental distress and how culture affects the understanding and care for people of diverse backgrounds that a biomedical framework often neglects. This dissertation shows examples of the types of research required for global mental health to be less encapsulated into a biomedical framework, by incorporating various populations in both low- and high-income countries, with different age groups, life stages, and available services.
Personal Trajectory

I began my international work in 1999, living in a Zulu village of KwaZulu/Natal, South Africa during the peak of the HIV/AIDS crisis. I was mentored by Nigerian physicians working in South African hospitals but quickly learned that most villagers sought care from traditional healers first. Therefore, I moved towards a community-approach, working with the government to pass out condoms in the Plaza. Men would laugh and cut the tips of condoms, stating the government was trying to suppress the Black population. Four-year old girls came to the hospital after being raped since rural villagers often believed one could be cured from AIDS if they had intercourse with a virgin. This led to a broader scope of how culture and policy, marginalization and stigma, affect health outcomes. While I continued to pursue medical school, I assisted in treating survivors of sexual violence and minorities in urban neighborhoods. More aware of the need for preventive rather than curative aspects of health, and seeing the effects of population health over individual, I pursued studies in public health where I began research with former child soldiers in Sierra Leone and Liberia. My goal was to understand the experience of extreme violence and armed conflict on youth. I later pursued adult and pediatric psychiatry fellowships since childhood mental health problems can persist into adulthood with almost 50% of adult mental disorders starting before 14 years old.¹⁶

As a child/adolescent and adult psychiatrist and family therapist, I worked with refugees and those seeking asylum in the US and survivors of armed conflict and extreme trauma in Haiti, Ethiopia, Sierra Leone, and Liberia. The experience and training of working directly with survivors of conflict-related trauma and torture brought many questions regarding how we conceptualize and treat mental disorders in the US compared to outside
the US. From working with these survivors of trauma around the world, I had many questions about the direct and indirect effects of conflict and trauma in their home country, after migration to a host country, and what variables I could leverage as a clinician to improve mental health and functioning in society. Clinically, my experience with survivors of torture from the Afghanistan and Iraq wars now living in the US, with psychiatric assessments of women and child survivors of sexual violence one month after the Haitian earthquake, and with psychiatric treatment and training of physicians in Ethiopia, all led to a pressing need for an alternative model of conceptualizing and caring for survivors of extreme trauma. In all situations, a biomedical approach was deemed to be the “gold standard”, with evaluations for ‘major depressive disorders’ and ‘post-traumatic stress disorder’ coupled with treatments that were predominately medication or cognitive-behavioral therapy. Not only did these approaches not feel resonant with me, they did not make clinical improvements. I pursued this PhD research to answer some of my most pressing clinical questions. Clinicians who treat survivors of extreme trauma can not only use guidance from researchers about interventions with an improvement in outcomes; but can also add to the understanding and needs of survivors from a clinical and social level.

The following principal research questions guided this main goal:

1. How do people enduring armed conflict and extreme trauma experience mental health once conflict is formally over and they are reintegrating back into civilian life or migrating to new host countries?
2. How does local context affect individuals' and families' well-being and treatment of mental distress?
3. How does conflict-related trauma affect the next generation (children/offspring)?

**Structure of dissertation**

This dissertation aims to enhance knowledge on the effects of armed conflict on families in different stages of the life cycle - both in conflict-affected countries, and after migration to a host country. By better understanding the experiences of parents in their home countries affected by armed conflict, clinicians and service providers will be able to target interventions to assist families who have left their conflict-affected country to resettle in HIC. Therefore, the dissertation begins with studies on the effects of armed conflict directly on children as former child soldiers in Burundi who then grow up to be adults with mental health strengths and difficulties. This first part of my book takes an ecological approach that builds upon the most proximal source of healing from war— that of family – from experiences and services in conflict-torn countries (Burundi, Sierra Leone). The second part of my book then moves to what happens when survivors of armed conflict start to have families of their own – what kinds of intergenerational experiences present. The third part of my book examines what happens when survivors of conflict migrate to a host country.

**Setting**

The dissertation describes work in three different countries: Sierra Leone, Burundi, and the United States of America: in the first two countries with former child soldiers, and
in the last with survivors of torture from around the world who then migrated to the US. Studies were conducted in the first two countries to understand the experience of child soldiering (extreme trauma as a child) in home countries as well as the availability of services in home countries. Studies in the US focused on understanding the experience of survivors of torture after migration to a host country for resettlement, and the availability of services in their host countries. While the intention at the start of the PhD was to conduct all studies in Burundi, due to ongoing cycles of violence and increased personal security risks, my research activities had to be moved to the US, where I was already working as a clinician in a center for survivors of torture. The move to survivors of torture in the US assisted in broadening the scope of my research activities to include what happens to survivors from the point of psychological trauma to the rehabilitation phase. This experience of shifting study sites speaks to the dynamic movements of diverse populations undergoing risk and uncertainty that can be a factor in globalization.

Sierra Leone (west Africa) and the Republic of Burundi (east central Africa) are two of the poorest countries in the world, have engaged in over decades long civil wars over resources and ethnic strife, and have included the conscription of children into the armed forces (as child soldiers). Before the onset of Ebola, Sierra Leone received much less media attention than its neighbor, Liberia, potentially because the latter has better relations with the US and therefore more foreign presence than Sierra Leone. Burundi’s neighbor, Rwanda, has also received more foreign attention than its neighbor since the 1994 Rwandan genocide shocked the international community. Burundi is less known, even though the civil war in Burundi had an enormous cost in terms of lives lost (approximately 300,000)\textsuperscript{17}. Both countries have endured human rights abuses that accompany armed conflict, such as mass
violence, violent death, fragmented families, migration to neighboring countries, disruption of the social fabric, and destroyed public infrastructure. The sample of survivors of torture in the US is from the clinic where I am currently medical director and child/adolescent & adult psychiatrist. The survivors are from over 40 countries, though the majority from the wars in Afghanistan and Iraq. The clinic is a medical and behavioral health-focused community clinic and the largest provider of Asian immigrant health services in northern California. The Center for Survivors of Torture is one program of the clinic, funded by private donors and the U.S. Office of Refugee Resettlement.

**Chapters**

The chapters in this dissertation are structured as moving from the experience of conflict trauma as a child and services available in the home country, to what happens as these survivors grow up and have children of their own, and finally to the experience and treatment of survivors of torture who resettle to a host country. The first part of the thesis deals with the experience of those who have experienced extreme conflict-related trauma as children (former child soldiers in *chapter 2*), the local systems of care in place, both formally (mental health treatment in Sierra Leone, *chapter 3*) and informally (resilience of war-affected youth in LIC, *chapter 4*). The second part deals with the intergenerational experiences of survivors of child trauma after they age and have children of their own using a comparison group with quantitative (*chapter 5*) and qualitative data (*chapter 6*). Whereas part 2 provides an investigation into the mental health and psychosocial support (MHPSS) issues concerning survivors of armed conflict and local ways of healing, part 3 is an
investigation into MHPSS issues of survivors now that they have relocated to a host country (Chapters 7 and 8). This part deals with the experience of survivors of conflict-related torture in seeking care (chapter 7) and what variables predict mental distress and poor social functioning in the post-migration resettlement period (chapter 8). The dissertation ends with an overview of the centrality of globalization to the conceptualization of mental distress and a proposed framework to inform future studies and MHPSS interventions (chapter 9).

After this introductory chapter, the rest of the book is laid out as follows: Chapter 2 examines the community and family relations of male and female former child soldiers (FCS) and considered how the experience of child soldiering affects adult relationships. While studies with children directly engaged in armed combat are difficult, this study aimed to elicit an understanding from adults of their experiences as a child soldier. This study was to complement the existing knowledge from quantitative studies on FCS in other low-income countries\textsuperscript{19,20,21} with an ‘insiders’ perspective. Chapters 3 and 4 were to identify both the formal and informal means of support for FCS in their home countries: the mental health systems of care in Sierra Leone and a systematic review of resilience in low-income countries, respectively. Resilience was included to encourage informal areas of intervention that could be strengthened at the individual, family, and community levels, as studies have recommended the de-centralization of mental health care from clinics into public mental health systems of care\textsuperscript{22,23}. Chapters 5 and 6 took quantitative and qualitative approaches, respectively, in examining the intergenerational experiences of FCS as they aged and have offspring of their own, the first known study focused on intergenerational processes for FCS at the time of research. The next chapters move from the experiences and treatment of
childhood trauma in countries of armed conflict across borders to examining survivors of torture in the post-migration resettlement country. Studies have questioned whether pre-migration trauma has greater impact than post-migration stressors, on mental distress\textsuperscript{24,25,26,27}. Therefore, our studies sought to seek the most salient variables associated with mental distress (\textit{chapter 7}) and the predictors of mental distress and social functioning (\textit{chapter 8}) for survivors of torture seeking care in their resettled country of the US. These studies addressed the effects of long length of stay in a host country as seen in other refugee populations\textsuperscript{28}. The epilogue concludes with the need for a globalization-centered framework for understanding and treating mental distress, as cultural adaptations of interventions have been advocated though are not normative in practice\textsuperscript{29,30}. 
REFERENCES


Overview globalization and mental health


CHAPTER 2
Effects of armed conflict:
Silence and disclosure in Burundian
former child soldiers

Abstract

Conscription of children into the armed forces continues to be a worldwide problem. Understanding the transition from being a child soldier to becoming a civilian adult is crucial in understanding the longitudinal and social effects of childhood trauma. This study examined male and female former child soldiers’ (FCS’) community and family relations, and considered how the experience of child soldiering affects adult relationships. Relationships were examined through semi-structured interviews, focus groups, and observational data with 23 FCS parents in Burundi. Thematic analysis revealed (1) learned silence in the rebellion, (2) distrust as a means of coping, and (3) communication about the child soldier experience to teach family lessons. Assisting FCS’ communication coping styles in counseling by strengthening the positive uses of silence while understanding their maladaptive uses seems to have potential to ease the effects of war-related trauma.
Introduction

The Republic of Burundi sits in central Africa, and has suffered extreme violence and killing along ethnic and regional lines since 1962. After the assassination of the first democratically elected president in 1993, a civil war erupted between the Tutsi-dominated government and Hutu rebels. Since 1993, an estimated 300,000 people have been killed and 800,000 people displaced in ongoing disputes. Moreover, as part of this turmoil, an estimated 6-7,000 Burundian boys and girls have been conscripted into rebel groups to become child soldiers (Amnesty International 2004).

Child soldiers are defined as children under 18 years old who have been recruited or used by an armed group in any capacity, including as fighters, cooks, porters, messengers, spies, or for sexual purposes (UNICEF 2007). Often they may have been forced to kill and steal from loved ones and will have experienced various other atrocities. Mental health studies on former child soldiers have shown patterns of post-traumatic stress (cf, Bayer et al. 2007; Boothby et al. 2006; De Silva et al. 2001; Derulyn et al. 2004), anxiety, and depressive symptoms (cf., Amone-P’Olak 2006; Betancourt et al. 2011; Kohrt et al. 2010; Kohrt et al. 2008).

Despite the documented need for mental health care, few studies have evaluated the efficacy of counseling interventions for FCS. A study using short-term trauma-focused narrative exposure therapy for FCS from Northern Uganda (n=29) found a greater reduction of symptoms of post-traumatic stress disorder than other soldiers who received other therapy (academic catch-up program with elements of supportive counseling (n=29) or wait list (n=28), and assessed at 3, 6, and 12 months after the eight trained-lay counselor sessions. (Ertl et al. 2011). In a secondary analysis of a treatment study of depression in war-affected adolescents in northern Uganda, Betancourt et al. evaluated the moderating factor of abduction history (as a child soldier) and gender in the group interpersonal
therapy (IPG-G) intervention and found that IPT-G may be effective for both male and female former child soldiers (but less so for males without an abduction history than for females) (Betancourt et al. 2012). When expanding psychosocial interventions to include all children of armed conflict in low- and middle-income countries, a systematic review finds a scarcity of rigorous studies, need contextually valid assessment procedures, and confirms a weak evidence base for psychosocial treatment. (Jordans et al. 2009)

**Methods**

**Participants**

Because FCS are a difficult population to access due to their political marginalization, purposive sampling was used to identify likely participants. The researchers worked with a local non-governmental organization (NGO) that provides psychosocial support to FCS. Since a small rebellion was forming in the country, we chose four out of 17 communes (Gibitoke, Kamenge, Kinama, and Sorerezo) that were reported to be safe without rebel involvement. Male and female participants were met in their homes, for their ease and comfort, and for enriched observations of the family and home environment. The criteria used for participant selection was that the individual FCS had been aged under 18 at the time of their involvement in the rebellion, and currently had at least one child under 18 years old to allow for inquiry into family relations with FCS’ children. In total, 23 FCS (n=15 male, n=8 female) were included, with a mean age of 26 years, ranging from 22-32 years old. All the FCS had spent more than 2 years in the armed forces, with one third (n=7) having spent more than 6 years in that setting; and almost half (n=10) had become a child soldier after 15 years of age. 7 out of the 8 females were no longer living with their spouse, compared to one out of the 15 males. The mean number of children was 2, with a mean age of 5 years and an age-range 6 months and 12 years.
Procedures

Four focus groups of 5-8 participants were established, lasted for two hours, and were held in a non-governmental organization (NGO) conference room. The focus groups discussed questions around parenting, interpersonal relations within the rebel groups, and current experiences as a parent. Semi-structured interviews were undertaken with all 23 FCS in their homes, each lasting for 60-90 minutes. Questions were asked in three blocks, (i) relationships within their family before the war (ii) relationships during the war, and (iii) relationships after the war. The first author facilitated all focus groups and interviews, as well as making observations and detailed notes. All sessions were conducted with an interpreter who obtained informed verbal consent and translated from the local language, Kirundi, into English. Sessions were audiotaped and later transcribed.

Ethical Considerations

A locally established review board was developed to discuss the research idea, and the overall plan, methods, and implementation. The group comprised a former child soldier, two local civilians, two NGO members, and four chefs de quartiers. The group was briefed on all planning matters and they gave permission for the study and provided written consent. The IRB for Stanford University and Stanford Medical Center (Stanford, CA) also approved all study protocols and consent processes. Due to high illiteracy rates, participants provided oral consent after interpreters read to them the consent forms. Families were given approximately $5 USD (an amount determined as appropriate by the local NGO) to compensate for participation time. Prior to conducting the study, a community-based mental health organization was identified and a relationship formed with them to refer potential participants who might display mental health symptoms, such as suicidal thoughts. The first author, a child/adolescent and adult psychiatrist trained in
family therapy, also traveled with the on-the-ground research team to assess and refer
participants if needed.

Data analysis

Triangulation of data was obtained through observational data, focus groups, individual interviews, and reports from the Burundian interpreter and research assistant. Participant demographics were summarized and thematic analysis was performed on the narrative data. Based on commonalities of responses across participants, themes were inductively derived from the data. Thematic analysis yielded themes mainly related to the role of silence as a coping mechanism in dealing with interpersonal relationships. Emerging from each of the primary categories were additional factors, subthemes, and patterns.

Results

Analysis revealed that silence was a central psychological aspect of FCS’ interpersonal interactions with family and community. Implications of sharing, what to discuss, how, with whom, and in what contexts, are related to three major categories – presented in Table 1 – (1) Learned silence in the rebellion, (2) Distrust as a means of coping, and (3) Breaking the silence in the family. Representative quotes from interviews and focus group discussions are presented to illustrate each of these major categories and subsequent subthemes.
Table 1. Categories, subthemes and quotes

<table>
<thead>
<tr>
<th>Major Category</th>
<th>Subthemes within major category</th>
<th>Illustrative Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being silenced</td>
<td>Power tool to control and manipulate child soldiers in the rebellion</td>
<td>“It’s what we learned in the rebel group - to keep secrets.”</td>
</tr>
<tr>
<td>Socialization of friendships in rebellion</td>
<td></td>
<td>“Sometimes we had friends, but it was difficult to trust them 100%.”</td>
</tr>
<tr>
<td>Acceptable means of emotional expression</td>
<td></td>
<td>“It was very sad but couldn’t expose it. If I did, they would kill me.”</td>
</tr>
<tr>
<td>Guilt and shame</td>
<td></td>
<td>“Afterwards, you can think about what you’ve done, but you’ve already done it.”</td>
</tr>
<tr>
<td>Distrust as a Means of coping</td>
<td>Adverse experiences during war</td>
<td>“One day we are neighbors, school friends. The next day, they are trying to kill me!”</td>
</tr>
<tr>
<td></td>
<td>Stigma of being a child soldier</td>
<td>“[They] were scared for my husband, saying that when he married me, I would kill him.”</td>
</tr>
<tr>
<td></td>
<td>Wrongfully accused by community</td>
<td>“Not being in the same party, you can have no peace.”</td>
</tr>
<tr>
<td></td>
<td>Testing those who may be trustworthy</td>
<td>“You have to observe and see first, to see if she can keep a secret.”</td>
</tr>
<tr>
<td></td>
<td>Poor reintegration</td>
<td>“We fought, then came back and got nothing”</td>
</tr>
<tr>
<td>Breaking the silence</td>
<td>Wanting to be understood</td>
<td>“I tried to talk with many civilians, even those who thought I was a murderer.”</td>
</tr>
<tr>
<td></td>
<td>Components of a “healthy community”</td>
<td>“You have to talk with neighbors – it’s very important.”</td>
</tr>
<tr>
<td></td>
<td>Survival mechanism for children</td>
<td>“And advise them there are many bad things of war-many killed.”</td>
</tr>
<tr>
<td></td>
<td>Observing parental behavior</td>
<td>“The child can see that I have a problem.”</td>
</tr>
</tbody>
</table>

Learned silence in the rebellion

Three subthemes emerged in this first category. The first was the use of silence as a tool to manipulate and to control children in the rebellion. All FCS discussed the effects of their rebel experience on the need to remain silent. This dampening of expression was a safety mechanism due to the potential consequences of talking about war experiences. FCS were often threatened with death or severe physical beatings seemingly disproportionate to any likely effects of disclosures. “They told us there’s a big difference between a civilian and a soldier. We were told that if we made a mistake, we’d be punished twice as severely as when we were a civilian.” (ID02). Another FCS said, “[from the war] I learned that war is bad, and I wouldn’t tell anyone to join. I learned to be quiet and not talkative. In the war, it was
forbidden to talk about something – the punishment was to be killed. It was important that if you saw something, to keep quiet.” (ID17).

This method of silencing as a force of power was evident in its effects on rebel friendships. Nineteen of the 23 FCS (83 %) reported that friendships in the rebel group were not allowed, as commanders and chiefs were concerned about youth plotting revolts or escapes. “There were some that couldn’t keep secrets. You could plan to escape, but they could go and tell your secrets, then you’d all be punished. So we’d be paranoid or jealous, wondering about who would tell what secrets.”(ID04). Regardless of which rebel faction youth were with, all FCS reported that if one FCS made “a mistake,” the typical punishment was to choose a boy or girl presumed to be a friend, and to punish both people.

“It happens that if we’re friends and if one made a big mistake, they would give the other an order to kill your friend’s friend, or beat him. One day, I was forced to beat one of my friends. We were supposed to fight one night, and my friend refused to. They caught him, and asked a close friend to beat him. They chose three of my friends – they knew who the close friends were since we shared things and slept together. We had to beat him.” (ID06).

Punishment could easily fall on anyone, so child soldiers learned not to trust anyone in the army, even those thought to be friends. A girl soldier stated, “for small mistakes, I could get a punishment like being killed. If a girl was talking with a boy, and one from the group went to the superior and told him we were talking about sex, we’d be killed. My two friends were killed because of that.” (ID12). The rebel commanders constructed a culture in which friendships were forbidden and, as a consequence, were a potential source of stress, so child soldiers learned to be quiet and to “keep to ourselves.”
This reactive silence continued to operate within current family relationships. Three FCS (13%) reported ongoing friendships among the few FCS they knew in the war, “I decided to keep the same friends [other FCS] because only they know about my life – the good and the bad. Until now, I know both the good and the bad [of] my friends. Because the rebellion was so bad, I never thought life would be better. I only [talk] with FCS.” (ID21).

The loss of friends in the rebel group was a constant source of sadness, as reported by the FCS. Many of the FCS discussed the use of silence, both of verbal communication, as well as restraint of emotional communication, as the only acceptable means of emotional expression. Silence was an indication of stoic emotional withholding. Showing tears, fear, or sadness were met with extreme punishment. One FCS described the fear he had in showing or talking about emotions, and how this continued into the present.

“I had a picture of my best friend that I kept with me. If I wasn’t fighting, I would go away and look at [the photo of] my friend who had died. When I would look at the picture, it was very dangerous because I was so sad and wanted to cry and scream. They saw me, took the picture, and cut it up. After a period, I was so depressed. Their solution was to beat me. Before hitting me, they would bind me and make a circle to hit me. I had a problem in the back of my neck, but the problem was somehow finished since they beat it out of me...The problem of constantly thinking about my friend still exists, because if I think about my friend, I am very sad so I can’t talk with people. Now, I can go somewhere and not want to speak to anyone, including my wife.” (ID16).

FCS varied in the amount of individual guilt or shame felt for stealing or harming others. Some felt immensely guilty, which restricted any desire to talk with others. One FCS reported, “I didn’t want to steal, but they made me. Until now, I still think about it. I had to go into the village and steal animals and other things. And kill.” (ID20). Some of this guilt
manifests from a differing set of civilian and military morals. Actions that were acceptable, promoted, and even honored during the war (such as stealing and killing) were sources of immense shame and guilt on returning to civilian life. This made it difficult for FCS to talk with civilians about their experiences, including talking to their family members. “You can live your life with your wife and not expose that [war] secret” (ID19). Other FCS felt shamed by the community, but did not necessarily feel guilty for their actions during the rebellion.

“The experience was to combat and fight for our country. To beat other soldiers who had the opposite ethnicity. We had to kill people, and had no fear to kill others. We would rape, steal, and burn homes. The first time I killed, I had no peace in my heart. I passed all night without sleeping, but afterwards I was okay. It was easier, no problems... At the time, I liked being a soldier because I thought if I were at home, the problems would continue.” (ID10).

The use of silence as a response to guilt or shame was protective for these FCS, who felt different from their never-conscripted civilian neighbors. However, some felt the need to talk about their experiences, looking for a degree of catharsis, “After I left being a soldier, I wanted to confess so it would no longer cause me problems. Without confessions, I would develop ideas to beat people and have conflicts everyday.” (ID13). The majority of FCS wanted the ability to talk with anyone that they could trust, whether it was family members, community members, or former child soldiers. The main factor affecting whom they might talk to depended on whether they believed the other person was trustworthy or not. These issues of silence, emotional expression, shame and guilt were greatly related to the issue of trust and distrust.
Distrust as a means of coping

Distrust seemed to underlie the dynamics of silence and discourse for the FCS who seemed trapped in an unhelpful cycle. Socialized to distrust others, they were taught that silence was the only means of survival. This silence and distrust during the war was largely maintained and perpetuated ongoing distrust in civilian life. Added to this was the scapegoating of and stigma towards FCS by the community, which created even more distrust, self-stigma and silence among FCS. This stigma was enhanced by people opposed to the then current government, which led to many FCS being wrongly accused of illegal activities or crimes. Feeling wrongly judged by others, the FCS found direct and indirect ways of testing the trustworthiness of potential “friends”. This created further difficulty in psychosocial and interpersonal reintegration back into civilian life.

Former child soldiers discussed the prominent role of trust in determining to whom, and what to disclose. The complex dynamics of trust, confidentiality, and the ability to provide some kind of material or emotional support were reported to be essential to determine before talking with others. These pre-requisites to disclosure were explained as a necessity due to adverse experiences of disclosure during the war. Anticipating judgment by others, 91% (n=21) of the FCS did not want to talk to others about past rebel experiences. “I'm not talkative myself. If we have something to say, we have to think before, about the consequences afterwards. We can ask advice from someone, and he thinks of us badly since we exposed our experiences.” (ID14).

Since many were forced to commit murder, which is outside of the normal civilian moral compass, the FCS felt worried that they would be judged. There’s an order to kill your family – this is something that one cannot expose. You live your life with your wife and [do] not expose that secret.” (ID08). Some child soldiers were forced to kill or steal from family and friends for the purposes of loosening tight family relations and creating dependency on
the rebel force. Therefore, when these same child soldiers returned to their homes, the community rejected them. One female former child soldier reported the stigma she felt after temporarily visiting her village to drop off her child (a product of rape) to her family, “They said I was a killer, a murderer. They were afraid of me, saying that I ate people.” (ID22).

Involvement in rebel war experiences fueled the stigma that many FCS felt upon returning to civilian life. Some FCS reported feeling judged by and distrusting of civilians. One female former child soldier described her negative experience with her community, “Neighbors used to tell my [present] husband that I would kill him. When we have arguments, neighbors throw stones on my roof. I just pray. I have no gun, nothing. People think badly of me. And if you live with someone bad, then you’re bad. They look at my husband and kids in a bad way. They treat my children the same way they treat me.” (ID07). The majority of male FCS did not trust their families and communities, including their wives. This distrust was multi-factorial – silence was a dominant response to an anticipation of being negatively judged by all, including family and friends.

In addition to the stigma of being a former child soldier, membership of a particular political party added to the difficulties for several FCS, who reported that they were frequently wrongfully accused when crime happened in the neighborhood. Eighty-three percent (n=19) of the FCS reported a fear of wrongful interrogation when a crime occurred in their neighborhood.

“Fear still exists. I can sleep and still think that someone will come and imprison me, without committing an error. They still think that we’re in the rebellion. You live with fear, thinking that the other party will come and take you. At any time, you can be killed and imprisoned. That’s why we can’t be peaceful. We have a protection card, but we can meet a policeman who asks for our identity. They refuse our identity, thinking we’re still in the rebellion, and that no one can stop them. They think we will join the rebellion.” (ID06).
The stigma associated not only with being a former child soldier but one from a specific political party, makes FCS strongly weigh the risks and benefits of engaging in conversation. In the minds of the former child soldier, the risk of being interrogated and wrongfully accused of crime vastly outweighs the potential benefits of feeling connected to one’s community. Due to this extreme distrust, FCS usually test people to see how trustworthy they are. Oftentimes, the first person to test out sharing a war experience with, was the wife of a former child soldier,

“It’s so hard to tell your wife – you have to observe and see first, to see if she can keep a secret as much as yourself… The first time I fell in love, she used to ask me if I killed people in the battlefield. I denied and refused [to respond], realizing that it could be a problem. But after passing a while being married, I told my wife that I had killed people. But in the explanation, I said I was fighting and shooting and didn’t know if someone died. But I couldn’t describe all the bad things that happened in the battlefield. I couldn’t tell her secrets that she could go to her friends – she could tell secrets without knowing the impact of what happened.” (ID16).

In this example, a former child soldier tested not only to whom he should disclose his past experiences, but exactly how to word it, out of worry about unintentional disclosure by his wife of his past. The distrust experienced by FCS is manifested in the mechanism of silence as FCS assess the potential harm and risks of whom to disclose information to, what to disclose, and how.

“You can also have a problem and be supported. To get support from someone emotionally depends on the person you’re going to. You can tell all the secrets to be supported, but he’s looking for information to tell others, which can be harmful to you. He’ll look like a friend, but it’s not true.” (ID18).
Distrust permeates the life of FCS, who trusted their adult rebel commanders who promised a stable income, military job, high government positions and material wealth if they joined the rebel army. This underlies part of the poor reintegration of FCS to the community, believing that they missed out on opportunities for job and life skills. “We went to fight because of the ethnic conflict. We got there and found no ethnic conflict. After returning, we realized we weren’t as developed as others – in almost all things.” (ID01).

The FCS were angry and disappointed that they had been fighting a war for the promise of a better life, but that this was never fulfilled. Many FCS expressed a desire for civilians to have a deeper understanding of the social issues of being a child soldier. They wanted civilians to be aware of the hardships endured and the lost opportunities, such as building a family, having an education, or acquiring job training skills.

Breaking the silence in the family

Some of the FCS believed that collaboration with civilians would allow a certain freedom and opportunity to be helped. FCS wanted to be understood. This desire to be understood was related to a need to gain acceptance. All the FCS believed that they should not be blamed for their circumstances, since they joined as a result of social pressure and interpersonal situations (e.g., being orphaned, revenge for the killing of loved ones, needing to provide for siblings, or gaining some income for their family). There was a deep desire to talk to others, to tell “their side” of what happened during the war, the reasons for joining, and the hardships endured. “The community... thought I was a murderer. I tried to spend time with them. I was helped by only one civilian and now talk to him a lot.”(ID14). Silence was often broken, but in a well-thought out manner, with specific regard to the risks and benefits of disclosure.
In the focus groups, participants reported the importance of and the desire to be able to talk openly with civilians. When asked to describe the values of a "healthy community," they described a community that was (1) equal without dichotomies in wealth, (2) supportive when others are in need, and (3) a safe environment for people to talk openly. “There’s no advice or communication between neighbors. Relations between neighbors – if someone loses someone, you can go and support them emotionally, spending a long time with him.” (ID18). Many FCS reported wanting to talk with neighbors and civilians when they were in need of resources. One female former child soldier spoke about breaking the silence about her husband’s abandonment of the family, in order to obtain financial assistance, “She [my Mother] told me after the war started, that my father had left us and is now working downtown. She suggested that I go to find him, for money. I went there to find him, told him about our bad living situation, and he gave me 5000 [Burundian francs] which was a lot at that time.” (ID03).

Another reason for breaking silence was to be used in indero, the Burundian word that means how to teach children morals. FCS wanted to tell their children about the effects of war, to teach children how to survive by preventing them from having the same experiences, “I’ll tell them [children] to respect and be kind to others. I’ll tell them about my time in the war in the rebel group. And tell them the bad effects of the war. And advise them to respect others and to be kind and wise to others, and that war is not good.” (ID17). Though FCS were hesitant and distrustful of talking about the war to civilian neighbors, or even to their wives, they were more open to disclosing war experiences to their children, in order to make a point. “If I talk to my children when they’re grown, I would tell them not to participate in the army because I don’t want them to go for the reasons I did – for vengeance and poverty.” (ID05).
All the female FCS found it as important to discuss their experiences about being abandoned by men, as with the war. They wanted to teach lessons about men, as well as encourage children to find their father for financial support, “I will tell them about their father to make them aware of their family. I want them to find out how to find their father…I will talk about the war only to prevent them from participating in the rebel group since it was a very hard life.” (ID12).

For 17% (n=4) of the FCS, silence and isolation were part of mental health stress. Female FCS report overwhelming sadness, numbness and frequent intrusive thoughts about past rebel experiences, turning inwards. One reported, “I feel like I was born already dead.” (ID15) as she turned quietly inwards, isolating herself to manage her emotions on her own. Another woman reported the effects this had on her children, “Sometimes I isolate, sit alone, and don’t talk to others...my daughter knows, and goes around to neighbors, looking for something to eat.” (ID22). And more directly, one of the former child soldiers with frequent flashbacks and guilt for not saving his friend while he was mutilated, reported that he often became flooded with this memory and felt quite sad and angry. His method of coping was to isolate himself and find a quiet place to “brood.” He reported,

“If she [daughter] makes a mistake, she can look at my face and tell my mood, and realize that I’m having problems. When the child sees that I’m quiet or angry, which isn’t due to her or her Mother, she’ll come to me and ask what happened and why am I like that. I’ll just tell her to go and that there’s nothing, that I just need to be quiet – this is to teach her how to be quiet also.” (ID16).
Discussion

The successful reintegration of FCS continues to be a challenge. Results show that patterns of relating to family and community are influenced by Burundian (pre-war) culture, war experiences as a child soldier, and post-war reintegration. FCS were groomed by their rebel communities to learn the value of silence. This use of silence was perpetuated by symptoms related to war-trauma: feeling emotionally numb, detached from others, distrustful, and alert to perceived threats. Burundi (and neighboring Rwanda), both have cultural characteristics of fear (Eller 1999), which is associated with silence. Reinforced and promoted by war experiences, silence was found to be protective and risky.

Silence was seen as largely a function of the war to (a) mold children into soldiers, (b) control socialization in the rebellion, and (c) define an acceptable means of emotional expression. In the rebellion, silence was used as a power tool to manipulate children into becoming soldiers in order to make them willing instruments of war. Rebel leaders silenced child soldiers, to ensure compliance and obedience. Emphasizing the distinction between being silent versus being silenced (Flivush 2010), we see how power is embedded in the use of silence. Child soldiers learned to not only to be silent, but also to keep to themselves, as a self-protective coping mechanism. Freely speaking with other child soldiers had very real consequences of death or severe punishment for themselves and others. Becoming silent then, became a protective factor for children who learned that silence could be a survival skill. Silence was also a protective factor in the post-reintegration period, as it was incorporated into matters of isolation and distrust, in part due to the stigma that many child soldiers faced upon reintegration and in part as a response to experiencing trauma. Stigma has been reported among other FCS groups (cf., Betanourt et al 2010; Humphreys et al 2007; Kohrt et al 2010). The political socialization of being wronged, or threatened by an "other" is common in societies that have engaged in war, including those involving ethnic
genocides (de Jong 2010).

Other populations of genocide survivors (such as Holocaust survivors) have described a legacy of silence that can prevent trauma from being discussed, resulting in amplified destructive feelings, such as loneliness, isolation, and mistrust (Staub 1993; Danieli 1998; Pennebaker 1997). Silence, therefore, can become a restrictive coping style, as many also reported a desire to talk with someone about hardships. When they cannot, their isolation risks becoming debilitating. Distrust then builds among FCS, who believe others are not genuine in a desire to understand them. These feelings of distrust and silence contribute to the perpetuation of FCS’ isolation and low self-worth. If also a parent, additional economic and life stressors can make FCS feel unable to fulfill their parental role, adding to feelings of isolation and low self-worth.

For those working with FCS, understanding the use of expression and silence in interpersonal relationships enhances our understanding of the psychological consequences of discrimination, marginalization, and the effects of trauma and perpetration of violence. Therefore, silence and the role it plays in interpersonal relationships could be an important element to include in the mental health and psychosocial rehabilitation of FCS.

Limitations.

First, qualitative research methods can be affected by interpretive errors (Maxwell 1996). Data were triangulated through various methods: qualitative data, the first author’s (with extensive clinical work with survivors of trauma) observations, interviews with participants, and focus groups. Second, the results are not generalizable to all FCS who have participated in war since only four provinces were used. Purposive sampling restricts findings from explaining the behaviors and processes across all FCS. Third, direct evaluation of children would have given more rich data about intergenerational processes. Child
Interviews were considered, but the local advisory board reported children were extremely reticent to talk with foreigners or a Burundian interpreter not from the same province. Due to the reported sense of distrust that many described, a fourth limitation is that in focus groups, participants may not have felt comfortable discussing feelings. However, individual and focus group data were compared and contrasted for differences, and were found to be congruent. Additionally, focus group participants were each individually asked afterwards by a Burundian, not involved with the study, if they felt comfortable disclosing in the group setting. All reported they did.

Recommendations for practice and research

Developing a more detailed understanding of the cultural, social, and interpersonal factors involved in the rehabilitation of former child soldiers can help guide policy and practice. Taking a family- and community-centered counseling approach, as opposed to treating only the individual child soldier, may assist both directly and indirectly with the FCS, as well as their families. This research highlights the critical importance of societal and cultural factors that interfere with optimal mental health and reintegration. Prior research on the relationship between FCS and families shows that families may be integral to the reintegration of the former child soldier (Annan et al 2008; Betancourt et al 2008; Boothby et al 2006; IASC 2007; UNICEF 2007; Kohrt et al 2010). To assist FCS, the local and international aide communities could address these psychosocial needs by implementing requested programs: counseling groups mixed with former child soldiers and civilians, to discuss community and family issues and present stressors. Moreover, FCS want to be empowered with job skills and feeling sense of purpose in life. For those with more severe needs, clinician-researchers could assist with designing programs to identify adaptive uses of communication to help with interpersonal and family relations. Many FCS wanted to
share narratives, but were extremely fearful of whom to tell, when, and what would happen afterwards. Shifting attention to the general well-being and interpersonal relationships of FCS and their friends, family, and community, could include an evaluation or at least contextual understanding of the role of silence when conducting counseling.

**Conclusion**

The experience of being a child soldier does not stop after ceasefires or peace treaties. The findings from this study serve as a foundation to better understand the interpersonal processes affecting family, social, and personal relationships. Improving our counseling response to the mental health of FCS and families requires fundamental changes in community beliefs and strengthening the positive uses of expression and silence, while understanding their maladaptive potentials.

FCS continue to feel targeted, silenced, and misunderstood in a country where they have few resources to build upon. We can learn from their expressed desire to heal through community acceptance, trust, and discourse. Studies and interventions for FCS should not only focus on symptom-alleviation, but also on processes that serve to promote or inhibit functional interpersonal and intergenerational relationships.

Secondary prevention of mental health disturbances and violence should address silence and expression in a culturally appropriate way, such as discussion about prioritized values and adaptive methods of communication. Understanding the effects of trauma is an important aspect to understanding a child’s development. When children have undergone abnormal trauma, such as entering a rebellion and being forced to commit violent acts, counseling interventions that include an evaluation of the role of silence, to support strengths and pay attention to difficulties, may help the mental health and well being of their families as they age.
References


CHAPTER 3

Systems of care for former child soldiers in Sierra Leone

Abstract

While numerous studies on former child soldiers (FCS) have shown mental health needs, adequate services are a challenge. This study aimed to identify priorities, barriers and facilitators of mental health care for Sierra Leonean FCS. Thematic analysis was done on 24 qualitative interviews with participants from diverse sectors. Priorities of mental distress, substance abuse, and gender-based violence were common among FCS clients. Barriers were governmental support and communication with other providers. Perceived facilitators of care were primary- and secondary-level interventions. A public mental health model would feasibly build upon local, culturally embraced interventions, targeting local priorities and reducing barriers to care.
Introduction

Sierra Leone endured over a decade-long civil war, with the conscription of an estimated 7000 children into the armed forces (Coalition to Stop the Use of Child Soldiers 2001). Commonly referred to as ‘child soldiers’, these children are defined as those under age 18 "who are part of any kind of regular or irregular armed force or armed group in any capacity, including, but not limited to: cooks, porters, messengers and those recruited for sexual purposes and for forced marriage" (United Nations Children’s Fund 2001, 2007). For Sierra Leone, the rebel armies reported a desire for social justice, but were well known for brutal mutilations and amputations (Shepler 2005; Wessells 2006). In addition to serving in armies as domestic workers and military support (McKay and Mazurana 2004), some child soldiers were forced to inflict violence and humiliation on loved ones as a way of damaging family and community relationships, fostering dependence on the fighting forces, and hence molding children as tools of war (Amnesty International 1998; Human Rights Watch 2005; Peters and Richards, 1998).

Longitudinal studies on the reintegration and rehabilitation of former child soldiers in Sierra Leone have shown mental health difficulties with both internalizing (anxiety and depression) and externalizing (hostility) problems (Betancourt, Agnew-Blais, Gilman, Williams, & Ellis 2010a), with those who injured, killed, raped, or lost caregivers associated with poor outcomes (Betancourt, Borisova, de la Soudiere, & Williamson 2011). In addition to guilt, shame, loss of family, severe physical injuries and disturbing memories of war and violence (Denov 2010), post-conflict community factors also play a large role in the difficult mental health rehabilitation of FCS in Sierra Leone due to stigma, rejection, and educational and economic marginalization (Betancourt et al 2010a; Denov 2010)
Despite the documentation of mental health difficulties and experiences of former child soldiers (FCS), there are few available systems of mental health care for FCS (de Jong and Kleber 2007; Medeiros 2007). Much has been written about the dire need to scale up mental health services in general for low- and middle-income countries (LMIC) (Jacob, Sharan, Mirza, Garrido-Cumbera, Seedat, Mari, et al. 2007; Eaton, McCay, Semrau, Chatterjee, Baingana, & Araya 2011), while the World Health Organization (WHO) Atlas project demonstrates the chronic, systematic, and widespread neglect of mental health resources in these low-resourced countries (Saxena, Sharan, Garrido, & Saraceno, 2006; WHO 2005). Barriers to care in LMIC are shown to have contextual issues (little understanding of mental health, weak investment) (Saraceno, van Ommeren, Batniji, Cohen, Gureje, Mahoney, et al. 2007; Saxena et al. 2006), system issues (inadequate infrastructure and skilled workers, centralized care) (Saxena, Thornicroft, Knapp, & Whiteford, 2007; WHO 2005), and outcomes issues (inequitable access, stigma, lack of evidence for policy and practice) (Prince, Patel, Saxena, Maj, Maselko, Phillips, et al. 2007; Drew, Funk, Tang, Lamichhane, Chavez, Katontoka, et al. 2011; Minas 2012). Facilitators are shown to be improving political interest by sensitizing district authorities and building community collaborative multi-sectoral forums, improving mental health knowledge, scaling up services with self-help groups (Petersen, Ssebunnya, Bhana, Baillie, & Mental Health and Poverty Project Research Programme Consortium 2011), a stepped care approach to task sharing (WHO 2009), and the empowerment and partnerships between people affected by mental disorders and mental health providers (Sunkel 2012).

In Sierra Leone, there is one psychiatric hospital with one retired consultant, one medical officer, two psychiatric nurses, limited substance abuse treatment, and no capacity for community follow-up services or specialized therapy (Sierra Leone Mental Health Policy
Within the past two years, a qualified clinical psychologist has begun a private practice. The country passed a Mental Health Policy to address these needs; however, implementation is dragging (Sierra Leone Mental Health Policy 2009). Due to the lack of capacity and resources at the psychiatric hospital, religious groups, healers, and non-governmental organizations contribute greatly to mental health delivery (WHO 2005). There is growing consensus that intervention programs should build on locally accepted and available strategies (de Jong and Van Ommeren 2002), targeting locally derived priorities. By asking how local Sierra Leoneans are currently providing treatment to FCS, we can learn about how to support and build upon this system for sustainable and effective care. The WHO has outlined some key domains for improving mental health systems: mental health in primary health care, community mental health services, community groups, policy, education, and links with other sectors (WHO 2005; 2010). Studying the local experiences of Sierra Leoneans who are currently providing mental health support to their communities may assist in defining priorities and interventions to inform foreign researchers, clinicians, and donors. Rather than focusing on child soldiers themselves, this qualitative research focuses on the priorities, barriers, and facilitators of mental health care for FCS to guide potential considerations to aide the community mental health system (refer to Figure 1).
Figure 1. Interventions of providers of mental health care

Methods

Setting and Background of Sierra Leone. Bordered by Guinea and Liberia, Sierra Leone sits in West Africa, sharing the North Atlantic Ocean. The country was engaged in a brutal decade-long war that resulted in approximately one-tenth of the population murdered, maimed or raped, as well as terrorized with human rights abuses including the forced conscription of children (Amnesty International 1998; Human Rights Watch 2005). For the majority of the 2000 decade, Sierra Leone was ranked at the bottom position of the UN development index, with the highest infant/maternal mortality and deaths in childbirth (worsened by female genital mutilation), and the lowest life expectancy in the world. Nearly one-third of children do not survive beyond the age of five. The unemployment rate is upwards of 70% (Central Intelligence Agency World Factbook 2010).
Sierra Leone has a population of five million, with only one psychiatrist, now retired (Asare and Jones, 2005). There is one government-sponsored psychiatric facility, and one parochial community residential facility for those with mental illness or substance abuse problems. There are reports of a national mental health survey by the WHO in Sierra Leone, with four percent of the population suffering from severe depression, four percent with substance misuse, two percent with psychosis, one percent with mental retardation; and once percent with epilepsy (Asare et al. 2005; Sierra Leone Mental Health Policy 2009).

**Sampling and Recruitment Procedure.** Through convenience sampling, we interviewed participants from each of these domains: primary care physicians, mental health clinicians, psychosocial and advocacy organizations, government leaders, mental health training program staff, and other sectors reported to be the primary point of contact for FCS (religious leaders and a traditional healer). Prior to conducting the study, experts from non-governmental organizations (NGOs) and psychosocial researchers who have worked in Sierra Leone, provided names of those providing psychosocial care to people affected by the war. Six organizations from our list were actively working in Sierra Leone, and were contacted for interviews. Through snowball sampling (Goodman 1961), and to determine a range of other sectors serving FCS, participants provided the name of two other individuals with experience working with FCS, for a total of 24 participants. Participants had to speak either English (the official language of Sierra Leone) or Krio (a common local language). Participants were recruited between 2008 and 2010 and four refused to be interviewed, reporting time and transportation constraints. No participant was considered unfit for an interview.
Interview Procedures. Participant interviews (24) were conducted in Freetown, Kono, and Makeni, chosen due to the higher number of FCS and providers in these provinces. Interviews were audio taped with consent, and lasted between 60-100 minutes each. Semi-structured interviews used an interview topic guide with prompts for themes around the: (a) priorities of care with FCS; (b) barriers to care; and (c) facilitators to care. Questions were open ended, and probe questions were used to clarify information and obtain further detail as necessary. All interviews were conducted with the primary author to ensure consistency, and either a psychiatry trainee, psychiatrist, or internist in psychiatry residency (the latter two were Sierra Leonean-American). Informed consent was obtained by one of the Sierra Leonean-American interviewers. Confidentiality of transcripts was ensured by removing identifying material from interviews, and by replacing names with codes.

Data analysis. Thematic analysis was conducted, assisted with qualitative data analysis software (NVivo 9.0). Using an iterative process, a tree-style coding structure was developed to identify codes thought to be common, pervasive, and dominant by participants (Patton 2002). Codes were applied to other transcripts and related codes were grouped into sub-themes. Then the same core meanings of sub-themes were formulated into higher levels of themes. Quotes from multiple informants of different professional fields were used to triangulate findings. Ethnographic notes were used to verify the validity of the obtained coding schedule. Consensus meetings with other interviewers were held in the field, to discuss results and to formulate possible emerging themes. Together, thematic analyses and systematic coding provided the basis for a conceptual overview of the system of influences on mental health care for former child soldiers.
Results

Participants were 24 individuals grouped into five categories: psychosocial/advocacy (42%), government (21%), medical (13%), mental health training organizations (13%), and religious/traditional (13%). Men (62%) and women (38%) were interviewed in Freetown (79%), Kono (13%), and Makeni (8%). Overall results are summarized in Table 1.

Table 1. Priorities, Interventions, & Barriers of Providers of Care to FCS

<table>
<thead>
<tr>
<th>Priority</th>
<th>Intervention</th>
<th>Barrier</th>
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<tbody>
<tr>
<td>Psychosocial/Advocacy</td>
<td>1. Substance abuse</td>
<td>1. Staff</td>
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<td></td>
<td>2. Gender-based violence</td>
<td>2. Transportation</td>
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<td></td>
<td>3. Mental difficulties (aggression)</td>
<td>3. Clinic</td>
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<td></td>
<td>4. Family reunification</td>
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<tr>
<td>Government</td>
<td>1. Mental illness</td>
<td>1. Development of policy</td>
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<td></td>
<td>2. Training</td>
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<td></td>
<td>3. Self-preservation (interviewee ensuring he has a job-mental health not a priority)</td>
<td>1. Collaboration w/local organizations</td>
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<td>1. Group counseling</td>
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<td></td>
<td>2. Individual counseling</td>
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<td></td>
<td>3. Skills training</td>
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<td></td>
<td>4. Family reintegration</td>
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<td></td>
<td>5. Activities</td>
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<td></td>
<td>1. Psychopharmacology</td>
<td>1. Government support</td>
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<td></td>
<td>2. Counseling (Advice)</td>
<td>2. Training (no incentives)</td>
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<td></td>
<td>3. Stigma against mental ill</td>
<td>3. Expired medication</td>
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<tr>
<td>Physicians</td>
<td>1. Mental illness</td>
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<td>2. Substance abuse</td>
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<td>3. Family reunification</td>
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<td></td>
<td>1. Training program in citizenship, HIV</td>
<td>1. Short-term funding</td>
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<td>2. Activities (sing, dance)</td>
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<td>1. Training program in citizenship, HIV</td>
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Priorities of mental health care for former child soldiers (FCS)

Mental distress

FCS were reported to have “mental problems” discussed as anger, impulsivity, distrust, and being easily angered. Providers stated: They [FCS] blame everyone else for their problems and don’t take any personal responsibility. They blame their neighbors or
say they are bewitched, which causes their mental problems. They’d rather kill others than to kill themselves, which is why there’s a low suicide rate. We are all now paranoid people. They don’t internalize. [ID 001]

Each child had different experiences, but they all had problems from the war: child soldiers, bush girls [girls associated with fighting forces], kids were running everywhere. They need parental guidance. [Once] they [FCS] were angry and throwing stones at each other. When I came to them, they grabbed me and pulled me aside, saying ‘if you get hit, what will I do?’ They are good kids, but are very dependent on adults, which is the most dangerous. Too many are capable of fighting with a knife but are psychologically so young. [ID 004]

Providers reported the difficulties FCS have with depression, and “post-traumatic stress” symptoms after the war, such as having intrusions sometimes interpreted as hearing voices, unable to function and take care of themselves. Symptoms were reported to be similar to the Western notions of psychosis, depression, and post-traumatic stress symptoms:

They [FCS] come with fatigue, stomach aches, and vomiting, in addition to more serious cases: people that are stiff, unable to move their bodies, mute, and defecating on themselves. Women from the war have ‘down there’ [vaginal] problems.

Nightmares about not being fed enough food, or paranoia about feeling bewitched, are also common. [ID 021]

Substance abuse

All participants reported high rates of substance abuse in the general population: one organization estimated that for their youth between 17-35 years old, approximately
70% were actively using illicit substances, (mainly marijuana, alcohol, and cocaine).

Another organization estimated that 80% of their youth were regularly engaging in drug abuse. Withdrawal symptoms were treated at the mental hospital through chaining patients to the bed and administering a tranquilizer (such as chlorpromazine) for three days, due to a lack of other resources to treat patients. FCS were also reported to continue to struggle with substance abuse:

There’s no detox protocol, so when we see withdrawal seizures, we send them to Kissy [Mental Hospital]. Ex-coms [FCS] use marijuana, cocaine, valium, 43% proof alcohol, gun powder and tabs filled with psycho-stimulants. Police smoke marijuana in the ghettos. *Kombajara* is a strong plant hallucinogen that ex-coms like. [ID 012].

Those crazies [FCS with severe mental health problems] are crazy because of substance abuse – *brown brown, juba* [marijuana], *coka* [cocaine], and even gunpowder. They hear and see things in the bush and have somatic issues (fatigue, not eating, stomach aches and vomiting [ID 007]

*Gender-based violence*

Gender-based violence was reported to be the main priority by eight (32%) participants. Providers note a lack of personal and social support for these girls, with many turning to prostitution. One organization approximated that 40% of its girls were actively engaged in prostitution, and another reported about 20% of its teen girls had already been pregnant. Moreover, organizations report that the amount of gender-based violence has dramatically increased from pre- to post-war life. As examples:

People thought girls were normal because we saw their face, but not what was behind. Girls were mad since NGOs gave packages to those who gave guns, not those who
lost a womb out in the street for commercial sex. They never enjoyed childhood – [they] only know abuse. Bush wives aren’t accepted. [ID 011]

They have their kids and bring them to [NGO] to take care of them, but then they leave. Hawa was a girl ex-combatant and then was on the street for 4 years. She had two kids and then left them with us. It’s hard to constrain girls because they keep going out to clubs or to the beach. At least they have a point of reference with us, to leave the kids. About 40% of girls are in prostitution now. [ID 008]

Barriers to providing adequate care for FCS

Lack of support from the government

All participants except for those in government roles, showed despondency about the involvement of the government in prioritizing and addressing mental health. Twelve (48%) providers reported poor collaboration with the government. Providers of psychosocial care and advocacy were more critical of their interactions with the government. Four providers specifically stated that they asked the Ministry of Health to visit, but never had collaboration. As an example:

The Ministry of Health never visited. I’ve offered and would like to work together. Someone should talk to the government about the enforcement and law. The three sectors should come together: Ministry of Social Work, Education and Health. [ID 013]

Participants report that the lack of government support is in part due to the stigma against mental illness. As one government worker noted, “There are so many mad people all over.” There is a lack of education about what mental illness is. One participant stated:

People don’t know what mental health is. They only see mental health as people that are psychotic and running around naked. We tried seminars with community leaders, but
they weren’t helpful. People think the mentally ill are hopeless. The Ministry doesn’t know what mental health is, and how to address it. There’s a huge gap in knowledge and skills. [ID 019]

Communication with local organizations.

Communication among the government and providers were desired, but lacking. Six (24%) volunteered the importance of communication among other providers and the government, as creating large barriers to effective care. Communication was thought to be supportive, learning about effective and problematic practices of other providers, sharing facilities, funding, and the hope of a standard of care with government involvement. One participant stated:

It is very difficult to know what people are doing that works and doesn’t. There should be a website listing of mental health resources in Sierra Leone. Also, a mental health network could avoid duplication, ensure governance, and make a standard of care. [ID 005]

Resources (human and capital)

The lack of trained staff able to provide effective mental health and psychosocial work was reported by all providers. Providers believed they could find local staff to train, but needed assistance with funding and curriculum. Mental health trainings focused on the assessment of psychiatric disorders, including depression, anxiety, and post-traumatic stress disorder (PTSD). However, after identification of problems, there were only two places to refer clients to – a government psychiatric hospital or a community-based religious residential facility. Those few with specific training in mental health work (one to two years) reported needing more apprenticeship, feeling insecure
about their ability to do mental health work with FCS: “I’m trying to do my best, but I don’t know how to do mental health work.” [ID 018]

Another reason for a lack of trained staff is the poor compensation. General practitioners reported ambivalence at the potential of recruiting more medical students into psychiatry, reporting the difficult lives of physicians in general. With minimal compensation, physicians report they are asked to see more patients, and do not have the training or time to be able to adequately treat those with more severe psychiatric needs. As examples:

A medical doctor can be paid as low as $80 per month. If one doesn’t give higher salaries, at least give compensation in benefits like nicer facilities, computer or internet access, pay fees for specialization boards and additional training, or give loans for cars. There’s a lack of incentives for medical students to enter psychiatry, with no post-graduate training, few ancillary mental health staff in the country, and a deep-rooted stigma against mental illness. [ID 006]

**Perceived facilitators of mental health care for FCS**

Approaches to working with FCS that are reported to help facilitate mental health rehabilitation varied based on participants’ affiliation. Those from the government and participants trained in a medical-model (physicians) focused on policy to increase the number of trained mental health clinicians to provide psychopharmacology. Participants in the training sector developed psychosocial training modules for FCS. Participants in the psychosocial and advocacy non-governmental organizations used individual or group counseling (broadly defined, from “giving advice” to providing cognitive-behavioral therapy). Advocacy organizations also focused on increasing vocational skills, and assisting
FCS with reintegration with family members. Preventive interventions are organized as to primary (assisting the general community affected by war), secondary (assisting those with some mental health needs), or tertiary (assisting those with severe mental health needs) care. These interventions were not evidence-based; however, and participants mentioned in their anecdotal reports that interventions were not monitored or evaluated.

Discussion

The aim of this study was to understand the priorities, barriers, and facilitators to mental health care for former child soldiers (FCS) through qualitative interviews with providers from multiple sectors (psychosocial/advocacy, government, medical, mental health training organizations, and religious/traditional). Our findings show that not only FCS, but also those with general mental health needs in Sierra Leone, have limited treatment. We will discuss the needs for FCS, as well as the main need to restructure the mental health care system, which will then have a positive effect on the accessibility of services for FCS. The main barrier to care was a lack of government support and associated resource constraints. Communication between and among government and local organizations were also lacking, though desired. Perceived facilitators to care were: (1) government policy to increase training for mental health providers, (2) individual and group counseling, and (3) specifically for FCS, assistance with post-war community integration (vocational training and family reintegration with family). The care for FCS is seriously impeded by the overall lack of human resources or funding for mental health. A public mental health framework (de Jong 2011) has potential to address these priorities and barriers, while incorporating the perceived facilitators to mental health care. Three critical criteria used in public mental health systems will be used to discuss the results of
interviews: (1) seriousness, (2) knowledge, skills, and availability of mental health care professionals, and (3) treatability or feasibility of treatment (de Jong 2011).

Seriousness of the burden of distress

Participants reported high priority needs for war-related difficulties for FCS, mainly severe mental health and trauma-related symptoms, substance abuse, and gender-based violence for former girl soldiers. These priorities were similar to those found in other low-resourced settings (Tomlinson, Rudan, Saxena, Swartz, Tsai, & Patel 2008). The serious mental distress of FCS reported here are similar to repeated or prolonged trauma called Type II trauma (Terr 1991) or complex trauma (Herman 1992; van der Kolk 2005) endured by child soldiers around the world (Klasen, Oettingen, Daniels, & Adam 2010). Studies on child soldiers have shown high prevalence rates for PTSD (Bayer, Klasen, & Adam 2007; Derluyn, Broekaert, Schuyten, & De Temmerman 2004), depression and anxiety (Kohrt, Jordans, Tol, Speckman, Maharjan, Worthman et al. 2008; Okello, Onen, & Musisi 2007). An evaluation of mental health distress among Sierra Leonean former child soldiers reported nightmares, intense sadness, and intrusive images of war-related violence, resembling the core symptoms of PTSD (Betancourt, Simmons, Borisova, Brewer, Iweala, & Soudiere 2008). Participant reports of FCS struggling with anger, irritability, distrust, inability to move, and hearing voices, are similar to Disorders of Extreme Stress (DESNOS), complex PTSD, trauma-related borderline personality disorder, dissociative disorder, and possession trance – all described as phenomenologically similar (De Jong, Komproe, Spinazzola, van der Kolk, & van Ommeren 2005; Van Duijl, Cardena, & de Jong 2005).

In addition to serious war-related individual mental health needs, our participants also reported high concern for post-war community factors such as chronic substance abuse
and gender-based violence against female FCS. Substance abuse was impressed on child soldiers during the war (Williamson 2006), leaving many demobilized soldiers currently struggling with severe addiction to illicit and recreational substances. Participants also reported the sexual abuse of many female FCS during the war, and the continued struggles of female FCS in the commercial sex and prostitution industries to support their livelihoods. The experience of girl child soldiers has been studied extensively, with girls being forcibly separated from families, suffering repeated rape and sexual violence (Stark 2006). Post-war psychosocial needs have been documented to play a crucial role in the future stability of Sierra Leone (Williamson 2005). In sum, regarding our first criterion of seriousness, our data conform to the utility of a public mental health system to address the serious mental health issues for FCS as well as the general Sierra Leonean population.

Knowledge, skills and availability of (mental) health care professionals and services (barriers to care)

Despite the need for mental health and psychosocial support, providers report that the lack of adequate services are primarily due to a lack of government support for general mental health and associated resource constraints, as well as communication with local organizations, which have also been found in other low-income, low-resourced countries (Saraceno, van Ommeren, Batniji, Cohen, Gureje, Mahoney 2007; Saxena, Sharan, & Saraceno 2003; Saxena et al. 2007; WHO 2010). The lack of prioritization by the government, and collaboration among sectors affects policy priorities, recruitment of mental health professionals, and care in the community. At the time of interviews, community providers and those from the psychosocial and religious sectors are serving those with serious mental illness but reported a lack of communication with each other and
the government. Due to this absence of a public safety net in a country with collectivist values, including family support is integral to care. A reintegration study of FCS in Sierra Leone showed that family and community acceptance, and not having experienced discrimination, were associated with lower average mental health symptoms (Betancourt, Brennan, Rubin-Smith, Fitzmaurice, & Gilman 2010b). The findings of family and social supports as healing for FCS has been noted by the promotion of a family-centered approach to understand and mitigate the impact of war on a child’s socio-political and protective ecology (Inter-Agency Standing Committee 2007; Wickrama and Kaspar 2007).

The main unmet needs for FCS are those with serious mental health problems who need care by providers with more specialized training. There continues to be a lack of training of primary care and hospital workers in the provision of basic mental health services. Since these interviews, improvements have been made with the development of a Mental Health Coalition, a website (www.enablingaccesstomentalhealthsl.com), newsletter, and regular workshops and meetings for those involved in mental health. The College of Medicine and Allied Health Sciences is now teaching a certificate and diploma course in psychiatric nursing and 22 nurses from all districts are now being trained in mental health. This is progress, though there are only a few colleagues experienced enough to provide supervision for the entire country.

*Treatability or feasibility of treatment*

The absence of highly trained mental health professionals limited the amount and type of mental health treatment available, the possibility of training and supervising general health care workers, and referring FCS and the general population to more specialized services and indicated interventions. Participants reported that staff with mental health
training did not feel appropriately equipped to manage those with co-occurring substance addiction. During the time of the interviews, those suffering from potentially lethal alcohol withdrawal symptoms were chained to a bed and given high doses of an injectable antipsychotic for three days -- the only formal treatment for substance addiction. These priorities show the need for all levels of care (universal, selected, and indicated) to assist FCS on multiple-levels.

Most interventions included community-based activities such as vocational training, sports, and health groups, though without evidence about the effectiveness of these practices on mental health outcomes. The few evaluated intervention studies of culturally adapted Western-based psychosocial interventions (Gupta and Zimmer 2008; Stepakoff, Hubbard, Katoh, Falk, Mikulu, Nkhoma, et al. 2006) were also targeted at general community and potentially at-risk (primary and secondary level) groups, and have not been adopted by local practitioners over the years for unclear reasons. That most interventions are at the primary and secondary levels implies that many FCS with more severe mental health needs (tertiary level) are not adequately treated and typically seek traditional methods of healing.

Traditional healers are typically the first point of contact for those with mental health needs in low-resource countries, with an estimated 80% of health care needs in these countries met by traditional practices (Bannerman, Buton, & Wen-Chieh 1983; Mussema 2006; Tabuti, Dhillion, & Lye 2006). Though there are few studies on traditional healers in Sierra Leone, one study described the important role traditional healers have in healing by performing a body purification ritual for FCS in Sierra Leone (Stark 2006). Through this symbolic healing, the traditional healer can aid in the social experience of being accepted by the community. However, the acceptance of traditional healers in formalized treatment is
controversial, with some healers reporting extra-ordinary healing capabilities, some of which harmful (de V van Niekerk 2012). Misuse has been reported, with a lack of regulation and quality control, training through apprenticeship, and physically harmful practices (Baasher 1982). Despite this, other healers have shown their collaboration with health centers and physicians, for a more useful model of care (National Reference Centre for African Traditional Medicine). Indeed, since these interviews, the Traditional Healers Union is now part of the Mental Health Coalition and one of the main groups targeted in mental health sensitization and training. A feasible system of care for both FCS and the general population would be to rely on the most proximal level of support.

**Overall implications for Policy and Practice**

To widen the care not only for former child soldiers, but also in general for those with mental distress, (1) the government could take responsibility for putting mental health care on their priority agenda, through an implementation of the Mental Health Policy. Since this study, the government has appointed a Mental Health Coalition and Mental Health Steering Committee to work on this. Moreover, (2) links between communities, organizations, and providers are now strengthened with a Mental Health Coalition for the country to develop strategies for locally defined populations with special needs and strategies to treat. To deal with the shortage of trained human resources, (3) appropriate in-service training for traditional healers could teach the identification of serious mental disorders and refer to and general physicians, who could have additional training on how to treat those with serious needs. Due to the minimal number of physicians in the country (around 200), nurses and community health workers have an active role to play in the treatment of mental disorders. Furthermore, countries with low resources such as Sierra
Leone may benefit from a public mental health approach, described by de Jong (2011). Facilitators shown to be useful in other LMIC are to scale mental health services with self-help groups (Petersen et al. 2011), to take a stepped up care to task sharing (WHO 2008), and to empower those with mental illnesses to become part of a collaborative system of care with providers (Sunkel 2012).

**Limitations**

Several limitations of the study should be noted. First, although the purpose of this qualitative study was to understand social and individual experiences, it is relevant to note that this study interviewed a small sample size and hence does not claim generalizability. However, a diversity of providers was interviewed to hear from multiple perspectives of various aspects influencing mental health care in Sierra Leone. Second, there is typically an asymmetry of power when a foreigner comes to an impoverished community. Participants could have stressed vulnerability in their answers, or shaped their responses in expectation of services. Though a power-differential exists between foreigners and a local community, two Sierra Leonean-Americans born and raised in Sierra Leone were involved in the interviews. Third, though the study question was about providers’ experiences with former child soldiers, most providers discussed FCS problems’ in relation to the larger systemic issue of the lack of a mental health system in general. There could be more nuanced difficulties that FCS face, but we did not want to direct participant responses. Fourth, since the end of this research study, much has occurred in the development of mental health in Sierra Leone, as described in the discussion. However, there is continued need for the establishment of a public mental health system to support both FCS and the general population.
Conclusion

This study confirms literature on the serious war-related mental health needs, substance abuse, and difficulties of gender-based violence on former child soldiers in Sierra Leone, and shows the long-lasting effects of war experiences, as they continue to be priorities more than ten years after the end of the war. This study adds the perspectives of local providers caring for those FCS with mental health and psychosocial difficulties and discusses locally derived priorities, barriers, and facilitators of care among Sierra Leonean providers. The study shows that the lack of mental health care for FCS is a symptom of the larger problem of a lack of mental health problems for the general Sierra Leonean population. Listening to local providers of care is important in understanding how to more effectively serve the community in need of mental health care, through government prioritization, advising donors in the use of funds and priorities and planning of care, and improved communication with other organizations.

Acknowledgements: We would like to thank all of the former child soldier and civilian participants, as well as those dedicated to working on behalf of Sierra Leoneans with mental health needs.
References


CHAPTER 4

Systematic review of resilience and mental health in children and adolescents affected by armed conflict

Abstract

Background: Researchers focused on mental health of conflict-affected children are increasingly interested in the concept of resilience. Knowledge on resilience may assist in developing interventions aimed at improving positive outcomes or reducing negative outcomes, termed promotive or protective interventions.

Methods: We performed a systematic review of peer-reviewed qualitative and quantitative studies focused on resilience and mental health in children and adolescents affected by armed conflict in low- and middle-income countries.

Results: Altogether 53 studies were identified: 15 qualitative and mixed methods studies and 38 quantitative, mostly cross-sectional studies focused on school-aged children and adolescents. Qualitative studies identified variation across socio-cultural settings of relevant resilience outcomes, and report contextually unique processes contributing to such outcomes. Quantitative studies focused on promotive and protective factors at different socio-ecological levels (individual, family-, peer-, school-, and community-levels). Generally, promotive and protective factors showed gender-, symptom-, and phase of conflict-specific effects on mental health outcomes.

Conclusions: Although limited by its predominantly cross-sectional nature and focus on protective outcomes, this body of knowledge supports a perspective of resilience as a complex dynamic process driven by time- and context-dependent variables, rather than the balance between risk- and protective factors with known impacts on mental health. Given the complexity of findings in this population, we conclude that resilience-focused interventions will need to be highly tailored to specific contexts, rather than the application of a universal model that may be expected to have similar effects on mental health across contexts.
Introduction

Since the end of the Second World War, 248 armed conflicts have been recorded in 153 locations. Geographically, the majority of the 37 armed conflicts reported in 2011 took place in Africa (n=15, 41%), Asia (n=13, 35%), and the Middle East (n=6, 16%) (Themner & Wallensteen, 2012). Armed conflicts have been associated with a wide array of negative impacts on the mental health and psychosocial wellbeing of conflict-affected populations, ranging from heightened transient (non-disordered) psychological distress and behavioral problems to increased prevalence rates of mental disorders, including mood, anxiety, and conduct disorders. Armed conflicts have been reported to seriously affect the social determinants of mental health and wellbeing, including family and community care networks; access to basic needs and education; morality and spirituality (Batniji, van Ommeren, & Saraceno, 2006; Tol, Kohrt, et al., 2010). Epidemiological studies, however, have generally focused on the more limited agenda of establishing a statistical relation between exposure to conflict-related potentially traumatic events and Posttraumatic Stress Disorder (PTSD) and major depression. The most recent meta-analysis, involving 17 studies and 7,920 children, calculated pooled prevalence rates of 47% and 53% for these disorders respectively. Variation in prevalence rates was predicted by study location, method of measurement, and duration since exposure to conflict (Attanayake et al., 2009).

Despite these documented negative impacts, a number of studies have highlighted resilience in children and adolescents in areas of armed conflict. The study of resilience has its roots in the 1970s, when researchers noted high variation in outcomes in children exposed to parental psychopathology, poverty, and disaster, and interest was raised in what determines whether a child functions well despite exposure to adversity (Masten, 2011).
Conceptualizing resilience: promotive and protective factors

Broadly, definitions of resilience refer to (a) good mental health and developmental outcomes, despite (b) exposure to significant adversity (Luthar, Cicchetti, & Becker, 2000; Rutter, 2006). Masten (2001) defines resilience as “good outcomes in spite of serious threats to adaptation or development”. Reviews of studies on resilience are challenged by the various ways in which these definitions have been applied across studies. Figure 1 summarizes the theoretical framework underlying the current review. This figure builds on previous reviews of the literature on resilience in children affected by armed conflict (Betancourt & Kahn, 2008; McAdam-Crisp, 2006; Tol, Jordans, Reis, & De Jong, 2009). These reviews highlighted the importance of studying resilience as a dynamic concept at multiple levels of the social ecology (e.g. predictors at individual, family-, peer-, school-, and community-levels), as well as the importance of differences in resilience across socio-cultural contexts.

In Figure 1, mental health outcomes at the individual level are predicted by variables at different levels of the social ecology in the context of adversity. First, a key definitional question for researchers in the mental health field is which types of mental health outcomes to include. We use the term ‘mental health’ here in accordance with the World Health Organization definition, which also stresses a positive dimension of psychological and social wellbeing rather than a sole focus on the absence of symptoms. We follow Patel & Goodman in naming predictors of higher levels of positive outcomes promotive factors, and predictors of lower levels of psychological symptoms protective factors. For example, if supportive parenting is associated with higher levels of self-esteem, we termed the relationship promotive. If supportive parenting is associated with lower levels of anxiety symptoms, we refer to the relationship as protective (Patel & Goodman,
A second key definitional issue concerns how ‘a lack of’ psychological symptoms may best be operationalized, e.g. whether this requires relatively low scores on a symptom checklist or not attaining a psychiatric diagnosis. Given that most research with populations affected by armed conflict relies on symptom checklists with non-validated cut-off scores for the populations with which they are used (Kohrt et al., 2011), we decided on a more inclusive strategy that incorporated studies aimed at establishing (protective) relations between predictors and lower levels of psychological symptoms. Third, various opinions exist on at what level resilience outcomes can best be measured, e.g. if family or community outcomes should be included. Although researchers have examined outcomes in families and communities as units of interest (e.g. Farhood et al., 1993), this review focused only on outcomes measured at the individual level. We searched for predictors at multiple levels of the social ecology.

Figure 1. Theoretical framework
In conjunction with understanding risk factors and processes, studying resilience in children affected by armed conflict may provide crucial information for the development of mental health and psychosocial interventions. Knowledge on resilience could inform interventions aimed at improving positive outcomes in children (i.e. promotive interventions) or preventing psychological symptoms. The main aim of this systematic review was to examine what practitioners and policy makers can learn from what is currently known about resilience and mental health in the published peer-reviewed research literature.

Methods

Inclusion and exclusion criteria

Building on the above conceptualization of resilience, we applied a number of inclusion and exclusion criteria. First, we focused on armed conflicts in low- and middle-income countries (LMIC), because the largest populations of children affected by armed conflicts live in such settings. Knowledge on resilience of children affected by armed conflicts and terrorism in high-income (industrialized) countries (e.g. Israel, the United States of America), may not be generalizable to LMIC populations because of systematic differences in the types and distribution of adversity; available community and health support systems, and conceptualization of adversity, predictors and outcomes. Second, we were interested in qualitative, quantitative and mixed methods studies. Third, we did not include studies that directly tested the relationship between adversity and mental health outcomes, without attention to variables that determine these outcomes. For example, two studies have found higher levels of pro-social behavior in children exposed to armed conflicts, but did not assess predictors of this outcome (Macksoud & Aber, 1996; Raboteg-
Fourth, we did not include studies that infer protective factors (e.g. female gender), on the basis of showing a relationship between an opposite risk factor (e.g. male gender) and higher mental health symptoms. Rather, we were interested in studies that were particularly aimed from the outset in testing resilience hypotheses. Fifth, we did not include studies that focused solely on predictors without studying how predictors are subsequently related to mental health outcomes. Sixth, we did not include studies that focused only on age and gender as potential predictors of mental health outcomes. Finally, we included a broad range of mental health outcomes (e.g. hostility, risk-taking tendencies, depression, anxiety, etc.), but not physical health or political outcomes.

In addition, we excluded book chapters, papers presented at conferences, dissertations, editorials, and commentaries. Furthermore, since our main aim was to summarize knowledge on resilience processes in 'normal' circumstances (i.e. non-treatment settings), we excluded studies that evaluated interventions aimed at strengthening resilience (for a review of this literature, see: Jordans, Tol, Komproe, & de Jong, 2009; Tol et al., 2011). We also excluded studies solely focused on the construction of measures. All identified studies were initially screened based on abstract and title for relevance (see Figure 2) independently by two authors (WT, SS). Any differences were resolved through discussion. Subsequently, the full text of all potentially relevant studies was read by both authors independently to assess if they met inclusion (or exclusion) criteria.

**Search strategy**

We searched Medline / Pubmed; PsycInfo; ERIC; PILOTS; JSTOR; and Anthrosource. We applied keywords to identify studies that contained original data of (a) populations under 18 years old (“child* or adolesc*”), (b) focused on resilience (“resilienc* or competenc* or adaptation or ‘sense of coherence’ or ‘posttraumatic growth’”); and (c) were
exposed to armed conflict ("political violence or armed conflict or war"). In addition, we contacted authors of key publications and hand-searched a number of specialized journals (Bio Med Central International Health and Human Rights; Conflict & Health; Disasters; Intervention; Journal of Traumatic Stress). Reference sections of previous reviews were searched (Barber, 2009; Betancourt & Kahn, 2008; McAdam-Crisp, 2006; Reed, Fazel, Jones, Panter-Brick, & Stein, 2012; Sagi-Schwartz, 2008; Tol, et al., 2009), and we searched the reference sections of all studies evaluated as relevant to our searches, in order to identify further relevant studies (see Figure 1). Searches were performed between August and September 2011, and repeated for Medline and Psycinfo in January 2012. We did not apply any language or date limitations in our searches.
Data extraction

To extract relevant data, all studies were independently read and data was entered into spreadsheets. These spreadsheets listed details on the conflict setting, study population (size, type, age and gender distribution), study methods (sampling and selection, applied instruments and measures, analysis approach), summary of main results, study limitations, and any recommendations. Any differences in extraction of data were resolved through discussion. Subsequently, all quantitative studies were entered into two tables: one focused on positive outcomes (e.g. pro-social behavior, self-esteem) and one on psychological symptom outcomes. These tables summarize (a) study hypotheses on the specific relationship between predictors and outcomes; (b) the socio-ecological level of the predictor; (c) quality of the study (with higher quality studies using longitudinal designs, sample sizes over 200 participants, and random sampling), and (d) context of violence, in order to systematically identify studies supporting and not supporting these resilience hypotheses (available upon request).

Results

Identified studies

Altogether, we identified 53 articles (15 qualitative and mixed methods, 38 quantitative – summarized in Web-appendices 1 and 2 respectively) that met our inclusion criteria and that did not meet any of the exclusion criteria. A majority of the quantitative studies took place in the Middle East (65.8%, mainly the occupied Palestinian territories [oPt]) and Central and Eastern Europe (18.4%, mainly in the former Yugoslavia), whereas a larger share of qualitative studies were implemented in Eastern and Southern Africa (n=6, 40.0%) (see Table 1). Most studies focused on school-aged children and adolescents, with very few studies (n=2, 3.7%) focused on the early childhood period. Two thirds of the
qualitative and mixed methods studies were conducted while the armed conflict was ongoing (n=15, 66.7%), whereas roughly half of the quantitative studies were implemented in ongoing and post-conflict settings (n=17, 44.7% and n=19, 50.0% respectively). With regard to study methodology, the majority of quantitative papers discussed cross-sectional studies (n=28, 73.7%), around half (n=20, 52.6%) relied on relatively small sample sizes (N=200 or less), and 3 studies (7.9%) included more than 1,000 participants. The majority of the qualitative studies included populations selected through convenience sampling (n=11, 73.3%), while in quantitative studies both random sampling (n=15, 39.6%) and convenience sampling (n=14, 36.8%) were equally applied.

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<td></td>
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<tr>
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<tr>
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<td>10.5</td>
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<tr>
<td>General population</td>
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<td>26.7</td>
<td>General population</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
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<td>20.0</td>
<td>Mixed (non-refugees/ refugees)</td>
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<td>68.4</td>
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<tr>
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<td>13.3</td>
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<td>3</td>
<td>7.9</td>
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<tr>
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<tr>
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<td>Convenience</td>
<td>14</td>
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<td>(stratified) Random</td>
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<tr>
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<td>5.3</td>
</tr>
<tr>
<td>While conflict was ongoing</td>
<td>10</td>
<td>66.7</td>
<td>While conflict was ongoing</td>
<td>17</td>
<td>44.7</td>
</tr>
<tr>
<td>Post-conflict</td>
<td>5</td>
<td>33.3</td>
<td>Post-conflict</td>
<td>19</td>
<td>50.0</td>
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</tbody>
</table>
In the next sections, we first provide a narrative synthesis of qualitative studies and mixed methods studies. Second, we summarize findings of the quantitative studies. The narrative synthesis of quantitative studies is structured in accordance with the types of hypotheses tested. That is, if a predictor was expected to be associated with higher levels of a positive outcome we included it in the promotive category. If lower levels of psychological symptoms were hypothesized we grouped it as protective (Patel & Goodman, 2007). While this categorization allows for a systematic comparison of outcomes of studies that had similar aims, a variable may be tested in the same study both as a promotive and protective factor. In these cases we describe the study in both sections (e.g. political activity has been studied both as promotive and protective factor). In each sub-section, the synthesis starts with a summary of findings from higher quality studies (longitudinal designs, sample sizes over 200 participants, and random sampling) where available, before discussing other studies. Longitudinal studies are summarized in Table 2. Furthermore, findings are grouped within the socio-ecological levels of the predictors under study. Given the multitude of protective factors studied at the individual- and family-level, we only discuss these variables if they were evaluated in more than one study.

Qualitative and mixed methods studies: resilience across socio-cultural contexts

Overall, the 15 identified qualitative and mixed methods studies present diverse perceptions on what constitute adaptive outcomes across diverse socio-cultural settings and point to contextually unique processes that may support (or obstruct) resilience in different armed conflict settings. For example, two large studies applying different qualitative methodologies in Afghanistan (de Berry et al., 2003; Eggerman & Panter-Brick, 2010) point to the importance of concepts such as tarbia (a strong sense of morality, correct
behavior) and wahdad (family unity and honor), as indicators of positive wellbeing.

Qualitative and mixed methods studies in the oPt describe the concept of sumud, i.e. adherence to ideology, connection to the land, steadfastness and struggle to persist, as being key to wellbeing (Kostelny & Garbarino, 1994; Nguyen-Gillham, Giacaman, Naser, & Boyce, 2008). A study applying free listing and key informant interviews (n=134) with children affected both by the genocide and by HIV/AIDS in Rwanda identified kwihangana (perseverance), kwigirira ikizere (self-esteem/confidence), kurera neza (good parenting), kwizerana (family unity/trust), and ubufasha abaturage batanga (collective/communal support) as critical aspects of resilience functioning (Betancourt et al., 2011). The observation that different resilience outcomes are emphasized by participants across socio-cultural contexts implies that researchers applying pre-defined indicators of positive developmental outcomes and mental health in transcultural settings will likely fail to identify contextually important resilience outcomes and their predictors. For example, Stark (2006) reported that cleansing ceremonies contributed to wellbeing and reintegration in a qualitative study in Sierra Leone with 25 female former child soldiers who survived sexual violence and 17 traditional healers. Such failure to identify contextually important outcomes may translate to designing resilience-focused interventions that are not maximally relevant to children and their families in conflict-affected settings.

Despite this documented variation, the qualitative studies taken together suggest that resilience predictors per se may be expected regardless of socio-cultural context. In these studies across 10 countries, research participants were able to identify variables that may contribute to wellbeing in situations of significant adversity. Furthermore, in all of the identified qualitative studies, participants perceived resilience to be based on a combination of personal strengths and supportive contexts (e.g. family and community supports). Five
(33.3%) of the qualitative and mixed methods studies, however, point to the complexity and limitations of resilience and challenge the notion of a simple ‘shopping list’ of predictors. For example, in a qualitative study with 321 adolescents in the oPT, Nguyen-Gillham and colleagues (2008), highlight the ‘fluidity’ of resilience. They show that the constellation of predictors changes over time and varies across contexts. Similarly, Akello and colleagues (2010) and Eggerman & Panter-Brick (2010) discuss how cultural values that may contribute to resilience, e.g. hiding distress out of compassion for others and family unity and service, may at the same time serve as sources of vulnerability.
Table 2. Longitudinal quantitative studies on resilience and mental health

<table>
<thead>
<tr>
<th>Authors, year</th>
<th>Conflict setting</th>
<th>Sample Selection</th>
<th>Type</th>
<th>Size</th>
<th>Age (years), gender (% female)</th>
<th>Resilience hypotheses</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betancourt et al, 2010a, 2010b</td>
<td>Sierra Leone, post-conflict</td>
<td>Convenience (through NGO program)</td>
<td>Former child soldiers</td>
<td>2002: N=260; 2004: N=147; 2008 N=179</td>
<td>10-17 at baseline, 12%</td>
<td>Positive outcomes: School retention, community acceptance (2010a,b), family acceptance (2010a), employment and social support (2010b) associated with higher confidence and prosocial attitudes</td>
<td></td>
</tr>
</tbody>
</table>

**Psychological symptoms:** School retention, family acceptance and community acceptance associated with lower depression, anxiety (internalizing) and hostility (externalizing)

In the **second wave:**
- Positive outcomes: school retention associated with prosocial attitudes but not confidence; family acceptance not associated; change in community acceptance associated with prosocial attitudes and confidence
- **Psychological symptoms:** school retention and family acceptance not associated with depression, anxiety, hostility; change in community acceptance associated with lower depression, but not anxiety and hostility

In the **third wave:**
- Positive outcomes: social support and community acceptance associated with adaptive outcome (prosocial behavior and confidence lumped), but not for child soldiers who injured/killed. School retention not associated
- **Psychological symptoms:** social support, employment, school retention not associated. Change in community acceptance associated with lower externalizing and internalizing symptoms.
<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Methodology</th>
<th>Sample Description</th>
<th>Year(s)</th>
<th>Sample Size</th>
<th>Grades</th>
<th>Psychological Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuterovac-Jagodić, 2003</td>
<td>Croatia, ongoing and post-conflict</td>
<td>Convenience Displaced and nonrefugees</td>
<td>1994 N=450; 1997 N=252; Grades 3-6 (mean 10), 50.8%</td>
<td>Psychological symptoms: Both in 1994 and in 1997, coping strategies, internal locus of control and perceived social support are associated with lower rates of PTSD symptoms.</td>
<td>1994-1997</td>
<td>11-16, 50.9%</td>
<td>Psychological symptoms: Children using less emotion expression coping, lower external locus of control, and receive more instrumental social support have lower PTSD symptoms over time. These variables did not predict mental health during conflict (1994), but did predict longer-term changes (1997).</td>
</tr>
<tr>
<td>Panter-Brick et al, 2011</td>
<td>Afghanistan, ongoing</td>
<td>Stratified random School-going children</td>
<td>2006 N=364; 2007 N=234 (PTSD: N=79); Grades 11-16, 50.9%</td>
<td>Psychological symptoms: Improved family life, household financial circumstances, living conditions in neighborhood are associated with lower levels of total psychological difficulties, depression and PTSD</td>
<td>2006</td>
<td>Psychological symptoms: In addition to family-level risk factors, improved family life predicts reduced self-reported total difficulties. Past trauma exposure is the main predictor for changes in PTSD symptoms.</td>
<td></td>
</tr>
</tbody>
</table>

Positive outcomes: Exposure only associated
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>T3 (2000): Quota et al, 2007 (T3)</td>
<td>Positive outcomes: Participation in flag raising moderates relation between exposure and self-esteem (T2A - QPE, 1995b) &lt;br&gt; Psychological symptoms: Participation in flag raising moderates relation between exposure and neuroticism (T2A - QPE, 1995b) &lt;br&gt; Psychological symptoms: Children with higher intellectual and creative capacities, active responses to the Intifada, and good perceived parenting (child-reported at T1) have lower levels of PTSD, neurotic symptoms (child-reported) and emotional disorders (child-, mother-, teacher-reported) (T2B – PQE, 2001) &lt;br&gt; Cognitive capacity and active response to the Intifada are only protective in the context of good perceived parenting (T2B – PQE, 2001) &lt;br&gt; Psychological symptoms: During the Intifada, mental flexibility moderates relationship between traumatic events and self-esteem (T2B – QEP, 2001) &lt;br&gt; Psychological symptoms: During the Intifada, mental flexibility with low self-esteem in those who did not raise flags (T2A – QPE, 1995b)</td>
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</tbody>
</table>

- Systematic review of resilience in youth affected by armed conflict

- **Moderates relationship between traumatic events and neuroticism (T2B – QEP, 2001)**

- At follow-up, mental flexibility moderates relationship between traumatic events and emotional problems/PTSD symptoms (T2B – QEP, 2001)

- **Psychological symptoms**: Higher intelligence (T1), cognitive capacity (T1), political activity (T1) are associated with lower PTSD and depressive symptoms (T3 – Q et al, 2007)

- **Positive outcomes**: Higher intelligence (T1), cognitive capacity (T1), political activity (T1) are associated with higher resilient attitudes and quality of life (T3 – Q et al, 2007)

- PTSD was most likely in children exposed to high levels of traumatic events, poor cognitive capacity and high neuroticism in middle childhood. Only exposure to traumatic events was associated with depressive symptoms and low satisfaction with quality of life (T3 – Q et al, 2007)
Quantitative studies: Individual-level predictors

Promotive: A variety of individual-level predictors for positive outcomes in the context of armed conflicts have been studied, albeit no promotive resilience hypothesis has been tested in more than one study. The most commonly studied individual-level promotive factor is political activity. Political activity was not supported as predictor on five of the six promotive outcomes for which it was tested, including resilience attitudes, quality of life (both tested in a longitudinal study in oPt, n=65) (Qouta, Punamäki, Montgomery, & El Sarraj, 2007), general intelligence, specific aspects of intelligence (coding), and creativity (Qouta, Punamäki, & El Sarraj, 1995b). The latter relations were tested in the first (cross-sectional) wave during ongoing violence. Political activity, however, was related to digit span (a memory test) in the same study (Qouta, et al., 1995b). Intelligence itself was not associated in a longer-term follow-up of the same sample (n=65) with neither resilience attitudes nor quality of life before the second Intifada (Qouta, et al., 2007). In the third wave (n=179) of a longitudinal study with child soldiers in Sierra Leone, employment was also not promotive of prosocial behavior (Betancourt, Brennan, Rubin-Smith, Fitzmaurice, & Gilman, 2010).

A resilience outcome that was addressed in multiple studies concerns self-esteem. Higher self-esteem was predicted by participating in peace celebrations (flag raising) in a longitudinal study in the oPt (n=64) (Qouta, Punamäki, & El Sarraj, 1995a), as well as mental flexibility in a follow-up of the same sample (n=86) (Qouta, El Sarraj, & Punamäki, 2001), but only during times of relative stability. Self-esteem was not related to political activity in the context of ongoing violence in the first wave (n=108) of this longitudinal study (Qouta, et al., 1995b).
Finally, frequency and satisfaction with self-reported coping methods was associated with a general measure of psychosocial adaptation in a small cross-sectional study (n=105) in post-conflict Croatia (Kocijan-Hercigonja, Rijavec, Marusic, & Hercigonja, 1998). Generalizability of these findings are unknown as sampling strategy was not reported.

**Protective:** Coping was also assessed as a protective factor for various psychological symptoms in five quantitative studies. These studies show partial support for applied coping styles on some psychological symptoms, but three cross-sectional studies did not support overall coping repertoire (i.e., number of strategies endorsed), frequency of applying coping methods or perceived effectiveness with coping methods to be protective (Kocijan-Hercigonja, et al., 1998; Punamäki, Muhammed, & Abdulrahman, 2004; Punamäki & Puhakka, 1997). In the only longitudinal study that addresses this, distinct coping styles derived through factor analysis were associated with lower PTSD symptoms in Croatian children (n=252) during post-conflict assessment but not during ongoing violence. Some of the assessed coping strategies were also protective for PTSD symptoms in cross-sectional studies in post-conflict Bosnia and Herzegovina (n=393) (Durakovic-Belko, Kulenovic, & Dapic, 2003), and Kurdish children in Iraq exposed to ongoing violence (n=153) (Punamäki, et al., 2004). One of four coping styles was also protective for aggressive symptoms and sleeping difficulties in the latter study (Punamäki, et al., 2004). However, coping methods were not found to be protective in cross-sectional studies for depressive symptoms (Durakovic-Belko, et al., 2003; Punamäki, et al., 2004), cognitive difficulties, somatic symptoms (Punamäki, et al., 2004), anxiety, and overall psychological difficulties (Punamäki & Suleiman, 1990). Further emphasizing the likely context- and symptom-specific protective effects of coping styles, Punamäki & Puhakka (1997) found that different types of
coping styles were protective for overall psychological difficulties during different phases of armed conflict.

Second, political activity was also assessed as a protective factor in several waves of a longitudinal study with school-aged children in the oPt. As with coping styles, political activity’s protective effects were symptom specific and dependent on phase of conflict. That is, protective effects were found for overall psychological difficulties and PTSD (Punamäki, Qouta, & El Sarraj, 2001), but not for depressive symptoms (Qouta, et al., 2007), neuroticism, and risk-taking tendencies (Qouta, et al., 1995b). Moreover, political activity’s protective effect on psychological difficulties was only found in a period of relative stability and not in the first wave of the study during active conflict (Punamäki, Qouta, & El Sarraj, 1997b). At the last follow-up in this study, the protective effect for PTSD was no longer identified, but this could be a power issue, given high loss to follow-up (from n=108 to n=65) (Qouta, et al., 2007).

A third category of protective variables were related to personal strength and agency. There was only one longitudinal study that assessed agency, using internal locus of control as a measure. Kuterovic-Jagodic (2003) found protective effects for PTSD symptoms in the post-conflict phase, but not during ongoing violence. Similarly, if a protective effect was identified in cross-sectional studies, this was only observed in post-conflict settings. Optimism was associated with lower PTSD and depressive symptoms in a study in post-conflict Bosnia and Herzegovina (n=395) (Durakovic-Belko, et al., 2003), self-efficacy with not being diagnosed with PTSD in post-conflict Lebanon (n=30) (Saigh, Mroueh, Zimmerman, & Fairbank, 1995), and lower depressive symptoms (Durakovic-Belko, et al., 2003). However, optimism was not associated with having none of several psychological symptoms in former child soldiers during ongoing violence in Uganda (n=330) (Klasen et
A protective effect for self-efficacy was also not substantiated with regard to PTSD and depressive symptoms in two other cross-sectional studies (Durakovic-Belko, et al., 2003; Ferren, 1999). Appraisal of control over an event and hardiness were not found to be protective in three cross-sectional studies (Durakovic-Belko, et al., 2003; Klasen, et al., 2010; Walton, Nuttall, & Nuttall, 1997).

Fourth, cognitive resources including intelligence, creativity and mental flexibility have been assessed as protective factors. Overall, evidence of a protective effect was found for indices of overall psychological difficulties (with one exception), but not for specific symptom measures. Creativity and mental flexibility were found to be protective for overall psychological difficulties in two small longitudinal (post-conflict) samples in the oPt (Punamäki, et al., 2001; Qouta, et al., 2001), as was intelligence in a small cross-sectional study with 12-year olds (n=54) living in repopulated villages in post-conflict El Salvador (Walton, et al., 1997). Scoring higher on a measure combining cognitive and emotional-behavioral functioning was also associated without having any diagnosis in a large random sample of 6-16 year olds during ongoing violence in the oPt (n=660) (Punamäki, Qouta, Miller, & El Sarraj, 2011). Cognitive resources, however, were not associated with separate indices for PTSD, depressive symptoms, and neuroticism (Punamäki, et al., 2001; Qouta, et al., 2001; Qouta, et al., 2007).

Fifth, religious beliefs and practices have been assessed as protective factor in cross-sectional studies with mixed evidence. Religiosity was associated with lower levels of anti-social behavior and depressive symptoms (girls only) in a very large purposive sample of adolescents in the oPt (n=6,923) (Barber, 2001), as well as for PTSD symptoms (but not depressive symptoms) in Bosnian and Croatian adolescents (Durakovic-Belko, et al., 2003) and any psychological symptoms in former Ugandan child soldiers (Klasen, et al., 2010).
Sixth, Punamäki and colleagues have studied dreaming as a cognitive-emotional processing mechanism that may be associated with better outcomes in two cross-sectional studies. Different systematic coding of dream diaries collected with 6-16 year olds (n=345) in an active conflict situation in oPt, show protective effects of dreaming on both general psychological symptoms (Punamäki, 1998), as well as four out of five specific symptom groups (PTSD, anxiety, aggression, depressive symptoms) (Helminen & Punamäki, 2008). Similarly, a study with Kurdish 9-17 year olds (n=122) found that pleasant dreams with complete narratives and happy endings moderated the relationship between exposure to traumatic events and overall psychological symptoms (Punamäki, Ali, Ismahil, & Nuutinen, 2005).

Finally, extraversion has been studied as a protective factor in two larger cross-sectional school-based purposive samples of adolescents in the former Yugoslavia. Extraversion was associated with lower depressive symptoms in a study with Bosnian adolescents, but not with lower PTSD symptoms (n=393) (Durakovic-Belko, et al., 2003), and not with lower depressive symptoms in Croatian adolescents (n=583) (Brajsa-Zganec, 2005).

**Family-level predictors**

**Promotive:** A number of family-level predictors of positive outcomes have been studied in one longitudinal and four cross-sectional studies. Of these, parental support and parental monitoring shows somewhat consist promotive effects across studies. Parental support and parental monitoring were associated with higher valuing of education and higher school grades in a large cross-sectional study with 14-15 year olds in the oPt (n=6,923) (Barber, 1999), as well as with positive perceptions of health and life and life
satisfaction in a particularly large study with 11-15 year olds in the oPt (n=7,439 West Bank, n=7,217 Gaza) (Harel-Fisch et al., 2010). Parental support and monitoring were not related to the value that youth placed on family (Barber, 1999). Perceived parenting was also related to prosocial behavior in a large cross-sectional study with adolescents in post-conflict Croatia (n=694) (Keresteš, 2006). Family acceptance, socio-economic status and mother’s education, however, were not found to be related to positive outcomes in aforementioned study with former child soldiers in Sierra Leone (Betancourt et al., 2010) and in a cross-sectional study with a stratified random sample of 224 10-16 year old children during ongoing violence in Lebanon (Macksoud & Aber, 1996).

Protective: First, parental monitoring and support also were commonly observed to have protective effects, although not consistently across all symptom groups and gender. Parental support was a protective factor for depressive symptoms (Barber, 1999; Durakovic-Belko, et al., 2003), anti-social behavior, aggression in post-conflict settings (Barber, 1999), and overall psychological difficulties during ongoing violence (Punamäki, et al., 2011). Findings for PTSD showed mixed evidence: one cross-sectional study with a convenience sample of 6-12 year olds in the oPt showed a protective relationship (Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009), but two other cross-sectional studies failed to support this (Durakovic-Belko, et al., 2003; Khamis, 2005). Parental monitoring was associated with lower levels of depressive symptoms and anti-social behavior in girls only (Barber, 1999, 2001), and aggression (Barber, 1999). Perceived parenting was found to be protective for PTSD symptoms in a longitudinal follow-up (Punamäki, et al., 2001) and aggression in a cross-sectional study (Keresteš, 2006), but not for overall psychological difficulties in the first wave of a longitudinal study (Punamäki, Qouta, & El Sarraj, 1997a).
Second, overall quality of the home environment and family life have been found to be protective in a longitudinal study with a randomly selected sample of 11-16 year olds in Afghanistan (n=234) (Panter-Brick, Goodman, Tol, & Eggerman, 2011), as well as in one of the few (cross-sectional) studies with preschool children (n=200) in Lebanon (Zahr, 1996). However, two cross-sectional studies failed to find evidence for this relationship (Punamäki, 1989; Walton, et al., 1997). Also, these variables were not predictive of improvements on specific symptom groups, including depressive and PTSD symptoms (Panter-Brick, et al., 2011), nor anxiety and fears (Punamäki, 1989).

Third, variables related to socio-economic status and education level of parents do not seem to be consistently related to lower levels of psychological symptoms. Although these variables were associated with lower levels of overall psychological difficulties, depressive and PTSD symptoms, and interpersonal difficulties in four cross-sectional studies with diverse populations in El Salvador, Lebanon, Nepal, and Uganda (Farhood, et al., 1993; Klasen, et al., 2010; Kohrt, et al., 2010; Walton, et al., 1997), in the only longitudinal study that assessed this relationship (Panter-Brick, et al., 2011) and across six cross-sectional studies (Durakovic-Belko, et al., 2003; Farhood, et al., 1993; Kohrt, et al., 2010; Macksoud & Aber, 1996; Punamäki, 1989; Punamäki, et al., 2011), socio-economic status and parental education level were not associated with psychological difficulties, PTSD, depressive, anxiety, somatic symptoms, aggression, fear, and function impairment.

Fourth, various aspects of parental mental health were found to inconsistently relate to measures of psychological symptoms in cross-sectional studies. Mother’s coping style was protective for psychological difficulties (but not anxiety nor fear) and mother’s internal locus of control for anxiety (but not psychological difficulties nor fear) in a small cross-sectional study with 8-14 year olds during ongoing violence in the oPt (Punamäki,
Mother’s and father’s good mental health were reported to be protective for overall psychological difficulties in a large cross-sectional study with a similar population (n=660) (Punamäki, et al., 2011), but maternal mental health was not protective for overall psychological difficulties nor PTSD symptoms in two other cross-sectional studies (Qouta, Punamäki, & El Sarraj, 2005; Walton, et al., 1997).

Finally, family composition and size were not found to be associated with PTSD, depressive symptoms and function impairment in two cross-sectional studies in post-conflict settings in Nepal (former child soldiers, n=142) (Kohrt, et al., 2010) and school-going children in Bosnia and Herzegovina (n=393) (Durakovic-Belko, et al., 2003).

Peer- and school-level predictors

**Promotive:** One study addressed potential promotive effects at this level, i.e. the aforementioned longitudinal study with former child soldiers in Sierra Leone. In the second wave, this study found that school retention was associated with higher levels of prosocial behavior, but not with higher levels of confidence (Betancourt, Borisova, et al., 2010). In the third wave this relationship was maintained for a combined measure of adaptive functioning (Betancourt, Brennan, et al., 2010).

**Protective:** The same study did not show evidence for school retention to be protective for depressive symptoms, anxiety, and hostility (Betancourt, Borisova, et al., 2010), also at the third wave of the study for internalizing and externalizing symptoms (Betancourt, Brennan, et al., 2010). Further cross-sectional studies show a complex gender and symptom specific set of relations. Value placed on education, for example, was associated with lower levels of depression for boys, but not for either gender with regard to anti-social behavior during relatively stable conditions in the oPt (Barber, 2001). Similarly, peer social support was associated with lower levels of depression, but not PTSD in
adolescents in post-conflict Bosnia and Herzegovina (Durakovic-Belko, et al., 2003). Teacher social support and peer friendships were not protective for PTSD, depressive symptoms, and overall psychological difficulties in two cross-sectional studies (Durakovic-Belko, et al., 2003; Peltonen, Qouta, El Sarraj, & Punamäki, 2010). Children who did not have any psychiatric diagnoses, however, were found to have higher school grades in a recent study with 660 randomly selected school-going children in the oPt (Punamäki, et al., 2011).

Community- and multi-level predictors

Promotive: Betancourt and colleagues found that community acceptance of former child soldiers was associated with higher levels of prosocial behavior and confidence at the second wave of their study in Sierra Leone (Betancourt, Borisova, et al., 2010). In the third wave, community acceptance and social support were associated with adaptive functioning (Betancourt, Brennan, et al., 2010).

Protective: Protective effects of community-level variables have been observed in child soldiers, but not in generally conflict-affected children. In the aforementioned study, community acceptance was associated with lower levels of depressive symptoms (not anxiety and hostility) in the second wave, and lower levels of internalizing and externalizing symptoms in the third wave (Betancourt, Borisova, et al., 2010; Betancourt, Brennan, et al., 2010). Continued association with an armed group was related to lower levels of PTSD and depressive symptoms, but not function impairment, in a cross-sectional study with adolescent former child soldiers in Nepal (n=142). However, higher female literacy and a higher proportion of higher caste residents were not associated with these symptoms in the same study (Kohrt, et al., 2010). In a longitudinal school-based sample with Afghan 11-16 year-olds, neighborhood living conditions were not associated with lower overall
psychological difficulties, depressive, and PTSD symptoms (Panter-Brick, et al., 2011).

Studies on protective effects of multi-level (or non-specified level) indices of social support have produced mixed findings. A general measure of social support was found to be associated with lower levels of depressive symptoms and interpersonal difficulties in one cross-sectional study in post-conflict Lebanon (Farhood, et al., 1993), but not with externalizing and internalizing symptoms in a longitudinal study (Betancourt, Brennan, et al., 2010), nor with somatic symptoms and overall or any psychological symptoms in three cross-sectional studies (Farhood, et al., 1993; Klasen, et al., 2010; Walton, et al., 1997). Specific types of social support show a similarly inconsistent picture: instrumental social support was related to lower levels of depressive symptoms for adolescent girls in Croatia (Brajsa-Zganec, 2005), and for PTSD symptoms in a post-conflict but not ongoing violence phase also in Croatia (Kuterovic-Jagodic, 2003). Support to self-esteem was associated with lower depressive symptoms in both boys and girls (Brajsa-Zganec, 2005), but support to self-esteem and emotional social support were not protective for PTSD symptoms in neither conflict and post-conflict periods (Kuterovic-Jagodic, 2003). Finally, belonging and acceptance as a form of social support was protective for depressive symptoms in boys, but not girls (Brajsa-Zganec, 2005).

**Discussion**

The aim of this systematic review was to synthesize the body of knowledge on resilience and mental health in children affected by armed conflicts, and to distill lessons learned that may be useful in designing interventions aimed at strengthening resilience in this population. In this discussion section, we start with a description of the limitations of this review, our current knowledge in this area, and research recommendations to fill these
gaps. We conclude with recommendations for practice around three broad summary statements.

Conclusions from this systematic review should be interpreted in light of three main limitations. First, we did not attempt a meta-analysis of findings, given the lack of consistency across studies in types of relationships assessed and employed research approaches. Second, we applied a more flexible definition of resilience that allowed inclusion of studies assessing protective factors for lower levels of symptoms rather than not having any symptoms. Application of the latter conceptualization would have resulted in the inclusion of six studies only (Ferren, 1999; Khamis, 2005; Klasen, et al., 2010; Punamäki, et al., 2011; Saigh, et al., 1995; Thabet, et al., 2009), an issue which requires attention in future research on resilience in this area. Third, although we highlighted longitudinal and higher quality studies in our synthesis, we did not employ strict inclusion criteria for quality of studies. We felt this is justified given the exploratory state of the research with this particular group of children and adolescents. However, we did not identify a clear pattern in results for higher vs. lower quality studies. This requires replication in future reviews as the field develops.

Altogether, we identified 53 studies that assessed resilience in children affected by armed conflict. In our opinion, our current knowledge is limited by three major factors. First, although a number of researchers successfully conducted longitudinal studies (seven papers representing three groups of studies) in challenging circumstances, the large majority of identified studies were cross-sectional in nature thereby prohibiting any firm conclusions on causality and direction of associations. These longitudinal studies understandably show shortcomings with regard to sample size, ability to retain participants at follow-up, consistency of measures at different time points, and length of follow-up. The
importance of these limitations are underscored by the findings of the identified studies overall, which indicate that resilience is a complex process with outcomes determined by a dynamic interaction between gender, developmental stage, phase of conflict, and other intra-individual and contextual variables (cf. Reed, et al., 2012). For example, two longitudinal studies indicate that the same coping methods and mental flexibility had different associations with mental health in the conflict vs. the post-conflict phase (Kuterovic-Jagodic, 2003; Qouta, et al., 2001). Similarly, Barber showed that family monitoring was associated with lower levels of depressive symptoms in girls, but not in boys and that family functioning itself was affected by neighborhood disorganization (Barber, 2001). In the same vein, Panter-Brick and colleagues showed that psychological difficulties other than PTSD were best predicted by family-level variables, whereas PTSD symptoms were best predicted by exposure to traumatic events (Panter-Brick, et al., 2011). Collectively, such findings indicate that resilience may more aptly be defined and measured as the interaction between time-variant and context-dependent variables than as a simple mathematical addition of risk and protective factors with known impacts for mental health and wellbeing (Rutter, 2012). To improve our basic understanding of the complex dynamic processes involved in resilience, longitudinal studies with larger sample sizes are required. Such studies should target specific hypotheses on resilience processes that have been identified - e.g. by previous ethnographic research - as contextually and developmentally relevant, and ideally apply advanced (multilevel) statistical modeling techniques to examine the relationships between variables at diverse levels of the socio-ecological system. The need for developmentally and ecologically embedded longitudinal research was also a conclusion from a recent systematic review of research on child soldiers (Betancourt et al., 2013).
Second, an important shortcoming of current knowledge concerns the indicators applied in examining resilience. The majority of studies have studied resilience by assessing if putative protective variables are associated with lower rates of symptomatology, particularly PTSD, depressive and externalizing symptoms. Symptomatology only covers part of the definition of resilience, i.e. good *functioning* despite exposure to adversity. Very few studies have examined protective relations, even though research shows that processes determining such outcomes may differ from the processes determining psychological symptoms (Tol, Komproe, et al., 2010). None of these studies showed overlap in the protective relations of interest. Replication of findings is therefore a major research priority in this area. Also, as noted above, we feel the current body of knowledge could be strengthened by a stronger emphasis on using indicators with socio-cultural sensitivity (Betancourt, 2011). The qualitative body of studies clearly shows socio-cultural variation regarding which outcomes are considered adaptive and which psychological symptoms may be considered most problematic. We recommend that future research on resilience with children in armed conflict starts with qualitative research to identify appropriate resilience indicators, and more systematically includes both symptom-measures and adaptive outcomes.

Third, the study of resilience in children exposed to adversity in industrialized countries is moving to a multi-systems approach including biological levels of analysis (Masten, 2011). A quickly expanding literature on allostatic load, for example, has examined how adversity may ‘get under the skin’ through repeated wear and tear on diverse biological systems (McEwen & Gianaros, 2011). However, we did not find any studies that included biomarkers, even though a limited number of studies with children and adolescents in LMIC and with adults in armed conflict-affected settings have shown that this
is feasible (Panter-Brick, Eggerman, Mojadidi, & McDade, 2008). Such studies show that the stress response system is particularly vulnerable to adversity in the early childhood period (Shonkoff, Boyce, & McEwen, 2009), a period which has received very little attention from scholars working in areas of armed conflict even though one third of all conflict-affected children are younger than five years (Machel, 2009).

Despite these limitations, we feel there are three important lessons that may be learned from research with children in areas of armed conflict for effective promotion of resilience. First, despite resilience being observed in a multitude of socio-cultural settings, understanding how resilience outcomes are defined and shaped across socio-cultural contexts should be at the heart and not periphery of efforts to promote resilience. Developers of interventions may build on the findings summarized here, especially the broadly consistent findings on the protective nature of parental support and monitoring. However, developing interventions on the basis of a pre-existing set of attributes that may contribute to resilience will likely lead to missing contextually unique processes, and may inadvertently contribute to doing harm. For example, an ethnographic study in northern Uganda initially observed that many children did not seem to suffer psychological complaints. This apparent resilience (i.e. children not talking about conflict-related distress) was in fact related to cultural values regarding respect for others who suffered in silence and not wanting to hurt others who suffered. Complaints were more freely expressed in the form of somatic symptoms, for which tranquilizers were used. In this situation, the authors argue that resilience may best be promoted by uncovering the links between somatic complaints and psychological distress through a deeper appreciation of children's explanations of how context shapes distress (Akello, et al., 2010). Another example concerns the role of political ideology: political affiliation appeared protective among Nepali
former child soldiers (Kohrt, et al., 2010), but the reverse was observed in Bosnian adolescents (Jones, 2002). In our opinion, these findings support the emphasis that is given in recent best practice guidelines on pre-intervention participatory assessment of resources that may contribute to resilience (Inter-Agency Standing Committee [IASC], 2007; the Sphere Project, 2011).

Second, research shows that a supportive socio-ecological context is at least as important - if not more important - determinant of resilience as intra-individual variables, and should thus be a central focus for interventions promoting resilience. Individual predictors appeared to be most protective in the post-conflict phase. However, research findings also caution against over-idealizing cultural resources. Eggerman & Panter-Brick (2010), for example, refer to the risk of children becoming 'entrapped' by cultural values: while 'family unity' promotes resilience, it also negates personal aspirations, and while 'honor' confers dignity, it also entails social obligations that are difficult to meet under conditions of chronic poverty. We recommend that interventionists carefully assess both the potential protective as well as negative impacts that resilience resources in the socio-ecological context may have.

Third, we feel it is important to also emphasize the limitations of resilience in the situations of extreme adversity that participants faced across the studies summarized here. In the longitudinal study by Betancourt and colleagues, being a victim of sexual assault and daily hardships had stronger impacts on internalizing outcomes than community acceptance (Betancourt, Borisova, et al., 2010). Qouta et al.’s follow-up (2007) shows consistent relations between trauma exposure and PTSD, depression, and satisfaction with life, but not with mothering style, child coping and cognitive resources. Such findings warn against implementing interventions focused solely on promoting resilience, but advocate
for integrating such interventions in multi-layered care systems in which referral to
treatment interventions is safe guarded (Jordans et al., 2010).

To conclude, based on the findings presented here we emphasize the following
considerations in the development of resilience-focused interventions. Development of
interventions in areas of armed conflict should start with a detailed contextual (qualitative)
assessment to select appropriate resilience outcomes that may be targeted. Intervention
development should focus on how to augment the possible family-level predictors that may
contribute to promotion of these outcomes, particularly parental support and monitoring.
In addition, practitioners may build on peer-, school- and community-level resources (e.g.
school retention, community acceptance for child soldiers) where assessments identifies
these as important, but should be mindful of possibly harmful impacts by ensuring ongoing
monitoring and evaluation of interventions. Given the complexity of findings in this
population, we conclude that resilience-focused interventions will need to be highly tailored
to specific contexts, rather than the application of a universal model that may be expected to
have similar effects on mental health across contexts.

**Key points:**

- This systematic review identified 53 studies (15 qualitative and mixed methods, 38
  quantitative studies) focused on resilience in children and adolescents affected by
  armed conflict in low- and middle-income countries.
- Studies show significant variation across socio-cultural contexts both in (a) how
desired mental health outcomes are defined, and (b) the processes that determine
  these outcomes.
- Research converges on the importance of supports across the socio-ecological context for resilience in children and adolescents affected by armed conflict, of which parental support and parental monitoring are most consistently associated with desired mental health outcomes.

- This body of research supports the notion of resilience as determined by a complex interaction between development-, gender, and context-dependent variables, rather than a mathematical balance between risk- and protective factors with known effects on mental health. This complexity requires careful attention to assessment of both salutogenic and pathogenic effects of candidate predictors before attempting their promotion in new socio-cultural settings.

- Research in this area can be improved in five ways: (1) through more longitudinal (multi-level) studies with larger sample sizes; (2) better interaction between qualitative and quantitative methodology to improve the selection and adaptation of resilience predictors and outcomes; (3) more attention to positive mental health outcomes (e.g. prosocial behavior, self-esteem); (4) studies focusing on the early childhood period; and (5) the integration of a biological level of analysis.
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Punamäki, R. L., Qouta, S., Miller, T., & El Sarraj, E. (2011). Who are the resilient children in


CHAPTER 5

Comparison of mental health between former child soldier offspring and never-conscripted civilian offspring

Abstract
Studies around the world show that former child soldiers have mental health strengths and limitations, and highlight the important role of families and communities in reintegration to society. However, there is limited data that examine the mental health risks and protective factors of the offspring of former child soldiers (FCS), especially as compared to civilian populations. We compare psychological, social, and familial factors between FCS and civilian parents and children. This article discusses the importance of evaluating the children of FCS from an ecological perspective through longitudinal studies as well as interventions that incorporate family-centered care.
Introduction

There are more than 250,000 children and adolescents exploited as participants in armed forces worldwide, with more than half in Africa despite international regulations (Office of the Special Representative of the Secretary-General for Children and Armed Conflict, 2006). The Paris Principles defines a child soldier as a child “Below 18 years of age who is or has been recruited or used by an armed group in any capacity, including as fighters, cooks, porters, messengers, spies, or for sexual purposes. It does not refer only to a child who is taking or has taken a direct part in hostilities” (United Nations Children's Fund, 2007, p. 7).

Studies on the mental health of former child soldiers (FCS) have found posttraumatic stress symptoms in Uganda (Bayer, Klasen, & Adam, 2007) and in the Democratic Republic of Congo (Derluyn, Broekaert, Schuyten, & De Temmerman, 2004). Anxiety and depressive symptoms have also been shown FCS in Sierra Leone (Betancourt, Borisova, de la Soudiere, & Williamson, 2011), Nepal (Kohrt et al., 2008), and El Salvador (Santacruz & Arana, 2002), and as compared to their never-conscripted peers (Kohrt et al., 2008). Witnessing, experiencing, and perpetrating violence, younger age of involvement, and length of time in an armed group are all shown to have negative mental health consequences for FCS (Bayer et al., 2007; Kohrt et al., 2008). Among El Salvadorian child soldiers, case studies have described the devastation in early childhood, with destruction in trust, autonomy, learning adult roles, and caretaking (Dickson-Gomez, 2002).

However, taking an ecological approach to human development (Bronfenbrenner, 1979), we recognize that humans are embedded in multiple social contexts. An individual’s level of integration into societal organizations can determine his social capital and success in personal goals (Coleman, 1988). Directing attention to family, peer, and community
levels can teach us about risk and protective factors most proximal to youth. Studies with FCS have examined such protective factors as community and family support (Boothby, Crawford, & Haliperin, 2006; Corbin 2008; Kohrt et al., 2010).

We hypothesized that children of FCS would have similar mental health problems and protective factors of family and community support as their parents. We know about the detrimental effects of chronic trauma on the psyche from studies on childhood maltreatment and abuse (Herman, 1992; Terr, 1991; van der Kolk, 2005; Widom, DuMont & Czaja, 2007). Children may allocate resources to survival instead of growth and may therefore not develop securely attached relationships or the ability to self-regulate emotions and behavior (van der Kolk, 2005). Moreover, studies on the effects of war on children show the negative impact of war on the development of children’s aggression (Kerestes, 2006; Schwab et al., 1995). How this translates to intergenerational relationships with their own children has not drawn much research attention.

This study had two aims: (a) to examine mental health problems and exposure to violence in children of FCS, compared to children of civilian parents; as well as to examine potential protective factors of coping skills and perceived community, peer, and family support in children; and (b) to examine whether parents’ mental health, aggression, or perceived family relationships were associated with children’s outcomes based on FCS or civilian status.

Method

Study Setting

Located in central-east Africa, Burundi has a population of 7.3 million. After decades of ethnic and civil violence since independence in 1962, a civil war began in 1993 between
the Tutsi-dominated government and Hutu rebels. An estimated 300,000 people were killed and 880,000 people displaced (Amnesty International, 2004). In 2003, peace agreements were signed, and the last rebel group was demobilized in 2006. The country had a democratic election in the summer of 2010, and has had relative stability, though with punctuated flares of violence (Human Rights Watch, 2011). The country is estimated to have had the conscription of thousands children into armed forces (Amnesty International, 2004).

**Study Design**

We conducted a matched-pair, cross-sectional study to assess the association between child soldier status and mental health problems, coping, and perceived community support and family relations outcomes of children in Burundi. Family soldier history status (parent with a history of being a child soldier versus not) was the main independent variable. A group of 15 parents who were FCS were matched with 15 parents who had never been conscripted into the armed forces, hereafter referred to as “civilians.”

FCS in Burundi can be a difficult population to access, due to the political marginalization in the country. Therefore, expert purposive sampling, rather than a probability sample, was used to identify FCS of any political party to compare their families with never-conscripted families. We worked with a local non-governmental organization that provides psychosocial support to FCS. Due to security reasons, we chose four communes thought safe for data collection for this research, and met participants at their homes. Qualitative interview data was also collected, which will be reported in a separate analysis. This paper focuses on the quantitative data obtained from the 30 adult participants and their children.
Participants

A participant was considered FCS if they were under age 18 at the time of involvement in the rebellion. Those FCS with children who agreed to participate identified a matched civilian adult with children. Matching was used to try to control for potential confounding factors, and the comparison group was matched for gender, age, and province. We aimed for near equal numbers of male and female FCS and civilian adults, to identify differences in experiences that may lead to a further study. Participants completed 60- to 90- minute qualitative interviews with the first author and interpreter in private locations away from other village members. Then questionnaires were administered.

In total, 30 adults participated, similar in both groups by gender composition (53.3% male and 46.7% female), age (mean of 26 years-old for both groups), and number of children (2.2 for both groups); see Table 1 for demographic characteristics of both samples. Of the FCS adults, 86.7% (n = 13) reported feeling stigma upon reintegration post-war (assessed by asking, "How often do you feel stigma?" With responses as "none," "a little," or "a lot").

Of the 20 children who answered demographic questions, 11 were children of FCS with a mean age of 9 ±2.6 (5-14 years old) and similar in gender (boys 54.5%, n = 6; girls 45.5%, n = 5). Most of the FCS children 82% (n = 9) attended school; 72.7% (n = 8) lived with both parents; 81.8% (n = 9) had access to food twice a day; and 27% (n = 3) sold goods in the market. The 9 civilian children were similar in age (mean age 8 ± 1.5, 7-11 years old); school attendance (88.9%, n = 8); and home structure of living with both parents (77.8%, n = 7) as compared to the FCS children. However, there were more civilian boys (66.7%; n = 6) vs. girls (33.3%; n = 3); all civilian children had access to food twice a day; and no civilian children worked.
Because parents filled out the mental health measurement for their children aged 4-11 years old, we have a larger sample of responses ($N=35$) for the mental health measurement (Strengths and Difficulties Questionnaire [SDQ]). All children were encouraged to participate, with a total of 58 total children, 23 of whom were under four years old. Of these 35 children, 19 were FCS children (36.8%, $n = 7$ male and 63.2%, $n = 12$ female) and 16 were civilian children (43.8%, $n = 7$ male and 56.3%, $n = 9$ female). A total of 15 children could not fill out questionnaires since nine were living with other relatives, and six were scared to talk with a foreigner (including local Burundians from a different province).

**Table 1.** Former child soldier (FCS) and civilian adult demographics, in frequency (percent)

<table>
<thead>
<tr>
<th></th>
<th>Former child soldier</th>
<th>Civilian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 (26.7)</td>
<td>1 (6.7)</td>
</tr>
<tr>
<td><strong>Own house</strong></td>
<td>2 (13.3)</td>
<td>2 (13.3)</td>
</tr>
<tr>
<td><strong>Complete high school</strong></td>
<td>3 (20)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Positive childhood</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>2 (13.3)</td>
<td>2 (13.3)</td>
</tr>
<tr>
<td>A little</td>
<td>4 (26.7)</td>
<td>3 (20)</td>
</tr>
<tr>
<td>A lot</td>
<td>9 (60)</td>
<td>10 (66.7)</td>
</tr>
<tr>
<td><strong>Supported by family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>2 (13.3)</td>
<td>5 (33.3)</td>
</tr>
<tr>
<td>Little</td>
<td>6 (40)</td>
<td>7 (46.7)</td>
</tr>
<tr>
<td>A lot</td>
<td>7 (46.7)</td>
<td>3 (20)</td>
</tr>
<tr>
<td><strong>Supported by community</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>9 (60)</td>
<td>12 (80)</td>
</tr>
<tr>
<td>A little</td>
<td>5 (33.3)</td>
<td>3 (20)</td>
</tr>
<tr>
<td>A lot</td>
<td>1 (6.7)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

Former child soldier demographics

<table>
<thead>
<tr>
<th><strong>Years in rebel force</strong></th>
<th><strong>Age of enlisting</strong></th>
<th><strong>&lt;10 yrs old</strong></th>
<th><strong>10-15 yrs old</strong></th>
<th><strong>&gt;15 years old</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3 years</td>
<td>4 (26.7)</td>
<td></td>
<td>1 (6.7)</td>
<td></td>
</tr>
<tr>
<td>4-6 years</td>
<td>3 (20)</td>
<td>10-15 yrs old</td>
<td>9 (60)</td>
<td></td>
</tr>
<tr>
<td>&gt;6 years</td>
<td>4 (26.7)</td>
<td>&gt; 15 years old</td>
<td>5 (33.3)</td>
<td></td>
</tr>
<tr>
<td>Peer support during the war</td>
<td>12 (80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community support during the war</td>
<td>3 (20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support during war</td>
<td>3 (20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stigma after the war</td>
<td>13 (86.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ethical Considerations

Because there is no standing, formal institutional review board (IRB) in Burundi, a locally designed review board was developed to discuss the research idea, plan, methods, and implementation. Permission was granted from each member, which included: a FCS, two civilians, two members of non-governmental organizations, and four chefs de quartiers who gave written consent. The IRB for Stanford University and Stanford Medical Center (Stanford, CA) approved all study protocol and consent processes. Data for all participants were collected through face-to-face interviews conducted by a team of trained Burundian research assistants monitored by the study Principal Investigator. Caregivers and children provided oral consent after research assistants read the consent forms due to high illiteracy rates. Families were given approximately $5 USD (an amount determined by the local non-governmental organizations) in appreciation of their participation. Prior to conducting the study, a community-based mental health organization was identified and a relationship was formed to refer potential participants who had severe mental health needs, such as suicidal thoughts. A child/adolescent and adult psychiatrist traveled with the research team to refer clients if needed.

Selection/Development of Study Instruments

Because of the lack of well-validated concepts and instruments for this population in Burundi, we used a mix of locally derived measures and standard instruments based on close consultations with the Burundian research team, community members, and mental health researchers who had worked in the country. Variables were selected based on an ecological and multisystem perspective on risk and protection. Children aged 4-18 were assessed on (a) mental health problems, (b) use of coping skills and strategies to manage
life stress, (c) perceived community and peer support, (d) perceived family relationships, and (e) current exposure to violence. The latter three assessments were developed through qualitative interviews specific to this population, with feedback from the local research team. Parents were administered questionnaires assessing (a) psychological distress, (b) aggression, and (c) perceived family relationships. All instruments were translated and back translated into the local language (Kirundi) by translators. The translators and principal researcher compared the original English version to back-translations and resolved discrepancies, and materials were pilot tested for applicability.

**Study Instruments for Children**

**Strengths and Difficulties Questionnaire (SDQ).** The mental health of 35 children was assessed using the SDQ, a brief behavioral screening questionnaire (Goodman, 1999; Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). The questionnaire is parent-administered for children 4-11 years old and teen-administered for those over 12 years old. It has been translated in a range of languages and found to have reliable cross-cultural psychometric properties (Achenbach et al., 2008). The SDQ consists of five subscales, each with five items covering four problem areas (emotional, conduct, hyperactivity, and peer problems) and a fifth subscale of positive pro-social behavior. In this sample, Cronbach alpha for each of these scales was 0.70, 0.64, 0.36, 0.12, and 0.60, respectively.

**Youth Coping Index (YCI).** This measure consists of 31 items that measure the use of coping strategies and behaviors to manage life stress across three subscales: (a) youth spiritual and personal development, (b) youth positive appraisal and problem solving, and (c) youth incendiary communication and tension management (McCubbin, Thompson & Elver, 1996). Eleven items were discarded after pilot testing and with feedback from the
Comparison of Mental Health between FCS and never-conscripted offspring

local Burundian team. The 7-point Likert scale responses were changed to a 3-point scale for ease of administration and ranged from 0 (never) to 2 (mostly). The reported internal consistency is excellent with an alpha of 0.86 (McCubbin et al., 1996), which was similar to our children’s Cronbach’s alpha of 0.87.

**Perceived support.** This measure consisted of four items assessing perception of support at the community, family, and peer levels, after qualitative interviews identified the most relevant questions to address perceived support. Items were scored on a Likert scale with response options of none (0), a little (1), or a lot (2). Questions on this scale included “How much do you feel you belong in the community?” “How much do you feel supported by parents?” “How much do you feel supported by your siblings?” and “How much do you feel supported by friends?”

**Current exposure to violence.** Measures of the children’s current exposure to violence were drawn from qualitative interviews and consultation with local staff about the most relevant questions that would assess exposure to violence. The measure consisted of four items assessing the level of current interpersonal and community violence, such as “How often are you hit at home?” “How often are you hit by friends?” “How often are you hit by teachers?” and “How often are you teased?” Items were scored on a three-point Likert scale with response options of never (0), a little (1), or a lot (2).

**Perceived family relationships (administered to children and parents).** Locally derived questions through qualitative interviews were designed to ask parents and youths about their perceptions of family relationships. Items were scored on a Likert scale with options of never (0), some of the time (1), and most of the time (2). Questions asked were “Members of my family are good to each other,” “My family is well respected,” “I feel proud of my family,” and “My family is a source of comfort to me.”
Study Instruments for Parents

**Kessler 10 Psychological Distress Scale (K-10).** The K-10 is a screening tool comprised of 10 questions designed to measure parents’ psychological distress over the previous four weeks, scored with five response categories on a Likert scale. The sum of the items yields a total score that can range from 10 to 50. Scores of 10-15.9 indicate a low risk of psychological distress, 16-21.9 a moderate level of distress consistent with a diagnosis of moderate depression and/or anxiety disorder; 22-29.9 suggest a high level of distress; and above 30 indicate the possibility of very high or severe levels of distress. The K-10 has high content validity, comparing favorably with the General Health Questionnaire-12 and the World Health Organization Composite International Diagnostic Interview (Andrews & Slade, 2001). The Cronbach's alpha for the parent sample in this study was 0.837.

**Adaptive and Aggressive Assertiveness Scales for Adults (AAA-S).** The AAA-S is a self-report, 19-item scale with a series of hypothetical scenarios to which participants report what they would do in each situation and answer on a 5-point Likert scale. The scale has good internal consistency, split-half reliability, and test-retest reliability and assesses the aggressive styles of adults (Thompson & Berenbaum, 2011). The local Burundian research team reviewed the scale, made the scenarios more culturally appropriate, and deleted eight items. This sample showed marginal internal consistency in their responses on the adaptive subscale (Cronbach's alpha=0.61), and good internal consistency on the aggressiveness subscale (Cronbach's alpha=0.78).

**Statistical Analysis**

Analyses were performed using SPSS version 19.0. For categorical demographic data, descriptive statistics were calculated using frequencies and associated percentages.
Mann Whitney U non-parametric statistics were computed to compare the child and parent samples grouped by FCS/civilian status, mindful of the small sample size and non-normal distribution.

**Results**

**Comparisons of Children of FCS to Children of Civilians**

Table 2 provides a summary of the results. Mann Whitney U tests supported the expectations that FCS children compared to civilian children reported significantly: (a) greater conduct problems $U = 94, z = -1.97, p = 0.049$; (b) less use of problem solving coping $U = 23, z = -2.02, p = 0.04$; (c) less of a sense of belonging in the community, $U = 27, z = -2.09, p = 0.039$; (d) feeling less supported by siblings, $U = 25.5, z = -2.07, p = 0.038$; and (e) poorer perceived family relationships, $U = 26.5, z = -2.06, p = 0.039$. However, there were no significant differences between other emotional disturbances, types of coping, feeling supported by friends or parents, or levels of violence.

**Comparisons of FCS Parents to Never-Conscripted Civilian Parents**

As a secondary aim, we evaluated parental variables to see if parental mental health, aggression, or perceived family relationships were associated with the findings in the group of children. As indicated in Table 3, no statistically significant differences were found between the groups of FCS and the never-conscripted civilian parents on any of these characteristics. However, both groups had mean K-10 mental health scores that were in the moderate depression or anxiety disorder category (FCS: $M = 18.7 \pm 5.7$ vs. civilians: $M = 16.5 \pm 4.2$); $U = 89, z = -0.978, p = 0.328$. 

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Table 2. Children of former child soldiers compared to children of never-conscripted civilian

<table>
<thead>
<tr>
<th>Measure</th>
<th>Former child soldier</th>
<th>Civilian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Md</td>
<td>N</td>
</tr>
<tr>
<td><strong>Strengths/Difficulties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>Hyper/Inattentive</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Peer problems</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Prosocial</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td><strong>Youth Coping Index</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiritual</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Tension</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>Problem solving</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>11</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belong in community</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Supported by parents</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Supported by siblings</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Supported by friends</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td><strong>Violence currently</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hit by parents</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Hit by teacher</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Hit by friends</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Teased</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Perceived family relations</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 3. Non-parametric tests adult former child soldiers to never-conscripted civilians

<table>
<thead>
<tr>
<th>Measure</th>
<th>FCS</th>
<th>Civilian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Md</td>
<td>n</td>
</tr>
<tr>
<td>Kessler 10</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Aggression</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>Adaptive</td>
<td>26</td>
<td>15</td>
</tr>
<tr>
<td>Perceived family relations</td>
<td>9</td>
<td>15</td>
</tr>
</tbody>
</table>
Discussion

This is the first study to our knowledge that compares intergenerational mental health problems as well as protective factors for the children of FCS matched to never-conscripted civilians in Burundi. The groups of children did not differ significantly with respect to mental health problems. However, children of FCS had significantly worse conduct problems, used less problem solving as a coping mechanism, felt less of a sense of belonging in the community and less supported by siblings, and had more perceived family problems than the children of civilians. FCS and civilian parents had similar levels of mental health problems, aggression, and perceived family problem profiles, with both groups exhibiting moderate levels of depression or anxiety difficulties.

Family Impacts on Children of FCS

The increase in conduct problems for FCS versus civilian children could be associated with the findings of more perceived family discord. Children may act out in response to family problems. These conduct behaviors may then exacerbate feelings of isolation and lack of support. Families experiencing conflict and aggression have been associated with an increase in behavioral and emotional problems for children including internalizing and externalizing problems, such as conduct disorder (Grych & Fincham 1990; Rothbaum & Weisz 1994; Vostanis et al., 2006; Wagner 1997).

The FCS children’s family discord could also be accounted for by relationships with siblings, as FCS children reported family problems and less support by siblings compared to their civilian counterparts. This leads us to question whether sibling discord leads to overall feelings of family disharmony. In this culture, parents are often trying to sell goods at the market, leaving children to care for each other under the general supervision of
neighbors. Therefore, children spend a large part of their time with siblings. This finding of poor sibling support may account for some of the conduct problems in the FCS children, as sibling studies have shown an association between sibling hostility and reported child aggression (Carson & Parke, 1996; Stormshak, Bellanti, & Bierman, 1996). Moreover, when FCS children perceive more sibling problems, they may not be able to cope as well since they use less problem solving skills than civilian children. In a review of conflict in sibling relationships, Kramer (2010) reported the importance of problem solving to strengthen sibling relationships. With less coping resources, FCS children may resort to acting out in conduct behaviors.

Community Impacts on Children of FCS

The conduct problems seen in FCS children may also be associated with their sense of a lack of belonging in the community, as compared to civilian children. This could be associated with the majority of FCS parents reporting feeling stigma from the community. Stigma can be a major issue for child soldiers trying to reintegrate to their communities, who may be feared and marginalized by the community (Betancourt, Agnew-Blias, et al., 2010; Dickson-Gomez, 2002; Dowdney, 2007; Specht & Attree, 2006; Wessels, 2006). For girl soldiers, stigma may be increased for those survivors of gender-based violence or those who have children as a product of rape (Coulter, Persson, & Utas, 2008; Mazurana & McKay, 2003). In a separate part of this study (publication forthcoming), qualitative analysis showed that of the seven former girl soldiers, one had a child as a product of rape. In these communal societies, where the family unit is an integral part to society, this stigma could widen to include stigma against the families and children of FCS, and therefore contribute to the FCS’ children feeling less belonging and having more conduct problems. Other factors
involved in feeling a lack of belonging should be explored, as community acceptance has been associated with adaptive attitudes and behaviors of Sierra Leonean FCS, regardless of violence exposure (Betancourt, Agnew-Blais, et al., 2010; Betancourt, Borisova, et al., 2010; Betancourt, Brennan, et al., 2010). Other studies have shown the importance of social contexts of peer, family, and community as they relate to problem behaviors (Barber, 2001), low self-efficacy (Wilson, 1996), and violence as a way of life (Prothrow-Stith, 1991).

Parental Mental Health

Despite the feelings of stigma in our FCS population, FCS and civilian parents did not have statistically significant differences on measures of mental health problems, aggression, or perceived family relations. A potential explanation of our findings of similar mental health profiles for FCS and civilian adults could be due to a general response of living through war and conflict regardless of active involvement in an armed force or as a civilian, as both cohorts showed moderate levels of mental distress. Civilians may not have a sense of control over the traumas of war, whereas a child soldier may have the agency and a means to act out revenge. However, the current finding of similar profiles of FCS and civilian adults speaks more to the need for a larger sample size.

Violence and Aggression

Children who are abused or neglected are more likely to commit more offenses with higher risks of arrest for acts of violent crime (Widom, 2000). In Sierra Leone, FCS with a history of perpetration of violence were associated with increased hostility and less prosocial/adaptive behavior (Betancourt, Borisova, et al., 2010). In Palestine, children who were exposed to, and had witnessed military violence had increased aggressive and
antisocial behavior (Qouta, Punamaki, Miller, & El-Sarraj, 2008). We hypothesized that families of FCS would have more physical punishment or aggression than civilian families; however, the samples had non-significant differences. Our Burundian colleagues reported that culturally, children might not have felt comfortable telling interviewers about the extent of physical punishment. For their children, exposure to interpersonal violence (physical abuse by family, peers, and teachers, or being teased) was not associated with having a parent with a FCS or civilian status. Despite media portrayals of child soldiers committing horrific acts of violence, child soldiers also display resilient properties in adulthood. In a longitudinal study of FCS in Mozambique over 16 years, Boothby showed that FCS became productive and caring adults (Boothby et al., 2006). Moreover, in Uganda, resilient FCS were associated with lower exposure to domestic violence and had better socioeconomic family lives (Klasen, Oettingen, Daniels, Post, & Hoyer, 2010). Resiliency in FCS parents may be important to examine further, as supportive parenting practices after war have been shown to moderate the association between exposure to military violence and aggression (Qouta et al., 2008).

**Study Strengths and Limitations**

This preliminary study takes an ecological approach to add to the limited literature on child soldiers’ family and communities. The study strengths and difficulties in FCS children to examine the intergenerational protective and risk factors. The findings identified potential questions (below) for future systematic studies with a larger sample size. The study also evaluated FCS parents and their children, compared to an age-, gender- and province-matched comparison group, which has not been a method widely used in studies of FCS.
Our preliminary investigation has several limitations. For feasibility reasons, we used a convenience sample of FCS who identified the controls, which may have biased the control sample in ways that are not evident. The sample size is limited in part due to safety logistics. Even though the research team traveled to participants’ homes, many children were difficult to locate as they were scattered throughout the villages during the day. Another limitation is that some study measures had to be altered for ease of use in this subject sample, and the study instruments have not specifically been validated in the Burundian context or with FCS, a general problem in the field of global mental health research (Betancourt et al., 2008). Our study provides a preliminary insight into the experience of being a child of FCS, but the findings cannot be applied universally to all families of FCS.

Recommendations for Future Research

This preliminary study raises important questions that can inform future studies about what aspects of the FCS’ experiences affect their children’s mental health, perceived family relations, and coping. The effect of stigma for children of FCS warrants further investigation, as the association of stigma with mental health and social problems has implications for community interventions. The greater use of problem solving coping in the civilian group may be associated with fewer conduct problems as compared to FCS children, which should be examined in future research.
Implications for Clinical and Programmatic Interventions

Our preliminary findings suggest that future interventions should include family-centered care that not only includes parents and a single child, but also the child’s siblings. This population in Burundi is struggling for basic necessities of food and shelter, with children left to siblings for supervision. Therefore, adapting aide to the current social context by including sibling-and-child interventions may be a more appropriate intervention than requiring that all family members be present. Coping and protective strategies should be assessed and reinforced to strengthen the natural, culturally embraced, internal capacities of families and youth. This approach would increase family and community resources for FCS and their children, as opposed to an individual approach. Programs that can assist in the sense of belongingness may help children of FCS. Finally, longitudinal, lifespan studies that take an ecological approach that recognize the impact of family and the environment on children may help prevent the worsening of mental health outcomes for children of FCS.
References


Betancourt, T.S., Borisova, I., Rubin-Smith, J., Gingerich, T., Williams, T., & Agnew-Blais, J. (2008). Psychosocial adjustment and social reintegration of children associated with armed forces and armed groups: The state of the field and future directions. Cambridge,
Comparison of Mental Health between FCS and never-conscripted offspring


Office of the Special Representative of the Secretary-General for Children and Armed
Comparison of Mental Health between FCS and never-conscripted offspring


Comparison of Mental Health between FCS and never-conscripted offspring chronically traumatized children. *Psychiatric Annals, 35*, 401-408.


CHAPTER 6

Intergenerational trauma and resilience between Burundian former child soldiers and their children

Abstract
Since many former child soldiers are aging and having children of their own, this study aimed to understand how the effects of trauma are passed to the next generation. In this qualitative study, semi-structured interviews, focus groups, and observations were conducted with 25 former child soldiers and 15 matched civilian parents. Analysis used a grounded-theory approach. Trauma may be transmitted from former child soldiers to their offspring via (1) the effect on indero (how to raise a child), (2) severe parental emotional distress, and (3) community effects. Incorporating themes of indero values on how to raise children, the effects of parental posttraumatic stress and depressive symptoms on offspring, and the stigma associated with the families of former child soldiers may provide key areas of intervention in mental healing.
Introduction

Over the past decade, two million children have been killed in armed conflict, with 20 million displaced and 6 million disabled (UNICEF, 2007). Around the world at any moment, an estimated 300,000 children under the age of 18 are involved in armed forces (Coalition to Stop the Use of Child Soldiers, 2008). A child soldier is “any person under [the] age 18 who is part of any kind of regular or irregular armed force or group in any capacity, including but not limited to cooks, porters, messengers and those accompanying such groups, other than purely as family members…it does not only refer to a child who is carrying or has carried arms” (UNICEF, 1997).

Being a child soldier is associated with exposure to multiple severe forms of violence, including perpetration of and enduring violence (Bayer, Klasen, & Adam, 2007). A systematic review of the literature on the mental health of former child soldiers (FCS) shows varying prevalence rates of mental health problems (Betancourt, et al., 2012). Child soldiering has been shown to be detrimental to both development (Machel, 2001; Wessels, 2006) and mental health (Kohrt, Tol, Pettigrew & Karki, 2010).

Intergenerational trauma

Child soldiers are now becoming adults and having children of their own. However, studies have not examined if and how trauma is passed to their children. Examining studies on similar populations may give insight. Limited literature on refugee fathers showed that traumatic symptoms negatively impact the quality of parent-child interaction (van Ee, 2013). In a review of intergenerational posttraumatic stress disorder (PTSD) among Vietnam veteran fathers and their sons, Dekel and Goldblatt (2008) found that paternal
PTSD was more influential than combat participation in predicting their children’s traumatic stress. Moreover, family violence predicted greater distress in children than the parent’s PTSD itself. The review found a direct transmission of trauma to the child via parental PTSD symptoms of numbness, dissociation, anxiety, and more likely use of corporal punishment when compared to veterans without PTSD (Dekel & Goldblatt, 2008). An indirect transmission of violence to offspring was also shown through less paternal involvement in routine family activities (Ruscio, Weathers, King, & King, et al., 2002), distancing, withdrawal, difficulties with attachment and intimacy (Cohen, Dekel, Solomon, & Lavie, 2003) and fathers being psychologically absent though physically present (Boss, 1999).

The literature concerning Holocaust survivors is more mixed, with clinical reports of Holocaust survivors having intergenerational trauma (Danieli, 1998) despite a meta-analysis on intergenerational trauma showing no substantial evidence that parental Holocaust experiences influenced children (Van IJzendoorn, Bakermans-Kranenburg, & Sagi-Schwartz, 2003). Through these studies of war veterans and Holocaust survivors we question if there is intergenerational trauma between former child soldiers and their children. Many former child soldiers (FCS) have now grown into adults and parents, but studies have focused mainly on the individual FCS.

**Rationale for this study**

A previous mixed methods study compared 15 Burundian FCS parents (male and female) and their children (aged 5-18 years old) to 15 age-, gender-, and province-matched civilian parents and their children. Results showed that the children of FCS had more conduct problems, less sense of belonging, more perceived family problems, felt less
support from siblings, and used less problem solving coping methods compared to civilian children (Song, O’Hara & Koopman, 2013). Observations of parents and children showed some FCS’s children with more clinging, reserved, and apprehensive behavior than civilian children. Moreover, FCS parents were observed to have more distress when talking about their children. These findings and observations encouraged us to add ten additional qualitative interviews of FCS in an exploratory study to question, “How is trauma transmitted from former child soldiers to their children?” using a grounded-theory approach to analyzing qualitative and observational data.

**Methods**

**Setting**

Burundi is a land-locked country in Central Africa with an estimated population of 10 million people. Since independence in 1962, the country has endured ethnic tension and violence, with a 12 year civil war leaving an estimated 300,000 Burundians killed and hundreds of thousands displaced (Amnesty International, 2004). A peace treaty was signed in 2001 and the last rebel force disarmed in 2006. The aim of this study was to examine intergenerational trauma in FCS families using qualitative and observational data from eight weeks between January 2011 to August 2011.

**Design**

A grounded theory approach (Glaser & Strauss, 1967) was used for this qualitative study. We attempted to maximize the validity of our data using triangulation of qualitative interviews (i.e., individual interviews, focus group discussions) and observations. Since there are few studies on Burundian families, and the first author is a foreign researcher to
Burundi, naturalistic observations of families and children in their home environments were added for ecological validity to determine how well qualitative findings correlate to real-life circumstances.

**Participants**

Participants were a total of 40 adults: 25 FCS parents and 15 age-, gender-, and province-matched never-conscripted civilian parents for comparison (refer to Table 1). Criteria for involvement were FCS that possessed a demobilization card (to ensure they were truly child soldiers), lived in one of four communes, and had at least one biological child. Inclusion criteria for all children were (a) if available, (2) aged 5-18 years old, and (3) willing to speak with us. Only one 14 year-old child was willing to speak at length with us; therefore, child data included observations with their parents, but not qualitative interviews. Four out of 17 communes were chosen (Cibitoke, Kamenge, Kinama, and Sorerezo) since we were interested in finding FCS in communes that were involved in the armed conflict, from any ethnic tribe or rebel group, and where home visits were possible with minimal security risks. The first two provinces have a high density of FCS. Participants were derived from expert purposive sampling, working with a local non-governmental organization that provides social support to FCS.
Table 1. Demographics of participants

<table>
<thead>
<tr>
<th></th>
<th>N= 25 FCS</th>
<th>N = 15 Civilian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Mean age</td>
<td>26 yrs</td>
<td>26 yrs</td>
</tr>
<tr>
<td>Age range</td>
<td>22-32 yrs old</td>
<td>22-27 yrs old</td>
</tr>
<tr>
<td>Female FCS separated from husbands</td>
<td>7 of 8</td>
<td>1 of 7</td>
</tr>
<tr>
<td>Male FCS separated from spouse</td>
<td>1 of 17</td>
<td>0 of 8</td>
</tr>
<tr>
<td>Mean # children</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Mean age children</td>
<td>5 yrs old</td>
<td>5</td>
</tr>
<tr>
<td>Range of child age</td>
<td>6 mos – 14 yrs old</td>
<td>5 mos-11 yrs old</td>
</tr>
<tr>
<td>&gt; 6 yrs in rebellion</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>&gt; 2 yrs in rebellion</td>
<td>ALL</td>
<td></td>
</tr>
<tr>
<td>Join &lt; 15 yrs old</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Data collection

This study added on to the original mixed methods study of 15 FCS and 15 matched civilians, by including the same qualitative methodology (excluding quantitative measures) for 10 additional FCS until data saturation was met. Qualitative data was collected in three phases (refer to Table 2). During the first phase of the study, individual semi-structured qualitative interviews were conducted with all parents. Questions focused on pre-war childhood (ex. "What was your life like before the war?"), rebel war experience ("What was your most memorable experience during the war?"), post-war experience ("What was life like after the war ended?"), and specific questions related to parent-child relationships ("Did the war experience affect your family or children (how?)"). In the second phase, focus group discussions from four FCS and civilian groups assisted in determining face validity of findings. Discussions were held about the relationship between war, parenting, and parent-
child relations. All interviews were conducted by the first author with an interpreter, were recorded, transcribed, conducted in Kirundi (local dialect), and subsequently translated into English by the translator. In the third phase, observational data was collected using narrative record, describing the behavior of parents and children as it occurred. Event sampling was used between parent-child, child-child, and adult-child in their home environments.

Table 2. Phases of study

<table>
<thead>
<tr>
<th>Study Phase</th>
<th>Aim</th>
<th>Participants</th>
<th>Type of method</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To explore individual intergenerational and parenting issues</td>
<td>25 former child soldier parents and 15 civilian parents</td>
<td>Qualitative. Semi-structured interviews (60-90min)</td>
<td>Questions focused on pre-war childhood, rebel war experiences, post-war experiences, and specific questions related to parent-child relationships</td>
</tr>
<tr>
<td>2</td>
<td>To observe behaviors that may otherwise not be verbalized by participants</td>
<td>Children and families of all participants</td>
<td>Observational day in the village</td>
<td>Participant’s family relations, children, child-community processes, and interactions between participant and researcher were observed</td>
</tr>
<tr>
<td>3</td>
<td>To follow-up on themes identified in the in-depth semi-structured interviews (phase 1)</td>
<td>5 female former child soldiers, 8 male former child soldiers, 5 female civilians and 6 male civilians</td>
<td>Focus group discussions. Four focus groups, lasting between 60-90 minutes</td>
<td>Discussions were held around questions about the relationship between war, parenting, and parent-child relations</td>
</tr>
</tbody>
</table>

Data analysis

Intergenerational processes were explored within a grounded theory approach (Charmaz, 2006), using Atlas.ti6 computer-assisted qualitative data analysis software. Initially, individual interviews were processed through data-driven open and focused coding. Categories reflecting intergenerational processes were identified and relations between categories and between FCS and civilians were constantly compared to explore the
differences in intergenerational processes. Then, themes were discussed among focus groups to check the emerging coding structure to ensure findings were congruent with the experience of those involved. Focus group interviews and observational data used a constant comparison of emerging data (Barnes, 1996). Ten percent of all transcripts were independently coded and analyzed by two members of the research team. Differences in coding were discussed by team members until they reached agreement on the most appropriate coding structure. We used illustrative quotes throughout to demonstrate the grounding of the analysis in participant accounts with examples that characterized those in the sample.

**Ethical considerations**

A locally designed review board-- which included a former child soldier, two civilians, two NGO members, and four chef de quartiers-- was developed to discuss the research idea, plan, methods, and implementation. Permission was granted from each member who all provided written consent. The Internal Review Board for Stanford University and Stanford Medical Center (Stanford, CA) approved all study protocol and consent processes. Due to high illiteracy rates, caregivers and children provided oral consent after interpreters read the consent forms. Families were given approximately $6 USD (an amount determined by the local NGO) to compensate for participation time. Prior to conducting the study, a community-based mental health organization was identified and a relationship was formed to refer potential participants who had severe mental health needs, such as suicidal thoughts. The first author is a child/adolescent and adult psychiatrist trained in family therapy, who traveled with the research team to assess and refer clients if needed (Song, 2011).
Results

**INDERO Y’UMWANA IBAZWA NYINA**

Literally translates to “education of the child by his Mother.” *Indero*, for abbreviation, represents a multidimensional concept of norms and values inherent in the socialization of children in Burundi. *Indero* is a set of values of how children should be raised, including the role of (1) discipline, (2) education, (3) values, and (4) how to behave in society. Both FCS and civilian groups emphasized the importance of these specific Burundian values of child rearing. Although mothers are primarily in charge of *indero*, fathers, neighbors, and schools also have an important role in teaching one how to behave in society. Civilian focus groups described elements of *indero* as “to get a good education and collaborate, to respect adults and young children...to not insult, greet people, [and] learn to love and respect others.” Both civilian and FCS parents reported wanting to teach their children how to obey and “*not do* bad things.”

Although *indero* was emphasized by both civilian and FCS participants, it has special meaning for FCS who have specific lessons they want to teach their children. In two focus groups of FCS, parents described the need to teach their children specific coping and social survival strategies, which were not mentioned by civilian participants. This included an emphasis on not showing anger, avoiding life as a street child or prostitute, being active, working hard, and supporting themselves. For female FCS, teaching children about how men should treat women was of primary concern. Of the eight female FCS, seven were abandoned by their husbands, compared to only one female civilian being abandoned, reportedly due to her HIV positive status. Mothers reported the necessity for children to learn about their father’s abandonment: “*I will tell them about their father to make them aware about their family. I will teach them how to respect each other. I don’t want them to*
have the same situation that I had. I want them to find out how to find their father...I told my son what his father did and told him to go to his father and ask for money.” (25F soldier)

Female FCS explicitly wanted to raise sons who would care for their families and daughters who would marry responsible men.

In addition to the struggles of managing their families, female FCS struggled with personal safety, as they report more sexual violence than their civilian counterparts. One mother explained: "During the night, I met a policeman when I was walking. He said, ‘it’s been a long time since I had sex,’ and then pulled me and raped me.” Due to this safety concern, female FCS highlighted the importance of teaching their children to be safe. All female FCS reported that, due to fears of sexual violation, “the world is an unsafe and unfair place, so children need to be taught to be safe and responsible.”

Intergenerational passing of trauma

Parental mental distress affecting child well-being

A minority of FCS reported particularly strained relations with their children. Those FCS with trauma-specific cognitive and emotional symptoms were found to pass emotionally traumatic symptoms on to their children. Of the 25 FCS, two reported disturbing trauma-related anxiety symptoms. These FCS relayed how the traumatic stress was passed onto their children; one FCS, Phillipe, described intrusive thoughts, haunting images, and a resulting withdrawal and lack of presence with his family. His identified traumatic event was not only the chronic lack of basic needs, security, and potential random lethal abuse at anytime. This now 24 year-old FCS refused to murder his friend, and was forced to watch his friend slowly killed:
"When I’m sleeping, I dream about these things, and if I’m awoken, I keep thinking about it. I don’t talk to my wife sometimes. When I feel angry or sad, I read the Bible. I’ve learned to be quiet and not talkative. In the war, it was forbidden to talk about something you saw – the punishment was to be killed. It’s helpful now to be quiet, with all the [political] party conflicts. Many times when the child is sick and I’m alone, the child can see that I have a problem. If she makes a mistake, she can look at my face and tell my mood, and realize that I’m having problems. When the child sees that I’m quiet or angry, which isn’t due to her or her Mother, she’ll come to me and ask what happened and why am I like that. I’ll just tell her to go and that there’s nothing. That I just need to be quiet – this is how I teach her to be quiet too.”

Phillipe’s depression, hopelessness, and emotional numbing are communicated indirectly to his daughter, who has become sensitive and attuned to his emotional states. During an observation with Phillipe and his daughter, the interviewer noted that he was startled when his daughter approached and gazed at him. She held an unlit match to show him, then sat by his feet and began striking it on a rock. He tried to remove the match from her until she began to cry, then he quickly returned the match saying, “I don’t like her being sad. I don’t want her to be angry or sad about anything. She should have what she wants.”

Another FCS additionally showed how one’s child can be affected by parental trauma-related emotional symptoms: Deborah, a 25-year-old FCS mother, described her need for isolation due to traumatic memories. Forced to kill her friend, she continues to feel guilt and sadness: “They [commanders] said it was my friend that made a mistake, and it was me that must kill her. They said if I don’t kill her, then I’d be killed. They told me to use a small hoe to kill her. They showed me where I was to hit her. She died... After, I kept remembering how she was a great friend, and that I killed a friend. I was afraid. I wanted to forget, and would just sleep.” Deborah described the indirect impact of the trauma on her children. She reports that her children have learned how to deal with her need to be alone, “It’s no problem -- my children know when I need to be alone. I go to the bedroom and listen to the radio, and my children immediately go to be with others.” In contrast to the above example,
some children were observed to be attuned to parental mental distress and were reported to provide comfort: 
"[my children] bring me happiness. Sometimes they make me happy when I’m sitting alone and thinking many things. They come and try to talk to me, and try to make me happy." (32M soldier).

In addition to emotional numbing and flashbacks from a specific traumatic event, three FCS reported suffering from severe depression. They reported, “I feel like I was born dead;” “I am dead in my heart;” and “I have never been happy in my life. My children are not happy either, just like me.” One FCS was particularly affected, hating his life, hitting his child when angry, and having passive thoughts of suicide (wanting to die without an active plan). These severe depressive symptoms influenced the next generation, leaving children to find ways to care for themselves. "I am still disturbed since I don’t have anything. Sometimes I isolate myself, sit alone, and don’t talk to others. I try to hide that I’m sad or angry, but people know, and my daughter goes around to neighbors, looking for something to eat" (23F soldier).

None of the civilians spoke with such despair. For these FCS parents, continuing post-trauma and depressive symptoms affected their children.

 Violence becomes part of indero explicitly through discipline

Corporal punishment is common among Burundian parents. To better understand the “abnormality” of punishment, we should first describe “normal” civilian parenting for comparison. All except one civilian parent believed that corporal punishment was a necessary means to disciplining children. One civilian explains, “Yes I was hit, sometimes hard. It made me aware of life – the punishment showed me the way and to think about the future. [Though] One should start first with giving advice” (23M civilian). In two civilian focus groups, all parents agreed on a hierarchy of punishments when a child misbehaves,
"You can’t punish them immediately. You have to start with small advice. You can punish him (hitting him on the side of the leg), when he makes a small mistake. If [it’s] a big mistake, you can punish." Parents also reported the need for self-control, “You can think about how to master yourself and excuse the children.”

The majority of FCS’ discipline fell in the normal range as compared to civilians. However, for five FCS, the corporal punishment aspect of indero was amplified and affected by the rebel experience. Different strengths of physical discipline were identified, including more extreme aggression/harsh discipline, as well as its opposite – avoidance. Three FCS reported subjective extreme punishment towards their children. One FCS reports, "My child isn’t afraid of me, but if she makes a mistake, then I’m very severe to her... I hurt her by beating her on the leg with a stick, or pinching her" (23F soldier). Another FCS spoke at great length about various punishments, including burning, binding, and withholding food for "mistakes" (28M soldier). And yet another rationalized his severe punishment (described as such by his brother) by stating that the experience of being beaten in the rebellion taught him how to control his aggression, "we’re soldiers, so we know where it’s not dangerous for the child - we hit on the side" (25M soldier). Parental aggression and child submission were described. One FCS reported, "She [my child] was climbing up a tree, and one friend pulled her leg while she was climbing. She fell and her mouth hit the ground, so she broke a tooth. I beat her a lot since I was angry at what she did. Now she’s scared of me and listens to what I say" (25F soldier). Another response to extreme parental aggression was child aggression. Joan, another female FCS mother, frequently slapped and shoved her 2.5 year old child during our interview together. Our interpreter noted how the Mother seemed extremely "unemotional" with the child, which was considered culturally abnormal. The same daughter was observed to be more violent than other children in their village, hitting both
Indero: Intergenerational stress and resilience from FCS to children

her Mother and other children in the parcel until they cried.

Civilians reported FCS using extreme punishment. "Their behavior can affect their children's behavior. They have used drugs in front of their children, or hit her (their wives) in front of the children, like an animal can hit her." A focus group of civilian males attributed the harsh punishment to behaviors learned in the rebellion,

"I see them with their kids – they are severely hitting for everything! Most use force like in military punishment. I even saw someone throw a child against a wall. They need trainings – their wives even fear them. A neighbor [former child soldier] hits his child so much for small mistakes. When he was climbing on a house under construction, he told the child to stand against the wall, and he took a stick and beat him so much. The child was so scared and ran away. When the child makes mistakes, they have to kneel on bottlecaps. Sometimes they make them kneel against the wall – this was military punishment. The burning and binding is new after the war – I think that's learned from the military." – Multiple male focus group participants

Two FCS parents reported the opposite response, the avoidance of corporal punishment. One parent reported fear towards physical punishment due to the extreme punishment endured during the rebellion. She reported using other disciplinary measures, "I don't like to punish, unless there's a big mistake. I used to close them in the bedroom when they would make an error, instead of beating them" (25F soldier). The extreme punishments from the rebellion made her cautious about using physical punishments on her children. Another FCS stated, "I don't want to hit my child. Even when she cries, I think about the past situation. I think about those who abandoned their children, crying, and those who have died. If I see her crying, I think about all of those people, so I don't like to hit" (27M soldier).

Community sources of stress

FCS had varied roles in the rebel group. Some were porters, messengers, and cooks, while others were sex slaves and fighters. Due to the destruction of property, theft, and
violence by some child soldiers, post-war reintegration into the community was difficult. Many civilians believed FCS to be “monsters...[and] animals who like to kill people.” One civilian describes the “normal” response of fear towards FCS, “[They] kill people as their work. If someone knows he was in the rebellion, he’ll think he’ll be killed. It’s normal to get scared, and for [him] to have a bad reputation.” (23M civilian) Another civilian describes a common fear towards FCS, believing that civilians can help teach “proper behavior” of indero values: “Ex-combatants (FCS) are very violent and cannot realize they are now civilians. They think they are still in the war. We try to show them the real situation in which they are living and see if they can help themselves, but they are not flexible” (27M civilian).

Of the 25 FCS, seven reported feeling stigmatized after the war ended. They had the label of being a FCS, thought to have murdered and pillaged local communities. Additionally, if they identified as part of the political opposition party, they additionally lived in fearful expectation of being interrogated or harassed. Only 11 FCS felt comfortable revealing which political party they were in (9 in the minority party, one in the majority party, and one reporting he was in both). All except one FCS in the minority party reported wrongful interrogations and accusations ranging from police stealing their money to rape by government officials. In effect, these FCS are affected with a “double-dose” of stigma, “[We’re treated poorly] both since I’m an ex-combatant [FCS] and still in the opposition group. Neighbors used to tell my husband that I would kill him [he wasn’t in the rebellion]. When we have arguments, neighbors throw stones on my roof, saying I’m in the wrong party. I just pray. I have no gun, nothing…” (23F soldier). Civilians are well aware of the mistreatment towards FCS. Due to stigma against FCS, civilians distance themselves from their FCS neighbors to protect against the whims of the police. The community avoids helping FCS due to fear of association – by helping, they may indirectly involve themselves in police interrogation that
commonly targets FCS, "You can tell a neighbor that you have a problem, but because of the experience in the war, they won’t help you, thinking they’ll have a problem with security” (female focus group participants).

These “double-doses” of stigma can also affect their children. One civilian reported that though he does not feel stigma towards FCS, he can see why others do, “I can understand that a father made a mistake [by joining the rebellion], and the child can be a victim of that mistake. There are others who take everything in one bag, and think if he did that, then the child is the same” (24M civilian). One FCS describes, “People think badly of me. And if you live with someone bad, then you’re bad. They look at my husband and kids in a bad way. They treat my children the same way they treat me” (23F soldier). Another FCS explained that her neighborhood is of one political affiliation, and she is of another, so neighbors throw rocks at her home and tease her children. When asked, her 14 year-old son described the mistreatment directed towards his family,

“My family is good – the problem is with my neighbor. Sometimes they insult me or do bad things to us. They tease my mother. They don’t like our family. I don’t know why. If I could change my life, I’d focus on ‘getting along better with people.’ I hope for a better life like the ‘others’, and ask God to protect my family so we can live peacefully without quarrels or conflicts.”

The community also plays a role in perpetuating stigma across generations by weaving FCS into indero, as an example of how not to behave in society. One civilian reported, “I tell him [my son] about the bad consequences of ex-combatants, saying it is very, very bad to go to war since most have abandoned school and are in bad conditions. If you do that, you will be in the same situation. Show him an example of those who are in bad conditions and tell him to go to school to get a job” (26M civilian).
**Discussion**

Our findings show that former child soldiers transmit stress to their offspring via (1) the effect of *indero*, (2) severe parental emotional distress, and (3) a community transmission of stress. Psychiatric literature tends to focus on the effects of trauma on individual parents and the effects on children. Our findings reveal that individual intergenerational trauma existed only for those parents with severe mental distress (depression and traumatic symptoms). However, societal intergenerational trauma also existed in the passing of trauma onto FCS's children.

Our study began by studying Burundian culture through civilians, to be better able to compare the unique experiences of FCS. *Indero*, a multi-dimensional representation of norms and values to pass onto children, is a concept shared by all Burundians. For FCS, *indero* has special meaning with social navigation lessons including: not showing anger, avoiding risky behavior, and working hard. Female FCS parents specifically wanted to teach children about the effects of men abandoning their children and that the world is not safe for women who are at risk for sexual violation. Trauma can be transmitted through parents’ struggles with severe mental distress, which elicits children’s sensitivities to their parents’ emotional flooding. The rebel experience can also affect how trauma is transmitted intergenerationally through discipline. Corporal punishment is considered normal among Burundian civilians. Most FCS shared the same corporal punishment trends as civilians, with two exceptions: FCS adhered to more extreme punishment (reportedly similar to military discipline) or avoided corporal punishment. In addition to parental trauma put on children, the community can also pass trauma on to the next generation. A “double dose” of stigma (as a FCS and member of the opposition party) can extend to families and children. Child soldiering can be woven into *indero*, as a legacy or story of how children should *not* behave in society.
The role of post-traumatic stress and depression severity

This study showed that the emotional tolls of child soldiering, along with the social stigma and community violence experienced, has potential to shape the intergenerational passing of distrust, aggression, and withdrawal to offspring, emotionally and behaviorally via direct and indirect means. For our FCS who had more severe post-traumatic stress (especially due to the killing of a close friend) and depressive symptoms, the trauma was passed directly to children, via post-traumatic stress symptoms of numbness, dissociation, and anxiety. The children of FCS are attuned to their parents’ emotional instability and attempt to comfort their parents.

In our sample, parents overwhelmingly reported that the rebel/combat experience created PTSD and depression symptoms, which then hindered their current functioning. The evaluation of parental PTSD is important in discerning potentially at-risk youth, as PTSD has been shown to be more significant than exposure to combat in the effects of intergenerational trauma (Souzza & Motta, 2004).

A small subset of FCS with severe mental symptoms had more isolation and distress than their counterparts, but the majority of FCS were functioning at the same level as the civilian comparison group. Our FCS sample did not appear more overwhelmed with the everyday demands of parenting than civilian parents, but were more overwhelmed by emotional distress which led to withdrawal from their children and the community. Attachment theory may be applicable in describing the effects that parental emotional distress can have on children, as children develop a sense of safety and well-being when caretakers are responsive to their needs (Bowlby, 1969). Children’s normal coping mechanisms can become impaired if a parent is overwhelmed and unable to help a child exposed to severe stressors (Zero to Three, 2005).
Differential effects of parental history of abuse on corporal punishment

Corporal punishment did not vary greatly from civilian counterparts. Some FCS reported either extreme discipline, as learned from the rebel group, or an avoidance of physical discipline that would otherwise be culturally-appropriate. For FCS with increased aggression, their children may be at increased risk of maltreatment. Intergenerational transmission of trauma has been described as a “cycle of violence,” which posits that victimized children grow up to victimize others and can lead to criminal behavior in adolescence and/or adulthood (Widom & Maxfield, 2001). Studies have shown that war veterans with post-traumatic stress disorder (PTSD) use violence more often than those without (Taft, Pless, Stalans, Koenen, King, & King, 2005). Being able to identify harsh parenting is important, as it may disrupt a child’s development of emotional regulation (Bradley & Corwyn, 2008), and childhood exposure to family violence has been linked to emotional dysregulation and later adult violence (Siegel, 2013). Such behavior could be explained by the social learning theory of family violence, which posits that children can learn social behaviors by observing and imitating parents (Bandura, 1977), and has been seen in the process of aggression with corporal punishment (Gershoff, 2002).

However, in a 16-year follow up study of 39 FCS in Mozambique, Boothby, Crawford, and Halperin (2006) found that most FCS grew into trusted adults who were productive in their communities with the establishment of positive relationships, mitigating the cycle of violence. Our study found that the majority of FCS were not more or less aggressive in punishment of their children, as compared to the civilian norm of corporal punishment.
Social factors affecting intergenerational strain

For FCS, the political and social stigma of belonging to the opposition group, chronic unwarranted interrogations and sexual assaults, and the difficulties of raising a child conceived from rape are added to the ever-present realities of unemployment, inability to fulfill one’s parental role as provider, lack of education or skills, and poverty. Families may have little resources to draw upon to buffer the additional effects of intergenerational stress. Exposure to four or more risk factors for child maltreatment and severely impaired environments was shown to have a 12-fold increase in mental and physical health problems in the Adverse Childhood Experiences study (Dube, Felitti, Dong, Giles, & Anda, 2003). In addition to individual traumas, some FCS parents endure the societal strain of stigma, sexual violence, persecution and interrogation, and lack of resources to provide basic needs for their children. There is long-standing evidence on the cumulative effect of risk factors in predicting poor health outcomes (Sameroff et al., 1987).

Our study finds that one parent is not solely responsible for the intergenerational passing of stress onto children, but that society and community also play a role. Societal trauma has been shown to affect subsequent generations in populations such as Native Americans, who struggle with "historical trauma" where unresolved grief due to colonization is passed intergenerationally, leading to adverse mental health outcomes (Brave Heart, 2003) through frequent discrimination (Whitbeck, Adams, Hoyt, & Chen, 2004). In our Burundian FCS sample, “historical trauma” was shown through the interrogation, discrimination, and marginalization of FCS from the political opposition party, as well as the interweaving of the FCS experience into indero.
This study had limitations and strengths of note. We should stress that this is preliminary qualitative data in a rarely studied population. The purpose of this exploratory study was to generate hypotheses for further examination. Limitations are that other family members were not systematically interviewed. When present, spouses were interviewed (four in total), as well as children above six years old. However, it was rare for both parents to be home simultaneously, and we commonly observed that Burundian children were extremely guarded and hesitant around strangers; therefore, this additional data was not included. Another limitation is the impact of having outsiders (an American and a Burundian interpreter from outside of the province) doing observations and interviews. Although initially the participants and province community created a great deal of attention around the interviewer, after a few hours, they resumed normal activity, while the interviewer spent the remainder of the day observing. Strengths are that this is the first study, that we know of, that specifically examines intergenerational stress among FCS with a comparison group. Our study used an exploratory observational and qualitative approach to attempt an initial understanding of key factors, and met participants in their home environments, to allow for a better understanding of daily family functioning.

Family therapists have a unique role in the rehabilitation of former child soldiers, who are now aging and having children and families of their own. Many current interventions in the field focus on the individual FCS and PTSD symptoms. However, our findings suggest that an ecological approach that incorporates family and community, in addition to the individual, can provide a critical and more comprehensive approach to healing. Interventions should consider the intergenerational family trauma that children are exposed to by living with a FCS parent with continued severe mental distress. A family-centered approach would view present difficulties through a lens of understanding how
problems and solutions are passed through generations. The use of hope as a practice (Kotze, Hulme, Geldenhuys, & Weingarten, 2013), couples therapy that addresses the reenactment of past traumatic relational problems (Nasim & Nadan, 2013), and collaborative dialogue that involves the use of silencing and disclosure (Haene, Rober, Adriaenssens, & Verschueren, 2012; Song & de Jong, 2013) could assist the family in healing. Moreover, family grief work that addresses ambiguous loss could focus on finding meaning instead of closure (Boss & Carnes, 2012). Civilians and FCS parents requested forums where they could meet to discuss parenting together. Each province has an “association” where civilians and FCS congregate to look for shared employment. This allows for an opportunity for screening, education, and early prevention and intervention. These family-centered initiatives could help to both prevent and treat the cycles of trauma that have the potential to affect later generations and build upon naturally occurring strengths in FCS families.

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References


CHAPTER 7

Psychological distress in torture survivors: pre- and post-migration risk factors in a U.S. sample

Abstract

Purpose. To investigate the relationships between socio-demographic, pre- and post-migration variables with prevalence of psychological distress and global functioning in a heterogeneous sample of torture survivors.

Methods Clients referred from resettlement agencies via the Office of Refugee Resettlement (ORR) to a community clinic in the United States (N = 278) were interviewed with structured, translated questionnaires. Univariate and multivariate logistic regression analyses determined the associations of socio-demographic, pre-, and post-migration risk factors with posttraumatic stress disorder (PTSD), depression, anxiety, and global functioning.

Results Regression data indicate that length of time between arrival in U.S. and clinical services was significantly associated with PTSD and depression; participants receiving services after 1 year of resettlement were more likely to experience PTSD (adjusted OR = 3.29) and depression (adjusted OR = 4.50) than participants receiving services within 1 year. Anxiety was predicted by female gender (adjusted OR = 3.43), age over 40 years (adjusted OR = 3.12), Muslim religion (adjusted OR = 2.64), and receiving medical services (AOR 3.1). Severely impaired global functioning was associated with female gender (adjusted OR = 2.75) and unstable housing status (adjusted OR = 2.21).

Conclusion Findings highlight the importance of examining post-migration variables such as length of time in country prior to receiving services in addition to pre-migration torture history upon relocated torture survivors. Clinicians and policy-makers should be aware of the importance of early mental health screening and intervention on reducing the psychiatric burden associated with torture and forced relocation.
Introduction

Torture survivors are individuals who have had physical or mental pain or suffering intentionally inflicted by a person acting in an official capacity for the purposes of intimidating, discriminating, or obtaining information [1]. In 2011, almost 45.2 million people were newly displaced due to conflict or persecution, with 28.8 million internally displaced persons and 15.4 million refugees – representing the largest number of refugees in over a decade [2]. A systematic review of 7000 refugees showed that those resettled in high-income countries could be 10 times more likely to have posttraumatic stress disorder (PTSD) than age-matched populations in those countries [3]. Refugees can suffer from a broad range of mental health problems [4,5]. Research has most commonly focused on PTSD, depression, and anxiety, with higher rates influenced by continuous and cumulative pre-migration [6] and post-migration stressors [7,8]. In addition, grief and substance use problems are important mental health concerns in refugee populations [9]. Research with refugees in high-income countries has shown that more direct exposure to war events is associated with higher levels of psychological distress [10,11]. This dose-effect has been shown in refugees with exposure to torture being the strongest risk factor for PTSD symptomology [12].

The resettlement period can increase psychological distress, with some refugees continuing to feel unsafe with added strains of unemployment, language barriers, legal issues, and discrimination by their new country [13,14]. They can face the loss of social status, identity changes, poverty and livelihood difficulties, ambiguous loss of loved ones, acculturation stress and feelings of isolation [15]. Moreover, for asylum seekers who arrive in a country without formal legal status, the process of applying for asylum can become a major stressor [16].
The relative importance of exposure to potentially traumatic events compared to other stressors has been the subject of debate [17]. In some studies, war-exposure has been shown to be more strongly related to PTSD than post-trauma stressors which more strongly predict depression [18,19,20]. However, other studies have shown that post-migration stressors such as social isolation, unemployment, and discrimination predict poor mental health with equal or greater post-trauma severity [17, 21].

Given the commonly compounded stressors faced by refugees and asylum seekers, including pre- and post-migration risk factors in the new host country, clinicians are faced with the dilemma of whether to address the mental health consequences of pre-migration torture first, or prioritize post-migration stressors. Decisions on refugee mental health services would benefit from understanding which variables are more strongly associated with poor mental health and functioning, to serve as targets for intervention. Length of time before seeking services may be an important but often overlooked component in predicting psychological distress, as studies show that traumatic events are associated with psychological distress immediately after exposure, but that this distress may alleviate over time for a majority of survivors [22,23]. In a study of Vietnamese refugees, Steel, Silove, Phan, and Bauman (2002) found that the mental health risk associated with cumulative exposure to potentially traumatic events decreased as the length of time since the conflict or resettlement increased [24]. However, other studies have shown that individuals who are resettled longer may encounter greater chronic daily stressors for survival in a new country and culture, leading to poorer coping [25]. In a study of quality of life using pre-migration (i.e., trauma in the home country) and post-migration (socio-economic and adverse events in the host country) factors, for Iraqis awaiting asylum procedures, length of stay in the host country was the strongest predictor for reduced overall quality of life [26].
Given that some refugees’ mental distress may ease over time, examining resilience variables associated with enhanced well-being can be of clinical use. We use a broad definition of resilience to refer to good mental health outcomes despite exposure to significant adversity [27], though a more detailed conceptualization of resilience is described in a systematic review of resilience in children and adolescents in armed conflict [28]. Research has encouraged the importance of recognizing and building on resiliency processes in refugees in treatment [29]. Current research on resilience focuses less on resilience as an intrinsic process, but emphasizes the dynamic interplay of variables at different socio-ecological levels (individual, family, community) in predicting positive mental health despite exposure to adversity [28]. The present study aimed to examine exposure to various types of pre-migration torture within a community clinic sample of torture survivors in the United States and determine which pre- and post-migration variables most strongly associated with their psychological distress and global functioning.

Methods

Participants

All participants were referred to a resettlement agency and primary health clinic by the Office of Refugee Resettlement (ORR). The agency or clinic then referred participants requiring additional services to the study site, a community-based non-profit clinic in California that is the largest provider of social, legal, medical, and psychological services to refugees and asylees in Northern California. Participants who chose to engage in services were provided informed consent and completed a battery of demographic and clinical questionnaires at intake. The clinic has an average one month wait-time for participants to begin an evaluation for services. The clinician then decides which services are available for
each client – medical, mental health (psychological or psychiatric), legal (assistance with immigration status), or social (housing, language, and education). All study protocols were approved by the clinic Institutional Review Board. From January 2010 to December 2011, data were obtained from 278 participants. Roughly half were from Iraq (26%), Iran (16%), or Eritrea (10%), with the remaining participants from 35 other countries. Christians and Muslims comprised 38% and 36% of the sample, respectively, with six other religions represented in our sample. Participants presented with primary complaints of psychiatric/psychological issues (42%), followed by education or language (19%), employment (12%), and legal, health, housing, economic, access to health care, and “other” complaints. The most common psychiatric diagnoses given by clinicians were PTSD (56%) and major depressive disorder (MDD, 11%).

Instruments

**Demographic questionnaire**

Demographic data were obtained using a standard ORR questionnaire. Data collected included age, gender, religion, arrival with child, immigration status on intake, home occupation, country of origin, employment at intake, education, English fluency, housing status, religion, and primary complaint on intake. Torture experiences (i.e., beating, wounding/maiming, rape/sexual, forced postures/stretching/hanging, deprivation, sensory stress, threats/psychological, witnessing torture of others, dental, severe humiliation) were assessed via checklist, with clients responding “yes” if they experienced a specific type of torture or not. Items with a less than 10% frequency were collapsed into “Other” which included the following torture types: burning, asphyxiation, pharmacological, electrical, kidnapping/disappearances, and other. Reasons for torture (including political beliefs,
family background, religious beliefs, suspected sympathizing with an organization, ethnicity/race, occupation) were also assessed. Items with a less than 10% frequency on the questionnaire were collapsed into “Other”, which consisted of: participant's job, family association with the militia, unknown reason, nationality, gender, participant was a prominent leader, association with others, social group membership, refusal to smuggle, and to avoid the military.

Post-migration factors included low English language proficiency, services received, housing, immigration, and employment status on discharge. The item “time to present for services” queried the number of months following U.S. resettlement before arriving to the clinic. Responses were categorized into: 0-6, 7-12, 13-24, 25-36, 37-48, 49-60, or 61+ months before clinic intake. For our analyses, we these categories were collapsed into two categories: collapsed these variables: before one year versus after one year of arrival. This cutoff was selected because we judged that one year was sufficient for participants to pass the post-resettlement "honeymoon" phase that may mask the difficulties associated with resettlement including full manifestation of torture- and migration-related psychiatric symptomology. A sensitivity analysis on the time period to arrival to services was performed, to see if six months or two years made a difference. Little difference was found in the associations of socio-demographic, pre- and post-migration risk factors with PTSD, depression, anxiety and global functioning (tables available from authors per request).

*Mental health scales*

The following scales were used to assess the presence of probable PTSD, depression, and anxiety severity as well as impaired global functioning.
Post-Traumatic Stress Disorder Scale (PCL) is a 17-item self-report measure of the 17 DSM-IV symptoms of PTSD. The questions are framed for symptoms in the past month, and responses are recorded via 5-point Likert scale (1 = “Not at all,” 5 = “Extremely”). The National Center for PTSD has suggested optimal cut-points for Veterans’ Affairs or civilian specialty mental health clinics (where the estimated prevalence of PTSD is 40% or above) of 45-50 points. In the present study, we conservatively applied the original cutoff score of 50 points [30] to estimate presence of probable PTSD among participants.

Hopkins Symptom Checklist-25 (HCL-25) is a 25-item screening measure that uses a 4-point Likert scale (1 = “Not at all,” 4 = “Extremely”) to assess depressive (15 items) and anxiety symptomology (10 items) and presence of likely depression and anxiety using a 1.75 point cutoff score [31]. The HCL-25 has been shown to possess satisfactory validity and reliability [32]. A cutoff score of 1.75 is commonly used to indicate clinical disorder, with a satisfactory level of precision [31].

Global Assessment of Functioning (GAF) was used to assess a participant’s overall functioning level and severity of presenting symptoms. Impairments in psychological, social, and occupational/school functioning are considered. A clinician completes the scale correlating the participant’s presenting behaviors and attitudes with the descriptions found on the scale. Higher scores represent better functioning. We used a 50-point cutoff score to indicate “serious” psychiatric-related impairment, as this score has been determined to indicate the need for public mental health services [33].

Statistical Analysis

All analyses were performed with SPSS version 19. To address our research questions, first, we conducted descriptive analyses to determine frequencies, variable
distribution, and mean scores. Next, we examined potential differences between participants who presented for clinical services within one year after resettlement (Group 1) versus participants who presented after one year (Group 2) using independent sample t-tests and chi-square tests. We then examined variables hypothetically associated with probable PTSD, depression, anxiety, and impaired global functioning using a two-step logistic regression approach. In step one, time to presenting for services and the sociodemographic, pre-migration and post-migration risk factors were successively entered in separate univariate logistic regression models for each of our mental health outcomes (PTSD, depression, anxiety, and impaired global functioning). Odds ratios, 95% confidence intervals and \( p \) values for each factor were calculated for each model. Those variables found to be statistically significant for a specific outcome at the liberal \( p < .10 \) level were entered into the subsequent multivariate logistic model associated with that outcome. We decided to apply a less conservative \( p < .10 \) for this initial screening so as to not artificially exclude any variables that could add critical variance to our multivariate regression model. Adjusted odds ratios, 95% confidence intervals and \( p \) values were calculated \((p < .05)\) for each variable.

Based on our clinical experience with this special population, we selected a one year cutoff for the participants’ time to presenting for services predictor in our logistic regressions. To address potential concerns related to selecting this cutoff, we conducted sensitivity analyses using six month and two year cutoffs to determine whether the associations between our predictors and regressors would remain consistent across differing time points. Results indicated no notable differences when six month, one year, and two year cutoffs were applied. As a result, the one year cutoff was retained and reported in the current paper.
Results

Sociodemographic Group Differences

Participants seeking services within one year of arrival to the U.S. (Group 1) differed from participants seeking services after one year of U.S. arrival (Group 2) on sociodemographic variables (refer to Table 1). Group 2 participants were older and more commonly female, seeking or had established asylum, Buddhist, unable to work or unemployed without authorization to work, and presenting with primary psychiatric/psychological complaints at intake. The Group 1 participants were more commonly refugees, unemployed but authorized to work, possessed more stable housing, and had more primary complaints of education/language and occupation.
Table 1. Sociodemographic Pre-Migration Variables of Survivors of Torture Presenting for Services <12 months (Group 1) versus >12 months (Group 2) in California, 2010-2011

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group 1 (N=156)</th>
<th>Group 2 (N=122)</th>
<th>Total (N=278)</th>
<th>P Value or $\chi^2$ (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex, %</td>
<td></td>
<td></td>
<td></td>
<td>T= -1.8 (276); p=0.08</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
<td>39.3</td>
<td>45.3</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>60.7</td>
<td>54.7</td>
<td></td>
</tr>
<tr>
<td>Age, Mean (SD)</td>
<td>37.3(13.0)</td>
<td>43.84(15.1)</td>
<td></td>
<td>T=3.9 (276); p=0.00</td>
</tr>
<tr>
<td>Arrived with Child aged, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;5 yo</td>
<td>8.1</td>
<td>15.4</td>
<td>11</td>
<td>$\chi^2=2.2(2)$ p=0.33</td>
</tr>
<tr>
<td>5-12yo</td>
<td>6.1</td>
<td>10.8</td>
<td>7.9</td>
<td>$\chi^2=2.2(2)$ p=0.33</td>
</tr>
<tr>
<td>13-18yo</td>
<td>5.1</td>
<td>18.5</td>
<td>10.4</td>
<td>$\chi^2=11.1(5)$ p=0.05</td>
</tr>
<tr>
<td>&gt;18yo</td>
<td>5.3</td>
<td>9.4</td>
<td>6.3</td>
<td>$\chi^2=6.6(5)$ p=0.25</td>
</tr>
<tr>
<td>Occupation in Home Country, %</td>
<td></td>
<td></td>
<td></td>
<td>p=0.47</td>
</tr>
<tr>
<td>None</td>
<td>5.4</td>
<td>3.9</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>16.2</td>
<td>20.4</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Homemaker</td>
<td>10</td>
<td>19.4</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>66.2</td>
<td>53.6</td>
<td>62.5</td>
<td></td>
</tr>
<tr>
<td>Years of Education, %</td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2=35.49(17)$ p=0.005</td>
</tr>
<tr>
<td>No education</td>
<td>3</td>
<td>14.5</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>1-11 years</td>
<td>19.5</td>
<td>21.6</td>
<td>21.2</td>
<td></td>
</tr>
<tr>
<td>12 years</td>
<td>32.6</td>
<td>19.1</td>
<td>26.4</td>
<td></td>
</tr>
<tr>
<td>13+ years</td>
<td>35.6</td>
<td>37.3</td>
<td>36.5</td>
<td></td>
</tr>
<tr>
<td>Level English Fluency, %</td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2=9.71(4)$ p=0.046</td>
</tr>
<tr>
<td>None</td>
<td>21.7</td>
<td>21.7</td>
<td>24.1</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>39.5</td>
<td>23.7</td>
<td>32.6</td>
<td></td>
</tr>
<tr>
<td>Fair</td>
<td>16.4</td>
<td>14.4</td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>11.2</td>
<td>17.8</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td>Very Good</td>
<td>11.2</td>
<td>16.9</td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td>Religion, %</td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2=27.39(8)$ p=0.001</td>
</tr>
<tr>
<td>Buddhist</td>
<td>3.3</td>
<td>15.9</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>47</td>
<td>29.2</td>
<td>39.4</td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>35.8</td>
<td>39.8</td>
<td>37.5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13.9</td>
<td>15.1</td>
<td>14.5</td>
<td></td>
</tr>
<tr>
<td>Country of origin, %</td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2=44.105 (8)$ p=0.001</td>
</tr>
<tr>
<td>Iraq</td>
<td>39.7</td>
<td>9.0</td>
<td>26.2</td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>16.0</td>
<td>16.4</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td>Eritrea</td>
<td>12.2</td>
<td>7.4</td>
<td>10.1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>32.1</td>
<td>67.2</td>
<td>47.5</td>
<td></td>
</tr>
</tbody>
</table>
Participants were tortured mainly for political beliefs and family background. More Group 2 participants reported exposure to beatings, witnessing others being tortured, severe humiliation, physical torture, and being tortured before 18 years old. More Group 1 participants reported being secondary torture survivors and had family members that were tortured (refer to Table 2).
Table 2. Reasons for and types of Pre-Migration Torture in Survivors of Torture Presenting for Services <12 months (Group 1) versus >12 months (Group 2) in California, 2010-2011

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group 1 (N=156)</th>
<th>Group 2 (N=122)</th>
<th>Total (N=278)</th>
<th>χ²(df) and P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reason for Torture, %</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Belief</td>
<td>36.8</td>
<td>35.6</td>
<td>36.3</td>
<td>χ²=0.03(1) p=0.87</td>
</tr>
<tr>
<td>Family Background</td>
<td>38.5</td>
<td>37.9</td>
<td>38.2</td>
<td>χ²=0.01(1) p=0.94</td>
</tr>
<tr>
<td>Religious beliefs</td>
<td>29.1</td>
<td>33.3</td>
<td>30.9</td>
<td>χ²=0.43(1) p=0.52</td>
</tr>
<tr>
<td>Ethnicity/race</td>
<td>10.3</td>
<td>14.9</td>
<td>12.3</td>
<td>χ²=1.0(1) p=0.32</td>
</tr>
<tr>
<td>Suspected group member</td>
<td>16.2</td>
<td>19.5</td>
<td>17.6</td>
<td>χ²=0.01(1) p=0.94</td>
</tr>
<tr>
<td>Other (nationality, gender, prominent leader, asssn. w others, suspected member org, refuse join torturer's activities, job, fam asssn. w militia, arbitrary, social group, avoid military, refuse smuggle)</td>
<td>34.3</td>
<td>35.1</td>
<td>35.5</td>
<td>χ²=0.23(1) p=0.63</td>
</tr>
<tr>
<td><strong>Type of Torture, %</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beating</td>
<td>36.6</td>
<td>57.0</td>
<td>45.6</td>
<td>χ²=11.36(1) p=0.001</td>
</tr>
<tr>
<td>Wound/Maim</td>
<td>7.8</td>
<td>9.1</td>
<td>8.4</td>
<td>χ²=0.14(1) p=0.71</td>
</tr>
<tr>
<td>Rape/sexual</td>
<td>8.5</td>
<td>9.1</td>
<td>8.8</td>
<td>χ²=0.03(1) p=0.86</td>
</tr>
<tr>
<td>Forced posture, stretch, hang</td>
<td>12.4</td>
<td>10.7</td>
<td>11.7</td>
<td>χ²=0.18(1) p=0.67</td>
</tr>
<tr>
<td>Deprivation</td>
<td>15.0</td>
<td>21.5</td>
<td>17.9</td>
<td>χ²=1.92(1) p=0.17</td>
</tr>
<tr>
<td>Sensory stress</td>
<td>11.1</td>
<td>14.0</td>
<td>12.4</td>
<td>χ²=0.54(1) p=0.47</td>
</tr>
<tr>
<td>Threats and psychological</td>
<td>51.3</td>
<td>62.0</td>
<td>56</td>
<td>χ²=3.11(1) p=0.80</td>
</tr>
<tr>
<td>Witnessing torture of others</td>
<td>21.1</td>
<td>43.0</td>
<td>30.8</td>
<td>χ²=15.20(1) p=0.00</td>
</tr>
<tr>
<td>Severe humiliation</td>
<td>10.5</td>
<td>19.8</td>
<td>14.6</td>
<td>χ²=4.765(1) p=0.03</td>
</tr>
<tr>
<td>Secondary survivor</td>
<td>32.1</td>
<td>14.8</td>
<td>24.5</td>
<td>χ²=11.09(1) p=0.00</td>
</tr>
<tr>
<td>Other (burn, asphyxiation, pharmacological, electrical, kidnapping)</td>
<td>15.8</td>
<td>12.4</td>
<td>22.7</td>
<td>χ²=1.02 (1) p=0.31</td>
</tr>
<tr>
<td><strong>First tortured under 18 yrs old, %</strong></td>
<td>12.1</td>
<td>27.3</td>
<td>19.1</td>
<td>χ²=9(1) p=0.01</td>
</tr>
<tr>
<td><strong>First tortured over 18 yrs old, %</strong></td>
<td>87.9</td>
<td>72.7</td>
<td>80.9</td>
<td>χ²=8(1) p=0.01</td>
</tr>
<tr>
<td>Witnessed torture, %</td>
<td>20.0</td>
<td>42.6</td>
<td>30.2</td>
<td>χ²=17.54(2) p=0.00</td>
</tr>
<tr>
<td>Family was tortured, %</td>
<td>32.1</td>
<td>14.8</td>
<td>24.5</td>
<td>χ²=12.125(2) p=0.00</td>
</tr>
<tr>
<td>Experience physical torture, %</td>
<td>39.7</td>
<td>58.2</td>
<td>47.8</td>
<td>χ²=11.06(2) p=0.00</td>
</tr>
<tr>
<td>Experience sexual torture, %</td>
<td>8.3</td>
<td>9.0</td>
<td>8.6</td>
<td>χ²=1.32(2) p=0.5</td>
</tr>
</tbody>
</table>
Service variables: Service use and discharge status

Table 3 shows prevalence of service use and immigrant and employment status on discharge from clinic services. Overall, participants most frequently utilized mental health services, followed by legal, social, and medical services. Group 2 participants more frequently utilized mental health services. Group 1 participants were more commonly unemployed despite being authorized to work in the U.S. (refer to Table 3).

Table 3. Services received and Discharge status in Survivors of Torture Presenting for Services <12 months (Group 1) versus >12 months (Group 2) in California, 2010-2011

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group 1 (N=156)</th>
<th>Group 2 (N=122)</th>
<th>Total (N=278)</th>
<th>X² (df) and p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received services, % (y/n)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>41.0</td>
<td>38.5</td>
<td>39.9</td>
<td>X² = 0.18(1) p = 0.67</td>
</tr>
<tr>
<td>Social</td>
<td>45.5</td>
<td>34.4</td>
<td>40.6</td>
<td>X² = 3.49(1) p = 0.62</td>
</tr>
<tr>
<td>Mental Health</td>
<td>54.8</td>
<td>76.0</td>
<td>64.1</td>
<td>X² = 13.27(1) p = 0.00</td>
</tr>
<tr>
<td>Legal</td>
<td>48.1</td>
<td>48.4</td>
<td>48.2</td>
<td>X² = 0.00(1) p = 0.96</td>
</tr>
<tr>
<td>Immigrant Status Discharge, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asylum seeker</td>
<td>11.0</td>
<td>21.7</td>
<td>15.6</td>
<td>X² = 71.6(5) p = 0</td>
</tr>
<tr>
<td>Asylee</td>
<td>5.2</td>
<td>10.0</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Refugee</td>
<td>80.6</td>
<td>34.2</td>
<td>60.4</td>
<td></td>
</tr>
<tr>
<td>Permanent resident</td>
<td>2.6</td>
<td>15.0</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>US Citizen</td>
<td>0.0</td>
<td>15.8</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.6</td>
<td>3.3</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Employment status at Discharge, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No work authorization</td>
<td>3.6</td>
<td>3.0</td>
<td>3.3</td>
<td>X² = 25.39(10) p = 0.005</td>
</tr>
<tr>
<td>Unemployed, work authorized, not seeking employment</td>
<td>7.1</td>
<td>14.9</td>
<td>10.4</td>
<td></td>
</tr>
<tr>
<td>Unemployed, work authorized seeking employment</td>
<td>28.6</td>
<td>17.8</td>
<td>24.1</td>
<td></td>
</tr>
<tr>
<td>Employed w work authorization</td>
<td>30.0</td>
<td>33.7</td>
<td>31.5</td>
<td></td>
</tr>
<tr>
<td>Unable to work</td>
<td>10.0</td>
<td>16.8</td>
<td>12.9</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>19.0</td>
<td>13.9</td>
<td>16.9</td>
<td></td>
</tr>
</tbody>
</table>
Severity and prevalence of PTSD, Depression, and Anxiety

For the 235 participants who completed the PCL, the sample mean PCL score was 52.36 (SD ±0.75). This score exceeded the 50-point clinical threshold for PTSD, indicating that on average, participants suffered from probable PTSD at the time of assessment. Over half of the participants (56.9%; n = 128) reported scores exceeding the 50-point threshold indicating likely PTSD. For the 235 participants who completed the HCL-25, the sample mean HCL-25 depression score was 2.59 (SD ± 0.77) and the mean HCL-25 anxiety score was 2.54 (SD ± 0.75). Both of these sample mean scores exceeded the cutoff score of 1.75 for both the HCL-25 depression and anxiety scales which suggested that on average, participants were experiencing depression and anxiety. Specifically, 83.8% (n = 197) and 81.3% (n = 191) of the participants reported a score above the 1.75 point cut-off for clinical depression and anxiety, respectively. On average, Group 2 participants reported higher PTSD and depressive symptomology and lower global functioning scores than Group 1 participants (refer to Table 4).

Table 4. Prevalence of Psychiatric Symptoms and Functioning in Survivors of Torture Presenting for Services <12 months (Group 1) versus >12 months (Group 2) in California, 2010-2011

<table>
<thead>
<tr>
<th>Primary Intake Symptoms</th>
<th>Group 1 (N=156)</th>
<th>Group 2 (N=122)</th>
<th>T statistic (df), p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD symptoms</td>
<td>46.06 (16.89)</td>
<td>60.0 (15.75)</td>
<td>T=-6.34 (221), p=000</td>
</tr>
<tr>
<td>Depression symptoms</td>
<td>2.37 (0.777)</td>
<td>2.86 (0.68)</td>
<td>T=-5.512 (229.3) p=0.000</td>
</tr>
<tr>
<td>Anxiety symptoms</td>
<td>2.2 (0.78)</td>
<td>2.8 (0.73)</td>
<td>T=-5.934 (227.1) p=0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intake Functioning</th>
<th>Group 1 (N=156)</th>
<th>Group 2 (N=122)</th>
<th>T statistic (df), p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAF</td>
<td>55.17 (10.62)</td>
<td>51.74 (9.31)</td>
<td>T=2.738(264); p=0.007</td>
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Univariate and multivariate logistic regressions

The initial series of univariate logistic regressions indicated that the following variables were associated with probable PTSD: female sex, being younger than 40 years of age, claimed asylum seeker status, time to presenting for services of over one year, experiencing torture (i.e., beating, severe humiliation, physical abuse, and witnessing others being tortured), presenting for treatment with a psychological compliant, and receiving social and mental health treatment services were significantly related to probable PTSD. When these risk factors were entered into a multivariate logistic regression model, only time to presenting for services before one year remained related to PTSD with participants presenting for services after over one year in the U.S. versus under one year possessing over three times greater adjusted odds ratios for PTSD (refer to Table 5).

With regard to probable depression, a similar pattern of logistic regression results emerged. The univariate logistic regressions indicated that female sex, being younger than 40 years of age, adhering to the Muslim faith, time to presenting for services of over one year, experiencing psychological threats, and receiving mental health treatment services were significantly related to depression. Yet, the multivariate logistic regression model that contained these risk factors indicated that only time to presenting for services of over one year associated with probable depression. Those participants presenting for services after over one year in the U.S. versus under one year possessing over five times greater adjusted odds ratios for depression.
Table 5: Univariate and multivariate logistic regression models of the associations posttraumatic stress, depression, and anxiety with length of time to arrival of services, sociodemographic, pre-migration, and post-migration factors

<table>
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<tr>
<th></th>
<th>PTS Crude odds ratio (95% CI)</th>
<th>PTS Adjusted odds ratio (95% CI)</th>
<th>Depression Crude odds ratio (95% CI)</th>
<th>Depression Adjusted odds ratio (95% CI)</th>
<th>Anxiety Crude odds ratio (95% CI)</th>
<th>Anxiety Adjusted odds ratio (95% CI)</th>
<th>GAF Crude odds ratio (95% CI)</th>
<th>GAF Adjusted odds ratio (95% CI)</th>
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<td>1.23 (0.37, 4.05)</td>
<td>4.08 (2.07, 8.05)**</td>
<td>3.43 (1.34, 8.85)**</td>
<td>1.78**</td>
<td>4.32**</td>
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<td>1.63 (0.80, 3.35)</td>
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<td>2.37 (0.84, 6.66)</td>
<td>3.47 (1.76, 6.85)**</td>
<td>3.12 (1.18, 8.24)**</td>
<td>2.15 (1.08, 4.32)†</td>
<td>2.27 (1.08, 4.78)†</td>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>2.79 (1.32, 5.00)†</td>
<td>2.64 (0.99, 7.01)†</td>
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<td>5.92 (1.99, 17.44)</td>
<td>7.01 (1.98, 23.92)</td>
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<tr>
<td>Yes</td>
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<td>2.39 (0.70, 8.15)</td>
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<tr>
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<tr>
<td></td>
<td></td>
<td>3.55 (1.81, 6.21)***</td>
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<td>1.48 (0.68, 3.22)</td>
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* $p < 0.05$
** $p < 0.01$
*** $p < .001$
† $p < .10$
Univariate regressions examining probable anxiety revealed that female sex, being younger than 40 years of age, claimed asylum seeker status, adhering to the Muslim faith, time to presenting for services of over one year, experiencing severe humiliation torture, presenting for treatment with a psychological compliant, and receiving mental health treatment services were associated with greater odds of experiencing anxiety.

The univariate logistic regression analyses with severely impaired global functioning indicated that female sex, being younger than 40 years of age, time to presenting for services of over one year, experiencing physical torture and witnessing others being tortured, unstable housing status, and receiving mental health treatment services were associated with severe global dysfunction. Multivariate logistic regression results revealed that only female sex and unstable housing status produced significantly elevated adjusted odds ratios, suggesting that these risk factors were independently related to increased odds of experiencing severe global dysfunction.

Discussion

The aim of the current study was to investigate the pre- and post-migration factors in a clinic sample comprised of forcibly displaced participants (i.e., refugees and asylum-seekers) living in the U.S. Participants who presented for services within one year of relocating to the U.S. (Group 1) differed significantly from participants who delayed arriving for services after one year of relocating to the U.S. (Group 2). Pre-migration analysis showed that the two groups were tortured mainly for political beliefs and family background, but Group 2 experienced more beating, witnessed torture of others, severe humiliation, physical torture, and early torture (under 18 years of age). Further examination of post-migration factors show that for both groups, mental health services
were the most frequently used and Group 2 used more mental health services than Group 1. Collectively, this suggests that Group 2 was struggling more – their pre-migration lives included more torture, were older, and female, which all may have impacted their resettlement lives (higher levels of PTSD and depression symptoms, lower levels of functioning and were not seeking employment, arrived with primary psychological complaints and used more mental health services). In a study of asylum seekers living in the Netherlands, Laban et al., 2007 [34] showed that those who lived in the host country for less than 6 months (our Group 1) were more often female, had fewer psychiatric disorders and fewer post-migration living problems (family problems, socioeconomic living conditions, for example), than those who lived more than 2 years in the host country (our Group 2).

On average, both of our groups experienced high levels of PTSD, depression, and anxiety, with Group 2 having more severe PTSD and depression and lower functioning. One meta-analysis of pre- and post-migration factors showed that post-migration refugee stressors such as social isolation, unemployment predict mental health symptomatology more than pre-migration trauma [21]. Our analysis further specifies this meta-analysis finding by suggesting that these determining post-migration risk factors may be moderated by the time to obtaining services in the host country.

When further evaluating what pre- and post-migration variables truly impacted mental health and functioning, we found that when adjusted, probable PTSD and depression were not significantly related to these risk factors. Anxiety however, was significantly related to being female, aged over 40 years, reporting Muslim religion, and receiving medical services and Group 2 was more likely to have probable PTSD and depression than Group 1. Functioning was related to gender and unstable housing status after adjusting for other risk factors. Trauma and psychosocial factors were associated with mental health and
functioning. However, they were no longer significant when time to presenting for services was added to the analysis. The time to present for services was the most important factor associated with probable PTSD and depression, when adjusted for all other variables and fully explained the relationship between pre/post migration factors (including torture experiences) and subsequent probable PTSD and depression. As this study is descriptive, we cannot explain with certainty why time to seek services is critical. Based on the conservation of resources theory [35] psychological stress occurs with a loss of resources. After arriving in a host country, there can be a chain of psychosocial loss that threatens wellbeing. These stressors can therefore build to deteriorate family relationships and functioning resulting in a difficulty in coping. Following this theoretical framework, we can propose that poor mental health may impede functioning, which may therefore impede seeking help. The experiences of post-migration life may compound mental health difficulties associated with the migration experience [36]. Therefore, assisting survivors to receive services within one year of resettlement may mitigate PTSD and depression symptoms. Those reporting severe beating, and those of female gender, may take longer to seek services and should be engaged in active outreach efforts. A multi-sectoral stepped-care approach may be of use, to ensure that interventions are proportional to the client’s mental health and psychosocial needs. Initial survivors with few needs may benefit from a simple and generic early stage prevention intervention, whereas survivors with more serious needs could have psychotherapy or psychopharmacology available if needed [37]. Future research should examine resource-related factors, including objects (e.g. housing, clothing, food), personal characteristics (self-esteem), conditions (marital status, education, language), that may affect resiliency processes.
Strengths and Limitations

This study uses a large number of torture variables, with the inclusion of various pre- and post-migration factors; uses a heterogeneous sample; and includes a measure of functioning in addition to psychiatric symptoms, which is important in a culturally diverse group. Limitations are that the surveys may not have been culturally validated for the specific populations, as criterion validity is not frequently tested in population-based refugee samples [38]. Moreover, the relationship between length of time to seek services and mental health may result from cohort effects, such as those with better mental health having more opportunities to find resources and coming to the clinic. Self-selection and recall bias could be possible, with Group 1 having different mental health profiles, which may reduce our generalizability. The assessment of torture exposure was based on self-report, thereby allowing for potential variation on understanding of the term. A prospective longitudinal design would have been more appropriate for studying the effects of torture and psychosocial variables on mental health and functioning over time. Although a cross sectional design cannot give evidence of causality, this initial study aimed only to describe the pre- and post-migration factors associated with mental health difficulties and functioning and set the stage for future research. And finally, the relationship between pre- and post-migration factors, torture and psychosocial factors, and mental health problems, are not simply cause-and-effect. They can influence each other, with psychosocial factors influencing mental health, which influences psychosocial factors. We therefore used multivariate logistic regressions to isolate the independent effects of relevant pre- and post-migration factors on prevalence of probable PTSD, depression, and anxiety. Nevertheless, further longitudinal research is needed, testing hypotheses on the effects of torture, psychosocial factors, and time to seek services, on mental health and functioning over time.
Moreover, due to the heterogeneity of the torture survivor population, dimensional and categorical models could include ranges of disorders.

**Conclusion**

In this descriptive study, we examined pre- and post-migration factors that may influence mental health and functioning and found that the most important association between mental health outcomes is actually how long clients have been in the country prior to accessing services. The results of our analysis indicate that the length of time before accessing services is the strongest social factor associated with depression and PTSD symptoms after adjusting for the other pre- and post-migration social factors including torture and psychosocial stress. While both cohorts have mental health and functioning problems, those that come to our clinic earlier have different needs than those that come later. Future research should investigate how time in the host country interacts with more “upstream” post-migration risk factors to affect mental distress and functioning. Our findings should encourage health professionals and providers of care for survivors of torture to prioritize outreach to rapidly engage clients early within arrival to their host country.

**Acknowledgements:** We would like to thank the survivors of torture who have endured multiple experiences in their home and host countries.
References

1. Convention against torture and other cruel, inhuman or degrading treatment or punishment, GA res. 39/46, Annex, 10 Dec. 1984


relative contribution of war experiences and exile-related stressors to levels of psychological distress among Bosnian refugees. J Trauma Stress 15:377–387


vulnerability to strength. Af Health Sci 8(2):1-4


CHAPTER 8

Predictors of mental health and functioning in torture survivors
Abstract

Little is known about factors that predict poor mental health and mental-illness related functioning for survivors of torture. Linear regression on N=280 survivors of torture determined the specific ability of pre-, post-migration factors, and psychosocial disability in predicting whether a torture survivor will experience adverse psychiatric symptomology and functioning. Female gender, older age, and inadequate housing predicted greater severity of anxiety, posttraumatic stress disorder (PTSD), depression, and worse global assessment functioning (GAF). Cumulative torture type independently predicted greater severity of anxiety and PTSD. Time spent in the U.S. before presenting for services was a significant unique predictor of psychiatric symptomology. Mental health, basic resources, and external risk disabilities were the strongest predictors of anxiety, PTSD, and depression. Public policy and services should seek to engage refugees immediately upon entry into the U.S. and try to bolster the mental health, basic needs, and external risk factors affecting refugees in a stepped care model. A prevention step could include screening for psychosocial disability and highlighting survivors with high exposure to diverse torture types and who have been in the U.S. after one year of arrival before receiving services.
Introduction

Around the world, there are 15.4 million refugees, over 900,000 asylum-seekers, and 28.8 million internally displaced persons who flee their home countries due to lack of social and economic opportunities or security in “failed” states or countries undergoing war (United Nations High Commissioner for Refugees, 2012). Many of these refugees experience torture—defined as physical or mental pain or suffering intentionally inflicted by a person acting in an official capacity for the purposes of intimidating, discriminating, or obtaining information (Convention against torture, 1984; Quiroga & Jaranson, 2005)—yet, little is known about the impact of torture and other key factors on the mental health of these individuals.

Research on torture survivors has suggested that torture exposure is associated with various mental health problems such as posttraumatic stress disorder (PTSD), with one notable exception (Johnson & Thompson, 2008). A recent meta-analysis of torture survivors from 40 countries indicated that exposure to torture—followed by cumulative exposure to potentially traumatic events—was the strongest predictor of PTSD in the sample (Steel, Chey, Silove, Marnane, Bryant, & van Ommeren, 2009). Additional studies evaluating the impact of various torture types on PTSD have documented that psychological torture is associated with increased PTSD (Basoglu, 2009; Kira, Ashby, Odenat, & Lewandowsky, 2013), and torture involving rape is also associated with increased PTSD (Punamäki, Glacaman, Rabala, Nguyen-Gillham, & Batniji, 2010), anxiety, and depression (Hooberman, Rosenfeld, Lhewa, Rasmussen, & Keller, 2007). Unfortunately, the overall effects of accumulated torture exposure on refugee mental health are not clearly understood, necessitating the inquiry into the impact of cumulative exposure to diverse torture types on mental health and functioning for the torture survivor population.
Other predictors of poor mental health in torture survivors include: female gender (Kira, Smith, Lewandowski, & Templin, 2010), older age (Johnson et al., 2008), ethnicity/discrimination (Kira, Lewandowski, Templin, Ramaswamy, Ozkan, & Mohanesh J., 2010), and unstable housing among various populations (Aidala, Cross, Stall, Harre, & Sumartojo, 2005; Krieger & Higgins, 2002) including refugees (Author et al., 2014). An additional factor found to influence refugee mental health and functioning is the length of time between arrival in a host country and entry into formal services (Laban, Gernaat, Komproe, & De Jong, 2007), with time before presenting for services emerging as the most important factor associated with clinical PTSD and depression prevalence in one survivors of torture sample (Author et al., 2014).

In contrast, minimal research has explored the relationships between disability—defined by the World Health Organization (WHO, 2001) as “an umbrella term covering impairments, activity limitations, and participation restrictions”—and refugee mental health. This may be partially due to the absence of validated measures of nonphysical disability in war-exposed populations from low-and middle-income countries (Hall, Puffer, Murray, Ismael, Bass, Sim, & Bolton, et al., 2014; Mollica, Cardozo Mollica, Osofsky, Raphael, Ager, & Salama, 2004). The few studies that have examined the relationship between psychiatric disorders and disability in the refugee population primarily looked at factors associated with disability. Mollica et al., 1999 found that in Bosnian refugees, older age, lack of education, and chronic medical illness were associated with disability (Mollica, McInnes, Sarajlic, Lavelle, Sarajlic, & Massagli, 1999), and that disability remained after three years in half of the 25% who met disability criteria (Mollica, Sarajlic, Chernoff, Lavelle, Vukovic, & Massagli, 2001). In a study of Bhutanese refugees, Thapa et al., 2003 found that PTSD, specific phobia, and physical disease were associated with disability in torture survivors.
Psychosocial disability is defined as “disability associated with a person’s psychosocial experience” (National Mental Health Consumer and Carer Forum Steering Committee on Psychosocial Disability, 2011). We sought to add to the limited data on disability and psychiatric disorders in survivors of torture by examining the effects of psychosocial disability and other pre- and post-migration factors on refugee mental health. The Culturally Adapted Functioning Index-Cross-Cultural Version (CAFI-XC) is an internationally widely used screen of nonphysical disabilities commonly used in clinical work and programming; however, research using the CAFI-XC to assess multiple psychosocial domains (e.g., basic needs, family relationships) affecting resettled U.S. refugees has been scarce. Ross-Sheriff, Gomes, Berry-Edwards, et al. examined three sub-scales (basic resources, mental health, and cultural navigation) of the CAFI-XC over four time periods (intake, 3, 6, and 9 months). The study found that N=269 survivors of tortures improved on all three sub-scales over time (Ross-Sheriff, Gomes, Berry-Edwards, Dailey, & Amri, 2014). However, the study recommended a revision of the CAFI-XC and the need for adaptation based on a qualitative design. In part, this is due to the broad nature of the scale and the conceptual confusion around the word “functioning” in the title, which is conceptually confusing. The scale more likely reflects psychosocial (non-physical) disability, which relates to the social consequences of disability. Those with poor psychosocial disability have difficulty using opportunities like education, training, cultural activities, and achieving their goals, and affect one’s ability to fully participate in life.

The limited extant data regarding the factors influencing poor mental health and mental health functioning among refugee torture survivors presents a hindrance to their clinical care. This paper builds on earlier research that identified the associations between
pre- and post-migration factors (e.g., gender, age, housing stability, torture exposure, length of time between U.S. arrival and presentation for services), and presence of clinical depression, anxiety, PTSD, and psychiatric-related functioning (Author et al., 2014). The present paper seeks to investigate the added influence of psychosocial disability in the interplay of pre- and post-migration variables in the prediction of whether a torture survivor will experience adverse psychiatric symptomology and functioning that necessitates psychiatric care; therefore, informing the clinical care of this underserved patient population.

Methods

Sample

This study consisted of an analysis of data (N = 280, 154 women, Mage = 40.31 ± 14.37 years) collected between January 2010 to December 2011 from a community-based non-profit torture survivor center in the U.S. Participants were referred to the center through a two-step process: (1) the Office of Refugee Resettlement (ORR) referred participants to a refugee resettlement agency or primary health clinic, then (2) the agency or clinic referred participants to the center to receive additional social, legal, and mental health services. The test battery consisted of an ORR-developed questionnaire assessing participants’ torture exposure, severity of anxiety, posttraumatic stress disorder (PTSD), and depression, and culturally-adapted disability. The study was carried out in accordance with the latest version of the Declaration of Helsinki and all study protocols were approved by the center's Institutional Review Board. Following the informed consent process, mental health professional staff conducted data collection in the participants’ preferred language via translator over the course of two sessions to minimize participant fatigue. After
complete description of the study to the subjects, written informed consent was obtained.

The study sample was heterogeneous with regard to country of origin and presenting complaint to the center. Roughly half of participants were from Iraq (n = 73, 26.10%), Iran (n = 45, 16.10%), or Eritrea (n = 28, 10.00%), with the remaining participants hailing from 35 other countries across the European, Asian, and African continents. The majority of participants reported being of Christian (n = 104, 37.80%), Muslim (n = 100, 36.4%), or Buddhist faith (n = 24, 8.70%), with 6 other religions also represented in our sample. Upon referral, participants presented with primary complaints including psychiatric/psychological (n = 117, 41.80%), education and/or language (n = 54, 19.30%), employment (n = 34, 12.10%), legal (n = 24, 8.60%), along with health, housing, economic, access to health care, and “other” complaints. The most common psychiatric diagnoses given by clinicians after the two-session assessment were PTSD (56%) and major depressive disorder (MDD, 11%).

Measures

Exposure to Torture

Exposure to diverse torture types—i.e., beating, wounding/maiming, rape/sexual, forced postures/stretching/hanging, deprivation, sensory stress, threats/psychological, witnessing torture of others, dental, severe humiliation—was assessed via a checklist using a binary “yes/no” response scale. Types of torture of less than 10% frequency—i.e., burning, asphyxiation, pharmacological, electrical, kidnapping/disappearances, and other—were collapsed into an “Other” category. For study analyses, endorsed types of torture (including “Other”) were summed to generate participant cumulative trauma scores.
Depression and Anxiety Symptomology

*Hopkins Symptom Checklist-25 (HCL-25).* The HCL-25 is a 25-item screening measure that uses a 4-point Likert scale (1 = “Not at all,” 4 = “Extremely”) to assess depressive (15 items) and anxiety symptomology (10 items) over the past seven days. The HCL-25 possesses satisfactory validity and reliability (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974; Mollica, McDonald, Massagli, & Silove, 2004).

Posttraumatic stress

*Post-Traumatic Stress Disorder Scale (PCL)* (Weathers, Litz, Keane, Palmieri, Marx, & Schnurr, 2013). The PCL is a 17-item self-report measure that uses a 5-point scale (1 = “Not at all,” 5 = “Extremely”) to assess DSM-IV PTSD symptomology over the prior month. The raw scores for all items were summed in this study to generate a total PTSD severity score.

Psychiatric Illness-Related Functioning

*Global Assessment of Functioning (GAF)* from the DSM-IV (American Psychiatric Association, 2000) assesses an individual’s overall level of psychiatric illness-related functioning, which includes impairments in psychological, social, and occupational/school functioning. In this study, trained clinicians scored the GAF—higher scores indicate better functioning—by matching participant’s presenting cognitions and behaviors with scale descriptions.

Disability measure

*Culturally Adapted Functioning Index-Cross-Cultural Version (CAFI-XC)* is a screening tool developed by the Center for Multicultural Human Services (CMHS) for determining
disability across multiple domains of disability (U.S. Committee for Refugees and Immigrants, 2010). As explained earlier, the title alludes to "functioning" as the outcome measure; however, we believe term "disability" is a more appropriate reflection of the items measured. In the present study, we examined participant scores across seven CAFI-XC domains: (1) basic resources (financial and other resources to meet basic needs such as food, shelter, medical care), (2) external risk (at home, community, work, or school), (3) mental health (impact of symptoms and coping skills on daily living), (4) family relationships (sources of positive family support), (5) social connectedness (positive social support outside the family), (6) language barriers (language skills), and (7) cultural navigation (cultural knowledge and skills for the host country). The CAFI-XC utilizes a 5-point scale with higher scores indicating lower disability (1 = severely compromised daily, 5 = thriving daily).

**Statistical Analysis**

Data were analyzed via Statistical Package for Social Sciences version 22.0 (IBM Corp, 2013). First, descriptive statistics including frequencies, means, and standard deviations were applied to characterize sample data. Next, four unique hierarchical linear regressions—comprised of identical predictor variables with different outcome variables—were conducted to determine whether our sociodemographic, pre- and post-migration, and resource variables significantly predicted severity of anxiety, PTSD, and depression, as well as GAF. For each regression model, Step 1 predictors included participants’ gender, age, and housing stability as inadequate housing is an identified mental health risk factor. Employment and education variables were excluded from analyses as most participants were unemployed and relatively highly educated (Author et al., 2014). Step 2 predictors...
predicted variables of MH and functioning torture survivors

included pre-migration cumulative torture type exposure and post-migration variables of immigrant status (i.e., asylum-seeking versus refugee) and length of stay in the U.S. prior to seeking services (i.e., before or at one year, after one year). Step 3 predictors were the seven CAFI-XC disability variables. Other studies have shown the importance of time to seeking services in an asylum-seeker population, due to the stressful nature of waiting for legal status (Laban, Gernaat, Komproe, & De Jong, 2007). We therefore included immigrant status in Step 2, to control for those already with legal status (refugees or asylees) versus those without (asylum-seekers).

Results

Hierarchical Linear Regressions

Tables 1-4 present results from the hierarchical linear regressions of anxiety, PTSD, depression, and GAF, respectively. For the regression of anxiety (Table 1), statistical tests of the β weights indicated that the demographic variables of gender, age, and stable housing uniquely predicted severity of anxiety with female gender having the strongest influence. After adjusting for Step 1 demographic variables, Step 2 predictors produced a highly significant $R^2$ change of .14, with statistical tests of the β weights indicating that time before presenting for services and cumulative torture type exposure predicted increased anxiety. The Step 3 CAFI-XC disability variables generated a highly significant $R^2$ change of .15 with basic resources, external risk, and mental health disability independently predicting anxiety when the demographic, Step 2, and other Step 3 variables were controlled. Overall, gender, time before presenting for services, and mental health disability were the strongest predictors of anxiety severity.
Table 1 *Multiple Linear Regressions of Anxiety*

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor</th>
<th>$B$</th>
<th>$b (SE)$</th>
<th>$F$</th>
<th>$R^2$ ($\Delta R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>Gender</td>
<td>.30***</td>
<td>.44 (.09)***</td>
<td>12.21***</td>
<td>.09***</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.18**</td>
<td>.01 (.01)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stable Housing</td>
<td>-.13*</td>
<td>-.22 (.11)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Immigrant Status</td>
<td>-.01</td>
<td>-.01 (.04)</td>
<td>9.81***</td>
<td>.23*** (.14)***</td>
</tr>
<tr>
<td></td>
<td>Time of Arrival</td>
<td>.27***</td>
<td>.08 (.02)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presenting Complaint</td>
<td>-.01</td>
<td>-.01 (.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Torture</td>
<td>.16*</td>
<td>.06 (.02)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>Basic Resources</td>
<td>.16*</td>
<td>.13 (.05)*</td>
<td>10.83***</td>
<td>.38*** (.15)***</td>
</tr>
<tr>
<td></td>
<td>External Risk</td>
<td>-.15**</td>
<td>-.15 (.06)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mental Health</td>
<td>-.36***</td>
<td>-.29 (.06)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Family Relationship</td>
<td>-.13*</td>
<td>-.10 (.05)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Connections</td>
<td>-.06</td>
<td>-.07 (.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Barriers</td>
<td>.08</td>
<td>.04 (.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Navigation</td>
<td>-.10</td>
<td>-.07 (.08)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p<0.05$  
** $p<0.01$  
*** $p<0.001$  

$\beta$ = standardized beta coefficient, $b$ = unstandardized beta coefficient, $SE$ = standard error, $F$ = F-value, $R^2$ = coefficient of determination,
For the regression of PTSD (Table 2), statistical tests of the β weights indicated that gender and age independently predicted PTSD. Entering the Step 2 predictors into the regression model generated highly significant $R^2$ change of .14, with the statistical tests of the β weights revealing that time before presenting for services and cumulative torture type exposure individually predicting PTSD severity. The CAFI-XC disability variables entered in Step 3 produced a significant $R^2$ change of .15 with basic resources, external risk, and mental health disability uniquely predicting variance in PTSD after controlling for the demographic, Step 2, and other Step 3 predictors. In sum, age, time before presenting for services, and mental health disability most strongly predicted PTSD severity.
### Table 2: Multiple Linear Regressions of Posttraumatic Stress Disorder

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor</th>
<th>$B$</th>
<th>$b$ (SE)</th>
<th>$F$</th>
<th>$R^2$ ($ΔR^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>Gender</td>
<td>.16**</td>
<td>5.82 (2.39)**</td>
<td>6.91***</td>
<td>.09***</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.24***</td>
<td>.30 (.08)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stable Housing</td>
<td>-.11</td>
<td>-4.54 (2.83)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Immigrant Status</td>
<td>-.01</td>
<td>-.12 (1.04)</td>
<td>8.73***</td>
<td>.23** (.14)***</td>
</tr>
<tr>
<td></td>
<td>Time of Arrival</td>
<td>.33***</td>
<td>2.45 (.51)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presenting Complaint</td>
<td>-.01</td>
<td>-.03 (.53)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Torture</td>
<td>.16*</td>
<td>1.50 (.63)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Basic Resources</td>
<td>.15*</td>
<td>3.00 (1.35)*</td>
<td>8.45***</td>
<td>.38** (.15)***</td>
</tr>
<tr>
<td></td>
<td>External Risk</td>
<td>-.14*</td>
<td>-3.41 (1.47)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mental Health</td>
<td>-.34***</td>
<td>-6.89 (1.43)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Family Relationship</td>
<td>.04</td>
<td>.77 (1.34)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Connections</td>
<td>-.12</td>
<td>-2.93 (1.84)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Barriers</td>
<td>.01</td>
<td>.08 (1.57)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Navigation</td>
<td>-.02</td>
<td>-.42 (2.02)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p<0.05$  
** $p<0.01$  
*** $p<0.001$  

$\beta =$ standardized beta coefficient, $b =$ unstandardized beta coefficient, $SE =$ standard error, $F =$ F-value, $R^2 =$ coefficient of determination.
Regression analyses of depression (Table 3) indicated that Step 1 gender and age variables discretely predicted depression. After entering the Step 2 variables, highly significant $R^2$ change of .07 was noted although statistical tests of the $\beta$ weights of these variables demonstrated that only time before presenting for services significantly predicted depression once Step 1 and other Step 2 variables were controlled. Entering the Step 3 predictors produced highly significant $R^2$ change of .18 with basic resources, external risk, and mental health disability variables uniquely predicting depression after controlling for the demographic, Step 2, and other Step 3 predictors. Mirroring the anxiety regression findings, gender, time of arrival, and mental health disability were the strongest predictors of depression severity.
Table 3 *Multiple Linear Regressions of Depression*

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor</th>
<th>B</th>
<th>b (SE)</th>
<th>F</th>
<th>R2 (ΔR2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Step 1</td>
<td>Gender</td>
<td>.32***</td>
<td>.47 (.10)**</td>
<td>11.52***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age</td>
<td>.16*</td>
<td>.01 (.01)*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stable Housing</td>
<td>-.10</td>
<td>-.18 (.11)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 2</td>
<td>Immigrant Status</td>
<td>-.01</td>
<td>-.01 (.04)</td>
<td>8.11***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time of Arrival</td>
<td>.24***</td>
<td>.08 (.02)**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presenting Complaint</td>
<td>-.04</td>
<td>-.01 (.02)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Torture</td>
<td>.10</td>
<td>.04 (.03)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 3</td>
<td>Basic Resources</td>
<td>.16*</td>
<td>.14 (.05)*</td>
<td>9.31***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>External Risk</td>
<td>-.19**</td>
<td>-.19 (.06)**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mental Health</td>
<td>-.34***</td>
<td>-.29 (.06)**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family Relationship</td>
<td>-.13</td>
<td>-.10 (.05)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Connections</td>
<td>-.05</td>
<td>-.05 (.08)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Language Barriers</td>
<td>.09</td>
<td>.05 (.06)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cultural Navigation</td>
<td>-.09</td>
<td>-.06 (.08)</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05  
** p<0.01  
*** p<0.001

β = standardized beta coefficient, b = unstandardized beta coefficient, SE = standard error, F = F-value, R2 = coefficient of determination,
Finally, GAF regression model findings (Table 4) indicated that gender, age, and presence of stable housing were significant independent predictors of GAF. Entering Step 2 predictors into the model produced a significant $R^2$ change of .04 with statistical tests of the $\beta$ weights demonstrating that only time to presenting for services uniquely predicted GAF after accounting for demographic and other Step 2 predictors. In Step 3, the CAFI-XC disability variables produced a highly significant $R^2$ change of .17 with only the mental health disability variable predicting GAF after controlling for variance contributions from the demographic, Step 2, and other Step 3 resources variables. In the regression model, younger age and good mental health were the strongest individual predictors of GAF.
Table 4: Multiple Linear Regressions of Global Assessment of Functioning

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>b (SE)</th>
<th>F</th>
<th>R² (ΔR²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.12*</td>
<td>-2.55 (1.22)*</td>
<td>15.82***</td>
<td>.16***</td>
</tr>
<tr>
<td>Age</td>
<td>-.37***</td>
<td>-.27 (.04)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stable Housing</td>
<td>.12*</td>
<td>2.92 (1.46)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immigrant Status</td>
<td>-.03</td>
<td>-.26 (.57)</td>
<td>8.76***</td>
<td>.21*** (.04)**</td>
</tr>
<tr>
<td>Time of Arrival</td>
<td>-.15*</td>
<td>-.66 (.28)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presenting Complaint</td>
<td>-.10</td>
<td>-.39 (.25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Torture</td>
<td>-.12</td>
<td>-.60 (.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Resources</td>
<td>-.02</td>
<td>-.19 (.70)</td>
<td>9.90***</td>
<td>.38*** (.17)***</td>
</tr>
<tr>
<td>External Risk</td>
<td>.03</td>
<td>.44 (.77)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>.38***</td>
<td>4.49 (.78)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Relationship</td>
<td>-.05</td>
<td>-.50 (.68)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Connections</td>
<td>.13*</td>
<td>1.94 (.97)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Barriers</td>
<td>-.09</td>
<td>.70 (.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Navigation</td>
<td>-.07</td>
<td>-.67 (1.03)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05  
** p<0.01  
*** p<0.001  

β = standardized beta coefficient, b = unstandardized beta coefficient, SE = standard error, F = F-value, R² = coefficient of determination
Discussion

The purpose of this paper was to specify possible pre- and post-migration and psychosocial disability predictors of mental illness and mental illness-related functioning among torture survivors. There were three main findings: (a) Female gender, older age, and inadequate housing generally predicted greater severity of anxiety, PTSD, depression, and GAF. This confirms earlier data associating these variables with increased risk for diagnosable psychiatric illnesses (14). Furthermore, (b) adding cumulative torture type exposure to study analyses revealed that experiencing greater diversity of tortures independently predicted greater severity of anxiety and PTSD. This finding aligns with prior research suggesting that cumulative exposure to traumatic events was a stronger predictor of PTSD than discrete types of trauma or severity of torture (Hollifield, Warner, & Westermeyer, 2011; Kira, Templin, Lewandowski, Clifford, Wiencek, Hammad, Al-Haidar, & Mohanes, 2006). And lastly, (c) psychosocial disabilities of basic needs, external risk, and mental health were strongly predictive of mental health problems.

We emphasize the use of incorporating psychosocial disability variables into possible risk factors for mental illness, to parallel the paradigm shift in the mental health world towards a recovery model that incorporates psychosocial disability (Bellack, 2006; Chang, Heller, Pickett, & Chen, 2013), and we believe this can be introduced into the refugee population. Our findings show that assessing psychosocial disabilities (basic needs, external risk, and mental health in particular) are strongly predictive of poor mental health. We therefore believe disability should be at the center of the screening assessment.

The current stepped care model for many clinics that serve survivors of torture have clients referred to them from a refugee resettlement agency or their primary care physician. Once referred to a mental health clinic, survivors are evaluated by a mental health clinician.
Those with more serious psychiatric needs are referred to a higher tier of care to a psychiatrist. Our data show that assessing certain variables early on can help expedite the process towards an appropriate level of care, as the time between arriving to the US and obtaining clinical services is a significant predictor of psychiatric illness. As survivors of torture are already a high risk population with shown mental health needs, quickly moving survivors into clinical care is of high importance.

To align with the current model of care, a prevention step could be added with education, outreach, to then continue the stepped care approach of screening, referral, then treatment (de Jong, 2002). Prevention would include all survivors entering a resettlement agency and receiving psychoeducation about mental stress, such as depression, anxiety, and PTSD, as our study findings show these disorders prevalent in the sample. Mirroring previous research, our data also indicated that time spent in the U.S. before presenting for services was a significant unique predictor of psychiatric symptomology with longer time spent living in the U.S. before seeking services predicting greater anxiety, PTSD, and depression, and lower GAF among participants. Perhaps a shorter length of time in the host country was less influenced by PTSD symptoms. Survivors could be in a “honeymoon” phase of arrival, with studies showing that individuals can cope well at the time of trauma became more symptomatic later (McFarlane, 2010; Sluzki, 1979). Survivors may be more motivated to seek services earlier since they were new to the host country. The time to seek services is a critical factor in later mental illness, so prevention efforts should focus on engaging new arrivals to link them into clinical services early on. Policymakers should focus on early engagement in outreach efforts, as prior research shows that the delay of services will affect psychopathology (Laban, et al. 2007; Author et al., 2014).
A screening stage could next be done via resettlement agencies or primary care physicians using a simple CAFI-XC scale focusing on three areas of disability: basic needs, external risk, and mental health, while also noting gender, age, and length of time in country, as our study shows those factors to be highly predictive of mental disorders and poor functioning. Our examination of disability across multiple psychosocial domains revealed that disability in the areas of mental health, basic resources, and external risk were the strongest predictors of anxiety, PTSD, and depression with psychosocial disability also strongly predicting our index of mental illness-related functioning. Struggle with basic resources, which include food, shelter, and medical care, leads to additional stress and the potential to worsen or amplify mental distress. Moreover external risk, which includes security concerns or instability at home, work, the community or school, also adds to stress. Our findings should inform clinicians and policy-makers to attend to the issues of time to arrival for services; basic needs, external risk, and mental health disability; while also paying attention to issues of age and gender, as they may place people at further risk or greater need for mental health care for depression, anxiety, and PTSD. Those with poor scores should then be referred to mental health services for further evaluation to determine the extent of mental distress and level of clinical need.

This study had strengths and limitations. Compared to other studies on refugees and survivors of torture, this study had a relatively larger sample from a diverse array of countries and ethnicities. The study also built on prior data that examined associations, to now define specific predictors that could be used in policy and clinical practice. The use of psychosocial disability in predicting poor mental health follows the recovery model being adopted in psychiatry. Limitations include the notion that previous psychological distress could worsen psychopathology when faced with the new stressors after migration to a new
country. A second limitation is that the data was from scales already being used clinically for a refugee clinic. However, our analysis provides evidence of the predictive validity of the CAFI-XC. A third limitation is that data relied on self-report, and could be vulnerable to recall bias due to the retrospective assessment of torture-related data as studies have shown that those with PTSD are more likely than others to recall prior traumatic exposures (Roemer, Litz, Orsillo, Ehlich, & Friedman, 1998).

Future research could examine whether addressing basic needs such as housing and employment may be indirectly affecting depression, anxiety, and PTSD. A mediation analysis could be performed to further explore this association. Future research should also provide a systematic psychometric assessment of the CAFI-XC screener. Furthermore, studies could examine other internal resources and protective factors such as coping, perceived control, and hope, which could affect when clients present for services, and how they deal with experiences of torture.
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CHAPTER 9

Epilogue: Key areas of attention to improve mental health and psychosocial support for families in armed conflict: The need for a globalization-inclusive mental health approach
Introduction

This dissertation has the overarching goal to understand complex clinical questions regarding survivors of armed conflict and translate the research results to public mental health policy. A mixed methodological approach that included qualitative and quantitative methods was used to evaluate the impact of conflict-related trauma on children, how this affects children as they grow into adults and have children of their own, and what happens when survivors of torture migrate to a host country. An important element of this dissertation is a novel approach to conceptualizing conflict-related mental distress. This approach critically departs from a narrow biomedical approach focused on individual pathology towards a more contextualized concept that considers the importance of developmental stages and the influence of socio-cultural context on both the local perceptions of mental health and the social determinants of mental health at the family-, community-, and wider society- levels.

The dissertation presents studies conducted with a lifespan lens of adults who were subjected to armed conflict as youth. The chapters address (a) childhood experience of conflict-related trauma in their home countries (chapters 2, 3, and 4); (b) the intergenerational effects of experiencing conflict-related trauma on the offspring of survivors who become adults and have children of their own (chapters 5, 6); and (c) following survivors across borders through migration and relocation to a host country in order to evaluate whether conflict-related trauma or post-migration trauma are more predictive of poor mental health and functioning (chapters 7, 8). In this last chapter, I aim to integrate these findings of conflict-related mental distress and functioning in one's home and host country, with the more general body of research on globalization and global mental health.
My argumentation will develop as follows. First, I will briefly summarize definitions of globalization and the impact on low-, middle-, and high-income countries. Second, I aim to demonstrate that an interdisciplinary approach that incorporates local understandings of mental health and psychosocial wellbeing into global conflict discourse will advance the field in providing a more textured theoretical base with which to care for survivors of armed conflict. Third, I will present a model in which humanitarian organizations, universities, and non-governmental organizations can frame their clinical and research approach to serving survivors of armed conflict. This last chapter will include research possibilities and gaps to incorporate into such a global conflict-mental health-approach.

While specific studies in this dissertation have focused on cross-sectional work with various populations in low- and high-income countries, the overall dissertation provides a glimpse into longitudinal processes relevant to youth suffering conflict-related trauma in their low-income countries by studying populations at different phases in the life course. Key research themes that the dissertation covers are: what services are available to youth in their home countries after they become adults in a post-conflict environment; the coping mechanisms youth have learned as a means of survival through war and how those mechanisms affect not only their adult-selves, but also relations with their own offspring and family; and what happens when survivors of conflict migrate to a host country for safety – what predicts mental distress and adverse functioning, and what services are available to them. Family survivors of armed conflict require an evaluation and understanding of dynamic interactions between global and local influences. By studying different phases of the life course and people in different contexts (different LMIC and both in HIC and LMIC), I aim to show the complexity of the relations between individual mental health and the social environment. This is an approach that is often left behind in a
biomedical approach, as well as in transcultural psychiatry and some of the epidemiological research that takes an ecological approach. This epilogue suggests a way forward by introducing the utility of a public mental health model that emphasizes globalization in the conceptualization and treatment of mental distress.

**Globalization defined**

Globalization is a term that has multiple meanings and interpretations depending on who is using the term and in what context. Due to the complexity of the phenomenon, I will not theorize about the nature of globalization or the negative or positive impacts, but rather describe and highlight the impact of living in an interconnected world on our understanding and treatment of mental distress around the globe. The definition of globalization is multifaceted and complex, with globalization defined as internationalization (growing international exchange and interdependence); liberalization (increasingly open trade policies through international financial institutions); universalization (creating culture through the spread of common experience); westernization (spread of social structures and modernity that overwhelms the local culture); and de-territorialization (deepening of global relations such that local events are shaped by distant culture and vice versa)\(^1\). The most common definitions incorporate economic, political, and socio-cultural exchange and shifts\(^2,3\). Economic globalization is the creation of a global market system with interconnected trade, capital, and labor, integrated on a global level\(^4\). Political globalization reflects the impact of supranational governance via regional and global organizations that exercise economic and/or political power directly or indirectly through the setting of priorities and defining of agreements. Socio-cultural globalization has occurred with the introduction of technology and transportation that have had a collective impact on communities including
cultural and linguistic changes (e.g. democracy, English language, fashion). The term globalization elicits the opening of more porous boundaries between countries, with a both active and passive facilitation of information and people and the shaping of local communities by events happening far away and vice versa.

Globalization brings instant communication around the world, fast and efficient ways to travel and transport, more access to technology, broader cultural interactions across country boundaries and interactive approaches to solving problems. Many of these influences are not new, but are now occurring faster and with a larger extent of reach. This escalation in speed and scale has had profound effects on public mental health that are just beginning to be understood. The fast increase in global communication has created supranational political and economic forces, with a potential widening of the economic and technological gap between those with access and those without. There is concern about the impact of a new group of supranational actors. The asymmetry of power between low-income and high-income countries is heightened with industrialized countries and multinational corporations using direct or indirect power over low-income countries to set the terms of engagement through economic, political, or socio-cultural means. Globalization therefore can threaten and diminish the role of the nation-state and the maintenance of local cultures and customs.

**Incorporation of globalization into mental health discourse**

Globalization impacts levels of poverty and conflict around the world. There is increasing evidence on the negative social and mental health impacts of poverty\(^5\) with global trade thought to worsen mental health in low- and middle-income countries\(^6\). Mental
health\textsuperscript{1} is greatly affected by poverty with the risk of trauma increased by conflict, war, and terrorism. Poverty has been reported to be the most important predictor of conflict and political violence and a robust predictor of psychopathology\textsuperscript{7}. Armed conflict can be thought of as due to inhumane dictators or the actions of religious or ethnic extremists, as well as due to the disproportionate socio-economic divide that accompanies an insecure environment, with risk of physical and emotional harm. Regardless of the cause, armed conflict destroys public and social infrastructure, producing adverse general health for the population and requiring global humanitarian assistance, with some countries dependent on foreign aid to manage social and medical institutions and services. Globalization can directly and indirectly affect citizens by laying the conditions for conflict. The transportation of ideas and cultures across borders affects individual and community identity, political ideation and relationship with their home country.

It is time for the field of mental health to move from an understanding of globalization focused on the desire of cross-national practitioners in helping those “in need” in low-income countries, to an analysis of the fluid interactions involved in how people are influenced by globalization and their responses to this influence. Buroway et al. (2010) coined a term grounded globalization which emphasizes the conceptualization of globalization from the perspective of local people within a system\textsuperscript{8}. This does not mean a romanticized view of traditional societies and an emphasis on focusing on only local ways of conceptualizing and treating mental distress. Such a local-centric view would ignore the real direct and indirect effects of globalization currently and in the future.

\textsuperscript{1} Defined by the WHO as a “state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his/her community”. (http://www.who.int/features/factfiles/mental_health/en/)
Globalization has not historically been included in the discourse, evaluation or treatment of mental distress – even in the field of global mental health. In regards to mental health studies on war-affected youth and adult survivors of war, research has largely focused on trauma-focused psychiatric epidemiology based on an individual’s mental health symptoms, an approach which has its roots in a biomedical ‘Western’ approach to understanding mental health. Excluding the impact of globalization on mental health is problematic for multiple reasons. First, from a prevention standpoint, understanding the etiology of mental distress necessarily requires an evaluation of the impact of supranational actors that have directly (such as in the involvement of the US in wars in Iraq and Afghanistan) or indirectly (such as in neoliberal ideals to spread ‘democracy’ across the world, or in increasing influence of global financial institutions) affected lower-income countries to lay foundation for the emergence of armed conflict and escalating wars that create by-standers through child soldiers and survivors of torture and trauma.

Second, isolation of the individual neglects the wider social, cultural, and geopolitical context in which symptoms, experiences, and treatment of mental distress are experienced and help is sought. Neglecting the social determinants of mental health could lead to missing variables that can be addressed through prevention strategies, as well as treatment opportunities for the individual that incorporate social supports. Our studies overwhelmingly show that for the individual, relationships with family (mainly offspring) were strongly affected by geo-political war experiences, that is, processes taking place at the wider society-level. Due to the influence of these social processes on individual experiences, an inclusion of highlighting the importance of social bonds such as family and community in assessment and treatment could provide early detection, prevention, and treatment for those affected by the individual’s war experiences. Often low-resourced
communities seek support first from their local resources, since many do not have formal mental health systems in place\textsuperscript{10}.

Third, prioritizing trauma and the treatment of related sequelae carry the risk of taking an over-medicalized approach to care, which is currently the model in many global health initiatives with the integration of mental health into primary care\textsuperscript{11,12}. In practice (both observed in my work in low-income countries, as well as in my current clinical practice as medical director and psychiatrist for an integrated clinic), the client’s mental distress becomes medicalized into a symptom requiring a medication through a brief check in every six months or so, with a psychiatrist consulting the primary care physician on her general caseload. This Western\textsuperscript{2} model of mental health care focuses not only on the individual but also risks the medicalization of mental distress (i.e., understanding it as a medical disease for which individual pharmacological or psychotherapeutic treatment is required), as opposed to the religious and traditional ways of conceptualizing and managing emotional distress that may fit the heuristic model that many of our patients adhere to.

From the moment an asylum seeker enters the “West”, we train him/her to abolish indigenous ways of expressing distress in favor of checklists of symptoms for posttraumatic stress disorder (PTSD) and major depressive disorder. Globalization therefore impacts the ways in which mental health is conceptualized and treated, for example the use of acupuncture, yoga and mindfulness (traditionally from Asian cultures) now becoming popular in the United States. Globalization however, has also profoundly impacted the research and clinical (professional) cultures in which survivors of armed conflict in low-resourced countries seek assistance. The majority of studies on war-survivors come from

\textsuperscript{2} Care should be taken to not over-generalize “Western” versus “non-Western.” The differences between rural-urban areas within LMIC can be higher than between rural HIC and rural LMIC. The term “Western” is used in this book for reader ease, but would warn against over-simplification.
high-income countries by researchers who prioritize and conceptualize research questions influenced by their own cultural biases\textsuperscript{13}. An abundance of Western-trained clinicians have the financial resources and desire to care for survivors of armed conflict in low-income countries that have cultures and conceptualizations of illness that differ from their cultures or origin.

Many researchers have insisted on the use of an "ecological framework" with which to implement mental health interventions for survivors of war\textsuperscript{14,15}. However, in practice, this is rarely seen, perhaps due to the types of outcomes measured (typically on an individual, and focused on mental health symptoms)\textsuperscript{12}, donor priorities (limitations of funding cycles and approaches)\textsuperscript{16}, the difficult nature of studying the impact of multiple tiers of interventions on an individual, and the fact that the majority of implementers and designers of mental health interventions that are studied are done so by Western researchers accustomed to an individual-framework, as opposed to that of a more collective, ecological one\textsuperscript{12}.

The research presented in this dissertation was intended to move beyond the limitation of a narrow biomedical understanding of wellbeing in conflict-affected populations\textsuperscript{17}. Despite the call for an ecological approach, many studies continue to emphasize an individual’s mental health as opposed to outcome measures of social belonging, family connectedness, or relational capacity\textsuperscript{12}. Our qualitative data underlined the importance of attention beyond DSM-defined symptomatology. For example while people may not have been symptomatic on our checklists, they reported great struggles with interpersonal relationships and encountered enormous stressors from the inability to fulfill their societal roles impacting their identity and life purpose\textsuperscript{18}. Other studies have shown that the sufficiency and adequacy of social support, family mental health, and past
presence of mental illness are critical in determining whether or not an adult develops posttraumatic stress disorder in the face of trauma\(^{19}\). The global influence on national conflict, military violence and other armed conflict mean constant threat to the unique emotional, social-relational, and intergenerational challenges to affected citizens.

Globalization has created an influx of refugees and survivors of torture seeking asylum in not only neighboring countries, but also those that are distant. Therefore, it is of high priority that the conceptualization and treatment of mental distress requires an incorporation of globalization as a central focus of the ecological model, rather than a mere afterthought.

**Global conflict-mental health model in practice**

Globalization demands the development of a flexible and iterative theoretical model from which to conceptualize and treat mental distress. Due to the current rapid speed at which globalization processes occur, it is imperative that we not only recognize, but also prioritize the impact of globalization on the concept of mental health/wellness, self, identity, quality of life, intergroup and interpersonal relations\(^{20}\). International humanitarian and human rights researchers, policy makers, and program developers are seeking a new paradigm to understand the impact of armed conflict on children, away from the medical and psychological paradigms\(^{18,21}\). Survivors of armed conflict can be studied in isolation from the structural social conditions that have created violence in the first place. More complex models would encompass the broad social, cultural, political, legal, human rights and economic contexts, including the impact on those areas by globalization.
Considering the long-term effects of armed conflict on mental health

The effects of armed conflict and torture on an individual’s mental health have been documented by a growing literature. Our study on former child soldiers in Burundi and survivors of war torture now residing in California show that the effects of war continue well past after a war ends. In our comparison study of former child soldiers (FCS) to never-conscripted age-, village-, and gender-matched civilians, we found that both groups had similar mental health profiles (Chapter 4). This tells us that the civilian by-standers of armed conflict also endure adverse mental distress. Our qualitative investigation helped explain why: when former child soldiers’ family members are killed, they have the means (through weapons like guns and machetes) to enact revenge. When civilians’ family members are killed, they do not. Civilians have to resort to hiding or living in fear, without the resources for seeking revenge. However, FCS have specific ways of ‘coping’ that were shaped by their involvement in the armed forces (Chapter 2). They learned both to be silent as well as to distrust others, as a means of survival in the armed forces. These coping styles continue into post-war adulthood, with many continuing to be silent and distrustful in their communities and with their families.

This dissertation highlights the impact of war on families and individuals, and how we conceptualize the identity of a former child soldier. Many studies and interventions on the mental health of former child soldiers see them as passive victims, with establishing a relationship between trauma and individual symptoms the key goal. An approach that incorporates the intersection of global and local can assess the understanding of self and identity by incorporating a local voice. Having such insight will shed light on those global touching points that have affected one’s point of reference via their social world. In an alternative approach, the goal is to understand the dynamic process by which an individual
has changed his/her identity due to the changes experienced through war, migration, and resettlement, either in LIC or HICs. As an example, Becker’s work focused on the development of “anorexia” in Fijian islands after the introduction of the television. The ‘Western’ cultural value of “being thin” became a model to aspire to through the transmission of images on television. With globalization, many in low-income countries now have access to the internet and other media, or work with people from other cultures. This can lead to an influx of local and global information and a scenario where now many people partake in diverse cultural environments. For example, the local researcher who does not understand the foreign researcher’s approach or questions, but continues to appease due to a belief that the foreigner knows best, or out of fear of losing their income. This was seen in my work with a research assistant in Burundi, who was eager to please me since the research was a source of income. He accompanied me as a translator as we interviewed FCS. Initially it was clear he had worked with Westerners before. When asked what the FCS said, the assistant remarked: “he has depression, meaning poor sleep, concentration, and focus.” I asked him to just tell me what the FCS said word for word, and the assistant remarked: “maybe the former child soldier has PTSD.” At this point, I had to pause the study to spend a couple of hours re-training the assistant. He was quick to point out that he has worked with many foreigners, will give the results I want, and that he values this job since it is the only one he has. It was only after he felt comfortable with me as a friend versus me as an “employer” that he was able to truly relay what the FCS were conveying. The intergroup connections that can occur in such complex and competing cultural environments may trigger a loss of one’s own culture with the increase in exposure to others, leading to conflicting identities and ideals.
The majority of studies for war-affected youth or survivors of torture focus on mental health using individual checklists based on pre-defined symptomatology. Much research has focused on the effects of trauma/torture/extreme adversity on children and survivors of war. These studies typically then identify a population with high prevalence of PTSD and depression. Based on this, researchers choose individual interventions to adapt for the desired diagnosis (PTSD and depression, for example). This model neglects the importance of social healing processes by importing techniques that may be a foreign way of coping or healing for the individual and family. More useful is an ethnographic approach to assess the individual-level resiliency factors that assist people in coping with adversity – some look within, some turn to religion, others to family, and a limited number to professionals such as counselors or physicians.

However, overwhelming among the survivors of armed conflict or of torture are not necessarily “depression” or “PTSD”, as biomedical models emphasize, but rather signs of health pointing to whether survivors can fulfill their role and have a purpose or meaning in life. Instead of “depression”, the majority of survivors are dealing with grief and loss – ambiguous loss of loved ones, the loss of status, livelihood/way of life, culture and way of living in a society rich in family and community. As seen in our studies, stigma and broken community bonds were the most salient difficulties among both former child soldiers and survivors of torture. Some turn to healers, others turn to their political ideology for strength. Though one may be a “survivor of torture” or a “former child soldier”, they each have resources at the individual, family, and community levels that should be elicited then built upon. For example, intelligence, internal locus of control, good coping skills (individual resources), supportive relationship with at least one caring adult outside of home (family resources), and living in ‘connected neighborhoods, schools, belonging to youth
groups (community resources). As these resources are the most proximal and natural source of support for people, they may be more accepted than a foreign adapted 'Western' or biomedical intervention. Therefore, in assessments of “health and functioning”, one should incorporate measures of social functioning, such as having relations with community members, access to social support, and the cohesion within communities (as found in our study with torture survivors in chapter 8). These elements are also valid when trying to determine the “health” of a survivor; however, there are few valid constructs or extant data to use or compare to. When defining symptoms to target and outcomes to measure, it is critical to build on an ethnographic approach aimed at eliciting a patient’s prioritization of distress, and use these constructs as diagnostic categories and outcome measurements. In working with survivors of torture migrating to the United States, this could include measures of grief and loss and the capability to connect with the host environment.

In addition to mental health outcomes, practitioners and researchers should focus on social functioning and the ways in which globalization affects the survivors’ distress. Few scales are validated that are specific to various social domains of functioning and disability for refugees and survivors of torture. Our study shows the importance of using a scale, as sub-optimal social functioning may be a key predictor of ill mental health and therefore a key area to target for interventions. Especially for refugees, asylees, and those who migrate to a host country and culture, evaluating and emphasizing the stresses and supports that accompany migration are critical to understanding and treating newcomers, as apparent through the studies in this dissertation. For example, our chapters 7 and 8 highlight the importance of examining post-migration variables such as length of time in country prior to receiving services in addition to pre-migration torture history upon

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3 As found in our study, the CAFI-XC has potential to be such a scale, though with critical problems in broadly measuring multiple dimensions.
relocated torture survivors. Moreover, examining social disability resources can provide important predictive factors in the presence of mental distress. Our diverse patient population shows the need for approaches that allow flexibility in understanding the cultural influences on assessing quality of life, social functioning, and disability10.

**Looking beyond conflict-related trauma on individuals**

The mental distress and means of coping such as silence and distrust that arose from war affect not only the individuals themselves, but also their families and their relational capacity. Many Western cultures value individualism and independence, reflected by studies on survivors of war focusing on an individual’s mental health symptoms as well as individual mental health treatments, but few place equal weight on psycho-social well-being and relational capacity11,12. It is unclear if this narrow lens on individual mental health is appropriate or contextually relevant. Our study on the intergenerational effects of war was the first that looked not only at a former child soldier’s individual mental health, but also evaluated the mental health and psychosocial well-being of their offspring (chapter 5). The study was unique for two main reasons: (1) we saw the individual FCS in the context of his/her life situation and recognized the stress that offspring and family were having on their well-being; and importantly, (2) we used a comparison group of never-conscripted civilians and their offspring, as we had learned that while FCS have mental distress, their civilian counterparts did as well. This shows the importance of looking beyond conflict-related trauma as determinants of mental health. Our quantitative study showed us that the offspring of FCS and civilians did not differ significantly with respect to mental health problems36. However, offspring of FCS had significantly worse behavioral problems, used less problem solving as a coping mechanism, felt less a sense of belonging in the community
and less supported by siblings, and had more perceived family problems than the children of civilians. These problems could have been interrelated. Due to feeling less supported by family and community, FCS offspring could have had additional stress that impeded their ability to harness coping skills. Another plausible interpretation could be that their FCS parents could have had limited coping strategies due to the extra-ordinary nature of their own childhoods and lack of opportunity for the management of "regular childhood" problem solving. This study is important in showing the family and community impacts on survivors of war, and the long-lasting, trans-generational effects that continue well past the end of a war. Moreover, the study shows that while individual mental health symptoms such as depression and anxiety were not significantly different, when one looks at relational capacity and health, clear differences are seen. This makes one wonder whether we were measuring the contextually- and culturally-appropriate outcome variables. In cultures where individuals are more defined by interdependency by their community- and family-roles\textsuperscript{37}, my study suggests that novel outcomes relevant to these cultures need to be constructed in future research. Offspring of FCS perceived more family discord and less support from siblings. Moreover, they reported less a sense of belonging in the community, which may be due to the high levels of stigma against their FCS parents.

Families and communities are the most proximal and natural source of support for survivors. Unfortunately humanitarian aid is focused either on massive public health programs or the extreme opposite of focusing only on the individual. An approach that gives attention to the individual, but also the larger systems that affect an individual can assist in strengthening psychological resources\textsuperscript{38}. Values for many in Africa are related to systems variables outside of the individual, such as family, conformity to social expectations, avoiding shame, and placing others’ needs above one’s own\textsuperscript{39}. More relevant to monitoring
and evaluating the mental distress of survivors of trauma and war would be to incorporate measures of community and relational engagement, such as social fulfillment, a sense of belonging, group or social affiliation, and family cohesion. We should prioritize the influence of social and global changes on the mental health of individuals and communities.

The Need for a Public Mental Health Approach for Survivors of Armed Conflict

Globalization has shifted not only the way in which mental illness is conceptualized around the world, but also how we manage mental despair and whom we treat. Increased access to information about the burden of mental distress around the world has brought the influx of global practitioners to treat mental illness\(^{40}\). Globalization has affected how we provide mental health services to those around the world with an increased ethnic and cultural diversity of providers into low-resource countries (such as Sierra Leone and Burundi) and an increased diversity of service users in high-resource countries (such as survivors of torture/refugees in the U.S.). This globalized diversity affects approaches and beliefs in mental health care, as do the cross-border migration experiences that affect provider and patient immigrants and refugees.

With survivors of armed conflict having both acute and long-term needs (as previously noted), we wanted to evaluate the systems of care in place to help with the healing process. We wanted to evaluate the naturally-occurring methods of healing for survivors of war, with a systematic review of resilience in war-affected youth (\textit{chapter 4}). The review aimed at a systematic approach to evaluating the extant quantitative and qualitative literature on promotive and protective factors for resilience, defined as good mental health and developmental outcomes, despite exposure to significant adversity\(^{41}\). Fifty-three qualitative and quantitative, mostly cross-sectional, studies were identified. Our
findings show that defining resilience should incorporate the interaction between time- and context-dependent variables. Understanding resilience should include how outcomes are defined and shaped across socio-cultural contexts – that resilience is a dynamic process, not necessarily a static trait (as determined in chapter 4). These studies were fairly consistent in showing the protective nature of parental support; however, care should be taken not to over-generalize to miss contextually unique interactional processes that constitute resiliency. For example, ideological commitment was protective among Nepali former child soldiers but political affiliation was associated with worse outcomes in Bosnian adolescents. We found that a supportive socio-ecological context is important. The systems of care in place for survivors of conflict should therefore evaluate context- and time-dependent processes in determining their efficacy, rather than be mechanically comprised of ‘copying-and-pasting’ successful approaches evaluated in other populations.

Our studies on survivors of torture who have migrated to their host country underline these findings (chapters 7,8). The first study with 278 relocated survivors of torture in the U.S. showed that the length of time between arrival in the U.S. and clinical services was significantly associated with PTSD and depression. Those receiving services one year after resettlement were more likely to experience PTSD and depression than those receiving services within one year (chapter 7). This finding highlights the importance of interventions and services that are time-sensitive and speaks to the need for an incorporation of a public mental health system of care. Such a system incorporates early intervention, perhaps using the most proximal sources of support such as family and peers, as has been shown through a multi-family group access intervention for refugee families with PTSD.
Much debate has taken place about whether pre-migration stressors or post-migration stressors are more predictive of poor mental health and functioning. As seen in our studies with survivors of torture in the U.S., the time a survivor arrives to the U.S. to the time they present for services fully explains the association to poor mental health and functioning. There are a multitude of studies that document the effects of torture/extreme trauma on poor mental health, as well as the stress of migration and relocation difficulties. Our study shows clearly that the length of time one is in their new country is more associated to poor mental health and functioning than pre-migration traumas or post-migration stressors. Moreover, our studies on Burundian FCS and systems of care show the need to prioritize the influence of social resources and global changes on the mental health of individuals and communities. In all instances, one needs to first get the patient into services, or at least, care for them outside of the system through the family or community to address individual needs and concerns (for example housing, children, education needs, and vocational training/jobs). Patients can then be triaged on the basis of whether they need psychological, social, legal, or occupational/educational assistance. This triage process should be initiated with an awareness of the asymmetries of power inherent in the relationship, cultural understandings of the etiology and treatment of mental health, and of the political and economic factors influencing that individual.

This work serves as evidence to policy-makers and donors, about the importance of early outreach interventions and the need to fund and support innovative approaches to engaging survivors as soon as they land in their host countries. One could do this through a stepped-care approach that first uses those relationships that are the closest to the survivor – parents, families, children, or their community, temple, or mosque if separated from loved ones. Most torture survivors living in the U.S. first seek care from their imam at the mosque.
or their own communities. Therefore, early outreach interventions should first use what is natural to survivors. Collaboration with religious leaders and healers may be the first step to encourage entry into services early. Family and community should also have outreach through a community liaison. For example, one liaison per refugee community could serve as a focal point with whom to work with each service clinic, to develop appropriate and meaningful ways to engage clients (for example, a refugee parenting workshop, or an Ethiopian coffee ceremony). Such a stepped care approach should take an initial assessment of the cultural and political climate of the community, as individual refugee communities have local politics or concerns of their own. This would be a model where we encourage the development of services locally, aware that the conceptualization of mental health varies by culture and context.

This dissertation argues for the incorporation of globalization at the forefront of research and interventions with regard to mental health in armed conflict (cf. Figure 1).

**Figure 1. Framework for a Globalization-informed Mental Health Approach**
A model that places globalization as a central focus point would include an awareness of the asymmetries of power inherent in interpersonal relationships – especially those between low-income and high-income countries. Consideration of the dynamic interplay of local cultural models of distress and management could include a shift from researching mental health outcomes primary developed from biomedical constructs of pathology to ethnographic approaches that include social functioning and social resources, such as family, peer, and social relations, cultural connectedness. Outcomes research should necessarily evaluate social disability, resources, and the effects of globalization on distress, as our data have shown the predictive role of social disability. Especially when research is conducted in interdependent communities, the assessment of families, communities, and relational capacity, can help inform systems of care that incorporate local communities, families, and most proximal relationships into existing models of formal care for prevention and support of mental distress. As this dissertation has shown, the process of globalization can create dynamic, shifting contexts and cultural influences, mandating dynamic approaches to understanding and helping survivors of armed conflict. Researchers would benefit from the relation of several scales/indices that are flexible and iterative, sensitive to social functioning and resources. Such a complex model would encompass the broad social, cultural, political, and economic contexts, including the impact of those areas via globalization of various populations, contexts, developmental and life courses that reflect the complexity relations between individual mental health and the social environment.
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NEDERLANDSE SAMENVATTING
Geestelijke gezondheid vanuit globaliseringsperspectief

Globalisering heeft bijgedragen aan wereldwijd erkennen van mensenrechtenschendingen, politiek geweld en humanitaire noodsituaties in verre conflictgebieden. Een toenemend aantal onderzoekers en humanitaire hulpverleners uit hoge inkomenslanden (HIC) is werkzaam in conflictgebieden in lage inkomenslanden (LIC). Hier wordt, naast de gangbare biomedische benadering, een kader gepresenteerd dat culturele uittingsvormen betrekt bij onderzoek naar psychisch lijden en behandeling.

Het doel van deze dissertatie is om complexe klinische vraagstukken met betrekking tot overlevenden van gewapende conflicten te begrijpen door middel van een ontwikkelingspsychologisch-georiënteerde, sociale en cultuur-relevante benadering van beleid en interventies. De methodologie combineert kwalitatief en kwantitatief onderzoek om 1) de impact van conflictgerelateerd trauma op kinderen te evalueren, 2) hoe dit kinderen beïnvloedt bij het volwassen worden en later wanneer zij zelf kinderen krijgen, en 3) wat er gebeurt als overlevenden van mensenrechtenschendingen en marteling migreren naar een nieuw land van aankomst. Een belangrijk onderdeel van deze dissertatie is de nieuwe wijze waarop conflictgerelateerd psychisch lijden geconceptualiseerd wordt. Deze benadering is kritisch ten opzichte van een beperkte biomedische benadering waarbij de focus ligt op individuele pathologie. Daarom wordt hier een meer gecontextualiseerd begrip voorgesteld dat de nadruk legt op ontwikkelingsfasen en de invloed van de sociaal-culturele context op zowel lokale percepties van psychische gezondheid, als op de sociale determinanten van geestelijke welzijn op het niveau van de familie, gemeenschap en samenleving. De deelstudies bieden een levensloop-perspectief op volwassenen die in hun jonge jaren te maken hebben gehad met gewapend conflict. Deze dissertatie reflecteert op het werken in humanitaire noodsituaties – de
veranderende contexten en populaties in diverse ontwikkelingsfasen in onveilige gebieden.

Na de introductie van globalisering en psychische gezondheid gaat hoofdstuk 2 in op de gemeenschaps- en familierelaties van mannelijke en vrouwelijke voormalig kindsoldaten (FCS) om te onderzoeken hoe hun ervaring als kindsoldaat van invloed is op latere volwassen relaties. Uit een thematische analyse van semi-gestructureerde interviews, focusgroepen, en observaties met 23 FCS ouders in Burundi blijkt dat voormalig kindsoldaten wanneer zij zelf ouders geworden, vasthouden aan het door de rebellen aangeleerde zwijgen en wantrouwen als coping strategie, en dat zij hun ervaring als kindsoldaat gebruiken in de lessen die zij aan hun kinderen meegeven. Met betrekking tot interventies impliceren de bevindingen dat het versterken van het positieve gebruik van zwijgen met tegelijk inzicht in het inadequate gebruik ervan, de effecten van de oorlogservaringen kan verlichten.

Gelet op adequate en inadequate copingstrategiën onder kindsoldaten (FCS), wordt in hoofdstuk 3 de geestelijke gezondheidszorg geëvalueerd die FCS in Sierra Leone tot hun beschikking hebben. Een thematische analyse van 24 interviews met participanten vanuit diverse samenlevingssectoren werd uitgevoerd om prioriteiten, drempels en facilitators in de geestelijke gezondheidszorg voor voormalig kindsoldaten in Sierra Leone te identificeren. Uit de bevindingen bleek dat psychisch lijden, middelenmisbruik, en gender gerelateerd geweld veel voorkwamen onder FCS. Gebrekkige overheidssteun en communicatie met hulpverleners maakten dat zij beperkte toegang hadden tot geestelijke gezondheidszorg. De resultaten impliceren dat een volksgezondheidsmodel voor de GGZ dat lokale, cultuurspecifieke interventies omvat, lokale prioriteiten kan faciliteren en zorgdrempels verlagen.

Hoofdstuk 4 stelt de vraag welke informele zorgvormen kinderen kunnen helpen die te maken hebben gehad met extreme tegenslagen. Op basis van 53 studies (15 kwalitatieve en mixed method, en 38 kwantitatieve, voornamelijk cross-sectionele onderzoeken) werd een
systematische review gedaan over de veerkracht of weerbaarheid (resilience) van jongeren die zijn getroffen door gewapende conflicten. Kwalitatieve studies vonden variaties in sociaal-culturele omstandigheden en contextspecifieke processen die bijdroegen aan weerbaarheid. Kwantitatieve onderzoeken benadrukten gezondheidsbevorderende en -beschermende factoren op het niveau van individu, familie, leeftijdsgenoten, school en gemeenschap waarbij gender-, symptoom-, en conflictfase-specifieke effecten optraden op hun psychische gezondheid. De review ondersteunt het perspectief op veerkracht als een complex dynamisch proces van tijd- en contextafhankelijke variabelen, versus een model dat de nadruk legt op risico- en beschermende factoren. Veerkrachtgerichte interventies moeten afgestemd worden op de specifieke context en niet uitgaan van een universeel model.

Vanuit ervaringen met gewapend conflict in de kindertijd en de beschikbare zorg, gaat hoofdstuk 5 over wat er gebeurt als FCS ouder worden en zelf kinderen krijgen. Dit hoofdstuk laat zien dat het van belang is om verder te kijken dan het individu door psychologische, sociale en gezinsfactoren te vergelijken tussen FCS en niet bij de oorlog betrokken ouders en hun kinderen. De matched-pair cross-sectionele pilot studie tussen 15 FCS-ouders en tussen ouders van overeenkomstige leeftijd, gender en dorp die nooit in dienst zijn geweest, vond geen significant verschil in psychische problematiek onder de kinderen. Wel hadden de kinderen van FCS significant meer gedragsproblemen, waren zij minder probleemoplossend gericht, voelden zij zich minder verbonden met de gemeenschap, broers, zussen en leeftijdsgenoten, en ervoeren zij meer familieproblemen dan de kinderen van burgers. Dit voorlopige onderzoek laat het belang zien van een vergelijksgroep en het belang van het aanvullen van kwantitatief met kwalitatief onderzoek om gevonden resultaten te kunnen verklaren.
Hoofdstuk 6 bouwt hierop verder, voorbij het niveau van het individu, en onderzoekt de kinderen van FCS. Ook dit onderzoek gebruikt een vergelijkingsgroep om te begrijpen waarom kinderen van FCS zouden verschillen van kinderen van burgers. Om te analyseren hoe en wat er overgedragen wordt van FCS op hun kinderen is een kwalitatief onderzoek uitgevoerd vanuit een Grounded Theory benadering op basis van focus groepen, interviews en observaties met 25 FCS en 15 overeenkomstige burgerouders. De analyse identificeerde hoe oorlogservaringen direct en indirect intergenerationeel doorgegeven worden via indero (hoe een kind op te voeden), via ernstig psychisch lijden van de ouders, en via stigma vanuit de gemeenschap.

Vervolgens gaat de dissertatie verder in op wat er gebeurt wanneer overlevenden van extreem trauma en tegenspoed hun toevlucht zoeken in het buitenland. Hoofdstuk 7 onderzoekt de relatie tussen sociaal-demografische, pre- en post-migratie variabelen, en psychisch lijden en functioneren in een heterogene steekproef van overlevenden van marteling die nu woonachtig zijn in de VS. Data van 278 overlevenden werden onderworpen aan een multi-variatie logistische regressie-analyse. Hieruit bleek dat de tijdsperiode tussen aankomst in de VS en klinische hulp significant verband toonde met PTSS en depressie. Degenen die pas na een jaar in de VS hulp kregen hadden een grotere kans om PTSS en depressie te ervaren dan degenen die binnen een jaar hulp kregen. Deze bevindingen illustreren de noodzaak van vroege screening van psychische gezondheid onder overlevenden van marteling.

Hoofdstuk 8 bouwt voort op deze bevindingen door te voorspellen welke demografische, pre- en post-migratie-, en psychosociale disability/beperkingsfactoren resulteren in psychiatrische symptomen en gebrekkig functioneren en een indicatie vormen om hulp te zoeken. Om de familiale en sociale determinanten van psychische problematiek te bepalen werd een hiërarchische lineaire regressie-analyse over de data van 278 overlevenden
uitgevoerd. Deze bevatte dezelfde variabelen als in hoofdstuk 7, met daaraan toegevoegd psychosociale beperkingen, inclusief basisvoorzieningen, externe risico’s, psychische gezondheid, familielaten, sociale bindingen, taalbarrières, en culturele navigatie. De resultaten lieten zien dat de optelsom van martelpraktijken een onafhankelijke voorspeller was van de ernst van angst en PTSS; verder dat psychische gezondheid, basisvoorzieningen, en externe risico’s (risk disabilities) de sterkste voorspellende waarde bleken te hebben ten aanzien van angst, PTSS en depressie. De tijdsperiode doorgebracht in de VS vóór contact met de zorg was bovendien een significante unieke voorspeller van symptomatologie. Deze bevindingen tonen aan dat het vaststellen van sociale determinanten voor psychische problematiek nut heeft.

De epiloog in hoofdstuk 9 vormt de conclusie van deze dissertatie. Het bepleit een globaliserings-geïnformeerde benadering die leidend is bij onderzoek, interventies, en hulpverlening in de geestelijke gezondheid. Een dergelijke benadering zou een flexibel en iteratief model hanteren waarbinnen het conceptualiseren en behandelen van geestelijk lijden vorm krijgt middels dynamische interacties tussen globale en lokale invloeden, verschillende levensloopfasen, populaties in verschillende contexten, en een focus op de complexe relaties tussen individuele geestelijke gezondheid en de sociale omgeving. Dit model houdt rekening met de langetermijneffecten van gewapend conflict op individuen, families, en gemeenschappen. Het volgt migranten en vluchtelingen op weg naar veiliger grenzen en probeert het dynamische proces te begrijpen waarin de identiteit van een individu verandert onder invloed van oorlog, migratie en hervestiging. Bovendien zouden binnen een etnografische benadering veerkracht gerichte processen opgenomen kunnen worden die mensen van nature helpen om te gaan met tegenslagen en die zowel op het niveau van het individu als de familie en
gemeenschap plaatsvinden. De uitkomsten daarvan zouden zich niet alleen richten op biomedische modellen van 'depressie' en 'PTSS', maar ook op gezondheid en sociaal functioneren die wijzen naar een doel, betekenisgeving en levensvervulling maar ook naar rouw/verlies, sociaal aanzien, en een gevoel van verbondenheid. Een etnografische benadering die licht werpt op de prioriteiten van de patiënt met betrekking tot zijn of haar problematiek, zou de lokaal gehanteerde diagnostische categoriën en uitkomstmaten kunnen informeren.
ENGLISH SUMMARY
Globalization-informed framework for mental health

Globalization has allowed the world to become more attuned to the human rights violations, political violence, and humanitarian emergencies of people in conflict areas far away from our homes. With the increase in numbers of researchers and humanitarian workers from high-income countries (HIC) into areas of armed conflict in low-income countries (LIC), a framework is presented that incorporates an understanding of cultural manifestations of mental distress and treatment that is separate from the current biomedical approach.

This dissertation has the overarching goal to understand complex clinical questions regarding survivors of armed conflict through a developmentally and socially relevant approach with cultural relevance to inform interventions and policy. A mixed methodological approach that included qualitative and quantitative methods was used to (1) evaluate the impact of conflict-related trauma on children, (2) how this affects children as they grow into adults and have children of their own, and (3) what happens when survivors of torture migrate to a host country. An important element of this dissertation is a novel approach to conceptualizing conflict-related mental distress. This approach critically departs from a narrow biomedical approach focused on individual pathology towards a more contextualized concept that considers the importance of developmental stages and the influence of socio-cultural context on both the local perceptions of mental health and the social determinants of mental health at the family-, community-, and wider society-levels. The dissertation presents studies conducted with a lifespan lens of adults who were subjected to armed conflict as youth and is reflective of genuine work in humanitarian settings – the shifting contexts and populations in various developmental life stages that accompany areas of insecurity.
After the introduction to globalization and mental health, Chapter 2 examines male and female former child soldiers’ (FCS) community and family relations to determine how the experience of child soldiering affects adult relationships. Thematic analysis on semi-structured interviews, focus groups, and observational data with 23 FCS parents in Burundi found that after child soldiers grow into adults who have offspring of their own, they continue with a learned silence from the rebellion, distrust as a means of coping, and use their child soldier experiences to teach lessons to their offspring. The findings have implications for mental health interventions by strengthening the positive uses of silence while understanding their maladaptive uses, to ease the effects of war-related experiences.

With these findings of adaptive and maladaptive means of coping in FCS, Chapter 3 then evaluates the mental health systems of care that are available to FCS in Sierra Leone. Thematic analysis was conducted on 24 interviews with participants from diverse sectors to identify mental health priorities, barriers, and facilitators of mental health care for Sierra Leonean former child soldiers. Findings showed that mental distress, substance abuse, and gender-based violence were common among FCS, who faced limited mental health care due to barriers of a lack of government support and communication with providers. The results imply that a formal public health model of mental health care that includes local, culturally-embraced interventions could target local priorities and reduce barriers to care.

Chapter 4 queries what informal types of care could be helpful for children who have experienced extreme adversity, through a systematic review of resilience in youth affected by armed conflict. Altogether, 53 studies were identified (15 qualitative and mixed methods studies, and 38 qualitative mostly cross-sectional). Qualitative studies found variation across socio-cultural settings and contextually unique processes that contributed to resilience outcomes. Quantitative studies focused on promotive and protective factors at
the individual-, family-, peer-, school-, and community-levels, with gender-, symptom-, and phase of conflict-specific effects on mental health outcomes. Overall the review supported the perspective of resilience as a complex dynamic process of time- and context- dependent variables, versus a risk- and protective-factor model. Resilience-informed interventions should be tailored to specific contexts, rather than the application of a universal model.

Chapter 5 moves from the childhood experience of armed conflict and the systems of care in place for them, to what happens as they age and have offspring of their own. The chapter shows the importance of moving away from the individual by comparing the psychological, social, and familial factors between FCS and civilian parents, and their children. The matched-pair, cross-sectional pilot study between 15 FCS parents and age-, gender-, and village-matched parents who were never-conscripted found that the children did not differ significantly with respect to mental health problems. However, the children of FCS had significantly worse conduct problems, used less problem solving as a coping mechanism, felt less a sense of belonging in the community and less supported by siblings, and had more perceived family problems than the children of civilians. This preliminary study showed the importance of having a comparison group, as well as the need for qualitative studies to complement quantitative work to provide potential explanations for findings.

Chapter 6 therefore built upon this work of moving beyond the level of the individual by examining children. This chapter continued the use of a comparison group to assist in understanding why offspring of FCS children would differ from those of civilian children. A qualitative study using focus groups, interviews, and observations of 25 FCS and 15 matched civilian parents included a grounded-theory approach to analyzing how and what is transmitted from FCS to their offspring. The analysis identified how war
experiences are passed directly and indirectly intergenerationally via *indero* (how to raise a child), severe parental emotional distress, and community effects of stigma.

The dissertation then moved towards what happens when survivors of extreme adversity migrate to other countries in search of safety. *Chapter 7* explored the relationships between socio-demographic, pre- and post-migration variables with prevalence of psychological distress and global functioning in a heterogeneous sample of torture survivors now living in the U.S. Multi-variate logistic regression analyses on data from 278 survivors found that the length of time between arrival in the U.S. and clinical services was significantly associated with PTSD and depression with those receiving services after one year of resettlement more likely to experience PTSD and depression than those receiving services within one year. These findings have implications for implementing early mental health screening and intervention for survivors of torture.

*Chapter 8* builds on these findings to predict which demographic, pre-, post-migration, and psychosocial disability factors will lead to adverse psychiatric symptomology and functioning necessitating care. Hierarchical linear regression analysis on data from 278 survivors included the same variables as chapter 7, with the addition of psychosocial disability factors, including basic resources, external risk, mental health, family relationships, social connectedness, language barriers, and cultural navigation, to determine family and social determinants of adverse mental health. Findings showed that while cumulative torture types independently predicted greater severity of anxiety and PTSD, mental health, basic resources, and external risk disabilities were the strongest predictors of anxiety, PTSD, and depression. Moreover, time spent in the US before presenting for services was a significant unique predictor of symptomology. These findings show the utility of assessing for social determinants of adverse mental health.
The dissertation concludes with an epilogue, Chapter 9, that argues for the incorporation of a globalization-informed approach at the forefront of research, interventions, and services with regard to mental health. Such an approach would incorporate a flexible and iterative model from which to conceptualize and treat mental distress through dynamic interactions between global and local influences, different phases of the life course, populations in different contexts, and a focus on the complexity of relations between individual mental health and the social environment. This model would consider the long-term effects of armed conflict on individuals, families, and communities, following them as they migrate to more secure borders and seek to understand the dynamic process by which an individual has changed his/her identity due to experiences through war, migration, and resettlement. Moreover, an ethnographic approach could incorporate individual-, family-, and community-level resiliency processes that naturally assist people coping with adversity. Outcomes would not only evaluate biomedical models of “depression” and “PTSD”, but also signs of health and social functioning pointing to purpose, meaning, and fulfillment in life, as well as grief/loss, status, and sense of belonging. Local diagnostic categories and outcome measurements could be informed through an ethnographic approach, eliciting a patient's prioritization of distress.
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