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Measuring Culturally and Contextually Specific Distress Among Afghan, Iraqi, and Great Lakes African Refugees

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Culturally and contextually valid measurement of psychological distress is critical, given the increasing numbers of forcibly displaced people and transnational migration. This study replicates an inductive process that elicited culturally specific expressions, understandings, and idioms of distress among Afghans to develop culturally specific measures of distress for Great Lakes Africans and Iraqis and expands this methodology to include a focus on the contexts of refugees resettled in the United States. To create the measures, we adapted Miller et al.'s (2006) model for the *Afghan Symptom Checklist* (ASCL) and conducted 18 semistructured qualitative interviews that attended to refugees' multiple settings; the impact of potentially traumatic events initially and postresettlement; and the experiences and impact of resettlement stressors. We tested the newly developed measures and existing ASCL with 280 recently resettled refugees (<3 years) from Afghanistan, the Great Lakes region of Africa, and Iraq to assess factor structure, reliability, and construct validity. We successfully replicated and adapted a process for creating culturally specific measures of distress to create reliable and valid scales that consider culturally and contextually specific distress among several groups of forcibly displaced people. Our results highlight the salience of individuals' social contexts and how they are manifested as idioms of distress, bringing together two key areas of research: the social construction of mental health and social determinants of mental health. These findings have implications for improving measurement of psychological distress and for developing multilevel interventions that are culturally resonant and address factors beyond the individual level.

Public Policy Relevance Statement

Addressing the mental health of the rapidly increasing numbers of forcibly displaced people is urgently needed, and effective interventions require an accurate understanding of the sources and experiences of psychological distress. This study highlights a process for assessing culturally and contextually specific distress among three refugee groups and provides measures that can be used with Afghan, Great Lakes African, and Iraqi refugees in the United States. The symptoms of distress revealed in the newly created measures demonstrate the relevance of including contextually specific items that measure postresettlement stressors and the importance of multilevel and structural interventions that attend to social isolation, family separation, language barriers, and resource access.

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Assessing psychological distress among diverse refugee populations and providing appropriate services have been challenging endeavors for mental health professionals and researchers (Kronick et al., 2021). The dominance of the biomedical model in mental health assessments neglects sociocultural meanings attached to mental illness (Horwitz, 2020; Luhrmann & Marrow, 2016) and fails to consider particular sociocultural contexts in which refugees experience distress (Ojagbemi & Gureje, 2021). Although the symptoms described in major Western mental health screening tools may be relevant, they often do not capture nuances of distress experienced by refugees as distress is a product of particular sociocultural contexts. Thus, universal diagnoses cannot be assumed to be culturally appropriate, valid, and reliable measures of psychological distress for all populations across diverse contexts (Mirowsky & Ross, 2002).

Refugees rapidly move through multiple cultural and social contexts. People who have been forcibly displaced from non-Western countries remain at risk for misdiagnosis when resettling in places that rely on the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013; Hall et al., 2014). To address this challenge, more attention is needed to develop mental health measures that include cultural idioms of distress for diverse populations (Hinton & Lewis-Fernández, 2011) and consider contextual conditions of migration. This is essential not only to assess mental health problems more accurately but also to support appropriate healing approaches.

Some researchers have employed a social constructivist perspective to create culturally specific measures of mental health problems. Miller et al. (2006) developed the *Afghan Symptom Checklist* (ASCL) for Afghans impacted by conflict. Based on common narratives from thematic coding of qualitative interviews of Afghans in Afghanistan, they identified common indicators of distress and created items that utilized the language employed by Afghans to describe their symptoms. In the present study, we replicated this process with two of the other largest conflict-affected populations that have resettled in the United States (Great Lakes Africans and Iraqis) to create two new culturally specific measures of distress. The term Great Lakes Africans refers to people from Burundi, the Democratic Republic of Congo (DRC), the Republic of the Congo, and Rwanda. Refugees from this region come from multiple ethnic groups but have similar cultural backgrounds, perspectives on well-being, and experiences of forced displacement and resettlement. We tested the existing ASCL with Afghan refugees and two newly created measures with Great Lakes African and Iraqi refugees resettled in the United States. In doing so, this study addresses key issues related to culturally *and* contextually valid measurement of psychological distress and includes results from replication of a process to create and validate such measures with forcibly displaced populations.

Cultural and Sociopolitical Contexts of Premigration

Understanding the cultural and sociopolitical contexts of Afghan, Iraqi, and Great Lakes African refugees is crucial to address the impacts of resettlement on interpretations and symptoms of distress. Afghanistan is one of the poorest countries in the world, which is due in part to ongoing conflict and violence in Afghanistan for the past 100 years. This protracted strife has resulted in an estimated 8.2 million Afghans who have been displaced and living in neighboring countries over the past 40 years, making it one of the biggest protracted refugee situations globally (United Nations High Commission for Refugees, 2023). Among those resettling in the United States, Afghan refugees form a diverse group, predominantly identifying as Muslim while representing multiple distinct ethnic backgrounds. The educational and socioeconomic backgrounds of these individuals vary significantly, with a notable disparity observed in educational opportunities, particularly for women who, prior to displacement, faced limited access to formal schooling.

In a similar vein, Iraq's history of violence and U.S. intervention there have led to the displacement of large numbers of Iraqis. Some Iraqi refugees were forced to flee due to direct targeting, facing threats of death, torture, and discrimination as a consequence of their association with U.S. forces. In addition, religious minority groups in Iraq faced severe persecution after U.S. intervention, leading to their inclusion among the ranks of displaced Iraqis resettled in the United States. Consequently, Iraqi refugees include people with diverse religious backgrounds, including Muslims, Christians, Mandeans, and followers of other faiths. Despite the upheaval caused by conflict, many Iraqi refugees have high levels of education, originating predominantly from urban settings.

Since World War II, the Great Lakes region of Africa has been plagued by deadly conflicts that have had profound and far-reaching consequences. Burundi, Rwanda, and the eastern DRC have been at the epicenter of these conflicts, leading to widespread displacement. The loss of an estimated 300,000 Burundians in a civil war between 1993 and 2008, along with the genocide in Rwanda claiming approximately 800,000 lives in 1994, further fueled conflict in the eastern DRC, resulting in the loss of an estimated 5.4 million lives. Refugees from the Great Lakes region, who have resettled in the United States, originate primarily from Burundi, Rwanda, and the eastern DRC. While most identify as Christian, a significant portion are Muslim. Great Lakes Africans have diverse ethnic backgrounds, as well as a myriad of educational and socioeconomic experiences.

Culturally Specific Psychological Distress

Numerous scholars have noted the gap between Western and non-Western approaches to mental health in terms of definitions of mental health, the impact of trauma and stressors on mental health, as well as explanatory models related to the causes of mental illness, illness experiences, help-seeking behaviors, and recovery (Decoteau, 2017; Fassin & Rechtman, 2009; Lewis, 2020). Underlying experiences described by disorders such as posttraumatic stress disorder (PTSD) and depression persist cross-culturally; however, their *presentation* can vary widely across cultures (Blackwell et al., 2023; Haroz et al., 2017; Kirmayer et al., 2017).

Of particular relevance for forcibly displaced populations, scholars have criticized the universalization of trauma experiences and the overapplication of a PTSD framework to diverse experiences of distress as a result of traumatic experiences (Kohrt & Hruschka, 2010; Summerfield, 1999). PTSD as a diagnosis originated from the combat experiences of American soldiers in the Vietnam War (Scott, 1990; Young, 1997). The inclusion of PTSD as a disorder in *Diagnostic and Statistical Manual of Mental Disorders, third edition* in 1980 contributed to the development of the field of refugee mental health (Fawzi et al., 1997) and was adopted globally (Whitley,

2015). However, scholars have debated the theoretical assumptions underlying the PTSD criteria and the efficacy of PTSD-focused treatments across cultures (Nickerson et al., 2011). This is because the way individuals and communities understand and respond to traumatic events and cope with distress varies across time and place, depending on what sociocultural meanings are attached to a particular traumatic event and what are seen as appropriate healing mechanisms (Marsella, 2010).

Culturally Specific Symptoms of Distress Among Refugees From Three Regions

To strengthen the theoretical foundation and develop culturally specific measurements, it is essential to understand the different ways in which distress is experienced by Afghan, Iraqi, and Great Lakes African refugee populations. Afghan refugees, having experienced protracted conflict and displacement often exhibit *asabi*, which captures a blend of anger, worry, and agitation often linked to major stressors from uncertain futures and disrupted social structures, including family separation from ongoing conflicts (Miller et al., 2006). *Jigar khun* signifying deep grief and sadness following loss or painful experiences was commonly used among war survivors. *Fishar-e-bala* and *fishar-e-payin* signify emotional pressure and low energy, respectively, unrelated to blood pressure. Afghans often refer to them collectively as *fishar*, a common reason for seeking treatment or self-medicating. Similarly, many Iraqis experience *asabi* as heightened levels of anger that may be accompanied by violent behaviors, particularly among men. Iraqis also tend to show somatic expressions of distress, which are frequently manifested through physical symptoms such as headaches, fatigue, and chest tightness (Atrooz et al., 2022).

The Great Lakes African refugee populations often have culturally specific symptoms of distress that reflect their traumatic histories. Rwandan refugees may experience *ihahamuka,* a form of traumatic recollection and fear triggered by reminders of the genocide, leading to flashbacks and intrusive thoughts (Hagengimana & Hinton, 2009). Likewise, Congolese refugees often grapple with a feeling of disorientation and loss of identity encountered during the displacement and resettlement process (Rousseau et al., 2004; Wachter et al., 2016). Given that these cultural idioms of distress are consistently reproduced within their respective contexts, they are important to take into account when considering how to measure the mental health of diverse refugee populations.

Culturally Specific Measures of Mental Health

Some scholars have argued that universal mental health measurement tools fail to capture local understandings of distress and local norms related to thoughts, emotions, and behaviors (Hollifield et al., 2013). Rasmussen et al. (2014) conducted a systematic review identifying dozens of culturally specific conceptions of posttraumatic stress symptoms not found in Western assessments, such as being pushed down by a ghost or having a sore neck. Many of these are considered salient, even defining, features of traumatic distress in their respective cultures but remain unmeasured in existing assessments. Therefore, scholars have highlighted the urgent need for measures to accurately assess psychological distress, especially among non-Western migrants in Western countries (Fabian et al., 2018).

Although assessing mental health through standardized measurement is a culturally bound Western approach, forcibly displaced people who resettle in North America or Europe will likely be subject to such assessments during health screenings or if they seek assistance for distress. To achieve more valid assessments of the mental health of refugees and immigrants, some scholars have created culturally specific measures, such as Refugee Health Screener-15 (Hollifield et al., 2013), Comprehensive Trauma Inventory-104 (Hollifield et al., 2006), Vietnamese Depression Scale (Kinzie et al., 1982), and Hispanic Women's Social Stress Scale (Goodkind et al., 2008), which focus on local concepts of causes, symptoms, and courses of psychological distress. In addition, the Harvard Trauma Questionnaire has been adapted for Southeast Asian (Mollica et al., 1992), Iraqi (Shoeb et al., 2007), Indian (Patel et al., 2021), sub-Saharan African (de Fouchier et al., 2012), and Bosnian and Serbian groups (Oruc et al., 2008) by using items with local meanings and experiences. The Hopkins Symptom Checklist Depression subscale has also been adapted to measure cultural idioms of distress in Rwanda (Bolton, 2001). Despite these important efforts, research with refugee groups rarely uses assessment tools that have been developed for and validated among specific refugee populations (Gadeberg et al., 2017). Relying on standardized assessment tools that have not been validated for use with specific refugee populations could potentially misinterpret or underestimate the experiences and needs of these groups, which leads to inaccurate measurement of psychological distress and inappropriate treatment. Thus, it is important to develop assessment tools tailored to the needs and experiences of specific refugee populations.

A focus on the mental health of forcibly displaced people also highlights the importance of considering social context. Although there is growing recognition of the critical impact of multiple social determinants on mental health (Hynie, 2018), limited research has considered how expressions of distress may depend on an individual's particular social context. Because refugees move across multiple social contexts, their experiences both emphasize the necessity of and provide opportunity to explore whether and how measures of mental health may be not only culturally appropriate but also *contextually appropriate*. Given the need for culturally specific measures of distress and measures that consider the transnational experiences of forcibly displaced persons who experience distress across multiple social and cultural contexts, we used an inductive approach to elicit culturally and contextually specific expressions, understandings, and healing and engaged a culturally diverse team in analytic processes and key decision points in scale creation. Our reproducible model documents and validates processes for creating culturally and contextually valid measures of distress, which are critical for understanding distress among the rapidly increasing numbers of forcibly displaced people worldwide.

Method

Refugee Well-Being Project Study

The purpose of creating and testing culturally and contextually valid measures of distress for resettled Afghan, Iraqi, and Great Lakes African refugees was to ensure accurate measurement of their distress in a randomized controlled trial of the Refugee Well-being Project, a community-based mental health intervention, among

290 adult refugee participants enrolled over 4 years (2013–2016) in a midsized city in the Southwestern United States. The study was approved by the University of New Mexico Institutional Review Board. See Goodkind et al. (2020) for details on the Refugee Well-being Project intervention and randomized controlled trial results.

Measure Development: Qualitative Interviews

Through discussion with Burundian and Congolese members of the study team, we decided it would be appropriate to create one measure for Great Lakes Africans. Thus, our goal was to create two new measures, one for Great Lakes Africans and one for Iraqis, and to utilize and test the existing ASCL for Afghans. We used Miller et al.'s (2006) model for the creation of the ASCL. To ensure context specificity, we adapted this process to consider: (a) refugees' multiple different settings (e.g., home country, country of first refuge); (b) how potentially traumatic events affected people initially and after resettlement in the United States; and (c) the experiences and impact of resettlement stressors and healing.

Participants. We recruited 10 Iraqi participants (five women; five men) and eight Great Lakes African participants (five women; three men) to participate in in-depth semistructured qualitative interviews (19 open-ended questions; $M_{time} = 60.55$ min; Range = 34–102 min) regarding culturally specific symptoms and experiences of distress and healing. Participants were refugees who had been resettled in the United States for an average of 5.1 years (range 0.1–6.5 years).

Qualitative Interviews. We followed Miller et al.'s (2006) recommendations to ask participants to describe the distress experiences of two people from their same cultural background whom they were close to—one who had improved and one who had not. For both people, participants were asked, "Please tell us the story of this person and the difficult times that he or she experienced in the past" and "How was he or she affected by these experiences? How do you know?" We also asked about current day-to-day functioning and prompted interviewers to ask about sleeping, eating, and ability to get along with others. We asked about current circumstances and challenges in the resettlement context. We also asked, "How do you know he or she is doing well or not well?" For those who showed improvement in distress, we asked how they got better. For those who continued to struggle, we asked about difficulties that kept the person from being well. We also asked how premigration and postmigration stressors affected both people. Thus, we collected 36 narratives from participants about culturally specific distress symptoms and recovery.

Each interview was conducted by two experienced research team members (a bilingual–bicultural interviewer/interpreter and an English-speaking interviewer). The interviewers and interpreters worked together to develop a logistical plan to conduct the interviews, discuss the interview guide, and practice interview facilitation and interpretation techniques. The interviewers and interpreters had previously worked together for several years conducting semistructured qualitative interviews with refugee participants from these cultural groups. The interpreter was asked to note culturally specific terminology and idioms during the interview, record them in the participant's native language, and attempt to explain them during the interview. English language portions of the interviews were transcribed by a professional transcription service. Transcripts were checked for accuracy and imported into NVivo 10, a qualitative data analysis software package (QSR International Pty, 2018).

Analysis and Development of Culturally Specific Items. The third author inductively coded symptoms of distress and recovery described by participants into separate codebooks for Great Lakes Africans and Iraqis. When a participant mentioned a distress symptom or indicator of recovery, it was included in the codebook using their idiomatic expression and/or symptom. When all interviews were coded, the third author met with the bilingual–bicultural members of the team to review the codebooks and merge codes that they viewed to be the same, thus refining the code for each expression following their interpretation of participant meaning with respect to those codes. In all applicable cases, we included the original language for the symptom. Once the codebooks were established, a second independent coder coded the transcripts. We then analyzed which codes were used most often by participants. Inclusive lists of distress symptoms and signs of recovery (as described by Great Lakes Africans and Iraqis) were created and then sorted by the number of interviews in which each was discussed and how many total references there were to each (see Table 1).

Achieving data saturation is not a straightforward process. Although we used a rapid, time-delimited method for measure creation, several important factors indicate that we achieved adequate saturation, which are consistent with guidelines from other qualitative researchers (e.g., Aldiabat & Le Navenec, 2018; Bonde, 2013). First, the narrow range of focus—to discover culturally and contextually specific symptoms of distress and recovery—helped to limit the range of data provided. Second, the high level of experience participants had with the topics of distress, premigration trauma, and postmigration challenges meant that even small numbers of Iraqis and Great Lakes Africans could provide the depth and range of symptoms that were representative. Third, the expertise of the lead qualitative researcher (an anthropologist with almost 20 years of interview experience), working with trusted community experts with at least 5 years' experience in interviewing and interpretation, contributed to the quality of the data. Further, the interviewers and community experts each had 5–10 years of experience conducting research in these communities on mental health-related issues, which contributed to researcher and participant ability and comfort with the difficult topics. Finally, for both Iraqis and Great Lake Africans, we continued to conduct qualitative interviews until we were not hearing any new distress symptoms or idioms of distress discussed.

In consultation with the bilingual–bicultural team members, we reduced the Iraqi symptom list to a 38-item measure (*Iraqi Newcomer Symptom Checklist* [INSC]). Reduction criteria included choosing the most prominent symptoms and eliminating symptoms that seemed redundant. The same process was done for Great Lakes African symptoms, resulting in a 21-item *Great Lakes African Newcomer Symptom Checklist* (GLANSC). Team members then translated and back-translated the measures into Arabic and Kiswahili using the translation, review, adjudication, pretesting, and documentation process (Survey Research Center, 2010).

Table 1
Iraqi and Great Lakes African Symptoms of Distress in Order of Predominance

Iraqi symptoms	No. of interviews where symptom discussed	Total no. of references to symptom across Iraqi interviews
Social, physical isolation, withdrawal	8	34
Physically unwell, pain	6	24
Sleeping	9	21
Afraid, khaef scared, watchful	5	19
Loss, maut (death), firaq (separation), fuqdan, hasara (loss of things)	6	17
Angry (also mad, nervous, and upset), asabi	6	15
Not eating, la yaaquol	9	14
Eating	9	14
Depression, kaaba	5	13
Sad, not happy, hazeen	8	13
Separation from family	4	10
Tired, taban, exhausted, murhaq	5	9
Visual, auditory or other triggers, remembering	2	9
Exhausted, tired	5	9
Safety (aman)	4	8
Concentration, lack of, la urekiz	2	8
Weight gain (fat) or loss (thin)	3	7
Suicidal thoughts, actions	1	6
Not succeeding in tasks (important to include)	3	6
Unstable in her, his life, ghaer musterah	1	6
Bored, nothing to do, melel	4	6
Negative thinking, silbi, pessimist	3	6
Memories and cannot forget, yatedeker, la yensa	3	5
Grief	3	4
Dreams, ahlam, nightmares, kuabees	3	4
Crying, tepki, uepki, katheran, huawy	3	4
Face, can see it on his face	2	4
Child suffering, uani	2	4
Worried, kalaq	2	4
Avoiding marriage, romantic relationships	3	4
Weak personality	1	3
Unable to move forward, unable to face the present, missing home, feeling homesick	1	3
Underdeveloped, overdeveloped	1	3
Pessimistic, no hope for future	1	3
No personality	1	3
Stepping on himself, yadoos alla nafsah	1	2
Telling others how he, she is doing	2	2
Embarrassed, shy, yakhjal	2	2
Anxiety, kaleq	2	2
Swelling	1	2
Fight	1	2
Not progressing	2	2
Taking on the suffering of others, compassion for others	1	1
Inner conflict	1	1
Incontinence	1	1
Feeling useless, atel, mabeea faeeda	1	1
Uncomfortable	1	1
Cannot forget	1	1

African symptoms	No. of interviews where symptom discussed	Total no. of references to symptom across African interviews
Socializing, not socializing, loneliness	6	20
Sleep	8	17
Separation from family through death or loss	6	17
Physically unwell, pain	5	16
Thinks a lot, too much	4	12
Stress (agahinda)	4	11
Eating	5	11
Weight loss, weight gain	2	10
Dependence	2	9
Crying	2	8

(*table continues*)

Table 1 (*continued*)

African symptoms	No. of interviews where symptom discussed	Total no. of references to symptom across African interviews
Strong, not strong	2	6
Safe, unsafe	2	5
Medication	1	5
Substance abuse	2	5
Afraid, watchful	2	4
Mentally ill	1	4
Did not do anything, doing nothing	2	4
Confusion	1	4
Does not talk much	2	3
Current suffering related to past suffering	1	3
Avoids talking about self, problems	3	3
Financial difficulties	2	3
Calm	1	3
Suicidal	1	2
Anxiety (agahinda)	1	2
Hurt self	1	2
Mentally killing them, why is this happening to us	1	2
Grief	1	2
Solemn	1	2
Problems beyond own capacity to solve	1	2
Children suffering	2	2
Nightmares	1	2
Unstable	1	1
Focus on survival	1	1
Gestures	1	1
Change	1	1
Unfocused	1	1
Throwing things, food	1	1
Self-control, loss	1	1

Measure Validation: Quantitative Data Collection and Analysis

Participants. The existing ASCL and newly created *Great Lakes African and* INSCs were administered to adult refugee participants ($N = 280$): 103 (36.8%) from Afghanistan, 92 (32.9%) from the Great Lakes region of Africa, and 85 (30.4%) from Iraq. Participants had a mean age of 34.60 years ($SD = 11.63$) and had lived in the United States for an average of 30.04 weeks ($SD = 28.29$); 52% identified as women and 48% as men. Most participants were married (58%) and had an average of 2.47 children ($SD = 2.33$). Half (50%) had less than a high school education, and the average income was $807.51 per month ($SD = 560.60$; Range $0–$3,000). See Goodkind et al. (2020) for additional demographics and details of participant recruitment.

Quantitative Interviews. Each participant completed four interviews (initial enrollment/preintervention, midintervention, postintervention, and 6-month follow-up). Interviews included fixed response items that assessed participants' psychological well-being and distress, social support, environmental mastery, access to resources, and English language proficiency. Quantitative data were collected face-to-face via computer-assisted personal interviews at each participant's home with a bilingual/bicultural interviewer in the participant's native language. Quantitative preinterview data were used for the analyses in this article ($N = 280$).

Analyses. Exploratory factor analyses were conducted for each culturally specific measure. Principal component factor analyses with varimax rotation were conducted to determine the subscales in these measures. Verification of the factorability of our data was examined using Bartlett's test of sphericity and Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy. A KMO measure of sampling adequacy with values ≥ 0.50 suggests sampling adequacy and that principal component factor analyses are appropriate for data (Fassin & Rechtman, 2009). Item retention for significant factor loading was set at 0.40 (Warner, 2012). When items loaded onto several factors, items were considered that had cross-loadings less than 0.15 difference from the items' highest factor loadings as failing to meet the criteria for item retention (Worthington & Whittaker, 2006). Varimax-rotated factors were extracted with eigenvalues >1.00 (Warner, 2012). Communalities ≥ 0.50 indicate the greater amount of variance in each variable that is accounted for or that the extracted components represent the variables well. Low communalities would indicate the need to draw another factor or remove an item from analyses (Warner, 2012). Less than 5% of data were missing. Little's missing completely at random test ($\chi^2[df = 3] = 32.58$, $p = .035$) indicated data were most likely missing completely at random. Listwise deletion was used in all analyses. Presence of bias in listwise deletion is minimal due to percent of data missing and the data missing mechanism being missing completely at random (van Ginkel et al., 2020). Post hoc power analyses determined that a sample size of 90 participants at an α of .05 and a power of .80 was needed to detect a medium effect size ($r = 0.30$) for this model, suggesting an adequate sample size for these analyses. Analyses were conducted in STATA v.17.0.

Results

Qualitative Interviews for Measurement Development

Iraqi and Great Lakes African symptoms were reviewed taking into account predominance of symptoms among participants (e.g., how many interviewees discussed the symptom) and how often it was mentioned across interviews (see Table 1). Beyond symptom selection for the measure development, the following patterns were evident: (a) several of the most predominant symptoms were common across the two groups (e.g., "social and physical isolation/withdrawal"; "sleep and sleeping"; "loss"; "physically unwell, pain"); (b) thematic analysis of each code demonstrated that symptoms were often understood by participants to be related to resettlement; and (c) culturally specific terms were more easily identified in Iraqi interviews than in Great Lakes African interviews.

Across both groups, symptoms discussed by participants often referred to the social consequences of displacement. For example, "social isolation or withdrawal" was mentioned in 80% of Iraqi interviews (total of 34 times), and "socializing, not socializing" was mentioned in 75% of African interviews (total of 20 times), making it the most often discussed symptom (see Table 1). Terminology is different for each group because of the inductive approach we used to identify symptoms, which maintained language and expressions used by participants.

Other symptoms included physical pain, trouble sleeping, feeling watchful, disordered eating, and a range of emotions, including sadness, anger, and feeling scared or fearful. Although many of these symptoms are closely aligned with symptoms included in the *Hopkins Symptom Checklist–25* (HSC-25; Derogatis et al., 1974) and ASCL (Miller et al., 2006), it is important to note that for participants in this study, these symptoms were described as being directly related to displacement and separation from family. For example, a Burundian participant shared:

> One day, he had blood pressure—not sure if it was low or high blood pressure. They took him to emergency room. They told him not to think too much. He said, "How can I do that? How can I stop thinking, when I don't have someone? I have enough problems in Africa. When I came to America, I thought it was the end of struggles and problems, but when I arrived here, I even experienced more than what I experienced in Africa. I don't have anyone to help me. The government did not do anything to help me. How can I stop thinking?"

The participant's expectation that his distress would be resolved once he arrived in the United States and the subsequent worsening of symptoms are, from his perspective, linked to social isolation and lack of government or institutional support, demonstrating how social context is critical to understanding distress.

More culturally specific symptoms and constructs were identified by Iraqis than Great Lake Africans. We identified over 17 different Iraqi phrases, many of which seemed congruent with English usage. However, discussion with bicultural–bilingual members of the team indicated culturally specific meanings. For example, *asabi* has a range of meanings that include nervousness, angry, and upset, which can be ascertained by context and emphasis. In addition, some idioms have no direct English equivalent, including *yadoos alla nafsah* or "stepping on oneself," which is an expression used to indicate that a person is standing in the way of their own recovery. Fewer culturally specific words were identified for Great Lakes African participants; however, among them was *agahinda* for "grief-related stress." Similarly, discussions of existing measures of psychological distress and how to translate them, which occurred on an ongoing basis among the research team, revealed that Arabic had more words for different types of distress than English, while Kiswahili had fewer words for different types of distress than English.

Validity and Reliability

Tables 2–4 display the phrasing of items for each culturally specific distress measure, along with means (*M*), standard deviations (*SD*), and associated Cronbach's alphas (α) for each factor to allow for cross-measurement comparison between cultural groups. Similar to Miller et al. (2006) and because labeling factors is a subjective process, we selected factor labels that concretely reflected the items constituting each factor, as opposed to using psychiatric labels with unknown relevance to each of the cultural groups.

Afghan Newcomer Symptom Checklist. Testing the existing ASCL in the United States was an important component of the study because it was originally created and tested in Afghanistan, which involves a different context than resettled Afghans. Thus, we refer to the adapted version as the *Afghan Newcomer Symptom Checklist* (ANSC). The ANSC was examined using 22-items, on a 5-point Likert type scale (0 = *never* to 4 = *almost always*). Sampling adequacy results indicated a significant test of sphericity: $\chi^2(190) = 718.21$, $p < .001$ and KMO value of 0.71. Table 2 lists the varimax-rotated factors. The scree plot indicated factors were extracted appropriately. Of the 22-items, two items were removed due to independently loading onto separate factors (ANSC20 and ANSC21). Two items were removed due to failing to meet criteria for cross-loading retention (ANSC18 and ANSC3). One item (ANSC1) cross-loaded with Factor 1 and Factor 2; however, this item was retained, displaying some complexity in the item.

The final rotated matrix of the ANSC consisted of 18-items and four factors. Seven items were retained in Factor 1 (labeled: Sadness and Rumination with Somatic Distress; 45.86% of the variance); five items in Factor 2 (labeled: Social Isolation and Irritability; 9.60% of the variance); five items in Factor 3 (labeled: Hyperarousal; 7.69% of the variance); and two items in Factor 4 (labeled: Difficulty Concentrating; 6.39% of the variance). ANSC showed high internal reliability (Cronbach's $\alpha = .92$). The mean score for the combined measure was 0.76 ($SD = 0.69$; Range = 0.00–3.05).

Iraqi Newcomer Symptom Checklist. The INSC was examined using 38-items. Items I1–I26 were measured on a 5-point Likert type scale (0 = *never* to 4 = *almost always*). To reduce participant response burden for the much longer number of items that emerged for the Iraqi scale, items I27–I38 were drawn from separate validated and psychometrically sound scales already asked in the overall study (see Table 3 for item I27–I38 descriptions and associated citations). For the exploratory factor analyses, I36 was reverse coded. Sampling adequacy results indicated a significant test of sphericity: $\chi^2(300) = 933.46$, $p < .001$ and KMO value of 0.88. Table 3 lists the varimax-rotated factors. The scree plot indicated factors were extracted appropriately. Thirteen items were removed

Table 2
Exploratory Factor Analysis of Afghan Newcomer Symptom Checklist: Varimax-Rotated Factor Loadings (n = 103)

Item number	Symptom—during the past month, how often have you …	Factor 1[a]	Factor 2[b]	Factor3[c]	Factor 4[d]	Communalities h^2	*M* (*SD*)
Items included in factor structure							
ANSC2	cried?	**0.663**	0.374	0.151	0.319	0.704	0.98 (1.37)
ANSC1	felt sad?	**0.667**	**0.408**	0.166	0.257	0.704	1.18 (1.15)
ANSC4	become jigar khun (sadness)?	**0.789**	0.292	0.290	0.124	0.807	1.10 (1.18)
ANSC7	experienced bad memories you cannot get rid of?	**0.732**	0.146	0.320	0.174	0.690	1.21 (1.26)
ANSC6	been thinking too much?	**0.730**	0.207	0.295	0.192	0.700	1.34 (1.31)
ANSC13	felt fishar bala (emotional pressure and agitation) or fishar payinasab (low energy or motivation)?	**0.782**	0.057	−0.084	0.001	0.622	0.36 (0.90)
ANSC17	had a headache?	**0.539**	0.150	0.330	−0.066	0.502	1.13 (1.11)
ANSC8	isolated yourself socially?	0.301	**0.629**	0.079	0.140	0.512	0.31 (0.69)
ANSC11	had difficulty falling asleep?	0.158	**0.698**	0.193	0.286	0.632	0.90 (1.16)
ANSC14	felt irritable?	0.144	**0.837**	0.204	0.025	0.764	0.69 (1.00)
ANSC19	had a quarrel with a family member?	0.191	**0.620**	0.046	0.168	0.452	0.23 (0.70)
ANSC9	felt easily startled? For example, become afraid when you have heard a sudden noise?	0.174	0.342	**0.628**	−0.034	0.621	0.68 (0.94)
ANSC10	experienced asabi (overwhelmed)?	0.276	0.271	**0.600**	0.220	0.557	0.65 (0.91)
ANSC12	had a nightmare?	0.194	0.331	**0.583**	−0.023	0.588	0.73 (1.01)
ANSC16	had trouble remembering things?	0.399	0.138	**0.588**	0.350	0.646	1.21 (1.26)
ANSC22	beaten or hurt yourself?	−0.050	−0.351	**0.746**	0.063	0.686	0.00 (0.00)
ANSC5	had difficult meeting your responsibilities at home or at work because of jigar khun (sadness)?	0.112	0.257	0.246	0.89	1.15	0.98 (1.37)
ANSC15	had trouble concentrating?	0.190	0.129	−0.022	**0.855**	0.785	0.16 (0.52)
Items removed from factor structure							
ANSC3	felt hopeless?						0.89 (1.15)
ANSC18	had a lack of appetite?						0.96 (1.22)
ANSC20	had a quarrel with a neighbor or friend?						0.24 (0.12)
ANSC21	beat someone in your family?						0.02 (0.13)
Explained variance (total variance = 69.90%)		45.86	9.60	7.69	6.39		
Individual factor Cronbach's α[e]		.89	.78	.82	.75		
M (*SD*)[f]		1.02 (.92)	0.40 (0.73)	0.33 (0.69)	0.31 (0.71)		
Range		0.00–3.43	0.00–3.60	0.00–3.33	0.00–3.50		

Note. $\text{Range}_{\text{total}}$ = 0.00–3.05; ANSC = Afghan Newcomer Symptom Checklist. Bolded text indicates factor on which each item loaded.
[a] Factor 1 = Sadness and Rumination with Somatic Distress. [b] Factor 2 = Social Isolation and Irritability. [c] Factor 3 = Hyperarousal. [d] Factor 4 = Difficulty Concentrating and Unfocused. [e] Total Afghan Newcomer Symptom Checklist Cronbach's α = .92. [f] M_{total} = 0.76 (*SD* = .69).

due to either cross-loadings between multiple factors or not loading onto a single factor (I1, I6, I11, I15, I19, I20, I22, I28, I29, I33–I35, and I37).

For the final rotated matrix, 25 items were retained, and four factors were identified, designating 70.03% of the variance; 16 items in Factor 1 (labeled: Sadness and Anxiety with Somatic Distress; 47.86% of the variance), four items in Factor 2 (labeled: Disempowerment and Lack of Efficacy; 9.72% of the variance), four items in Factor 3 (labeled: Frustration from Resettlement Stressors; 6.92% of the variance), and two items in Factor 4 (labeled: Lack of Motivation and Limited Support; 5.93% of the variance). INSC showed high internal reliability (Cronbach's α = .91). The mean score for the combined measure was 1.95 (*SD* = 0.59; Range = 0.04–3.86).

Great Lakes African Newcomer Symptom Checklist. The GLANSC was examined using 21-items, on a 5-point Likert type scale (0 = *never* to 4 = *almost always*). Sampling adequacy results indicated a significant test of sphericity: $\chi^2(78) = 422.45$, $p < .001$ and KMO value of 0.77. Table 4 lists the varimax-rotated factors. The scree plot indicated factors were extracted appropriately. Eight items were removed due to cross-loadings between multiple factors with values less than the 0.15 difference between the items' highest factor loadings (GLANSC5, GLANSC6, GLANSC11, GLANSC12, GLANSC15, GLANSC17, GLANSC19, and GLANSC20).

The final rotated matrix consisted of 13 items and three factors, identifying 68.87% of the variance. Seven items were retained in Factor 1 (labeled: Anxiety and Hyperarousal with Somatic Distress; 40.63% of the variance), four items in Factor 2 (labeled: Sadness and Social Isolation; 17.11% of the variance), and two items in Factor 3 (labeled: Lack of Support; 11.13% of the variance). GLANSC had high internal reliability (Cronbach's α = .91). The mean score for the combined measure was 0.99 (*SD* = 0.61; Range = 0.00–3.10).

Mean-Level Between Group Analyses

Mean level comparisons showed that women reported higher levels of distress than men within each cultural group. Women's mean total score for the ANSC (*M* = 1.07, *SD* = 0.75) was significantly higher than men's (*M* = 0.43, *SD* = 0.43; *t*[86] = −4.97,

Table 3

Exploratory Factor Analysis of Iraqi Newcomer Symptom Checklist: Varimax Rotated Factor Loadings (n = 85)

Item number	Symptom—during the past month, how often have you …	Factor 1[a]	Factor 2[b]	Factor3[c]	Factor 4[d]	Communalities h^2	*M* (*SD*)
Items included in factor structure							
INSC2	felt *kaaba* (depressed)?	**0.891**	0.212	0.05	−0.044	0.844	1.70 (1.33)
INSC3	felt (emotionally) tired?	**0.908**	0.168	0.048	−0.022	0.855	1.90 (1.40)
INSC4	been *melel* (bored/felt like you had nothing to do)?	**0.721**	0.072	0.015	0.059	0.529	2.02 (1.25)
INSC5	had *khalaq* (anxiety)?	**0.829**	0.025	0.038	0.082	0.696	1.88 (1.17)
INSC7	felt *ghaer mustager* (unstable) in your life?	**0.765**	0.264	0.215	−0.004	0.701	1.68 (1.24)
INSC8	felt *atel, mabeea faeeda* (useless)?	**0.597**	0.400	0.021	0.025	0.599	1.12 (1.24)
INSC9	isolated yourself?	**0.795**	0.394	0.099	−0.115	0.811	0.76 (1.12)
INSC10	felt unsafe?	**0.723**	0.146	0.284	−0.25	0.686	1.10 (1.20)
INSC12	experienced *asabi* (nervous)?	**0.768**	0.049	0.008	−0.129	0.609	1.88 (1.13)
INSC13	experienced lack of *la urekiz* (concentration)?	**0.821**	0.187	0.128	−0.009	0.726	1.52 (1.13)
INSC14	felt like you were not able to accomplish tasks or goals that are important to you?	**0.698**	0.354	−0.033	0.105	0.625	1.34 (1.22)
INSC16	felt like you were taking on the suffering of others and that it was negatively affecting your health?	**0.583**	0.422	0.235	0.290	0.658	1.38 (1.37)
INSC17	felt sick or in physical pain?	**0.630**	0.006	0.381	−0.159	0.567	1.64 (1.29)
INSC21	felt like you were *yaddos alla nafsah* (stepping on yourself)?	**0.679**	0.218	0.333	0.088	0.627	1.46 (1.30)
INSC30	felt hopeless about the future?[e]	**0.794**	0.227	−0.059	−0.179	0.752	1.85 (1.00)
INSC31	felt sad?[e]	**0.843**	0.153	0.015	−0.107	0.753	2.99 (1.54)
INSC18	lost or gained a lot of weight?	0.210	**0.624**	0.116	0.176	0.578	1.84 (0.93)
INSC19	felt like someone is pressuring you to stay home when you wanted to go out?	0.315	**0.572**	0.066	0.078	0.537	0.30 (0.68)
INSC25	felt pride about something in your life (like your family, your work, your English skills, or your education)?	0.188	**0.679**	0.001	−0.261	0.565	1.84 (0.93)
INSC32	felt you were able to do what you wanted with your life?[e]	−0.084	**0.620**	−0.130	0.271	0.557	4.44 (1.37)
INSC27	felt satisfied with your life?[e]	−0.379	−0.032	**0.625**	0.363	0.667	2.60 (0.86)
INSC23	felt like difficulties learning English were negatively affecting your well-being?	0.401	0.052	**0.695**	0.183	0.706	1.52 (1.28)
INSC26	felt you would like to have a religious institution or practitioner from whom to seek or advice or support, but that none were available that you feel comfortable with?	−0.061	0.365	**0.573**	−0.064	0.552	1.90 (1.52)
INSC38	felt you had access to the resources you needed, felt you were able to get the medical or psychological treatment that you sought[e]	−0.389	0.233	**0.663**	−0.137	0.601	4.27 (1.53)
INSC24	felt a motivation to move on or to get better?	0.151	−0.061	−0.171	**0.784**	0.670	1.28 (0.93)
INSC36	felt like you had no family support[e]	0.052	−0.189	−0.088	**0.751**	0.610	2.95 (0.75)
Items removed from factor structure							
INSC1	cried?						1.42 (1.34)
INSC6	engaged in *silbi* (negative thinking)?						0.64 (1.03)
INSC11	been afraid?						1.38 (1.27)
INSC15	made a decision about your life but then changed it because of what another person has said or suggested?						1.12 (1.12)
INSC20	quarreled with a family member or friend?						0.50 (0.81)
INSC22	felt that not working or the inability to work has had a negative impact on your well-being?						1.90 (1.52)
INSC28	had poor appetite?[e]						1.76 (0.83)
INSC29	had problems sleeping?[e]						2.27 (1.41)
INSC33	been bothered by memories you cannot forget?[e]						2.79 (1.36)
INSC34	had nightmares?[e]						2.27 (1.47)
INSC35	experienced sounds, smells, or sights that took you back to a horrible experience?[e]						2.55 (1.48)

(*table continues*)

Table 3 (*continued*)

Item number	Symptom—during the past month, how often have you …	Factor 1[a]	Factor 2[b]	Factor3[c]	Factor 4[d]	Communalities h^2	*M* (*SD*)
INSC37	felt your family had access to the resources they needed, felt they were able to get the medical or psychological treatment that they sought[e]						6.56 (2.49)
Explained variance (total variance = 70.03%)		47.86	9.72	6.92	5.53		
Individual factor Cronbach's α[f]		.95	.80	.81	.78		
M (*SD*)[g]		1.71 (0.93)	1.80 (0.79)	2.95 (1.91)	2.12 (0.48)		
Range		0.00–4.00	0.00–5.00	0.00–4.00	0.00–4.00		

Note. $\text{Range}_{\text{total}}$ = 0.60–3.10. Because they almost exactly matched with other standardized questions in the interview, we used the following items instead: I27 "How much do you enjoy your life?" (WHOQOL Scale, The WHOQOL Group, 1998); I28 "How often have you had poor appetite," I29 "How often have you had difficulty falling asleep or staying asleep," I30 "How often have you been feeling hopeless about the future," I31 "How often have you been feeling blue" (HSC-25, Derogatis et al., 1974); I32 "I have been able to build a home and a lifestyle for myself that is much to my liking" (Environmental Mastery Subscale of Psychological Well-being Scale, Ryff, 1989); I33 "How much have you been bothered by repeated, disturbing memories, thoughts or images of a stressful experience from the past," I34 "How much have you been bothered by repeated, disturbing dreams of a stressful experience from the past," I35 "How much have you been bothered by suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?" (PTSD Checklist—Civilian Version, Weathers et al., 1993); I36 "used reverse coded mean of Family Support Subscale of Multi-Sector Social Support Inventory" (Layne et al., 2009); I37 "How did you feel about the health care (medical or dental care or counseling) your family received in the past 2 months?" and I38 "How did you feel about the medical care you received in the past 2 months?" (Satisfaction with Resources scale; Sullivan et al., 1992). PTSD = posttraumatic stress disorder; HSC-25 = Hopkins Symptom Checklist–25; WHOQOL = World Health Organization Quality of Life Scale; INSC = Iraqi Newcomer Symptom Checklist. Italics indicate Arabic words used by participants to describe symptoms of distress. Bolded text indicates factor on which each item loaded.
[a] Factor 1 = Sadness and Anxiety with Somatic Distress. [b] Factor 2 = Disempowerment and Lack of Efficacy. [c] Factor 3 = Frustration from Resettlement Stressors. [d] Factor 4 = Lack of Motivation and Limited Support. [e] Due to the longer length of the *Iraqi Newcomer Symptom Checklist* and the necessity of avoiding respondent overburden, these 11 items were asked with slightly different wording than the recommended wording here. [f] Total Iraqi Newcomer Symptom Checklist Cronbach's α = .95. [g] M_{total} = 1.95 (*SD* = .59).

$p < .001$); as well as for the INSC ($M = 1.79$, $SD = 0.57$) and ($M = 1.46$, $SD = 0.57$; $t[49] = -1.41$, $p < .05$), respectively. Mean level differences were not present on the GLANSC ($t[78] = -0.79$, $p = .42$), though women ($M = 0.93$, $SD = 0.61$) displayed a slightly higher mean total score than men ($M = 0.82$, $SD = 0.62$). Mean differences were calculated across age groups by transforming age into a categorical variable (18–30 years = 1; 31–40 years = 2; and 41–71 years = 3) for each of the symptom checklists. A mean-level significant difference was identified on the ANSC between categories of age ($F[2, 85] = 8.58$, $p < .001$; 18–30 years: $M = 0.54$, $SD = 0.53$; 31–40 years: $M = 0.74$, $SD = 0.55$; 41–71 years: $M = 1.23$, $SD = 0.87$). No significant differences were identified across age groups on the INSC ($F[2, 78] = 2.88$, $p = .16$; 18–30 years: $M = 1.33$, $SD = 0.94$; 31–40 years: $M = 1.67$, $SD = 0.84$; 41–71 years: $M = 1.98$, $SD = 0.98$) or GLANSC ($F[2, 77] = 0.39$, $p = .67$; 18–30 years: $M = 0.83$, $SD = 0.70$; 31–40 years: $M = 0.94$, $SD = 0.50$; 41–71 years: $M = 0.97$, $SD = 0.61$).

Construct Validity Assessment

To assess construct validity of the measures, we examined several indicators of criterion-related validity (convergent and divergent). First, correlations between each culturally specific distress symptom checklist and the HSC-25 were calculated. HSC-25 was highly correlated ($p < .01$) with culturally specific distress symptoms among Afghans ($r = 0.86$), Iraqis ($r = 0.92$), and Great Lake Africans ($r = 0.79$), indicating strong convergent validity. Second, the culturally specific distress symptom checklists were significantly and positively correlated ($p < .01$) with PTSD symptoms among Afghans ($r = 0.80$), Iraqis ($r = 0.82$), and Great Lake Africans ($r = 0.67$), which is further indication of high convergent validity. Finally, as an indicator of divergent validity, we calculated correlations among the culturally specific distress symptom checklists and physical health ($p < .01$). The ANSC ($r = -0.57$), INSC ($r = -0.53$), and GLANSC ($r = -0.46$) were negatively correlated with physical health.

Separate correlations were conducted for Afghans, Iraqis, and Great Lakes Africans among each culturally specific distress symptom checklist factor and indicators of criterion validity including PTSD symptoms, physical health, and emotional distress (see Table 5). Moderate to high positive correlations were present between factors for the ANSC ($r_{\text{range}} = 0.41$–0.74), the INSC ($r_{\text{range}} = 0.45$–0.84), and the GLANSC ($r_{\text{range}} = 0.43$–0.75). Factors related to the ANSC, the INSC, and the GLANSC had significant and positive correlations with both PTSD severity ($p < .01$) and emotional distress ($p < .01$). Similarly, factors related to the ANSC, the INSC, and the GLANSC had significant and negative correlations with physical health ($p < .05$–$.01$); except for Factor 3 of the GLANSC ($p = .10$). Overall, the culturally specific distress symptom checklists demonstrated strong construct validity.

Discussion

This study involved the development and adaptation of culturally and contextually relevant measures of distress for Great Lakes African, Iraqi, and Afghan refugees using the process developed by Miller et al. (2006) to create the ASCL and testing of the reliability, validity, and appropriateness of these new and adapted measures for forcibly displaced people from these regions who resettle in the United States. Our results demonstrate that this process of creating culturally specific measures of distress can successfully be replicated with other groups to create reliable and valid scales. We also found that the existing ASCL, which was created with conflict-affected Afghans in Afghanistan, was a reliable

Table 4

Exploratory Factor Analysis of the Great Lakes African Newcomer Symptom Checklist: Varimax Rotated Factor Loadings (n = 92)

Item number	Symptom—during the past month, how often have you …	Factor 1[a]	Factor 2[b]	Factor3[c]	Communalities h^2	*M* (*SD*)
Items included in factor structure						
GLANSC2	had problems sleeping?	**0.628**	0.304	0.272	0.561	0.55 (0.85)
GLANSC3	thought too much about something that happened in the past?	**0.849**	0.163	0.039	0.748	0.80 (0.98)
GLANSC4	felt like your current problems are related to suffering from bad things that happened in the past?	**0.747**	0.134	0.010	0.576	0.61 (0.81)
GLANSC10	been nervous?	**0.756**	0.049	0.032	0.576	0.66 (0.81)
GLANSC13	experienced *agahinda* (stress)?	**0.785**	0.251	0.122	0.694	0.80 (0.95)
GLANSC14	been sick, or in pain?	**0.692**	−0.248	−0.066	0.545	0.98 (1.08)
GLANSC16	been bothered by disturbing memories that will not go away?	**0.793**	0.042	−0.145	0.652	0.76 (1.05)
GLANSC1	cried?	0.304	**0.615**	0.150	0.493	0.20 (0.53)
GLANSC8	felt like you would like to socialize more, but were unable to?	0.090	**0.681**	−0.274	0.546	0.67 (0.82)
GLANSC9	isolated yourself socially?	0.350	**0.670**	0.193	0.609	0.19 (0.56)
GLANSC18	felt like not working or being able to work was affecting your well-being?	0.391	**0.536**	−0.331	0.550	0.92 (1.23)
GLANSC7	felt that you had the support of your family?	0.162	−0.094	**0.749**	0.596	1.92 (1.44)
GLANSC21	felt like religion, spirituality, or prayer was an important source of support?	−0.012	0.047	**0.864**	0.749	0.82 (1.24)
Items removed from factor structure						
GLANSC5	felt *guteza imbera* (unable to move on)?					0.91 (1.12)
GLANSC6	felt like you were a strong person?					1.85 (1.36)
GLANSC11	been afraid?					0.39 (0.72)
GLANSC12	felt unsafe?					0.90 (1.15)
GLANSC15	felt confused?					0.39 (0.67)
GLANSC17	felt like you had problems that were beyond your capacity to solve?					0.55 (0.88)
GLANSC19	beat someone in your family?					0.57 (0.85)
GLANSC20	felt too dependent on others (for financial help, transportation, or language interpretation)?					0.76 (0.97)
Explained variance (total variance = 68.87%)		40.63	17.11	11.13		
Individual factor Cronbach's α[d]		.87	.77	.75		
M (*SD*)[e]		0.83 (0.81)	0.70 (0.70)	1.44 (1.17)		
Range		0.00–3.43	0.00–3.00	0.00–4.00		

Note. $\text{Range}_{\text{total}}$ = 0.00–3.00. h^2 = Communalities; GLANSC = Great Lakes African Newcomer Symptom Checklist. Bolded text indicates factor on which each item loaded. Italics indicate Swahili words used by participants to describe symptoms of distress.
[a] Factor 1 = Anxiety and Hyperarousal with Somatic Distress. [b] Factor 2 = Sadness and Social Isolation. [c] Factor 3 = Lack of Support. [d] Total Great Lakes African Newcomer Symptom Checklist Cronbach's α = .91. [e] M_{total} = .99 (*SD* = .61).

and valid measure of psychological distress among Afghans resettled in the United States but that the scale demonstrated a different factor structure in this context.

Our study is one of the first to test the applicability and utility of the ASCL with Afghans outside of Afghanistan—in particular with Afghans who have been forcibly displaced. This is critical given longstanding and recent increases in Afghans fleeing unsafe conditions in Afghanistan. The ASCL demonstrated high internal consistency and was related to other measures of health and mental health in expected ways. Although the high correlation between the ASCL and the HSC-25 (r = 0.76) suggests that the HSC-25 is measuring psychological distress fairly well among Afghans, using a measure with culturally specific idioms of distress that are familiar to forcibly displaced Afghans is likely to contribute to building trust in mental health resources and support available to them in new cultural contexts, in addition to being a more accurate measure of their distress. Furthermore, our study adapted the ASCL to be more relevant to Afghans who have been forcibly displaced outside of Afghanistan through the identification of differences in the factor structure and response patterns of Afghan refugees living in the United States, when compared to Miller et al.'s (2006) prior work. For instance, in the present study, retained questions were classified into four categories of distress—sadness and rumination with somatic distress; social isolation and irritability; hyperarousal; and difficulty concentrating. In contrast, Afghans in Kabul had different categorizations of distress symptoms—sadness with social withdrawal and somatic distress; ruminative sadness without social withdrawal or somatic distress; stress-induced reactivity. In addition, we found that four items from the original measure did not fit in the scale for Afghans resettled in the United States (felt hopeless, had a lack of appetite, had a quarrel with a neighbor or friend, beat someone in your family), and thus they were removed from the scale. Because recently resettled refugees may not know their neighbors or have many close friends, it is not surprising that this item was not retained. Different laws and norms in the United States may have resulted in fewer Afghans physically hurting or reporting hurting family members or expressing their distress in this way. Further exploration is needed to determine why feeling hopeless and lacking appetite no longer fit in the measure of Afghan distress in the U.S. context.

Table 5

Correlations for Iraqi, Afghan, and Great Lakes African Culturally Specific Distress Symptom Checklists and PTSD Severity, Physical Health, and Emotional Distress

Variable	Afghan Newcomer Symptom Checklist (n = 103)						
	Factor 1	Factor 2	Factor 3	Factor 4	PTSD severity	Physical health	Emotional distress
Factor 1. Sadness and Rumination with Somatic Distress	—						
Factor 2. Social Isolation and Irritability	.74**	—					
Factor 3. Hyperarousal	.70**	.62**	—				
Factor 4. Difficulty Concentrating and Unfocused	.51**	.48**	.41**	—			
PTSD severity	.78**	.71**	.69**	.23*	—		
Physical health	−.61**	−.43**	−.43**	−.40**	−.43**	—	
Emotional distress	.82**	.75**	.74**	.42**	.79**	−.55**	—

	Iraqi Newcomer Symptom Checklist (n = 85)						
	Factor 1	Factor 2	Factor 3	Factor 4	PTSD severity	Physical health	Emotional distress
Factor 1. Sadness and Anxiety with Somatic Distress	—						
Factor 2. Disempowerment and Lack of Efficacy	.84**	—					
Factor 3. Frustration from Resettlement Stressors	.63**	.56**	—				
Factor 4. Lack of Motivation and Limited Support	.48**	.45**	.45**	—			
PTSD severity	.87**	.80**	.62**	.47**	—		
Physical health	−.61**	−.63**	−.36**	−.36**	−.67**	—	
Emotional distress	.90**	.85**	.63**	.43**	.91**	−.64**	—

	Great Lakes African Newcomer Symptom Checklist (n = 92)					
	Factor 1	Factor 2	Factor 3	PTSD severity	Physical health	Emotional distress
Factor 1. Anxiety and Hyperarousal with Somatic Distress	—					
Factor 2. Sadness and Social Isolation	.75**	—				
Factor 3. Lack of Support	.45**	.43**	—			
PTSD severity	.63**	.56**	.44**		—	
Physical health	−.49**	−.27*	−.17	−.26*	—	
Emotional distress	.71**	.80**	.53**	.66**	−.35**	—

Note. PTSD = posttraumatic stress disorder.
* $p < .05$. ** $p < .01$.

Differences in the presentation of the factor structure between the present study sample of Afghans in the United States and Miller et al.'s (2006) prior work among Afghans in Kabul may be because stressors related to everyday life are shaped by sociocultural contexts. As an example, Afghans living in Kabul might be exposed to war-related stressors such as violence, chronic malnourishment, and safety issues, whereas Afghans in the United States are no longer directly exposed to war in their everyday lives (Alemi & Stempel, 2018). Importantly, the different factor structures observed in the ASCL remind us that cultural idioms change over time and across contexts. Thus, in addition to exploring locally salient idioms of distress, these findings address the importance of understanding refugee experiences and mental health in resettlement contexts (Gadeberg et al., 2017).

Another key contribution of this study is the replication of Miller et al.'s (2006) process to create reliable and valid culturally specific measures of distress for Great Lakes African and Iraqi refugees. The GLANSC has 18 items within a three-factor structure. Observed symptom association patterns (as indicated by factor structure) were different than most Western-based measures of distress. For example, anxiety, intrusion, and somatic symptoms were part of the largest factor, while symptoms of sadness and social withdrawal were a separate factor. The third factor highlights a critical component of distress for resettled Great Lakes African refugees—lack of support from family and spiritual/religious resources, both of which are often unavailable to them. Although social and spiritual support likely affects the mental health of most people, our findings indicate that they contribute to a unique (separate) component of distress for Great Lakes Africans. This not only provides insight into some of the most salient distress experiences for this population but also has important implications for identifying and prioritizing interventions to alleviate the distress of forcibly displaced Great Lakes Africans who have numbered in the millions in the past 30 years.

The INSC has 25-items within four factors. It is important to note that symptoms of depression, anxiety, and somatization loaded together, while the other three factors reveal the saliency of resettlement-related experiences and symptoms that manifest in reaction to these stressors. Understanding the ways in which Iraqis' disempowerment, disconnection from their ideal home and lifestyle, frustrations trying to learn English and obtain social support, and resultant lack of motivation to heal were driving their symptoms of distress is crucial. It is also important to note that a significant symptom of distress among Iraqis was a lack of family support. This

is consistent with Iraqi culture, which tends to be family based. The INSC symptoms and factors not only demonstrate the significance of social determinants of mental health but also point to critical points of intervention. The culturally specific measures of distress for each group related differently to standardized measures of depression, anxiety, and PTSD symptoms. The GLANSC had lower correlations with the standardized mental health measures than the symptom checklists for Afghans and Iraqis. This might be because Great Lakes Africans' expressions of psychological distress are most different from Western expressions of distress. It may also be related to the lower levels of exposure that most Great Lake Africans have had to Western-based approaches to mental health prior to resettling in the United States. Conversely, the INSC had the highest correlations with the depression, anxiety, and PTSD symptoms measures. This might be due to more similar expressions of distress and/or more exposure to Western-based approaches. However, all three *Newcomer Symptom Checklists* were significantly correlated with PTSD, depression, and anxiety symptoms and negative physical health in the expected directions, which suggests that these measures were well-understood, reliable, and valid.

Limitations and Directions for Future Research

Although culturally specific measures provide valuable insights into the experiences of distress within particular cultural groups (especially groups that are marginalized), there are important limitations of this approach to the measurement of psychological distress. For example, it is a resource-intensive process to create culturally specific measures for multiple populations. In addition, attempts to create culturally specific measures run the risk of stereotyping and essentializing individuals and cultures, particularly because people have multiple, intersecting aspects of their identities and because cultures are fluid and dynamic across time and place. In addition, one of the significant advantages of cross-cultural measures is their ability to provide comparable data across multiple cultural groups. Finally, small population sizes of specific groups may preclude the creation of culturally specific measures of distress or lead to thinner data than is optimal. Thus, it is important to emphasize that culturally specific measures are likely more palatable, appropriate, understandable, and valid but are not the optimal approach in all situations.

While a strength of our study is the robust sample of 280 refugees, each subgroup is relatively small. These smaller subsample sizes may have had an influence on factor loadings; however, there is general agreement that the stronger the data (i.e., higher communalities and the absence of or minimal cross-loadings), the smaller the sample can be to identify relatively accurate factor loadings (Costello & Osborne, 2019; Thompson, 2004). In addition, simulation studies have shown that principal component factor analyses generally performs well in identifying and recovering factors with low or small number of factor loadings (de Winter & Dodou, 2012; Thompson, 2004) and that factor loading stability is generally unobserved until ≥1,000 participants, which is often an unrealistic sample size within refugee populations. However, this limitation warrants tentative conclusions about the validity of the specific factors generated for each measure. In addition, while the exploratory factor analysis we conducted is an appropriate step for instrument validation, future research should involve conducting confirmatory factor analysis using data from a separate sample to enhance the validity and robustness of the new measures. Similarly, we recognize that our measurement development process was rapid due to study constraints (e.g., 2 months to conduct and analyze the qualitative interviews and develop the quantitative measures). This is both a potential limitation and a strength in that it demonstrates that this type of measurement development can occur quickly and with limited time (although we had a team of seven people engaged in the qualitative interview and analysis processes).

Another potential limitation of this study is our decision to create a single measure of distress for people resettled from multiple countries in the Great Lakes region of Africa. Our research team included people from several of these countries (Burundi and DRC), and there was agreement that large movements of the populations across this region; national borders that were not determined by shared cultural or linguistic background; and numerous aspects of shared culture, languages, and experiences warranted the creation of one measure. In addition, we compared this decision to Miller et al.'s (2006) creation of one measure for Afghan psychological distress, despite the multiple cultural, ethnic, and linguistic groups within this large country. However, future research should attend to potential differences in distress symptoms across the cultural and linguistic diversity within the Great Lakes region of Africa.

Although the study included refugees from three regions of the world, they were all resettled in one midsized city in the southwestern United States. Thus, the results may not be generalizable to other regions within the United States or the world due to different contexts such as levels of city infrastructure, accessibility of social services and resources, political climate, and racial and ethnic demographics. Thus, future research should also assess for measurement invariance across resettlement locations. In addition, as refugees interact with new cultural and social systems in the United States, their understandings, and experiences of mental health, as well as their postmigration stressors, change over time (Bentley et al., 2019; Kirmayer et al., 2015). Thus, a longitudinal study would provide further insight into the utility of these new measures and how increased interaction with biomedical models of mental health and further hybridization of conceptualizations of mental health might change the relationship of the Newcomer Symptom Checklists and Western-based measures of distress over time.

Clinical and Structural Intervention Implications

It is critical for clinicians, administrators, and mental health funding agencies to understand the need for culturally valid measurement when making decisions that impact care and policy decisions. Clinical scales guide assessment of psychological distress in most evaluations of mental health interventions, and these diagnostic tools are also used for communication among providers and funding sources. Thus, it is important to develop tools that measure distress in ways that are most culturally and contextually relevant. We also recommend that clinical assessments be reviewed with clients to ensure they understand and agree with results and can clarify any misunderstandings. Measures such as the *Afghan, Great Lakes African, and Iraqi Newcomer Symptom Checklists* and the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition* Cultural Formulation Interview should be used carefully by

clinicians, along with a discussion about the experienced distress and functioning to best capture the clients' experiences and to develop culturally and contextually relevant treatment plans.

One of the most important implications of these measures is that the social experiences of forcible displacement shape many reported symptoms of distress, highlighting the need for multilevel and structural interventions to improve refugee mental health. Social isolation, family separation, language barriers, and resource access are most effectively addressed by policy and practice changes, and our results support the utility of these approaches.

Conclusion

Our study demonstrates that it is possible to efficiently create valid and reliable culturally specific measures of distress that are sensitive to place and context. Despite long-standing recognition of cross-cultural differences in expressions of psychological distress, there has been limited attention to culturally appropriate and contextually sensitive measures. In addition to replicating a successful process for creating culturally specific measures of distress, we have added a critical and neglected component—a focus on the stressors and experiences of recently resettled refugees that contribute to their distress. This highlights the salience of social determinants of mental health and how they are manifested as idioms of distress, bringing together two key areas of mental health research that are often seen as incompatible because of divergent philosophical assumptions: the social construction of mental health and social determinants of mental health. Synthesizing these perspectives contributes not only to critical theoretical integration but also to reducing the stigma often associated with psychological distress and to directing attention and resources to alleviate factors contributing to distress which are more culturally resonant and often beyond the level of the individual.

Keywords: measurement, mental health, refugee, scale development, social determinants of mental health

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