Journal of Adolescent Health 56 (2015) 606–611

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

# The Youth Readiness Intervention for War-Affected Youth

Elizabeth A. Newnham, Ph.D. [a,b], Ryan K. McBain, Sc.D. [c], Katrina Hann, M.A. [a], Adeyinka M. Akinsulure-Smith, Ph.D. [d], John Weisz, Ph.D. [e], Grace M. Lilienthal [a,c], Nathan Hansen, Ph.D. [f], and Theresa S. Betancourt, Sc.D., M.A. [c,*]

[a] *François-Xavier Bagnoud Center for Health and Human Rights, Harvard T.H. Chan School of Public Health, Boston, Massachusetts*
[b] *School of Psychology, The University of Western Australia, Crawley, Western Australia, Australia*
[c] *Department of Global Health and Population, Harvard T.H. Chan School of Public Health, Boston, Massachusetts*
[d] *Department of Psychology, City College of New York, New York, New York*
[e] *Department of Psychiatry, Harvard University, Boston, Massachusetts*
[f] *Department of Health Promotion and Behavior, College of Public Health, University of Georgia, Athens, Georgia*

*Article history:* Received July 18, 2014; Accepted January 28, 2015
*Keywords:* Youth; Mental health; War-affected; Psychotherapy intervention; Post-conflict

A B S T R A C T

**Purpose:** Mental disorders are among the largest contributors to the global burden of disease. Since the cessation of the Sierra Leonean civil war in 2002, there have been few mental health resources available for war-affected youth. Co-occurring psychological problems are commonly reported by youth in the post-conflict setting, suggesting a need for evidence-based interventions that cater to comorbid psychological difficulties. This feasibility study outlines the implementation and evaluation of a mixed-methods approach for developing and piloting a culturally grounded group mental health treatment—the Youth Readiness Intervention (YRI)—for war-affected Sierra Leonean youth.

**Methods:** Participating youth (N = 32; 50% female; ages, 15–24 years) were allocated to one of four gender- and age-stratified groups, facilitated by gender-matched Sierra Leonean interventionists. The intervention comprised adapted cognitive behavioral therapy techniques to address issues pertinent to war-affected youth. Analyses comprised assessments of reliable symptom change, mental health, functional adaptation, and interventionist fidelity outcomes.

**Results:** The YRI was found to be acceptable, feasible and associated with reliable changes in internalizing and externalizing symptoms and improvements in functional impairments and emotion regulation (mean effect size, $d = .64$).

**Conclusions:** Youth struggling with the mental health consequences of past trauma due to war merit special attention. The YRI presents a feasible and acceptable intervention for use in this low resource setting. A randomized controlled trial is planned to further test intervention effectiveness and scalability.



**IMPLICATIONS AND CONTRIBUTION**

War-affected youth often exhibit co-occurring psychological problems, suggesting a need for evidence-based mental health interventions. Our findings indicate that the Youth Readiness Intervention significantly reduced internalizing and externalizing symptoms and improved functioning among trauma-exposed youth. Interventions that "ready" youth for educational and vocational activities have potential for increasing well-being and economic recovery.

**Conflicts of Interest:** This study was funded by an Australian Psychological Society International Grant, the United States Institute of Peace Grant # USIP-008-10F, and the UBS Optimus Foundation. The first author (E.A.N) is supported by an Early Career Fellowship from the National Health and Medical Research Council of Australia. The authors have no conflicts of interest to disclose. No honorarium, grant, or other form of payment was given to anyone to produce the article. The authors have no financial relationships to report.

**Disclaimer:** Study sponsors had no role in study design; collection, analysis, and interpretation of data; the writing of the report; or the decision to submit the article for publication.

* Address correspondence to: Theresa S. Betancourt, Sc.D., M.A., Department of Global Health and Population, Harvard T.H. Chan School of Public Health, 665 Huntington Ave, 12th Floor, Boston, MA 02115.
*E-mail address:* Theresa_Betancourt@harvard.edu (T.S. Betancourt).

1054-139X/
http://dx.doi.org/10.1016/j.jadohealth.2015.01.020

The World Health Organization estimates the level of untreated mental disorders among adults in low- and middle-income countries to be as high as 78% [1]. For children and adolescents, the figure is likely to be similar [2]. Risks for mental disorders are exacerbated in regions affected by armed conflict [3]. Among adolescents, psychological distress due to trauma exposure is often expressed in higher rates of post-traumatic stress symptoms, depression, anxiety, and externalizing behaviors (e.g., aggression, hostility) [4–6]. Although many war-affected youth demonstrate great resilience, those who continue to suffer elevated levels of distress and impairment in the post-conflict environment are at risk for poor health and development, low rates of school completion, and poor economic self-sufficiency [7,8].

Few interventions exist to address mental health problems in war-affected youth beyond the immediate crisis period. To date, those that have demonstrated effectiveness have focused on singular disorders or symptom groups (such as post-traumatic stress disorder [9], grief [10], or depression [11]). Given the experience of multiple traumas and loss, and the ongoing instability that characterizes many post-conflict environments, it is important that the scope of interventions be broadened beyond models targeting a singular disorder to anticipate comorbidity and diverse manifestations of complex trauma [12]. Despite its centrality to security and development, the evidence base for feasible, effective, and sustainable mental health interventions for youth in war-affected settings is limited.

The Sierra Leonean civil war (1991–2002) was characterized by pervasive violence, displacement, and loss and became infamous for its extensive involvement of children. Children were vulnerable to forced abduction, family separations, repeated exposure to and involvement in violence, as well as frequent physical and sexual abuse [4]. After the cession of war, we began a longitudinal study (2002–present) to examine trajectories of psychosocial adjustment among a cohort (N = 529) of male and female war-affected youth, including former child soldiers and noncombatants. Our research indicated that the mental health of war-affected youth was not only influenced by past war experiences, but also by post-conflict adversities and limited resources [13]. Risk factors such as stigma, child abuse, neglect, and daily hardships were associated with poor mental health outcomes [13], whereas protective factors such as access to education and adequate social support partially mitigated risks for these outcomes [4,13].

Today, 76% of Sierra Leoneans are younger than 35 years. Unemployment, violence, and poverty remain persistent problems. Furthermore, strategies to advance youth employment and educational opportunities (e.g., the $20 million Youth Employment Scheme supported by the World Bank) may be inaccessible to many troubled youth whose persistent symptoms and functional impairments make interactions with peers and supervisors challenging [14]. The evidence indicates potential for improvements in mental health, but interventions are needed to address the comorbidity and diversity of problems confronting youth to help them maximize both educational and employment programs. The aim of the present study was to develop and assess a behavioral intervention for war-affected youth that would address comorbidities in psychopathology and prepare youth to engage in educational and vocational opportunities. The resulting Youth Readiness Intervention (YRI) was assessed in a feasibility study. We hypothesized that the intervention would result in improvements in internalizing and externalizing symptoms, functioning, and emotion regulation capacities.

## Methods

### *Participants*

We conducted a pilot trial of the intervention among four groups of eight participants (N = 32), stratified by gender and age (separate groups for males and females; ages, 15–17 and 18–24 years). Participants were recruited based on referrals from community elders and service providers who identified youth with ongoing psychological and behavioral difficulties. Inclusion criteria comprised the following: war exposure, age of 15–24 years, a total score of half a standard deviation (SD) above the longitudinal study mean for externalizing and internalizing subsections of the Oxford Measure of Psychosocial Adjustment (OMPA) [15], and report of functional impairment on the World Health Organization Quality of Life-BREF instrument (WHOQOL-BREF; [16]. Exclusion criteria comprised active suicidality, serious cognitive impairment, or psychosis. Ethics approval was granted by the institutional review board at the Harvard School of Public Health.

### *Measures*

All outcome measures were forward and backward translated into Krio using the World Health Organization standard protocol [17]. Validation and pilot testing was conducted for all measures to ensure reliability, validity, and acceptability.

*Psychological symptoms.* The OMPA was used to evaluate internalizing symptoms (anxiety/depression; 16 items), externalizing symptoms (hostility; 12 items), and prosocial/adaptive behavior (16 items) [15]. The measure was developed and validated with former child soldier samples in Sierra Leone and Uganda [15] and had previously demonstrated sound reliability and validity among samples of war-affected youth [13]. In the present sample, reliability (Cronbach alphas at baseline) was $\alpha = .74$ for internalizing symptoms, $\alpha = .75$ for externalizing symptoms, and $\alpha = .73$ for prosocial/adaptive behavior.

*Functional adaptation.* Functional adaptation was measured using three subscales of the WHOQOL-BREF [16]; physical health ($\alpha = .78$), psychological health ($\alpha = .58$), and environment ($\alpha = .82$).

*Emotion regulation.* Capacities in emotion regulation were measured using an adapted, 36-item version of the Difficulties in Emotion Regulation Scale ($\alpha = .85$) [18]. The measure integrates six dimensions of emotion regulation: emotional response to nonacceptance, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity.

*Intervention fidelity.* A local clinical supervisor completed a fidelity monitoring tool immediately after each weekly supervision session from therapist report of the content, as well as audio recordings listened to in their entirety. The tool was developed

by the authorship team and mirrored the session content. Items covered both nonspecific skills such as "therapists reviewed and summarized the present session" and skills particular to each technique "explained the use of different exercises for coping." Items were rated on a five-point scale (4 = excellent; 0 = item not included), and an average score was generated for each session.

### *Intervention development*

The foundations for the intervention design were informed by findings of the longitudinal study of war-affected youth and a qualitative study of target issues and therapeutic needs among youth in Sierra Leone. The findings confirmed that many youth present with comorbid problems, interpersonal conflicts, high-risk behaviors, peer influence, and difficulties accessing educational and vocational opportunities were highly salient issues [19] and that interventions should be present-day focused rather than emphasize the reprocessing past traumatic events [19,20]. Thus, the YRI was developed to embody what Herman [21] refers to as a "Stage 1" trauma intervention, intended to stabilize symptoms, ensure safety, build emotion regulation practices, and strengthen skills for managing painful memories. In the literature on trauma and recovery, Stage 1 treatments target coping skills, immediate symptom alleviation, and healthier day-to-day functioning; they can also serve as prerequisites for intensive Stage 2 trauma-focused interventions. The resulting 10-session manualized intervention incorporated common practice elements from cognitive behavioral therapy, including psychoeducation, relaxation techniques, assertive communication strategies, cognitive restructuring, behavioral activation, goal setting, and sequential problem solving. The YRI is a closed-group intervention. Each session focused on a particular skill or psychological issue (such behavioral activation for low mood) and involved reviewing progress and updates from the week, learning about and practicing the new skill, and setting active practice for the week ahead. Creative activities were used to highlight the rationale, delivery, and application of the skill and to reduce the emphasis on literacy and increase engagement with the group. These treatment elements met the needs of participants [13,19,22,23] and reflect the evidence-base on interventions for violence-affected youth [24].

As recommended in the qualitative interviews, YRI practices were imbued with cultural content to ensure key concepts were contextualized and culturally acceptable [19]. For example, content was delivered in Krio using international and local concepts of mental health such as poil hat (spoiled heart), a local term for a constellation of symptoms similar to depression, and more widely used in the local lexicon. In addition, each YRI session was given a title derived from a Krio proverb that reflected the skills to be practiced. For example, the session on interpersonal skills was titled "If yu was yu han fayn yu go it wit big pipul" ("if you wash your hands well, you will dine with important people"), signifying the importance of presenting yourself well when interacting with others. The theme for each session was used to introduce topics and to discuss the use of newly learned techniques for reaching the client's overall goals. Given low literacy levels, homework assignments were modified to be orally and behaviorally rehearsed outside sessions. These included relaxation exercises, communication strategies (such as stop, think, speak), and structured problem solving. The homework exercises were designed to be completed individually but provided the opportunity to practice with family and friends where appropriate.

### *Procedures*

The intervention was implemented using a single condition, pre–post design. Local community health workers, who had all completed secondary school and had a social work degree or significant experience working with youth in the community, served as YRI interventionists. YRI training comprised a 2-week intensive training workshop, for six participants (50% female; ages, 30–54 years), conducted in both English and Krio. A dynamic mix of didactic learning, role-play, and constructive feedback was used. Each day of training covered one session, with occasional review days to discuss the structure and delivery of the treatment and revise more challenging concepts.

YRI groups (eight youth per group) met weekly over 10 weeks and each session lasted 90 minutes. Sessions were led by two same-gender interventionists, with one leading the YRI content and the other attending to group process. The interventionists had each completed the 2-week intensive training course and received ongoing supervision throughout the trial. Youth were assigned to groups by age, gender, and locality. Despite close proximity within the city, they rarely knew one another at the commencement of the study. Therapy sessions were held in local community halls, and participants were provided with a meal at the end of each session.

Digital audio recordings were made of all group sessions which were reviewed and used by the in-country supervisor for targeted weekly supervision. Weekly fidelity-targeted supervision was conducted with meetings between a senior supervisor and each cointerventionist team. In addition, weekly group supervision was conducted via international conference call. Supervision processes allowed for support of the interventionists, assessment of high-risk cases, and discussion of referral to individual services where needed, fidelity to the treatment, and exploration of therapy dose, structure, and the need for additional content or process management. Outcome measures were administered to all participants at baseline and completion of the trial.

### *Data analysis*

To understand comorbidities between outcomes of interest at baseline, we examined correlations between our primary outcomes as well as indicators of (a) post-traumatic stress reactions using the University of California–Los Angeles Post-Traumatic Stress Disorder Reaction Index ($\alpha$ = .91); (b) impulsiveness scores using six items on the Zimbardo's Stanford Time Perspective Inventory ($\alpha$ = .76) [25]; and (c) internalizing scores from the Hopkins Symptom Checklist ($\alpha$ = .90) [26]. Given the small sample size, we elected to set an alpha level of .10 rather than .05 to attain a reasonable balance of type I versus type II error. At this early stage of research, we did not want to be too stringent in overlooking a possible population effect.

Intention-to-treat analyses were conducted using paired *t* tests with pre- and post-intervention scores in STATA SE 12.0 (StataCorp, College Station, TX). Cohen's *d* statistics were calculated to determine effect size. Given interest in treatment nonresponse, we also used clinical significance methodology [27]. Specifically, a reliable change index (RCI) was computed

(the difference between a participant's pretest and posttest scores, divided by the standard error of the difference), whereby RCI scores greater than 1.96 are indicative of reliable change, and the percentage of the sample who achieved reliable improvement was reported [28].

## Results

### *Sample characteristics*

Mean age of youth in the trial was 18.2 years (SD = 2.4), 50% (n = 16) were female, 53% (n = 17) reported Muslim faith and 47% (n = 15) Christian, and 56% (n = 18) were currently in school. For 23% (n = 7), neither parent was alive, 32% (n = 10) had one living parent, and 45% (n = 14) had both parents. All participants lived through the war, 31% (n = 10) were displaced, 63% (n = 20) experienced the death of a loved one, and 34% (n = 11) directly witnessed violence.

### *Correlations among outcome measures*

Table 1 shows a correlation matrix of outcome measures at baseline, before the intervention. Here, a number of important associations were identified between mental health outcomes and other indicators: First, internalizing symptoms on the OMPA measures were associated with physical disability, as well as our secondary measure of internalizing symptoms from the Hopkins Symptom Checklist. Second, higher scores on externalizing symptoms were associated with greater impulsivity. Third, adaptive behavior was associated with lower psychological disability and disability imposed by one's environment (e.g., access to health services).

### *Treatment outcomes*

Session attendance was at least 80% across all groups; 24 youth (75%) completed all sessions. Table 2 presents an overview of results from analyses comparing baseline to follow-up scores. Overall, participants showed significant reductions in externalizing (Cohen's $d$ = .79) and internalizing symptoms ($d$ = .88), significant improvements in adaptive behavior ($d$ = .49), quality of life ($d$ = .41–.69), and emotion regulation ($d$ = .74). Furthermore, rates of reliable improvement varied from 12% (physical health domain of quality of life) to 48% (internalizing). Across all measures, an average of 16 of 25 participants (65%) assessed at both time points demonstrated reliable improvement over time, as indexed by RCI analyses.

### *Treatment fidelity*

Examination of the supervision fidelity data revealed consistently high scores in fidelity across therapists over time, with mean scores ranging from 2.89 to 3.87 of 4.00 (mean = 3.44; SD = .23). There were no significant differences between the male and female teams ($t$ = .38, $p > .05$). The results suggest that the therapists were able to engage with the intervention content and competently deliver it.

## Discussion

The findings of this feasibility study suggest that the YRI is a feasible and acceptable intervention for war-affected youth in a resource-constrained post-conflict setting. The intervention was associated with significant mental health improvements across multiple dimensions, including internalizing (depression and anxiety) and externalizing symptoms, as well as functional adaptation. The YRI also improved youth adaptive behavior, quality of life, and emotion regulation. Effect sizes ranged from moderate to large across the broad range of comorbid problems. In addition, assessments of reliable change indicate rates of improvement comparable with cognitive behavioral therapy programs delivered in high-resource settings [28]. Our results demonstrate the practicability of the YRI for engaging and serving war-affected youth in community settings with interventionists at a basic level of training under a systematic supervision structure.

War-affected youth in Sierra Leone demonstrate high levels of resilience [29]; however, a sizeable minority continue to report psychological symptom comorbidity, including sequelae of complex trauma [4]. The characteristics of youth in this trial were typical of those more broadly in Sierra Leone. Evidence from our ongoing longitudinal study on war-affected youth in Sierra Leone indicates a wide range of post-conflict stressors impact youths' ability to sustain improvements in psychological symptoms and functioning [20]. Unemployment, low levels of education, violence, and poverty remain persistent problems. Despite the presence of psychosocial and reintegration programs instituted immediately after the war [30–32], limited efforts have been

**Table 1**
Correlation between mental health and functional indicators at baseline

| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | Internalizing (OMPA) | 1.00 | | | | | | | | | |
| (2) | Externalizing (OMPA) | .24 | 1.00 | | | | | | | | |
| (3) | Adaptive behaviors (OMPA) | .14 | −.08 | 1.00 | | | | | | | |
| (4) | Physical QOL (WHOQOL, Physical) | −.39** | −.18 | .11 | 1.00 | | | | | | |
| (5) | Psychological QOL (WHOQOL, Psychol.) | −.11 | −.11 | .53** | .35** | 1.00 | | | | | |
| (6) | Environmental QOL (WHOQOL, Environ.) | −.26 | −.01 | .30* | .39** | .50** | 1.00 | | | | |
| (7) | Emotion regulation (DERS) | −.23 | −.09 | −.15 | .01 | −.04 | .02 | 1.00 | | | |
| (8) | Post-Traumatic Stress (UCLA-PTSD-RI) | .21 | .13 | −.06 | −.43** | −.30 | −.24 | −.28 | 1.00 | | |
| (9) | Impulsivity (STPI) | −.15 | .31* | .04 | −.01 | .05 | .49** | .03 | −.22 | 1.00 | |
| (10) | Internalizing (HSCL) | .35** | .13 | .05 | −.31* | .00 | .00 | −.40** | .69** | .15 | 1.00 |

DERS = Difficulties in Emotion Regulation Scale; HSCL = Hopkins Symptom Checklist; OMPA = Oxford Measure of Psychosocial Adjustment; WHOQOL = World Health Organization Quality of Life; STPI = Stanford Time Perspective Inventory; UCLA-PTSD-RI = University of California–Los Angeles Post-Traumatic Stress Disorder Reaction Index.

*Represents a significant correlation at $p < .10$.

**Represents a significant correlation at $p < .05$.

**Table 2**
Main outcomes and rates of reliable improvement for war-affected youth participating in the Youth Readiness Intervention

| | Baseline score | Follow-up score | Significance value, *p* | Effect size | % Reliable improvement |
|---|---|---|---|---|---|
| Oxford Measure of Psychosocial Adjustment | | | | | |
| Internalizing (anxiety/depression) | 1.74 (.07) | 1.31 (.09) | <.0001 | .88 | 48 |
| Externalizing (hostility/aggression) | .97 (.08) | .68 (.07) | .0001 | .79 | 20 |
| Adaptive attitudes/behavior | 1.94 (.06) | 2.13 (.08) | <.01 | .49 | 32 |
| World Health Organization quality of life instrument | | | | | |
| Physical health | 2.96 (.11) | 3.19 (.07) | <.05 | .41 | 12 |
| Psychological health | 2.91 (.11) | 3.32 (.12) | <.001 | .69 | 24 |
| Environment | 2.75 (.12) | 3.00 (.14) | <.05 | .48 | 16 |
| Difficulties in emotion regulation scale | | | | | |
| Total score | 3.55 (.05) | 3.78 (.07) | <.001 | .74 | 41 |

Mean values are at the item-level and are accompanied by standard error in parentheses. Statistical significance and effect size calculated based on intent to treat assumption that no change in outcomes was observed among drop-out cases. "Effect size" computed as Cohen's *d*. Reliable improvement and mean follow-up scores only include 25 participants for whom there are data at baseline and follow-up. "Reliable improvement" represents the percentage of case completers who exhibited a reliable improvement in symptoms, as expressed by the reliable change index.

made to establish sustainable programs to promote robust, long-term mental health services for war-affected youth [33]. The findings of our feasibility study of the YRI complement trials of interventions designed to treat singular disorders in a number of post-conflict settings and broaden the evidence-base on the feasibility and improvements possible with a treatment designed for comorbid difficulties frequently reported by war-affected youth.

Increasing attention is being paid to the severity and impact of daily stressors worsened or caused by conflict on youths' ability to function in post-conflict settings [34,35]. Theoretical and empirical evaluations of psychological outcomes after war suggest that a range of current stressors (e.g., food and water insecurity, household conflicts, housing evictions) have potential to prolong or exacerbate mental health difficulties related to trauma exposure [36,37]. The results of this feasibility study support the importance of addressing current stressors and suggest that there is opportunity to improve symptoms and functioning linked to these difficulties.

### *Limitations*

Several unique features and limitations of this trial deserve note. First, without a randomized design and control group, it is not possible to say that all changes observed were because of the intervention. Building on the results of this study, a randomized controlled trial was conducted in Sierra Leone and demonstrated significant improvements in emotion regulation, prosocial attitudes/behaviors, social support, reduced functional impairment, and significant follow-up effects on school enrollment and attendance [38]. Thus, the present study provides important detail on the development, implementation, and feasibility of an effective, evidence-based treatment for war-affected youth. Development of the YRI was guided by prior longitudinal findings and qualitative data on the nature of ongoing problems among youth [19,20]. We are confident that the intervention targets were locally relevant. Additionally, our findings indicate that the sessions were highly salient and applicable to the lives of war-affected youth.

Second, we have laid out a process that can be replicated in other settings. The collaborative training and supervision model fostered development of a dedicated team of local providers, who led the successful implementation of the YRI for youth with ongoing mental health difficulties. There are potential risks associated with employing mental health interventionists who have not completed a psychology or psychiatry degree (neither of which are currently available in Sierra Leone); thus, we implemented comprehensive training, supervision, and professional development processes, and partnered with nongovernment organizations to provide follow-up of high-risk referral cases. Strengthening the local workforce will create effective, cost-efficient, and sustainable change in war-affected nations, and this model presents an opportunity for valid and effective implementation of evidence-based therapies in other resource-limited environments. Through partnerships with local providers and the government, the YRI could be investigated in a larger and fully powered implementation trial, examining alternate delivery platforms for scaling up the intervention such as integration into education and/or employment programs.

Third, although all measures were validated for the setting, some issues remain. For example, the internal consistency of the psychological health subscale of the WHOQOL was low and future assessments could augment this finding with other measures. Finally, although our recruitment of a small sample of participants through local leaders and care providers in Freetown may limit the generalizability of the current findings, there is tremendous potential to adapt the YRI to other conflict-affected settings and to carry out additional rigorous evaluations. Youth in Sierra Leone face difficulties that characterize many post-conflict zones [3,34], and the parallels in intervention potential is an area of great importance for future research.

In conclusion, youth struggling with the mental health consequences of past trauma due to war, as well as ongoing instability and daily stressors, require intervention suitable for a range of comorbidities and post-conflict challenges. As policy makers, interventionists, and other stakeholders look to mend the nation's social and political fabric, transdiagnostic psychological treatments are needed to improve self-efficacy, emotion

regulation, and interpersonal functioning among this war-affected generation. The YRI presents a feasible and acceptable intervention for use with youth in Sierra Leone and potentially other conflict-affected settings.

## Acknowledgments

We would like to acknowledge the many individuals involved in the development of the YRI including Dr. Sarah Kate Bearman, Anne Wilhoite, and Rachel Granetz. We are also grateful for the support from the Office of the U.S. Ambassador to Sierra Leone, Michael Owen, as well as the Office of Sia Koroma, First Lady of Sierra Leone. We would additionally like to thank our colleagues and supporters at CARITAS and EducAid in Sierra Leone and those at the François-Xavier Bagnoud Center for Health and Human Rights. For their input and review of data analysis, we extend our gratitude to Robert Brennan, Margarita Alegria, and Ista Zahn. Above all, we owe a debt of gratitude to our local advisory board for their steadfast guidance and advice, our excellent local facilitators and supervisors, and the many youth and families who participated in the study. E.A.N. affirms that everyone who contributed significantly to the work is listed in the Acknowledgements. E.A.N. and T.S.B. wrote the first draft of the manuscript.

## References

[1] Kohn R, Saxena S, Levav I, Saraceno B. The treatment gap in mental health care. Bull World Health Organ 2004;82:858–66.
[2] Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: A global public-health challenge. Lancet 2007;369:1302–13.
[3] Tol WA, Song S, Jordans MJ. Resilience and mental health in children and adolescents living in areas of armed conflict–A systematic review of findings in low- and middle-income countries. J Child Psychol Psychiatry 2013;54:445–60.
[4] Betancourt TS, Newnham EA, McBain R, Brennan RT. Post-traumatic stress symptoms among former child soldiers in Sierra Leone: Follow-up study. Br J Psychiatry 2013;203:196–202.
[5] Mels C, Derluyn I, Broekaert E, Rosseel Y. The psychological impact of forced displacement and related risk factors on Eastern Congolese adolescents affected by war. J Child Psychol Psychiatry 2010;51:1096–104.
[6] Kohrt BA, Jordans MJ, Tol WA, et al. Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal. JAMA 2008;300:691–702.
[7] Bayer CP, Klasen F, Adam H. Association of trauma and PTSD symptoms with openness to reconciliation and feelings of revenge among former Ugandan and Congolese child soldiers. J Am Med Assoc 2007;298:555–9.
[8] Annan J, Blattman C, Mazurana D, Carlson K. Civil war, reintegration, and gender in Northern Uganda. J Conflict Resolution 2011;55:877–908.
[9] Ruf M, Schauer M, Neuner F, et al. Narrative exposure therapy for 7- to 16-year-olds: A randomized controlled trial with traumatized refugee children. J Trauma Stress 2010;23:437–45.
[10] Layne CM, Pynoos RS, Saltzman WR, et al. Trauma/grief-focused group psychotherapy: School-based postwar intervention with traumatized Bosnian adolescents. Group Dyn Theor Res Pract 2001;5:277.
[11] Bolton P, Bass J, Betancourt T, et al. Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: A randomized controlled trial. JAMA 2007;298:519–27.
[12] Peltonen K, Punamäki RL. Preventive interventions among children exposed to trauma of armed conflict: A literature review. Aggress Behav 2010;36:95–116.
[13] Betancourt TS, McBain R, Newnham EA, Brennan RT. Trajectories of internalizing problems in war-affected Sierra Leonean Youth: Examining conflict and postconflict factors. Child Dev 2012;84:455–70.
[14] Newnham EA. The impact of trauma on livelihoods. Washington, D.C.: World Bank; 2014.
[15] MacMullin C, Loughry M. Investigating psychosocial adjustment of former child soldiers in Sierra Leone and Uganda. J Refug Stud 2004;17:460–72.
[16] WHOQOL Group. Development of the World Health Organization WHOQOL-BREF quality of life assessment. Psychol Assess 1998;28:551–8.
[17] WHO. Process of translation and adaptation of instruments. New York: World Health Organization; 2012.
[18] Gratz K, Roemer L. Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. J Psychopathol Behav Assess 2004;26:41–54.
[19] Betancourt TS, Newnham EA, Hann K, et al. Addressing the consequences of violence and adversity: The development of a group mental health intervention for war-affected youth in Sierra Leone. In: Raynaud J, Gau S, Hodes M, eds. From Research to Practice in Child and Adolescent Mental Health. Lanham, MD: Rowman & Littlefield; 2014:157–77.
[20] Newnham EA, Pearson RM, Stein A, Betancourt TS. Youth mental health after civil war: the importance of daily stressors. Br J Psychiatry 2015;206:116–21.
[21] Herman J. Trauma and recovery: The aftermath of violence–from domestic abuse to political terror. New York: BasicBooks; 1997.
[22] Betancourt TS, McBain R, Newnham EA, Brennan RB. Context matters: Community characteristics and mental health among war-affected youth in Sierra Leone. J Child Psychol Psychiatry 2014;55:217–26.
[23] Betancourt TS, Simmons S, Borisova I, et al. High hopes, grim reality: Reintegration and the education of former child soldiers in Sierra Leone. Comp Educ Rev 2008;52:565.
[24] Cohen J, Mannarino A, Murray L. Trauma-focused CBT for youth who experience ongoing traumas. Child Abuse Negl 2011;35:637–46.
[25] D'Alessio M, Guarino A, De Pascalis V, Zimbardo PG. Testing Zimbardo's Stanford Time Perspective Inventory (STPI)–Short form. Time Soc 2003;12:333–47.
[26] Derogatis LR, Lipman RS, Rickels K, et al. The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. Behav Sci 1974;19:1–15.
[27] Jacobson NS, Truax P. Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. J Consult Clin Psychol 1991;59:12.
[28] Newnham EA, Harwood KE, Page AC. Evaluating the clinical significance of responses by psychiatric inpatients to the mental health subscales of the SF-36. J Affect Disord 2007;98:91–7.
[29] Betancourt TS, McBain R, Newnham EA, Brennan RT. Trajectories of internalizing problems in war-affected Sierra Leonean youth: Examining conflict and postconflict factors. Child Dev 2013;84:455–70.
[30] The Coalition to Stop the Use of Child Soldiers. Child soldiers and disarmament, demobilization, rehabilitation and reintegration in West Africa: A survey of programmatic work on child soldiers in Cote d'Ivoire, Guinea, Liberia and Sierra Leone; London, U.K.: Coalition to Stop the Use of Child Soldiers; 2006. Available at http://reliefweb.int/sites/reliefweb.int/files/resources/8E9E650371871EBCC125722F0049E478-csucs-gen-23nov.pdf. Accessed on April 22, 2015.
[31] UNICEF. The disarmament, demobilization and reintegration of children associated with the fighting forces: Lessons learned in Sierra Leone. UNICEF; 2005. Available at http://www.unicef.org/wcaro/WCARO_SL_Pub_LesLearntChildSoldiers.pdf. Accessed on April 22, 2015.
[32] Williamson J. Reintegration of child soldiers in Sierra Leone: January 31–February 9, 2005. US Agency for International Development; 2005. Available at http://pdf.usaid.gov/pdf_docs/PDACH599.pdf. Accessed on April 22, 2015.
[33] Williamson J. The disarmament, demobilization and reintegration of child soldiers: Social and psychological transformation in Sierra Leone. Intervention 2006;4:185–205.
[34] Miller KE, Rasmussen A. War exposure, daily stressors, and mental health in conflict and post-conflict settings: Bridging the divide between trauma-focused and psychosocial frameworks. Soc Sci Med 2010;70:7–16.
[35] Annan J, Green EP, Brier M. Promoting recovery after war in northern Uganda: Reducing daily stressors by alleviating poverty. J Aggression, Maltreat Trauma 2013;22:849–68.
[36] Fernando GA, Miller KE, Berger DE. Growing pains: The impact of disaster-related and daily stressors on the psychological and psychosocial functioning of youth in Sri Lanka. Child Dev 2010;81:1192–210.
[37] Rasmussen A, Annan J. Predicting stress related to basic needs and safety in Darfur refugee camps: A structural and social ecological analysis. J Refug Stud 2010;23:23–40.
[38] Betancourt TS, McBain R, Newnham EA, et al. A behavioral intervention for war-affected youth in Sierra Leone: A randomized controlled trial. J Am Acad Child Adolesc Psychiatry 2014;53:1288–97.