# THE RELATIONSHIP BETWEEN TRAUMA, ACCULTURATION, AND MENTAL HEALTH SYMPTOMS IN A SOMALI REFUGEE COMMUNITY

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by
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University of Missouri-Kansas City, 2017

## ABSTRACT

The conflict in Somali has resulted in millions of refugees and internally displaced persons for more than three decades. More than 100,000 Somali refugees have been resettled in the United States, striking a need for additional research about mental health needs and pre-migration experiences that led to resettlement. The purpose of this study was to learn more about traumatic experiences incurred pre-migration for Somali refugees, the impact on the process of acculturation following resettlement, and the relationship between pre-migration trauma, acculturation, and mental health. It was hypothesized that acculturation would mediate the relationship between pre-migration trauma and mental health symptoms. The results partially supported this hypothesis, dependent upon the dimension of acculturation included in the path analysis. Unexpected findings occurred with regard to unique relationships between the various acculturation dimensions in the model, traumatic experiences, mental health symptoms, and time in the United States. Implications and directions for future research are discussed.

# APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Education, have examined a dissertation titled "The Relationship Between Trauma, Acculturation, and Mental Health Symptoms in a Somali Refugee Community," presented by Katherine Clare Jorgenson, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.


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# CHAPTER 1

# INTRODUCTION

The growing number of displaced persons due to war and political unrest has resulted in a worldwide refugee crisis (Lennard, 2013). With no proposed means of putting a meaningful dent in the number of requests for refugee and asylum status each month, there is no real end in sight (UNHCR, 2013). Coupled with recent backlash and anti-immigration sentiment in the United States and across much of Europe, there does not seem to be either the infrastructure or the will to handle the outpouring of these requests (Malik, 2016). For mental health professionals, this means an increasing and ever-changing demand for services and adaptation of services, confronted with the challenges of cultural competency when working with populations that many professionals know little about. Unfortunately, mental health professionals and researchers alike do not inherently know much about the diverse refugee populations seeking resettlement and mental health services, nor about the conflicts that forced refugees to flee in the first place (Schweitzer, Melville, Stell, & Lacherez, 2006). With over 58,000 refugees arriving in the United States in 2012, expanding to over 69,000 in 2015 (Office of Refugee Resettlement, 2013; 2015), there are not enough trained service providers to meet the needs of such a vast and diverse group (George, 2012).

Refugees and asylees tend to experience an array of pre-migration stressors, which can impede their ability to adequately acculturate to their host countries (Fazel, Wheeler, & Danesh, 2005). In addition, acculturation challenges contribute to refugees' post-migration stressors, and can negatively impact their overall mental health and well-being. Overall, the degree to which acculturation plays in refugees' and asylees' disclosure of mental health

symptoms is not well understood by mental health professionals or in the literature (Birman, et al., 2008). Therefore, the focus of this dissertation is to investigate the potential mediating role of acculturation between factors that contribute to the mental health of Somali refugees' and the degree to which they report mental health symptoms.

**Somali Refugees**

In the United States, Somalis represent one of the largest refugee groups with over 100,000 resettled since 1991 (Bridging Refugee Youth & Children's Services, 2013). Even with such a large population of Somali refugees in the United States, they face many barriers in accessing culturally competent primary and mental health care. One of these barriers is due to the difference in Somali beliefs about mental health compared to Western ideas about mental health. In Somali culture, Western concepts of mental health are often stigmatized, resulting in the social isolation of many Somalis with mental illness (Schuchman & McDonald, 2004). There is a need to gain an understanding about Somali ideas of mental health in addition to how mental health providers could bridge the gap in services to aid in their adjustment to the United States. Due to the need for additional research and their significant presence in the United States, Somalis are the population of focus in this dissertation.

In order for clinicians to better provide services to this group, it is important to understand the nature and history of the conflict in Somalia. Over the last five decades, the war in Somalia has resulted in the forced migration of well over one million Somalis. In July 2014, it was estimated that there were 1.5 million internally displaced persons in the country and at least 400,000 Somalis in Kenya's largest refugee camp. Approximately 10,000

refugees in this camp are third generation, meaning that they and their parents were born in the camps. Somalis represent one of the largest refugee groups worldwide, increasing to 1.5 million individuals as of 2014 (United Nations High Commissioner for Refugees, 2014).

Refugees may face a number of traumatic pre-migration experiences that may contribute to mental health symptoms during the interim prior to resettlement, as well as post-resettlement. Common traumatic events experienced by Somalis prior to migration include witnessing a murder, being separated from a family member(s), poor health, shortage of food, and torture (Bhui, Abdi, Abdi, Pereira, Dualeh, Robertson, Sathyamoorthy, & Ismail, 2003). These pre-migration experiences can occur prior to reaching a refugee camp and also while living in a refugee camp. Due to major funding shortages and the large number of refugees seeking daily assistance, lack of food, medical supplies and personnel, violent clashes, and sexual violence are frequent occurrences (Cianciarulo, 2005; Smith, 2004).

Even after resettlement, refugees commonly experience stressors that make acculturation challenging and add to their mental health concerns and symptoms (Crosby, 2008). Common post-migration stressors include learning a new language, finding employment (Yakushko, Backhaus, Watson, Gnaruiya, & Gonzalez, 2008), discrimination, and shifting gender roles (Mooney & Shepodd, 2009; Nilsson, Brown, Russell, & Khamphakdy-Brown, 2008, Hadley & Patil, 2009). The combination of these pre and post-migration stressors result in complex mental health concerns and needs (Schweitzer, Melville, Steel, & Lacherez, 2006).

**Refugee Mental Health**

Most of the literature on refugee mental health is based on pre-migration events that can include experiences during war, fleeing of the home country, living in a refugee camp, and waiting for safe transport to a new host country (Birman, et al., 2008). Pre-migration trauma has been associated with poor mental health, including post-traumatic stress disorder (PTSD), depression, and anxiety (Fazel, Wheeler, & Danesh, 2005; Schweitzer, Brough, Vromans, & Asic-Kobe, 2011). Studies that have focused on the post-resettlement experinces of Somali refugees have found that many have faced trauma, with those who have experienced torture in particular, reporting a high degree of trauma and symptoms of PTSD (Jaranson, et al., 2005).

In addition, refugees report traumatic experiences pre-resettlement in their host country and in the refugee camps (Harrell-Bond, 2000). These experiences include separation from family, loss of family, friends, and country (Mollica, 2006), disease, illness, and lack of access to nutritious food and water (Harrell-Bond, 2000), clashes with other ethnic groups (Smith, 2004), inadequate schooling, medical care, and mental health care (Medicins sans Frontieres, 2012).

**Refugee Acculturation**

The mental health needs of refugees go beyond their pre-migration experiences due to challenges resulting from the resettlement process and acculturating in their resettlement country. Often times, post-migration experiences are equally as stressful as the process of adjusting and adapting to a new culture. Refugee acculturation to the host culture is largely dependent upon overcoming the barriers of speaking the native language, gaining

employment, and navigating the myriad of other post-migration stressors (Poppitt & Frey, 2007). In addition, refugees have reported not feeling safe during the resettlement period and come to their host country with mixed feelings (Finklestein & Solomon, 2009).

During their period of adjustment, refugees must deal with a great deal of loss. The adjustment period will vary due to a variety of personal, social, environmental, and cultural factors. These factors may include their loss of culture and identity (White, 2004), met with experiences of discrimination (Ellis, MacDonald, Klunk-Gillis, Lincoln, Strunin, & Cabral, 2010, Hadley & Patil, 2009) –both of which may add additional stress to the acculturation process. According to Sam and Berry (2006), these experiences of distress are known as acculturative stress. Among refugees, acculturative stress has been found to relate to their overall mental health, such that more stress is associated with poorer mental health outcomes (Ying & Han, 2007).

Berry's (1997) model of acculturation is frequently referenced in present literature on refugee acculturation, and later expanded upon by other theorists. This model is described in detail in Chapter 2 and serves as the theoretical underpinning in the current study. His is a four-stage model, ending in integration, the stage in which an individual identifies both with the dominant culture and culture of origin. The integration stage represents a bicultural model of acculturation, because the individual is attuned to two cultures (Phinney, 1996). The method by which the individual connects with these two cultures is represented in multiple dimensions of acculturation. In the current study, a multidimensional understanding of acculturation is adopted that includes the following dimensions: language, behavior, cultural competency, cultural identity, knowledge, and values (Kim & Abreu, 2001; Zea,

Asner-Self, Birman, & Buki, 2003). Birman and Tran (2008) write more specifically of how the dimensions language and behavioral acculturation relate to mental health concerns, specifically in how they facilitate opportunities for employment and education. One thing that is clear from the literature on refugee acculturation is that the process may increase or decrease negative mental health symptoms, depending on a myriad of post-migration experiences (e.g. social support, experiences of discrimination, and individual personality) (Berry, 1997; Poppitt & Frey, 2007, Hadley & Patil, 2009).

**Mental Health Literacy**

Mental health literacy is a term coined by Jorm (2000), used in his effort to increase public knowledge of mental health symptoms, treatments, and disorders. This term is used to describe the extent of understanding within the lay public of specific mental health terms, symptoms, and ideas about seeking help. To my knowledge, this concept has not been studied explicitly in the literature with refugee populations. However, in a study by this author (Jorgenson & Nilsson, 2013), it was found that mental health literacy is related to cultural beliefs. The research on the link between refugee acculturation and their expression of mental health symptoms has produced mixed results. Some studies have shown that as acculturation increases, negative mental health symptoms decrease (Vojvoda, Weine, McGlashan, Becker, & Southwick, 2008; Chung, Bemak, & Wong, 1998), whereas other studies have not supported this pattern (Escobar & Vega, 2000; Oquendo, Ellis, Greenwald, Malone, Weissman, & Mann, 2001; Spasojecvic, Heffer, & Snyder, 2000). Given that knowledge of Western culture, thereby concepts of mental health, will increase over time, mental health literacy is an indirect variable measured when researchers study acculturation,

specifically multi-dimensional measures of acculturation. Therefore, mental health literacy is an indirect variable under consideration in the present study as it relates to acculturation. In this study, among a sample of Somali refugees, it is hypothesized that greater acculturation will relate to greater knowledge about mental health, as conceptualized in Western cultures.

**Variables for Examination**

Two outcome variables were selected for this study: (a) symptoms of post-traumatic stress disorder (PTSD) and (b) general mental health symptoms including depression and anxiety. In the literature on refugee mental health, the diagnosis PTSD has been conceptualized as symptoms related to traumatic experiences, often known as the dose-response relationship. Studies suggest that traumatic experiences correlate positively with symptoms of PTSD (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011); however, no studies to date have examined how acculturation may affect the relationship.

The second outcome variable, a general measure of mental health symptoms, has been included in order to examine how experiences of trauma may relate to common indicators of Westernized mental health, such as anxiety and depression. Anxiety and depression will be examined as both separate variables (individual subscales) and combined in order to examine the relationship between traumatic experiences, acculturation, and mental health (anxiety, and depression). Depression and anxiety have been examined as mental health outcome variables with refugee populations previously and incidence rates were higher than in the general population (Carlson & Rosser-Hogan, 1991; Fazel, Wheeler, & Danesh, 2005). However cultural expression of mental health sympoms vary by culture (i.e.

de Anstiss & Ziaian, 2010; Lee, Lytle, Yang, & Lum, 2010) and more research is necessary on mental health incidence rates amongst resettled Somali refugees.

**Purpose**

The purpose of this proposal is to attempt to address some of the gaps in the literature in the area of refugee acculturation. Specifically, the relationship between the traumatic experiences of refugees prior to their resettlement, acculturation, symptoms of PTSD, anxiety, and depression, will be examined in detail, with a proposed directional path analysis. In this path analysis, acculturation is proposed to function as as a partial mediator between the traumatic experiences of refugees and their symptoms of PTSD, anxiety, and depression. The objective of this study is to gain a better understanding of how the process of acculturation may affect how refugees self-report mental health symptoms. Additionally, it is hypothesized that the number of traumatic experiences will negatively relate to refugees' ability to acculturate, with the greater degree of traumatic experiences having a negative affect on their ability to quickly adjust to the United States. Finally, the predictive dose-response relationship between traumatic events experienced and symptoms of trauma reported will be tested.

# CHAPTER 2

## REVIEW OF THE LITERATURE

There is a growing need for refugee mental health services post-resettlement (Murray, Davidson, & Schweitzer, 2010). Along with this increased need for services is the need for training for mental health service providers in order to ensure their quality of care (Shannon, Im, Becher, Simmelink, Wieling, & O'Fallon, 2012). In order to adequately support the mental health needs of refugees, researchers and clinicians need to gain a better understooding about the refugee experience in general which includes their process of acculturation, and how their pre and post-migration experiences may affect their overall mental health and well-being (Schweitzer, Melville, Steel, Lacherez, & Philippe, 2006).

The purpose of this study is to gain a better understanding of how traumatic pre-migration experiences may affect the acculturation process of refugrees and how the degree to which they are acculturated may impact their self-reports of mental health symptoms. With increased knowledge of the role acculturation plays in the expression of mental health symptoms, mental health providers may be better able to meet the mental health needs of refugees. Upon arriving to the United States, refugees are currently screened during the first 30 to 90 days upon arrival for mental health symptoms (Refugee Health Technical Assistance Center, 2011) and often do not receive a follow-up screening. Organizations that do these screenings also most often do so informally, often by an unstructured interview, observation, or self-report. In a recent study by the University of Minnesota and the Center for Victims of Torture, results suggest that 70% of the 25 states that routinely screen for mental health issues do not use formal measures. Therefore, it is likely that many refugees in these states

are not appropriately screened, while those in the other 25 states may not ever be screened for mental health. In addition, less than half of the states directly ask refugees about whether they have experienced trauma or torture (Shannon, et al., 2012).

It is clear that additional research is necessary in order to develop a better understanding about the mental health needs of refugees post-migration. In the current study, Somali refugees at various stages of acculturation in the United States will be surveyed in order to gain more information about the timing of their mental health symptoms following resettlement. This knowledge is intended to add to the existing literature on the self-reporting of mental health symptoms by Somali refugees and help address the dearth of current literature on refugee acculturation.

The following is a review of the literature on the topics of refugee mental health and acculturation, as well as Somali culture and the nature of refugee resettlement. The chapter is divided into four sections. The first section, the Somali Conflict is divided into two subsections: (a) A Brief History: provides a background primer of the ongoing war in Somalia, (b) The Current Crisis: provides more recent data about the Somali refugees in the camps and displaced in the region, as well as the conflict that continues in Somalia. The second section, Pre-Migration stressors, is divided into two subsections: (a) Traumatic Experiences: commonly experienced traumas for Somali refugees are described, (b) Life in a Refugee Camp: information about the stressors specific to refugee camps where Somalis are housed. The third section, Post-Migration Stressors, is divided into four subsections: (a) acculturation: research about the acculturation process and theories, (b) acculturative stress: difficulties in acculturation and the effect on mental health, (c) language: challenges of

learning a new language, and (d) employment: barriers to obtaining employment for refugees. The fourth section presents some research on the cultural expression of PTSD for refugees. Finally, a fifth section presents some of the research on mental health literacy and application to refugee populations.

## Somali Conflict

The war in Somalia is reviewed first in order to provide a back-drop to understanding characteristics of Somalis, as well as an understanding of how the familial and cultural structures have been shaped as a result of the war. In the second subsection, entitled "the current crisis", information about the conflicts that continue to drive Somalis out of their homes to other parts of Somali and/or refugee camps is given, including recent droughts and flooding, famine, and piracy along the coast.

**History.** The civil war in Somalia has deep roots tracing back to colonialism when Britain and Italy fought for control of the land. Somalia was a colony from 1940-1960, with its first independent government established in 1961 (Njoku, 2013). The more recent events of the civil war, however, started with the overthrow of the first democratic government. In 1969, Major General Siad Barre, with the help of the Somali Army, took over the government in a coup and remained in power until the fall of his regime in 1991. By the 1980s, a civil war had developed and has continued until present time. Since the start of the civil war, Somalia had not had a central government until very recently on January 17, 2013, when the Somali government was formally recognized by the United Nations. In previous years, despite several attempts by neighboring countries to support a transitional government, democratic elections failed. The United States and the United Nations (U.N) formally

recognized the new president, President Hassan Sheikh Mohamud, along with the new prime minister and cabinet. Despite intervention by countries including Ethiopia, Egypt, Kenya, Italy, Djibouti, the United States, and the United Nations, the state of Somalia remains turbulent (Bradbury & Healy, 2010; Njoku, 2013; U.S. Department of State, 2013). Until June of 2016, there had not been a U.S. Embassy for Somalia since 1991, although the country has continued to be represented in the United States through the United Nations. This embassy is based in Nairobi, with frequent travel to Somalia, due to the continued violence in the region. Somalia's first ambassador to the United States was officially accredited in November, 2015; this after a twenty-three year diplomatic absence (U.S. Department of State, 2016).

Acccording to Healy and Bradbury (2010), the path toward re-instating a central government might be said to have started in the early 2000s. In 2000, the Transitional National Government (TNG) re-energized diplomatic efforts in the region, resulting in UN participation, the first time since the fall of Major General Siad Barre. However, the TNG did not receive backing from Ethiopia or major governments aside from several Arab states. After the September 11, 2001 terror attacks in the United States, militant Islamists turned to Somalia as a potential location to establish a militant Islamist state. Other traditional and progressive Islamist groups also tried to take hold of the region, but a coalition of warlords, the Alliance for the Restoration of Peace and Counter Terrorism, initially backed by the United States, were able to take over parts of Somalia, including the capital, Mogadishu. In 2006, a coalition of the Islamic Courts ousted the warlords and secured the capital city. However, an agreement between the Islamic Courts Union (ICU) and the Arab League failed,

which was backed by Ethiopia and Western Governments, resulting in the ICU being forced out and a Transitional Federal Government (TFG) being installed. The United States suspected that Al-Qaeda operatives were harbored by the ICU and attempted to attack the ICU as they retreated to Eritrea. It was at this time that the Alliance of the re-Liberation of Somalia (ARS) was formed. In 2007, peacekeepers attempted to protect the TFG and Ethiopian government occupiers from clan militia members of the ICU, Al Shabaab. In just the year 2007, 700,000 people from Mogadishu were displaced as the result of fighting between the TFG and insurgents (Healy & Bradbury, 2010). This in-fighting led to more resistance within Somalia of the Ethiopian occupation and helped birth more radical Islamists in the country (IRIN, 2013).

Despite continued attempts between 2006 and 2008 to mediate talks between the ARS and TFG and the withdrawal of Ethiopian forces from Somalia, the new TFG further decomposed. As a result, Al Shabaab denounced the agreement between the ARS and TFG. Al Shabab officially declared support for Al Qaeda resulting in a rise in jihadism and displacement. During the three years 2006 to 2008, 1.3 million Somalies were displaced by fighting, 3.6 million were estimated to be in need of food aid, and 60,000 Somalis fled the country each year (Healy & Bradbury, 2010). At the height of this three-year period (November of 2007), 200,000 Somalis fled Mogadishu over the course of 2 weeks (IRIN, 2013).

Following this crisis period, Al-Shabaab militias continued to take control over parts of Somalia. Ethiopian forces fully withdrew from Somalia in 2009 and the TFG was extended for two more years. In May of 2009, Al Shabaab and Hisbal Islami Islamists

attempted to overthrow the government. By the end of June 2009, 170,000 additional Somalis were displaced after the attempted hostile take-over in May (IRIN, 2013). Following the attack, Al Shabaab controlled the majority of South-central Somalia and Mogadishu until early 2011. In 2011, TFG was able to regain control of the capital city and extended its power for an additional 2 years when a permanent government was scheduled to be in place. In August 2011, Al Shabaab pulled out of Mogadishu and focused on the Kenyan border. Kenyan troops and U.S. drone attacks against the group led to a decrease in their hold over the country (Zapata, 2012).

**The Current Crisis.** Between 2010 and 2012, Somalia experienced the start of the worst drought the region has seen in the last 60 years, with one UN official declaring it the "worst humanitarian disaster" in the world (Muhumed & Kemenade, 2011). This drought led to a famine that the United Nations estimates to have killed 260,000 people (BBC News: Africa, May 2, 2013). Al-Shabaab, along with other militant groups, blocked international aid from getting to Somalis and embedded NGOs, leading to tens of thousands of Somalis flooding to refugee camps in Ethiopia and Kenya (UNHCR, 2013). In July 2011, it was estimated that up to 2,000 Somali refugees crossed the border into Ethiopia each day, seeking safety (Muhumed & Kemenade, 2011). Following the drought in late 2012, there was extreme flooding, leading to an increase in the number of internally displaced persons (IDPs). In May 2013, the United Nations estimated that there were 1.4 million IDPs and 10,600 asylum seekers and refugees in Somalia. The asylum seekers and refugees currently in Somalia are predominately of Ethiopian origin and experience discrimination and hostility. However, a number of these asylees and refugees are women and girls seeking protection

from sexual and gender-based violence (UNHCR, 2013). Many Somali refugees are housed in Kenyan camps. In the Dadaab camp in Kenya, the world's largest camp, some 326,000 refugees lived in December 2016, which was down from 409,000 in July 2013, stretching it well beyond maximum capacity (UNHCR, 2013; UNHCR, 2016). Due to a 2016 Tripartite Commission meeting to reduce the Somali refugee population in camps around the region, a number of refugees have been moved to other camps (Kakuma), some resettled back in Somalia from Kenya, Djibouti, and Ethiopia. Numbers in the resettled Somalis in the region remain at over 300,000 in Kenya, 250,000 in Yemen, 240,000 in Ethiopia, 40,000 in Uganda, and 13,000 in Djibouti in addition to lesser numbers in camps in Egypt, Eritrea, and Tanzania (UNHCR, 2017).

For the IDPs in Somalia, aid to the region was frequently disrupted due to looting by Al-Shabab and militias associated with the transitional government (IRIN, 2011). Since the election of President Mohamud, aid to those displaced due to floods and famine has improved, although access to some areas of the country remains limited (UNHCR, 2013). Famine and food insecurity continue to be an ongoing threat in the region and the threat of recurrence remains ominous (Hammond, 2014). Adding to the challenge of providing aid, the waters along the Eastern shoreline have been dominated by Somali pirates, creating areas that are unable to receive any sort of outside support (U.S. Department of State, 2013). Although piracy remains down from 2012, with the hijacking of a major sea vessel, smaller vessels have been reported and several suspected to have been hijacked more recently. Piracy was one main deterrent to providing aid to the region and it seems the threat of continued food

insecurity and the potential for a recurrence of famine may bring many out of retirement (Oceans Beyond Piracy, 2015).

Having a basic understanding about the long-time war in Somalia helps one to further contextualize the more specific pre-migration stressors that will be described in the following sub-section. The backdrop of a war relates to a host of specific stressors including those concretely aligned with war, such as death, and others that are related to the specific experiences of living in a refugee camp or as an IDP, both away from home and still in danger. For the hundreds of thousands of Somali refugees living in camps in Kenya and Ethiopia, life in these camps is not necessarily any safer or more comfortable than in their home country. The specific stressors associated with life in a refugee camp will be discussed in the next section, along with specific stressors faced by IDPs and war survivors in general.

## Pre-Migration Stressors

The literature review of general pre-migration stressors contains two subsections: (a) Traumatic Experiences and (b) Life In A Refugee Camp.

**Traumatic Experiences.** Fleeing a country in fear for one's life involves an array of traumatic events. In previous studies on refugees, the number of traumatic events experienced over the life course has been linked to experiencing PTSD symptoms (Fawzi et al., 1997), in addition to depression and anxiety (Birman & Tran, 2008). In general, pre-migration trauma has been associated with poor mental health with 9% of adults and 11% of children resettled in Western countries reporting symptoms consistent with PTSD. This rate is about 10 times greater than that of the general population (Fazel, Wheeler, & Danesh, 2005).

In studies specifically measuring traumatic events as captured by the Harvard Trauma Questionnaire (Mollica, Caspi-Yavin, Bollini, Truon, Tor, & Lavelle, 1992), Somali refugees reported experiencing a high number. In Bhui et al.'s 2003 study of Somali refugees in the United Kingdom, more than 50% of men and women reported experiencing at least one of the following: shortage of food, poor health, witnessing a murder, separation from family, enforced isolation, feeling close to death, and being in a combat situation. In addition, 41% of men reported experiencing torture.

Survivors of torture, in particular, are very likely to endorse symptoms of PTSD. In a 5- year epidemiological study by Jaranson and colleagues (2004) of Oromo and Somali refuges resettled in the Minneapolis/St. Paul area, 44% of the 1134 participants met criteria for torture exposure. As opposed to previous research indicating that men are more likely than women to report being tortured, women in this study were as likely to experience torture. Somali men were the least likely to report experiencing torture (25% reporting) compared to Oromo men (69%), Somali women (47%), and Oromo women (37%). The researchers also stated that Somali men are more likely, compared to Somali women, to either be killed in Somalia or to escape unharmed. Therefore, the Somali men in their sample may not be representative of the experience of Somali male IDPs or the danger that is present for Somali men in general. Somali women, they noted, have a more difficult time leaving their country. However, it was estimated that a much larger percentage of the Oromo population over age 18 in the area participated in this study (80%) compared to the Somali population over age 18 (8%). Although this was a relatively large sample of Somali refugees (*n* = 622), it was not a random sample of those living in the Minneapolis/St. Paul area and

small in comparison to the percentage of Oromo refugees in the area that participated (Jaranson et al., 2004). Therefore, this study likely underestimates the amount of torture Somali refugees experience given the sample size, methodology, and likelihood of underreporting. Still, with the likelihood of underestimation and an underrepresented sample of Somalis living in the area, a high percentage of both men and women reported experiencing torture.

The number of traumatic events experienced has been shown in studies to relate to higher levels of PTSD, suggesting a dose-response relationship (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011). The term, dose-response relationship, can be defined as the increasing intensity (dose) of exposure to traumatic events and the proportional risk of PTSD (response) (March, 1993). In a review of 19 studies examining the dose-response relationship for a variety of traumatic events (natural disasters, combat scenarios, prisoners of war, etc.), 16 of these studies endorsed the dose-response relationship (Shore, Tatum, & Volmer, 1986). This relationship has also been found with refugee populations (e.g., Carlson & Rosser-Hogan, 1991; Matheson, Jorden, & Anisman, 2008).

One potential criticism of the dose-response relationship is that this relationship hinges on a person's memory of traumatic events, events that often occurred years before the assessment of mental health symptoms. Researchers have shown, however, that memories of negative events are more likely to stay stable over time (Porter & Peace, 2007), in comparison to more positive memories. However, memory reconsolidation can occur and research is still mixed as to whether memories, specifically those of a traumatic nature, are subject to alteration (van Giezen, Arensman, Spinhoven, & Wolters, 2005). Some

longitudinal studies measuring traumatic experiences have shown that memory of traumatic events sometimes increased from Time 1 to Time 2 for individuals reporting higher PTSD symptoms, even over a span of a few years (King, King, Erickson, Huang, Sharkansky, & Wolfe, 2000; Southwick, Morgan, Nicolaou, & Charney, 1997). When observations of trauma increase, researchers hypothesized that such amplification occurred as a result of re-experiencing symptoms. One study of veterans deployed in Somalia (*n* = 460) assessed within 1 year of their return and at 1to 3 years after their return found a statistically significant increase in number of events endorsed at Time 2 and a significant relationship with increased PTSD re-experiencing symptoms. In this particular study, other symptoms of PTSD, depression, and anxiety did not increase at Time 2 (Roemer et al., 1998). Based on the existing trauma and memory literature, it is assumed in the current study that memory of pre-migration trauma is accurate and may possibly be underreported by individuals who are engaging in active avoidance of mental health symptoms or who are not currently experiencing mental health symptoms such as re-experiencing of pre-migration trauma.

The literature on exposure to traumatic events and mental health has shown, in addition to symptoms of PTSD, a link to symptoms of depression and anxiety in refugee populations. In a study with Vietnamese refugees resettled in the United States (*n* = 212), pre-migration trauma, as measured by The Trauma Events Scale from the Harvard Trauma Questionnaire (HTQ; Mollica & Caspi-Yavin, 1996), predicted both symptoms of depression and anxiety (Birman & Tran, 2008). In a study with Somali refugees resettled in Canada (*n* = 90), symptoms of depression and PTSD were both associated with pre-migration traumas (Matheson, Jorden, & Anisman, 2008). In this study, 20 participants scored in the clinical

range on the Impact of Events Scale-Revised (IES-R) (scores above 50 out of 88 possible) and 27 participants had scores in the moderate range (scores between 30-50). Thus, a little over half of the sample had moderate to severe symptoms of PTSD. In addition, the Beck Depression Inventory (BDI) was used to measure symptoms of depression. In this sample, 20 participants indicated moderate to severe symptoms and 23 indicated mild to moderate symptoms.

In a 2000 study by de Jong, Scholte, Koeter, and Hart of refugees living in Rwandan and Burmese camps ($n$ = 854), a translated version of the General Health Questionnare (GHQ) was used to measure prevalence of mental health disorders. The prevalence of mental health problems for refugees living in these camps was 50%. The threshold for detecting mental health problems in this study was high, so that only those with significant psychological problems would be detected. Their criteria for detecting individuals with mental health problems was 14, wherein the general population the recommended cutoff score is 5. The diagnostic threshold was high in this case to determine individuals who may be having trouble coping with the many problems inherent to life in a refugee camp and away from their home country. Therefore, there is an additional percentage of people who would have met criteria for minor psychiatric problems and may still need mental health services.

In a 2009 study of Somali and Rwandese refugees resettled in a Ugandan refugee camp, refugees were screened for mental illness using the Posttraumatic Diagnostic Scale (PDS) and the Hopkins Symptom Checklist-25 (HSC-25). Of the total sample, 516 Somalis were screened and 48.1% were found to meet criteria for PTSD and averaged 11.95 traumatic events on the 34-item traumatic event checklist created specifically for this study (Onyut,

Neuner, Ertl, Schauer, Odenwald, & Elbert, 2009). This finding is consistent with the results of the de Jong et al. (2000) study, but with higher prevalence rates than other studies examining mental health problems of refugees once they enter resettlement (i.e. Fazel, Wheeler, & Danesh, 2005; Jaranson, et. al, 2004; Bhui, et. al, 2003). The previously cited studies lend general support to the dose-response relationship, extending the association of pre-migration traumas with PTSD, to also include overlapping symptoms of depression and anxiety. Therefore, symptoms of PTSD, depression, and anxiety are of interest as indicators of mental health in the present study.

**Life In A Refugee Camp.** Given all the traumatic events that refugees commonly experience before reaching the refugee camp and while living in the camp, mental health care would seem to be necessary for most, if not all refugees in the camps. Unfortunately, there are only a small number of mental health workers available to refugees living in the camps. Mental health does not receive the same attention as other health risks like nutrition, malaria, or HIV/AIDS. According to professionals from groups like Doctors Without Borders and CARES, only a handful of mental health workers are on site to treat the almost 400,000 refugees in the Dadaab camp in Kenya, the camp most populated by Somalis. It is not uncommon for mental health workers to report seeing individuals with severe mental health problems having their hands chained together or being chained to their house in order to prevent the friend or family member from hurting themselves or someone else. With a lack of mental health service providers available, individuals take these drastic measures in order to protect others and themselves. One such example is the prevalence of restraint by metal chains for those individuals suffering from post-traumatic stress or other mental ailments.

Such a measure is done out of concern, although it may appear as a cruel or inhumane act. This problem is just further evidence of the need for mental health services and the lack of education and support for those in the camps (Onyiego, 2011).

In addition to the traumatic events and stressors associated with the conditions in refugees' countries of origin, the living conditions and general environment within the refugee camps often contribute to distress and accumulate in addition to the traumas incurred when fleeing one's country of origin. Frequently reported problems include acute malnutrition, disease (including scurvy, dysentery, measles, and cholera), and lack of access to education, adequate clothing, and fresh water (Harrell-Bond, 2000). Fears of children being kidnapped, human trafficking, rape of women and children, and violent clashes or disputes with neighboring camps, tribes, and/or militias are also commonly reported occurrences. *Refugee warehousing*, living in a refugee camp for a decade or more, is also becoming a more common phenomenon, because there is an inadequate number of receiving countries to accommodate the growing number of refugees (Cianciarulo, 2005; Smith, 2004). It is now possible in some instances that an individual may be born into and live within a refugee camp for 30 years or more before resettlement (Smith, 2004). The experience of seeking shelter in a refugee camp in order to receive refugee status and support for relocation, and the accompanying illusion of safety, significantly contribute to the pre-migration stressors experienced by refugees.

Pre-migration stressors can sometimes be specific to refugee camps and geographic region. Refugee camps are at the mercy aid and resources by humanitarian groups and various governments, including the United States. Resources and aid money are not

guaranteed and often vary over time due to media attention, global interest, and conflicts in other areas of the world. Newly arriving refugees to Dadaab refugee camp, the world's largest and home to the largest proportion of Somali refugees, have recently been denied basic services (i.e. sufficient housing, food, medical supplies, mental health services) due to lack of supplies and funding. Although resources were never abundant in Dadaab, funding and supplies continue to be in critical demand (UNHCR, 2013; Medicins sans Frontieres, 2012; UNHCR, December 2016). In fact, Kenya has begun shutting down the camps and moving refugees to other camps in neighboring countries and even helping people relocate back to Somalia, despite ongoing safety concerns (UNHCR, December 2016).

Additionally, new refugee arrivals do not receive routine medical screening nor materials to build their own shelters, instead having to rely on other families and groups to take them in. Some camps within Dadaab experience challenges in distributing food rations, needing to travel to a neighboring camp to receive food. Due to insecurity in the area surrounding Dadaab, bomb attacks and assassinations continue to occur within the camp, so that safety is never a guarantee once refugees make it to Dadaab. Refugees also report frequent looting of their supplies, shortages of water, untrained teachers, and lack of clothing as this is not provided by the camps. Due to funding crises, the camps in recent years have been running with fewer aid staff and staff that are unqualified to offer services such as medical care (Garvelink & Tahir, 2012; Medicins sans Frontieres, 2012). In a 2012 study of children aged 6 to 12 in Dagahaley, a camp within Dadaab, acute malnutrition was down from 2011 due to a temporary resurgence in aid and support. In 2011, malnutrition was considered an emergency issue with the global acute malnutrition rate at 38% and severe

acute malnutrition at 18.8%; however, 12% of children were still considered at risk in 2012 and due to the recent lack of medical screening upon arrival, this number is expected to increase once again (Medicins sans Frontieres, 2012). Lack of proper sanitation in the camps has led to sporadic outbreaks of cholera and hepatitis E, both preventable diseases. In addition, aid workers have been reported to have gone missing, leading to concerns about continuing to send Western aid workers (Medicins sans Frontieres, December 2012; Somalia Report, 2012; Associated Press, 2013). Foreign aid is not guaranteed in refugee camps, yet it is depended on heavily to support basic programs and needs such as adequate food, shelter, and medical care.

Most studies examining the effects of pre-migration trauma on mental health occur post-resettlement. The relationship between pre-migration traumas and mental health post-resettlement is complicated due to the fact that traumatic experiences incurred prior to resettlement are very likely to impact ones' experiences adjusting and acculturating. Additionally, culture and gender have both been found as significant factors to which how clinical disorders are reported and perhaps even experienced amongst various refugee groups (Schweitzer, Melville, Steel, & Lacherez, 2006; Murray, Davidson, & Schweitzer, 2010). In a 2011 study examining PTSD, depression, and somatic complaints among refugee torture survivors resettled in Finland, researchers found cultural and gender differences in the reporting of mental health symptoms. Specifically, refugees from Southern Europe reported higher levels of PTSD symptoms and refugees from the Middle East, Central Africa, and Southern Asia reported more depressive symptoms. In all cultural groups, studies have found that in general, women report more symptoms of PTSD and depression. Despite the

differences in mental health symptoms between cultural groups, the reported number of traumatic experiences was not significantly different between refugee groups (Schubert & Punamaki, 2011). These results indicate the importance of considering culturally specific responses to pre-migration trauma, as well as cultural and gender related attitudes regarding the reporting and expression of mental health symptoms. Therefore, it seems important to take both gender and culture into consideration when reviewing the literature on mental health and when working with refugees.

## Post-Migration Stressors

Although refugees live in deplorable conditions in refugee camps, it may be assumed by some that they experience more daily stressors while in the camp and certainly in a war compared to when they enter resettlement. However, there are many new kinds of stressors that refugees encounter post-resettlement; it should not be assumed that refugees experience any less stress in their new environment. If anything, resettlement is a time that allows for refugees to reflect upon their experience fleeing to the refugee camp and life in the refugee camp, all while trying to adjust to a new country often very far away from home. The different types of stressors unique to post-migration are discussed in the following sub-sections: (a) acculturation stress, (b) acculturative stress, (c) language, and (d) employment.

**Acculturation.** Acculturation is the process of adapting to a new culture, reconciling beliefs consistent with one's original primary culture with the new culture (Sam & Berry, 2006). The stress that accompanies the process of acculturation is referred to as acculturative stress. An initial period of elation and euphoria upon arriving in a new country may mask mental health symptoms from previous traumas and the general feeling of overwhelm upon

arrival. This period is quickly succeeded by the next stage of adjustment, the "period of psychological arrival" noted by Tyhurst (1951) in his observations of European refugees following World War II. This period is signified by a realization of the difficulties of the current situation, particularly differences in language, social customs, and the experience of separation and loss. Similar stage models of acculturation, most notably and oft-cited, Berry's (1997) four-stage model of individual acculturation build upon the observation made by Tyhurst (1951). The stages can be summarized as follows:

1. Assimilation: An individual minimizes the significance of his/her culture of origin, attempting to adopt the dominant culture(s).
2. Separation: An individual attempts to retain the original culture, removing oneself from the dominant culture(s).
3. Marginalization: An individual begins to feel alienated from society with little involvement in both the culture of origin and the dominant culture(s).
4. Integration: An individual learns to participate in and identify with the culture of origin and the dominant culture(s).

Berry (1997) also described acculturation factors at the individual and group level that will affect the type of acculturation style one adopts. At the individual level, factors prior to resettlement include age, gender, religion, and personality. Individual factors post-migration include degree of discrimination experienced, amount of social support available, and amount of time in the host culture. It is likely, for example, that an elderly Somali woman migrating to the United States alone would have a different acculturative experience than a teenage Somali boy migrating with his family. Factors that impact one's acculturation

at the group level may include characteristics of the host country, the culture of origin, and any group-level changes of adapting to a new society that all might face (speaking a new language, going to school, etc.).

This model can also be described by the behavioral and emotional (acculturative stress) changes that an individual can experience during acculturation. The behavioral changes may include clothing styles, speaking a new language, and eating habits. The emotional changes are the reactions to all the changes one endures (Sam & Berry, 2006). This model is an example of a bilinear model of acculturation, meaning that one can simultaneously adapt to the host culture while maintaining cultural characteristics of the culture of origin. This *integration* of cultures is represented by Berry's (1997) final stage and is associated with the lowest level of acculturative stress (Berry, 2003).

Though his model is popularly cited in the literature and used widely, Berry's (1997) model has been criticized as it focuses on the loosely defined construct of *culture*. Bhatia and Ram (2001) have argued that this term, along with the ideas of *self* and *identity* are not fixed entities and are influenced by the ever changing forces of social, historical, and political contexts. The consideration of social context is proposed in a slightly different model of acculturation by Rubaut and Portes (2001). In this model, it is easier to account for the effect of familial structure and the acculturation level of parents or grandparents, the effects of discrimination, and ethnic subcultures. They postulate that individuals and families do not acculturate alone; rather, they do so within a larger framework of the family and greater community. Their model is a jump from Berry's (1997) model that focuses on the individual to one that considers the family and greater community.

Building on a bicultural model is a multidimensional model of acculturation. Many acculturation measures assess only one or a few of the five dimensions, theorized by Kim and Abreu (2001),that represent the process of acculturation. The five dimensions include: behavior, cultural identity, knowledge, language, and values. In developing a new measure that is both bilinear and multidimensional, Zea, Asner-Self, Birman, and Buki (2003), added a sixth dimension of cultural competence. This dimension is meant to incorporate knowledge about the new culture and ones' ability to function in it. Their scale, the Abbreviated Multidimensional Acculturation Model (AMAS) is the measure used in the current study and Berry's (1997) model of acculturation is the theoretical basis for the construct of acculturation in this study. The scale builds upon the criticized weaknesses of Berry's model by assessing across multiple dimensions for adaptation and orientation toward both the host culture and culture of origin. However, it is important to note that the operationalization of a construct for use in a measure is not the same as a theory or model of acculturation. This operationalization can help facilitate a deeper understanding of the process of acculturation, beyond a more abstract stage model. The AMAS will be described in more detail in Chapter 3.

A term that is closely related to acculturation and Berry's stage of integration, is *enculturation* (Kim, Ahn, & Lam, 2009). Enculturation is a term used to describe the maintenance of the cultural norms of one's culture of origin. This term, therefore, designates the term, *acculturation*, as referring to adapting to the cultural norms of the new or dominant culture (Kim & Abreu, 2001). Both enculturation and acculturation are often measured in scales accessing level of acculturation. In the present study, only the acculturation subscale

in the Abbreviated Multidimensional Acculturation Scale (AMAS; Zea, Asner-Self, Birman, & Buki, 2003) will be used. Although Berry defines the final stage of acculturation as being both highly enculturated and acculturated, only acculturation to the United States is of importance in the present study due to the specific interest in how acculturation may be related to Western ideas and concepts of mental health conditions and symptoms.

**Acculturation Stress.** Although Berry's (1997) model is limited by the application to the individual, he has opened a new area of research on acculturative stress. In Berry's proposed stage of marginalization, when the individual has failed to assimilate, likely due to discrimination and/or other barriers such as language, acculturative stress is felt as a result, and often with major consequences. The degree of acculturative stress that is felt is determined by whether the individual is able to choose his/her acculturation stage, rather than have the stage forced upon him/her. This matter of choice is partially dependent upon the individual's connection with community, family, religion, etc. An individual's acculturation stage may also be influenced by discrimination that the individual may face, their economic situation, and education. Therefore, the stage one is in is in part due to these broader contextual factors and the degree to which one feels they have had choice or agency in the acculturation process determines the acculturative stress felt (Aroche & Coello, 2004).

Another example of acculturative stress that is dependent upon context is the fact that children are more often able to acculturate faster than adults. This ability to acculturate more quickly has been show to lead to better mental health outcomes (Ying & Han, 2007). However, this difference in acculturation can create stress within the household. Intergenerational acculturation differences in previous research with Southeast Asian

American adolescents negatively related to mental health consequences such as depression (Wong, 2001) and suicidality (Lau, Jernewall, Zane, & Myers, 2002), and school difficulties (Yao, 1985).

In a study with Somali adolescents in the United States, higher Somali enculturation was a protective factor for girls experiencing mental health symptoms. Conversely, greater American acculturation as a protective factor was true for boys. Interestingly, for girls with low levels of Somali enculturation, PTSD symptom severity was greater than that of girls with greater Somali enculturation. For boys who reported a lower degree of American acculturation, depression symptom severity and discrimination was greater (Ellis, MacDonald, Klunk-Gillis, Lincoln, Strunin, & Cabral, 2010). As in the case of this study, these protective factors may vary by gender, dependent upon degrees of acculturation and enculturation. In addition, it may be important to distinguish between enculturation to native cultures and acculturation to the culture of the resettlement country as they may have different protective factors. In the present study, acculturation to American culture is the variable of interest.

In a meta-analysis by Porter and Haslam (2005), 59 studies were examined for predictors of refugee mental health. Of the pre-displacement factors, Porter and Haslam found that children and adolescents had better mental health outcomes relative to adults. Additionally, adults younger than age 65 fared better than samples older than 65. One reason for this finding is that older adults may also have a challenging time adjusting to a new country, because acculturation is strongly linked to learning the native placement country's language. Studies of refugees resettling in the United States indicate that refugees who speak

English have an easier time adapting to the new culture (Berry, 1996). Thus, acculturation is an important piece of the process for refugees to healthily integrate into a new country and community. Acculturation also seems to be a different process for adolescents than for adults.

**Language.** One of the barriers to acculturation for refugees is language. In Somalia, English language is not universally learned and is only accessible to those who have received formal education. According to a report by UNICEF (2013), only four out of every ten children in Somalia currently attends school. Due to the long-standing war, the education system is near collapse and is relying on outside aid to recruit more students into schools. For children living in refugee camps, only 57,000 of the 221,000 school age children living in Dadaab refugee camp as of October 2012 were enrolled in school. One of the reasons given for not attending school is not speaking English or Kiswahili, the national language of Kenya. Of these 57,000 children who are enrolled in school, only 770 are girls (Sehl, 2012). This means that girls and women are particularly less likely, compared to boys and men, to come to the United States with any degree of English speaking proficiency.

Learning a new language relies on the capacity of one's working memory (Martin & Ellis, 2012). Research has shown that for individuals with PTSD, working memory capacity is negatively affected (Emdad, Sondergaard, & Theorell, 2005; Johnsen, Kanagard & Asbjornsen, 2008), making language learning more difficult. According to the power-load-margin (PLM) formula suggested by Howard McClusky (1963), adults learn at different paces due to the *power* or energy one has to dedicate to the task, the *load* of energy used for basic day to day survival, and the *margin* of energy that is left to be allocated to language

learning. For adults that are dealing with mental health concerns, physical ailments, and the many other stressors that accompany adjusting to a new culture, the margin left for language learning may be quite small (Jamil, Nassar-McMillan, & Lambert, 2007; Segal & Mayadas, 2005).

Lack of English skills is an oft-cited reason for unemployment or low-level employment, such that persons who lack English proficiency are often underemployed and disproportionately represented in physically demanding industries (Shea, Winnie Ma, & Yeh, 2007; Yakushko, Backhaus, Watson, Gnaruiya, & Gonzalez, 2008). Because finding employment post-resettlemet is another major stressor for most refugees, being able to communicate in English is that much more important. Most places of employment do not offer language training and refugees and immigrants are often asked to work long hours, leaving little time leftover for learning a new language (Yakushko et al., 2008). Thus, language can serve as a huge barrier to securing a job, and ultimately, attaining financial stability.

**Employment.** One key factor in adjustment to a new culture is success in finding a job or career (Yakushko et al., 2008). Refugees and immigrants often have the expectation of not only finding employment in the United States, but finding employment that is equivalent to their skills and previous work experience. Most do not expect the educational and career barriers that they frequently encounter in resettlement (Shea, Winnie Ma, & Yeh, 2007; Yakushko et al., 2008). The inability to find *meaningful* employment also becomes a source of disappointment as many are forced to work in lower-status and lower-paying jobs. In addition, even those with previous professional occupations experience a downturn in the

opportunities available to them in the United States, because their credentials and education do not directly transfer as suitable or similar qualifications (Yakushko et al., 2008). The challenge of finding both meaningful employment and earning a living wage both contribute to acculturative or post-migration stressors. Participating in the host country's economy as a wage earner is important both symbolically and financially (Williams & Berry, 1991).

Another stressor and a common stressor for refugees from a patriarchal society is the change in gender roles that men and women may experience. Research has shown that Somali women sometimes report feeling conflicted in their identities due to the contrast in gender roles between traditional Somali culture and American culture (Crosby, 2008). Due to this cultural shift and the increased need for women to seek employment due to economic necessity, Somali women are more likely to seek employment independent from their husbands (Nilsson, Brown, Russell, & Khamphakdy-Brown, 2008). Although women in Somalia in recent years have begun to work outside the home, those who have migrated to the United States prior to this cultural shift likely did not have this experience. The experience of working in Somalia is also quite different from that of the United States as there is more flexibility and community support to assist with childcare and household responsibilities, tasks that still are expected of the women. Therefore, Somali women in the United States have a much more difficult time balancing work, home, and childcare responsibilities than would be experienced for working women in Somalia, because there is not the same support system available (Mooney & Shepodd, 2009). Balancing traditional Somali gender roles with the gender roles of the host culture can also contribute to acculturative stress. Sadly, Somali women with greater English speaking ability also report

experiencing more intimate partner violence and psychological abuse from their partners. It seems that the shift in gender roles and faster acculturation, as evidenced by English speaking ability, can cause strain in intimate partner relationships (Nilsson et al., 2008).

The host of post-migration stressors that refugees must manage and contributes to potentially more mental health problems than those incurred prior to resettlement (Jamil, Nassar-McMillan, Lambert, Wang, Ager, & Arnetz, 2010). In a study of resettled Somali refugees in the United States ($n = 74$), post-migration living difficulties was examined as a potential mediator between pre-migration traumas and mental health symptoms, including depression, anxiety, PTSD, and somatization (Bentley, Thoburn, Stewart, & Boynton, 2012). Post-migration living difficulties was found to significantly moderate the relationship between pre-migration traumas and symptoms of depression for individuals who reported low levels of pre-migration traumas and these symptoms decreased as pre-migration trauma exposure increased. This finding may indicate that for those exposed to greater degrees of trauma, coping with post-migration living difficulties may respond to these stressors differently than those who did not have as many traumas. Interestingly, post-migration living difficulties did not significantly moderate the relationship between pre-migration traumas and symptoms of PTSD, anxiety, or somatization. The authors noted several limitations to this study. One limitation of interest to the Bentley et al. (2012) study is that post-migration stressors likely vary over time due to the fact that some of the stressors may have resolved at some point. While various post-migration stressors are likely to influence mental health outcomes, the present study, although limited, will measure acculturation as the post-

migration variable of interest. In the present study, it is predicted that mental health symptoms may vary due to degree of acculturation.

Data collected by the Epidemiological Catchment Area of immigrant youth and their families reveal that acculturation and mental health outcomes may vary based on the degree of acculturation. Results from studies conducted by Escobar and Vega (2000) and Oquendo et al. (2001) suggested that first-generation adults may have lower or suppressed levels of psychopathology than do their children and those in the mainstream population. Those that were most assimilated had the worst mental health outcomes. Pumariega and Roth (2010) hypothesized that this may be due to the high cognitive demands and needs for adjustment, obtaining economic security, potentially language acquisition or mastery, and acculturation. Therefore, it seems important to take acculturation into account when considering how mental health symptoms are experienced and/or self-reported.

In a 2011 study of recently resettled Burmese refugees in Australia ($n$ = 70), post-migration stressors made a unique contribution in predicting mental health symptoms. The researchers found that these post-migration living difficulties were almost equivalent to pre-migration traumatic experiences in predicting trauma symptoms (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011). However, the researchers noted that pre-migration traumas may also have impacted post-migration living difficulties; therefore, it is unclear whether post-migration challenges may be exacerbating a predisposition to PTSD that was initially caused by exposure to pre-migration traumatic events. Regardless, measuring post-migration stressors as a separate construct may be of interest in future studies. It should be acknowledged that the ability to acculturate may be affected by post-migration living

difficulties, just as it may also be affected by pre-migration traumas. Given the challenges of recruiting a sufficiently large sample of Somali refugees and the lack of data on the relationship between traumatic events, acculturation, and mental health symptoms, acculturation is the post-migration variable of interest in the present study.

Since refugees come in with an array of pre-migration traumas and stressors and very likely continue to experience numerous stressors during their adjustment period, they present with complex mental health needs and concerns (Schweitzer, Melville, Steel, & Lacherez, 2006). The post-migration stressor of interest in the present study is the process of acculturation to American culture. One potential challenge with regard to acculturation and mental health is the cultural component of how mental health is conceptualized, expressed, and treated in their primary culture. The following section addresses some of the mental health concerns for refugees and how well Western ideas of disease and diagnostic proxies fit these concerns and needs.

**Cultural Expressions of Mental Health Symptoms**

Based on both pre and post-migration stressors, refugees would seem to be susceptible to high levels of PTSD and depression. In fact, some estimates are as high as 86% and 80% for PTSD and depression, respectively, among refugees resettled in Western countries (Carlson & Rosser-Hogan, 1991). However, a meta-analysis of mental disorders among refugees resettled in Western countries found that 10% of adult refugees are diagnosed with PTSD, 5% with major depression, and 4% with generalized anxiety disorder (Fazel, Wheeler, & Danesh, 2005).

The expression of distress and symptoms of trauma may vary by culture, suggesting that diagnostic criteria may not necessarily be generalized from culture to culture (Fawzi et al., 1997; Montgomery & Foldspang, 2006). Although the diagnosis of PTSD, for example, amongst refugee populations has been frequently studied (e.g., Bhui et al., 2003; Fazel, Wheeler, & Danesh, 2005; Norris & Aroian, 2008), some researchers (e.g., Miller et. al, 2006; Lee, Kleinman, & Kleinman, 2007) have argued that the diagnostic criteria for psychological disorders may not effectively capture the symptoms experienced by refugees, and that the criteria may rule out individuals who otherwise seem to be experiencing significant traumatic stress or other psychological symptoms. In a study by Elsass (2001) comparing collectivist to individualistic cultures, the participants from collectivist cultures differed from individualistic cultures in their reporting of avoidance symptoms. In order to meet PTSD criteria, individuals must report at least three of seven avoidance symptoms (American Psychiatric Association, 2000). These criteria can be challenging to meet for people from collectivist cultures, who may view avoidance symptoms as adaptive, whereas people from individualistic cultures may view them as a problem (Elsass, 2001). Symptoms of avoidance have also been shown to possibly relate to depressive symptoms, as indicated by social withdrawal. Although social withdrawal is not recognized in the DSM-IV TR category of avoidance, it emerged in a principal component analysis study with 74 Vietnamese refugees resettled in the Boston area (Fawzi et al., 1997).

In a study evaluating Arab Muslim immigrant women in the United States using the diagnostic criteria of PTSD, 82% of the 546 participants reported re-experiencing symptoms, 62% reported arousal symptoms, and 43% met criteria for avoidance symptoms. In addition,

the women in the study who met all three diagnostic criteria (40%) had significantly higher impairment of functioning scores than partial-PTSD and no PTSD comparison groups (Norris & Aroian, 2008). Norris and Aroian concluded that the diagnosis of PTSD held because the women meeting full PTSD criteria had the highest impairment of functioning scores. The results of this study can be interpreted to indicate support for the validity of the diagnosis of PTSD with Arab Muslim immigrant populations. However, more evidence for the cross-cultural validity of PTSD, in addition to other diagnoses such as depression and anxiety, must be gathered through research on cultural differences in symptom expression and method of assessment. Potential barriers to such studies may include the cultural stigma associated with reporting mental health symptoms, unfamiliarity with mental health terms, and levels of acculturation, all of which have also been suggested as barriers to receiving mental health services or proper diagnosis (e.g., Bhui et al., 2006; de Anstiss & Ziaian, 2010; Lee, Lytle, Yang, & Lum, 2010; Miller et al., 2006). Due to barriers such as those listed above, assessing the validity of diagnoses and diagnostic tools should perhaps involve more than just seeing how well Western measures apply to different populations.

In a 2006 study considering cultural expression of trauma symptoms, Miller et al. developed a culturally grounded scale of mental health with citizens in Kabul, Afghanistan. The participants in the study lived in 8 of the 16 Kabul districts, and were all exposed to extreme war-related violence on a regular basis. The results of initial interviews with community members resulted in three categories representative of what these researchers associated with PTSD symptoms. The first category measured symptoms of social withdrawal and somatic distress. These two symptoms are not specifically captured by the

DSM-V sub-categories for PTSD, depression, or anxiety (American Psychiatric Association, 2013), but were found to have a statistically significant relationship with negative mental health symptoms. The second category combined depressive symptoms and intrusive, distressing thoughts. The items comprising this category captured aspects of the criteria in the DSM-V for both depression and PTSD. The third category, stress-induced reactivity, included items such as beating a family member, quarreling, and hurting oneself (Miller et al., 2006). The development of this scale, and the symptoms that emerged, may indicate a need to consider culturally specific expressions of symptoms. Refugees experiencing significant distress may not meet the full diagnostic criteria for disorders such as PTSD, depression, and generalized anxiety disorder. For refugees that do not meet diagnostic criteria, though continue to express significant distress, they are less likely to find mental health treatment—or at least, affordable, reimbursable treatment. Miller et al. noted in their discussion that although not all of the necessary symptoms for meeting PTSD criteria were identified by their factor analysis as most salient, this does not indicate that Afghans do not experience symptoms of psychological trauma consistent with PTSD. Their findings suggest a broader approach to understanding mental health symptoms within specific cultural contexts, creating interventions to address the specifically reported symptoms of distress.

In the new addition of the Diagnostic Statistical Manual (DSM-V; American Psychological Association, 2013), two sub-sections in posttraumatic stress disorder have been added to address culture and gender-related diagnostic issues. Although these sub-sections are short, they do address that symptom presentation may vary across cultural groups. The examples provided for differential cultural presentation include somatic

symptoms and panic-like attacks. Additionally, it is noted that PTSD is more prevalent among females across the lifespan and is attributed to a greater likelihood of exposure to traumatic symptoms. These caveats that appear in this newest addition of the DSM indicate a change in how clinicians may begin to assess for PTSD with various cultural groups, including refugees.

Despite the challenges in appropriately measuring and diagnosing mental health symptoms with various refugee groups, clinicians are limited to the current diagnostic criteria and assessments available. A recent study by Rasmussen and Verkuilen (2015) examining the use of the Harvard Trauma Questionnaire (HTQ) to compare PTSD between different refugee groups, illustrated the potential for culturally defined response patterns that have largely been ignored in the literature. Refugees who reported a baseline amount of trauma from several different world regions were compared (including Central Africa, Balkans, Latin America, and South Asia) and the results indicated cross-cultural differences in response style between groups. As a result, the researchers cautioned using the same baseline cut-off score to diagnose PTSD, due the systematic differences in response patterns.

Critics of the bio-medical model, particularly when applied to cross-cultural groups, may take issue with applying diagnoses or using assessments with refugee groups when such diagnoses and assessments have not been thoroughly tested and validated with a specific refugee population. However, this criticism highlights an ethical dilemma for refugee service providers in that mental health professionals must identify mental health problems within the context of diagnostic categories via informal and formal assessments in order to garnish resources and support for refugees (Watters, 2001). Such criteria and diagnoses are most

often necessary for reimbursement of services and are also used to monitor clinical progress. Therefore, without such tools and criteria, refugees might not be screened for mental health services at all and/or might not be eligible to receive services eligible for reimbursement.

**Mental Health Literacy**

The term mental health literacy was created by Jorm (2000) in his quest to increase public awareness about mental health treatments and disorders. This term has not been studied much with refugee populations; however, in a qualitative study in 2010 (Lee et al., 2010) with Southeast Asian refugees, the topic of mental health literacy was explored. Four themes emerged in this study in accordance with Jorm's theory, "lack of knowledge about specific mental health disorders, culture-specific knowledge and beliefs about the causes of depression, lack of awareness about professional help, and cultural attitudes toward seeking mental health services (p.329). Lee et al. also found that depression is often expressed somatically due to a culturally specific symptom presentation and that there is no specific definition of depression in the Southeast Asian community.

These findings are similar to a qualitative study conducted by this author (Jorgenson & Nilsson, 2013) with Somali refugee women in 2012. The results of this study showed that knowledge about mental health disorders is related to cultural beliefs. The women in this study, for example, used the word buufis interchangeably with or in place of depression, but that buufis or depression was used to describe a wide variety of concerns. The women also indicated a degree of stigma in help-seeking and discussing mental health concerns, not specific to the clinical definition of depression. According to Jorm (2000), the stigma associated with mental health in some cultures likely alters help-seeking behaviors. In the

study with Somali women (Jorgenson & Nilsson, in preparation), seeking help from a mental health professional was not suggested by the women as a possible solution when dealing with a mental health related concern. Only when prompted did some of the women indicate that speaking with a counselor may be an acceptable way to seek help. These findings seem to indicate that both cultural beliefs about help-seeking and a potential lack of knowledge with regard to mental health literacy and services may have an effect on the self-reporting of mental health symptoms. Also of interest in the present study is how acculturation may play a role in increased mental health literacy with refugee populations. It is hypothesized that as acculturation to Western society increases, knowledge of mental health literacy will increase, therefore expression of mental health symptoms may also increase.

**Study Summary and Purpose**

The role of acculturation in the presentation and identification of mental health symptoms has yet to be explicitly studied with Somali refugees. Some research with other refugee and immigrant populations has shown that mental health symptoms decrease with acculturation (Vojvoda, Weine, McGlashan, Becker, & Southwick, 2008; Chung, Bemak, & Wong, 2000), but other studies have not followed this trend (Spasojecvic, Heffer, & Snyder, 2000; Escobar & Vega, 2000; Oquendo, Ellis, Greenwald, Malone, Weissman, & Mann, 2001) or have been split depending on acculturation to native culture and acculturation to American culture (Ellis et al., 2010). In addition, a few other studies have indicated an initial increase in symptoms a few years after resettlement in a Western country, followed by a decrease in reported symptoms (Roth, Ekblad, & Agren, 2006). Given that mental health disorders and symptoms are not universal from culture to culture (Elsass, 2001) and cultural

differences have been found in the presentation of symptoms for individuals with the same diagnosis (Montgomery & Foldspang, 2006; Fawzi et al., 1997), it is possible that as individuals acculturate to a Western society, knowledge about mental health disorders and symptoms may change. It may also be possible that as refugees feel more comfortable over time in seeing a counselor and discussing any negative mental health symptoms; therefore, their self-reporting of mental health symptoms may change.

The purpose of this study was to examine the relationship between acculturation, traumatic experiences, and mental health symptoms among a sample of Somali refugees. The gaps in the literature were addressed by examining the role acculturation plays in Somali refugees' self-reporting of mental health. Structural equation modeling was used to examine how acculturation mediates the relationship between experiences of trauma and mental health symptoms, including depression, anxiety, and post-traumatic stress.

## Hypotheses and Research Questions

### Research Question 1a and 1b, and Hypotheses 1, 2, and 3

**Among a community sample of Somali refugees:**

**Q1a.** Does greater pre-migration traumatic experiences positively relate to greater acculturation difficulties?

**Q1b.** Does greater acculturation positively relate to greater symptoms of PTSD, depression, and anxiety?

*Hypothesis 1:* Acculturation will mediate the relationship between traumatic experiences and symptoms of PTSD. I hypothesize that as degree of acculturation to the United States increases, symptoms of PTSD will also increase.

*Hypothesis 2:* Acculturation will mediate the relationship between traumatic experiences and depression. I hypothesize that as degree of acculturation to the United States increases, symptoms of depression will also increase.

*Hypothesis 3:* Acculturation will mediate the relationship between traumatic experiences and anxiety. I hypothesize that as degree of acculturation to the United States increases, symptoms of anxiety will also increase.

## Research Question 2 and Hypotheses 4, 5, and 6

**Q2.** Will mental health symptoms, including anxiety, depression, and PTSD be related amongst resettled Somali refugees?

*Hypothesis 4:* There will be a significant positive relationship between symptoms of depression and PTSD.

*Hypothesis 5*: There will be a significant positive relationship between symptoms of depression and anxiety.

*Hypothesis 6*: There will be a significant positive relationship between symptoms of anxiety and PTSD.

## Research Question 3 and Hypothesis 7

**Q3.** How does the amount of time spent in the United States following resettlement relate to degree of acculturation amongst Somali refugees?

*Hypothesis 7:* There will be a significant positive relationship between time spent in the United States and acculturation.

# CHAPTER 3

# METHOD

## Sample

The target population for this study were Somali refugees resettled in the United States. The rule of thumb for sample size for structural equation modeling is 20 participants for every free parameter (Tanaka, 1987). In the hypothesized model, there are 19 free parameters; therefore, based on this standard, the sample size should be 380. However, others have criticized this standard as being too conservative. Bentler and Chou (1987, p. 660) suggested that 5 or 10 participants per parameter are sufficient and Tabachnick and Fidell (2001) suggested 100 to 150 is the minimum sample size for structural equation modeling (SEM). Given the challenges of recruiting a sample of this size from this particular target population, my final sample size was 80 participants following data cleaning and preliminary analyses. Survey Monkey helped to filter out responders who responded randomly, or who tookdetermined as those less than 5 minutes to complete the survey, many of which had the same IP address (only a possibility for computer bot completed respondents, or non-human respondents). While the final sample size is smaller than standard SEM guidelines, provided that good model fit is obtained in the proposed path model, I am more likely to err on the side of not detecting a true effect or relationship when one exists, rather than erroneously identify an effect. Therefore, I proceeded with my analyses and this will be further addressed in the limitations section of the discussion.

The participants were recruited through two different social service agencies that provide support services in two large Midwestern cities and community contacts made

through connections within these social service agencies. Participants were deemed eligible if they were at least 18 years of age and resettled in the United States as a refugee.

As shown in Table 1, the average age category for participants were between 25 to 34 years-old, 33.8% of the sample (*n* = 27) and the range included participants in each category, from 18 to 24, to the 70 to 99 year-old category. More women participated in the survey with 62.5% identifying as female (*n* = 50) and 37.5% as male (*n* = 30). With regard to number of children, the highest percentage of respondents indicated having no children (31.3%), while there was even spread between the three other categories (1-2 children; 3-4; and 5 or more). In terms of marital status, 39% participants reported being married, (*n* = 31), with the second highest percentage not married, 31.3% (*n* =25). The most common number of years lived in the United States since resettlement was in the range of 2 to 4 years (22.5%; *n* = 18), followed by 5 to 9 (21.3%; *n* = 17). Overall, there was a wide range of participants included in this sample, from those having lived in the United States for less than one year to one participant having lived more than twenty. The majority of participants were employed, 57.5% (*n* = 46), and had received partial college education or completed a college degree, 36.3% (*n* = 29). The second largest group had received no formal education, 28.8% (*n* = 23), with the remaining sample receiving some primary school, on up to completing secondary school.

Table 1

*Demographics*

| Characteristics | N (%) | Minimum | Maximum |
|---|---|---|---|
| Age | 80 | 18 | 99 |
| 18-24 | 10 (12.5%) | | |
| 25-34 | 27 (33.8%) | | |
| 35-44 | 17 (21.3% | | |
| 45-54 | 14 (17.5%) | | |
| 55-70 | 10 (12.5%) | | |
| 70-99 | 2 (2.5%) | | |
| Sex | 80 | | |
| Male | 30 (37.5%) | | |
| Female | 50 (62.5%) | | |
| Number of Children | 80 | 0 | 5+ |
| None | 25 (31.3%) | | |
| 1-2 | 19 (23.8%) | | |
| 3-4 | 17 (21.3%) | | |
| 5 or more | 19 (23.8%) | | |
| Marital Status | 80 | | |
| Single, never married | 25 (31.3%) | | |
| Divorced | 13 (16.3%) | | |
| Widowed | 10 (12.5%) | | |
| Married | 31 (38.8%) | | |
| Number of Years in the U.S. | 80 | >1 | |
| 20+ | | | |
| >1 | 15 (18.8%) | | |
| 1-2 | 7 (8.8%) | | |
| 2-4 | 18 (22.5%) | | |
| 5-9 | 17 (21.3%) | | |
| 10-15 | 12 (15%) | | |
| 16-20 | 6 (7.5%) | | |
| 20+ | 5 (6.3%) | | |
| Employment Status | | | |
| Unemployed, looking for work | 24 (30%) | | |
| Unemployed, NOT looking | 10 (12.5%) | | |
| Employed | 46 (57.5%) | | |
| Highest Level of Education | | | |
| No formal education | 23 (28.8%) | | |
| Some primary(up to $6^{th}$ grade) | 10 (12.5%) | | |
| Some secondary (up to $12^{th}$ grade) | 7 (8.8%) | | |
| Completed secondary school | 11 (13.8%) | | |
| Some college | 16 (20%) | | |
| Bachelor's Degree and beyond | 13 (16.3%) | | |

**Measures**

*Pre-Migration Traumatic Experiences* was measured using the *Comprehensive Trauma Inventory-104* (CTI-104; Hollifield, Warner, Jenkins, Sinclair-Lian, Krakow, Eckert, Karadaghi, Westermeyer, 2006). This scale was developed to specifically assess traumatic experiences of refugees and to improve upon the limited number of scales used for this purpose (e.g. Harvard Trauma Questionnaire; Mollica et al., 1992). The CTI-104 was developed using qualitative data from Kurdish and Vietnamese refugees along with a preliminary version of the CTI in order to determine relevance and range of traumatic events. This scale contains 104 items and is comprised of 12 sub-scales measuring various types of trauma including: psychological injury, physical injury, detention and intentional abuse, sexual trauma or abuse, witnessing abuse, injury, or death, hearing about injury and death, deprivation and discrimination, betrayal, domestic discord and violence, displacement, separation and isolation, and difficulties during migration. In the present study, only the total scale was used.

The scale items are ranked using a 5-point severity scale (0 = did not happen to 4 = extreme fear or threat). Items can be scored using a sum of the number of events or a sum of the 5-point severity scores. The authors suggest that if time is of concern, use of the items as dichotomous values is a valid measurement. In their initial validation sample, the severity score difference was not considered to add a richer understanding of the impact of these events over and above a dichotomous scoring procedure. The authors hypothesized that the lack of impact of the severity scores may be due to the nature of the traumatic events being severe in nature, rendering this rating scale less meaningful (Hollifield et al., 2006).

Therefore, in this study the scale was scored using dichotomous values (Yes, did happen to me/No, did not happen to me) in order to reduce time and difficulty for the participants.

The CTI-104 has demonstrated excellent internal consistency reliability with the initial validation sample of Kurdish and Vietnamese refugees (*n* = 252, $\alpha$ = .99 for the total sample) and a 12-factor structure with alpha coefficients ranging from .68-.98, with the values for 10 of the sub-scales being larger than .86. Hollifield et al. (2006) did not state whether these reported reliabilities were for the both types of scoring (severity rating and as dichotomous). The test-retest correlation with the initial sample was .83. However, one of the sub-scales, Hearing About Abuse Scale, had a low test-retest correlation of .29. Three of the sub-scales were in the acceptable range (.66-.69), and the remaining eight had good test-retest reliability, ranging from .74-.83. The total number of events reported increased significantly in the initial sample during the second administration. It is possible that the increased number of events reported during the second administration was the result of priming of memories from the first administration. This finding is consistent with previous research (Hollifield et al., 2006; Mollica & Caspin-Yavin, 1991).

The CTI-104 has demonstrated good to excellent construct validity (Hollifield et al., 2006). It is significantly correlated with symptoms of anxiety, PTSD, depression, impairment, and coping. The CTI-104 total events score significantly correlated with the Post Traumatic Symptom Scale Self-Report (PSS-SR) (*r* = .50), the Hopkins Symptom Checklist Anxiety score (*r* = .48), and the Hopkins Symptom Checklist Depression score (*r* = .47) (Hollifield et al., 2006). It also was strongly correlated (*r* = .65) with the Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992), a measure that has been used frequently

to assess trauma among refugee populations (Rasumussen & Verkuilen, 2015). The CTI-104 has not yet been validated with a Somali population and the measure was translated to Somali for ease of use by a professional agency that translates and back-translates measures for accuracy.

In the present study, participants endorsed a mean of 33 (sd= 20.33) traumatic experiences. The most commonly endorsed traumatic experiences can be found in Table 2. Items endorsed by greater than 10 individuals, or 12.5% were included in order to illustrate the frequencies and severities of various traumatic experiences. Cronbach's alpha coefficients in this study ranged from .67-.93 on the individual subscales with an alpha overall of .97, indicating excellent reliability. The total score scale of the CTI-104 was used in the present study.

Table 2
*Traumatic Experiences*

| Items endorsed n > 10 | N (%) |
|---|---|
| 1. Heard about mass killings and people being put in mass graves | 64 (80) |
| 2. Fleeing or hiding from soldiers or enemies | 57 (71.3) |
| 3. Having your home, business or important personal property confiscated | 57 (71.3) |
| 4. Having to flee from your home or community because of danger | 56 (70) |
| 5. Seeing injured or dead animals | 56 (70) |
| 6. Having very little food, water, or clothing because of poverty or discrimination | 56 (70) |
| 7. Having to live in poor conditions (fleeing, in mountains, poor shelter, and hygiene) | 55 (68.8) |
| 8. Having to flee from your home or community because there is no work or because of other discriminations | 55 (68.8) |
| 9. Heard that children or other innocent people were injured or killed | 54 (67.5) |
| 10. Having your home (or important place like school or workplace) severly damaged or destroyed | 54 (67.5) |
| 11. Being threatened with harm or feeling like you are in serious danger | 54 (67.5) |
| 12. Being in an area of active war combat, but you were not actively participating and were not injured | 54 (67.5) |
| 13. Heard about people being abused by harsh methods | 53 (66.3) |
| 14. Thinking you would not ever be able to leave a refugee camp | 52 (65) |
| 15. Seeing injury or death of many people at once, or witnessing mass graves | 51 (63.8) |
| 16. Seeing dead bodies or parts of human remains | 50 (62.3) |
| 17. Having your home, school, or workplace searched or ransacked | 49 (61.3) |
| 18. Feelig afraid that you will be sent back to your country from a refugee camp | 49 (61.3) |
| 19. Helping ill or wounded people (includes refugees) | 47 (58.8) |
| 20. Having to lie to protect yourself to others (includes signing official statement to protect yourself or others) | 46 (57.5) |
| 21. Watching other people die | 41 (51.3) |
| 22. Separated from family membesr during fleeing or migration | 41 (51.3) |
| 23. Raising your children by yourself | 40 (50) |
| 24. Being forced to stop work or schooling | 39 (48.8) |
| 25. Seeing others being killed | 38 (47.5) |
| 26. Death of friends due to war | 37 (46.3) |
| 27. Seeing other people get seriously injured or ill because of war | 37 (46.3) |
| 28. Having bombs or gunfire go off in “safe” areas (like evacuation areas) | 36 (45) |
| 29. Living in the middle of war, and being forced into dual loyalties to survive | 35 (43.8) |
| 30. Death of a family member besides a young baby due to war | 34 (42.5) |
| 31. Digging up, burying, or handling dead bodies or parts of human remains | 32 (40) |
| 32. Having to abandon injured, dead, or dying people | 29 (36.3) |
| 33. Being disgraced | 28 (35) |
| 34. Being intimidated or “blackmailed” | 27 (33.8) |
| 35. Being threatened with severe injury or execution | 27 (33.8) |

| | |
|---|---|
| 36. You or family members were denied refugee or asylum status | 27 (33.8) |
| 37. Being deprived of adequate food or water | 27 (33.8) |
| 38. NOT being able to take care of family members because of separation | 27 (33.8) |
| 39. Being confined in a village, town, or house by soldiers or police | 25 (31.3) |
| 40. Seeing your friends or family get seriously injured or ill because of war | 24 (30) |
| 41. Being monitored (repeatedly investigated, or watched and followed, or having to report to officials) | 23 (28.8) |
| 42. Forced to stand, kneel, or walk for a long time | 23 (28.8) |
| 43. Being interrogated, physically searched, stopped for identification and questioned | 23 (28.8) |
| 44. Feeling like you were deceived by your own leaders or high-ranking officials | 23 (28.8) |
| 45. Experincing violence from a family member because of the war | 23 (28.8) |
| 46. Being separated from your family because of war circumstances | 23 (28.8) |
| 47. Being near death because of illness or injury | 22 (27.5) |
| 48. Seeing your family or friends being killed | 22 (27.5) |
| 49. Experiencing severe family conflict because of the war | 22 (27.5) |
| 50. NOT being able to see a family member who is dying, or can’t witness burial | 21 (26.3) |
| 51. Being hit, slapped, beat, or kicked by a person or with an object | 20 (25) |
| 52. Having medical care withheld when you were very sick | 20 (25) |
| 53. Being moved to a government area or “new economic area” | 20 (25) |
| 54. Living in very poor conditions in prison (crowding, problems with sanitation or temperature | 20 (25) |
| 55. Being lied to or being made to feel uncertain about family member’s whereabouts | 19 (23.8) |
| 56. Being humiliated in front of others (stripped naked, insulted, screamed at, beat) | 19 (23.8) |
| 57. Being beat up or poorly treated in a refugee camp | 18 (22.5) |
| 58. Being oppressed (can’t gather publicly, meet friends, speak your opinion) | 18 (22.5) |
| 59. Death of your child | 18 (22.5) |
| 60. You refused or escaped from imposed military duty | 18 (22.5) |
| 61. Being taken away by enemies, and separated from your family | 18 (22.5) |
| 62. Seeing another person raped | 17 (21.3) |
| 63. Seeing someone being mutilated or blown-up | 17 (21.3) |
| 64. Being beaten in front of family or friends | 16 (20) |
| 65. Being awakened repeatedly and being deprived of sleep | 16 (20) |
| 66. Your children were often alone because of war circumstances | 16 (20) |
| 67. Your pregnancy (for men: your wife’s) was threatened, or a young baby died because of war conditions | 15 (18.8) |
| 68. Seeing a family member or a friend being raped | 15 (18.8) |
| 69. Being intentionally NOT told what was going to happen to you next or where you were going to be taken | 14 (17.5) |
| 70. Forced to make a confession about yourself or others | 14 (17.5) |
| 71. Being forced to monitor and report on family or neighbors | 14 (17.5) |
| 72. Directly exposed to chemical weapons | 13 (16.3) |
| 73. Having your ears, eyes, nose, or mouth injured with objects | 13 (16.3) |

| | |
|---|---|
| 74. Being handcuffed, tied up, or shackled | 13 (16.3) |
| 75. Being taken and left in an unknown place | 13 (16.3) |
| 76. Being falsely accused of things you did not do or being arrested | 13 (16.3) |
| 77. Being forced to work hard or for a long time or under very bad conditions | 12 (15) |
| 78. Being abandoned by your family while you were in prison | 12 (15) |
| 79. Being shot or shelled with explosives | 11 (13.8) |
| 80. Being blindfolded | 11 (13.8) |
| 81. Being made to watch while others were tortured or executed, or hearing others being injured or tortured | 11 (13.8) |
| 82. Being nearly killed by hanging or suffocation, near-drowning, or other intentional injury (like being dragged) | 10 (12.5) |
| 83. Having a spouse or a child be put in jail, prison, or camp | 10 (12.5) |

In the present study, participants endorsed a mean of 33 (sd= 20.33) traumatic experiences. The most commonly endorsed traumatic experiences endosed can be found in Table 2. Items endorsed by greater than 10 individuals, or 12.5% were included in order to illustrate the frequencies and severities of various traumatic experiences were endorsed. Cronbach's alpha coefficients in this study ranged from .67-.93 on the individual subscales with an alpha overall of .97, indicating excellent reliability.

*Mental Health Symptoms* were measured with the Hopkins Symptom Checklist-25 (HSCL-25; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1973). The HSCL-25 is derived from a longer version, 90-item version, originally developed by Parloff, Kelman, & Frank (1954). The HSCL-25 consists of two subscales, a depression and an anxiety subscale. The total score may also be used as a more global measure of mental health symptoms or distress. There are 25 questions total and participants rate the items using a 4-point Likert-type scale (1 = not at all; 4 = extremely). The first 10 items comprise the anxiety sub-scale, and the last 15 items make up the depression sub-scale. Individuals with a mean score >1.75 on the depression, anxiety, or total scale are considered symptomatic.

The HSCL was originally developed for use with psychotherapy patients as a way of measuring change (Parloff, Kelman, & Frank, 1954). However, it has been frequently used with refugee populations and with torture survivors and has been translated into a variety of different languages (e.g. Mollica, Wyshak, de Marneffe, Khuon, & Lavelle, 1987; Lhewa, Banu, Rosenfeld, & Keller, 2007; Kleijn, Hovens, & Rodenburg, 2001). This scale has been translated into Somali (Gerritsen, Bramsen, Deville, Willigen, Hovens, & Ploeg, 2006) and validated with Somali refugee populations (Onyut, Neuner, Ertl, Schauer, Odenwald, &

Elbert, 2009). In the validation study with Somali refugees in a Ugandan resettlement camp, the global score of the HSCL-25 demonstrated adequate sensitivity (.57) and specificity (.77) when compared to the Composite International Diagnostic Interview (CIDI) Section E, a clinician administered assessment, within a 2-week period. Onyut et al. (2009) did not report the internal consistency of the measure or speculate as to why the measure was not quite as sensitive with their Somali sample as the measure has demonstrated in previous refugee populations (e.g., Tibetan refugees: Lhewa, Banu, Rosenfeld, & Keller, 2007; Iraqi refugees: Mahfoud, Kobeissi, Peters, Araya, Ghantous, & Khoury, 2013). However, given that this measure has been used frequently with refugee groups, particularly with those resettled in Western countries, it was determined an appropriate measure for the current study. In the present study, the mean score on the total scale was 51.17 (*sd* = 20.2; range of 25-100). The average Cronbach's alpha for the total scale was .97, indicating excellent reliability.

A principal components analysis was conducted in order to confirm that the use of the anxiety and depression sub-scales was appropriate instead of a total combined score for negative mental health symptoms. A principal components analysis with an oblique rotation (Oblimin with Kaiser normalization) was conducted and the results showed a 2 factor solution, accounting for 67.73% of the variance. Rotated factor loadings showed several cross-loadings between the 2 sub-scales. Based on the results and visual assessment of the scree plot, the use of the total scale score seems more appropriate tha the use of the subscale scores. See Table 3 for the principal components analysis and the respective loading values for each item.

Table 3.

*Hopkins Symptom Checklist (25 item)*
*Factor Solution after Principal Components Analysis and Oblimin rotation.*
*Salient loading values printed in bold.*

| *Scale Item* | *Factor Loadings* | | *Communalities* | |
|---|---|---|---|---|
| **Anxiety sub-scale** | **1** | **2** | **Initial** | **Extraction** |
| 1. Suddenly scared for no reason | **.68** | .15 | 1.0 | **.56** |
| 2. Feeling fearful | **.60** | .26 | 1.0 | **.57** |
| 3. Faintness, dizziness, or weakness | -.01 | **.82** | 1.0 | .66 |
| 4. Nervousness or shakiness inside | .33 | **.68** | 1.0 | .76 |
| 5. Heart pounding or racing | .25 | **.74** | 1.0 | .77 |
| 6. Trembling | .16 | **.78** | 1.0 | .74 |
| 7. Feeling tense or keyed up | **.83** | -.09 | 1.0 | .63 |
| 8. Headaches | **.81** | .08 | 1.0 | .73 |
| 9. Spells of terror of panic | .12 | **.80** | 1.0 | .74 |
| 10. Feeling restless, can't sit still | **.73** | .27 | 1.0 | .78 |
| **Depression sub-scale** | | | | |
| 11. Feeling low in energy—slowed down | **.66** | .34 | 1.0 | .74 |
| 12. Blaming yourself for things | **.74** | .24 | 1.0 | .74 |
| 13. Crying easily | .26 | **.53** | 1.0 | **.47** |
| 14. Loss of sexual interest or pleasure | **.70** | .20 | 1.0 | .65 |
| 15. Poor appetite | **.59** | .41 | 1.0 | .73 |
| 16. Difficulty falling asleep, staying asleep | **.55** | .39 | 1.0 | .64 |
| 17. Feeling hopeless about the future | **.85** | .06 | 1.0 | .76 |
| 18. Feeling blue | **.96** | -.07 | 1.0 | .86 |
| 19. Feeling lonely | **.89** | -.05 | 1.0 | .75 |
| 20. Feeling trapped or caught | **.76** | .15 | 1.0 | .70 |
| 21. Worrying too much about things | **.92** | -.07 | 1.0 | .79 |
| 22. Feeling no interest in things | **.87** | .04 | 1.0 | .78 |
| 23. Thoughts of ending your life | -.15 | **.49** | 1.0 | **.20** |
| 24. Feeling everything is an effort | **.86** | -.28 | 1.0 | .60 |
| 25. Feelings of worthlessness | **.81** | -.19 | 1.0 | **.56** |

*Acculturation* was measured using an adapted version of the Abbreviated Multidimensional Acculturation Scale (Zea, Asner-Self, Birman, & Buki, 2003). This scale was initially validated with Latino/Latina college students and immigrants living in the United States who emigrated from Central America. This scale consists of 42 items, with 6 sub-scales, and responses are rated using a 4-point response scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) on the cultural identity sub-scales and from 1 (*not at all*) to 4 (*extremely well*) for the language and cultural competence sub-scales. Three of these sub-scales correspond to acculturation to the United States, and the other three sub-scales correspond to enculturation to one's one cultural group. In other words, this measure consists of items that ask participants to respond regarding their identity, cultural competency, and language competency to both American values or knowledge and the language and culture from their home country. The total score and each acculturation sub-scales were used in the present study.

This scale was developed for use with immigrants from Latin America, although participants from China, Vietnam, Nigeria, Germany, and several other countries participated in the focus groups when the authors were examining current scales and relevance to the experience of acculturation. This scale was created with the goal to validate the measure with populations from around the world with the hope that it would measure acculturation equally well. In the validation study, the internal consistency was excellent, ranging from .90-.97 in the study with Latino/Latina college students and .83-.97 in the study with immigrants in the United States born in Central America. This scale has been validated (with minor adaptations to the scale items) with additional samples, including Korean immigrants

in the United States (∝ = .88-.94; Yoon, Lee, & Goh, 2008), as well as other Latino/a immigrant samples (e.g. Schiffner & Buki, 2006; Jernewall, Zea, Reisen, & Poppen, 2005).

In this study, only the American Cultural Identity (six items), Engligh Language Competency (nine items), and American Cultural Competency (six items) subscales were used. The American Cultural Identity sub-scales has 6 items querying how one thinks about themselves as an American, the sense of pride one feels, and the importance of being American. The English Language Competency subscale has 9 items about how well one speaks and understands English in varying contexts (i.e. school, work, on the phone). The American Cultural Competency subscale includes 6 items about how well one knows elements of American cultural such as popular tv shows, magazines, and American history. The AMAS was designed to assess enculturation as well, in this study these other subscales would have assessed Somali Cultural Identity, Somali Language Competency, and Somali Cultural Competency. These subscales were cut as to reduce the number of items included in the overall questionnaire. In the present study, the mean score on the total scale was 56.24 (*sd* = 14.01; range: 22-84). Cronbach's alpha coefficients in this study ranged from .95-.97 on the individual subscales with an alpha of .92 for the total scale, indicating excellent reliability. The total score and each subscales were used in the present study.

A principal component analysis was conducted in order to confirm that the use of the individual subscales in addition to the total scale score was appropriate for this sample. Specifically, a principal component analysis with an oblique rotation (Oblimin with Kaiser normalization) was conducted and the results showed a 3-factor solution, accounting for 83.89% of the variance. A principal components analysis provided further evidence of

internal consistency and justified the use of both the total scale score and the individual subscales for the AMAS-21. See Table 4 for the principal components analysis and the respective loading values for each item.

Table 4.

*Abbreviated Multidimensional Acculturation Scale (21 items)*
*Factor Solution after Principal Components Analysis and Oblimin rotation.*
*Salient loading values printed in bold.*

| *Scale Item* | *Factor Loadings* | | | | |
|---|---|---|---|---|---|
| *Communalities* | | | | | |
| **American Cultural Identity** | **1** | **2** | **3** | **Initial** | **Extraction** |
| 1. I think of myself as being U.S. American | -.12 | **.71** | -.17 | 1.0 | .63 |
| 2. I feel good about being U.S. American | .20 | **.96** | -.12 | 1.0 | .92 |
| 3. Being U.S. American plays an important role in my life | -.08 | **.94** | .08 | 1.0 | .89 |
| 4. I feel that I am part of U.S. American culture | -.03 | **.90** | .07 | 1.0 | .80 |
| 5. I have a strong sense of being U.S. American | -.04 | **.97** | .04 | 1.0 | .94 |
| 6. I am proud of being U.S. American | .03 | **.95** | .05 | 1.0 | .89 |
| **English Language Competency** | | | | 1.0 | |
| *How well do you speak English:* | | | | 1.0 | |
| 7. at school or at work | **.93** | -.08 | .30 | 1.0 | .79 |
| 8. with American friends | **.91** | .05 | .01 | 1.0 | .84 |
| 9. on the phone | **.78** | .01 | .15 | | .80 |
| 10. with strangers | **.83** | .12 | .09 | 1.0 | .80 |
| 11. in general | **.95** | -.10 | -.10 | 1.0 | .79 |
| How well do you understand English: | | | | 1.0 | |
| 12. on television or in movies | **.97** | -.01 | -.05 | 1.0 | .88 |
| 13. in newspapers and magazines | **.86** | -.08 | .05 | 1.0 | .85 |
| 14. words in songs | **.82** | -.09 | .09 | 1.0 | .82 |
| 15. in general | **.95** | -.10 | -.10 | 1.0 | .81 |
| **American Cultural Competency** | | | | 1.0 | |
| *How well do you know:* | | | | 1.0 | |
| 16. American national heroes | .08 | -.02 | **.87** | 1.0 | .89 |
| 17. popular American television shows | .07 | .08 | **.87** | 1.0 | .84 |
| 18. popular American newspapers and magazines | .02 | -.02 | **.92** | 1.0 | .88 |
| 19. popular American actors and actresses | .29 | -.07 | **.97** | 1.0 | .85 |
| 20. American history | .05 | .01 | **.89** | 1.0 | .86 |
| 21. American political leaders | -.10 | -.02 | **.99** | 1.0 | .85 |

*Post-Traumatic Stress Symptoms* was measured using the PTSD Symptom Scale-Self Report (PSS-SR; Foa, Riggs, Dancu, & Rothbaum, 1993). This scale is 17 items and may be scored as (a) continuous, (b) based on severity (ordered), or (c) dichotomous (PTSD vs. no PTSD). In the present study, this scale was scored based on severity, using a scale with scores ranging from 0 to 3 (0 = not at all; 1 = once per week; 2 = 2-4 times per week; 3 = 5 or more times per week). There are three symptom subscales with the following internal consistency values in the initial validation study: re-experiencing ($\propto$ = .78), avoidance ($\propto$ = .80), and arousal ($\propto$ = .82). Internal consistency for the total scale score was excellent in the validation study ($\propto$ = .91) and in a subsequent study of a refugee population ($\propto$ = .95; Hollifield et al., 2006). The total score scale of the PSS-SR was used in the present study.

Evidence of validity has been obtained for this scale in a variety of cultures and translated into several different languages, including Kurdish and Vietnamese (Hollifield et al., 2006), Malaysian (Phillips, Rosen, Zoellner, & Feeny, 2006), and Bosnian (Weine, Becker, McGlashan, Laub, et al., 1995). For this study, a translated Somali version will be used with the addition of visual cues for the rating scales, consistent with those used on the Refugee Health Screener-15 (RHS-15). Previous research has indicated that visual cues may be more culturally relevant with populations that have limited literacy skills (Miller, Omidian, Quraishy, Quraishy, Nasiry, Nasiry, Karyar, & Yaqubi, 2006). In the present study, the Cronbach's alpha was .91 for the total scale, indicating excellent reliability and the total score scale of the PSS-SR was used in the present study.

To assess the internal consistency and use of the total score, a principal components analysis was conducted using maximum likelihood extraction with an oblique rotation

(Oblimin with Kaiser normalization). The results showed a four-factor solution when including on intial Eigenvalue loadings over 1.0. Upon examination of the factor loadings and the items, no discernable pattern emerged based on item content and many of the items were cross-loaded, suggesting that the items may have been reflected different, but related aspects of PTSD. Hence the use of the total scale score was determined appropriate rather than indivdual sub-scale scores.

Study participants completed a demographic form detailing their age, sex, time in the United States, education, marital status, number of children, and employment status. Participants indicated age, time in the United States, and number of children within a range and selected the category that best fit their self-identified sex, educational experience, marital, and employment statuses. This form was translated into Somali language and was also available in English, dependent upon preference.

**Design**

This study is a quantitative descriptive design. The purpose of this study was to examine the relationships between the proposed variable (e.g. acculturation, traumatic experiences, etc.) and to test for mediation in order to better understand how these variables contribute to particular outcomes. Since these constructs are naturally occurring, it is not possible to manipulate them experimentally. The limitations of quantitative descriptive designs include the reliance on the accuracy of the measures and the increased risk of inaccurate effect size estimation due to a larger number of tests. To minimize these limitations, measures were chosen that were developed specifically for refugee populations. Although these measures are relatively new and still being validated with different refugee

groups, they were developed using other measures that have been popular in the research and also used with refugee populations, such as the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) and the Harvard Trauma Questionnaire (Mollica et al., 1998). In an attempt to minimize type 1 error, I have limited the number of post hoc tests to those that are supported by previous research or current theory.

**Procedure**

This study commenced following IRB approval. Once approval was obtained, study participants were recruited using a snowball technique through refugee resettlement programs and organizations that provide services to refugees. The snowball method is commonly used in studies with hard to reach groups such as refugees and immigrants (Birman & Tran, 2008; Ellis et. al, 2010). Participants were eligible for the study if they were at least 18 years of age, identified as a Somali national, and came to the United States as a refugee.

The survey was administered in both group and individual formats. All measures were available in both English and Somali languages (see Appendix C and D) and an interpreter was provided for both individual and group administrations in order to assist with survey completion and to ensure the informed consent of all participants. The questionnaire was professionally translated into Somali language and back-translated into English in order to ensure the accuracy of the translation. The method used was in line with IRB approval.

Individual participants were entered into a raffle to win a gift card in appreciation of their participation and at large group administrations, a gift card or money was donated to the group (one group opted for money to buy tea and snacks for everyone present). Survey

administrations generally occurred in a few large groups or individually in several Somali malls with an interpreter present. These surveys were often completed at chai cafes, where participants could take their time completing the survey and to ask questions as needed.

In addition to in-person paper questionnaires, participants were also invited to take the survey online. Both the Somali and English versions were available online via SurveyMonkey. Participants read the online consent form and were only directed to begin the questionnaire if they agreed to participate. Participants were instructed that they could drop out at any time and that they survey was completely anonymous. If participants wished to be entered in the raffle, they were invited to include their e-mail address at the end of the questionnaire. These e-mails were stored separately from questionnaire responses.

Online participants were recruited via facebook and through community members who e-mailed the link to their friends and family who may be interested in participating. The online and e-mail recruitment script is in Appendix A. Online recruitment was added with an IRB amendment due to the difficulty of recruiting participants in person. Due to the length of the survey and sensitivity of the questions, it was believed that participants might wish to take the survey anonymously and without an interpreter or this researcher present to provide an additional layer of confidentiality.

# CHAPTER 4

# RESULTS

## Comparing Survey Non-Completers and Completers

Among the participants, who attempted the survey, all successfully met inclusion criteria. Survey completers were defined as those who attempted all measures and non-completers were defined as those who skipped at least one entire measure. The most commonly skipped measure was the Post-Traumatic Stress Survey, the final measure in the questionnaire. A Chi-Square analysis was conducted to assess for demographic differences between completers ($n$ = 81) and non-completers ($n$ = 10). A Chi-Square analysis was also conducted to assess for demographic differences between those who took the questionnaire online ($n$ = 59) and those who took a paper version ($n$ = 32). Demographic variables tested included: age, sex, time lived in United States, education, marital status, number of children, and employment status. Each of these demographic variables were categorical. A dummy variable was created to compare each of these groups.

Results showed differences between completers and non-completers on sex, number of children, and employment status (see Table 1). Specifically, completers were more likely to be women (61.17%), having children (67.9%) and be employed (58%). Based on these results, it appears that women who had children and were employed were more likely to persevere on the survey and at least attempt all measures. Although the difference is statistically significant, there does not seem to be much practical significance to this finding, given the smaller sample size of this study and the fact that all of the non-completers took the

questionnaire online. Those who took the survey in person may have been better motivated due to their relationship with myself and/or the interpreter/cultural liason.

The Chi-Square test comparing the sex of those who took the test online versus in person was nearly significant ($\chi^2 = 5.778$; df = 2, $p = .056$), suggesting that more women took the survey online. This likely was due to some bias in recruiting, given that one of the Somali community members who assisted in recruiting online participants was female and very likely had more female contacts than male. Therefore, of those who dropped out early, they were much more likely to have been recruited through random online recruitment (facebook or e-mail) than through a personal source. Results also showed differences between online questionnaire takers and on paper questionnaire takers on number of years in the United States. Online questionnaire takers were more likely to have lived in the U.S. for less than 5 years (66%) while paper questionnaire takers were more likely to have lived in the U.S. for at least 5 or more years (70%). This again may indicate some bias in recruitment due to access to refugees who have lived in the community longer and perhaps more easily approachable to take a paper questionnaire.

Statistical differences were also shown between online and paper questionnaire takers in employment status. Online takers were more likely to be unemployed and looking for work (40.68% vs. 21.88%) or unemployed and *not* looking for work (18.64% vs. 3.13%). It is not immediately clear why there was a significant difference in employment status between online questionnaire takers and on paper (in person) questionnaire takers. Taken together, while the differences in employment status were statistically significant, there does not seem to be much practical significance to this finding.

## Missing Data

As previously indicated, 10 participants were deleted for excessive missing data (not completing at least one entire measure or more). A missing data analysis was conducted for the remaining sample and 1.58% were missing at an item level. The pattern of data and individual items with 5% or more missing were analyzed. Only in one item, a question on the Comprehensive Trauma Inventory-104, was a potential systematic pattern of missing data observed. The question, “Heard about people being abused by harsh methods” was skipped by 11 participants (13.6%). This may indicate some confusion about that item or perhaps the meaning of the term “harsh” since it is somewhat vague, compared to other items on this particular measure.

All data were manually examined for patterns of missing responses. One additional respondent’s data was thrown out due to seemingly erratic responses that may indicate a random response pattern. To determine whether the data was completely missing at random (MCAR), Little’s MCAR test was conducted. Results showed that $\chi^2 = 4158.560$, $p = 1.000$, indicated that data statistically satisfied the requirements to be considered MCAR. To input missing data across the sample, the expectation-maximization algorithm in SPSS was used. Expectation-maximization was used to replace missing data, rather than methods that delete cases with missing data. This decision was made to preserve the sample size and due to the fact that data were found to be statistically missing completely at random. This is consistent with recommendations for handling data when considered MCAR and working with a small sample size (Enders, 2003). The sample with the missing data imputation was compared to

the original dataset to compare means, minimum and maximum values, standard deviations, skewness, and kurtosis. These values are presented in tables 5 and 6.

*Table 5. Descriptive Statistics for all variables of interest-Sample without missing data imputation*

| Variable | *M* | Range | SD | Skewness *(SE)* | *Kurtosis (SE)* |
|---|---|---|---|---|---|
| 1. Traumatic Experiences (CTI-104) | 32.70 | 0-94 | 20.21 | .63 (.27) | .37 (.53) |
| 2. Mental Health (HSCL-25) | 51.25 | 25-100 | 19.95 | .44 (.27) | -.78 (.53) |
| 3. Anxiety subscale | 20.12 | 10-40 | 8.20 | .69 (.27) | -.30 (.53) |
| 4. Depression subscale | 31.12 | 15-60 | 12.42 | .31 (.27) | -1.00 (.53) |
| 5. Post-Traumatic Stress (PSS) | 21.80 | 14-47 | 6.74 | 2.00 (.27) | 3.39 (.53) |
| 6. Acculturation (AMAS-21) | 56.33 | 22-84 | 14.10 | -.14 (.27) | -.65 (.53) |
| 7. Cultural Identity-American | 20.43 | 6-24 | 5.47 | -1.68 (.27) | 1.65 (.53) |
| 8. English Language Competence | 21.86 | 9-36 | 8.75 | .05 (.27) | -1.12 (.53) |
| 9. Cultural Competence-American | 14.04 | 6-24 | 5.88 | .16 (.27) | -1.07 (.53) |

*Table 6. Descriptive Statistics for all variables of interest-Sample with Expectation Maximization*

| Variable | *M* | Range | SD | Skewness *(SE)* | *Kurtosis (SE)* |
|---|---|---|---|---|---|
| 1. Traumatic Experiences (CTI-104) | 33.29 | 0-94 | 20.25 | .61 (.27) | .31 (.53) |
| 2. Mental Health (HSCL-25) | 51.60 | 25-100 | 19.95 | .42 (.27) | -.79 (.53) |
| 3. Anxiety subscale | 20.28 | 10-40 | 8.20 | .67 (.27) | -.33 (.53) |
| 4. Depression subscale | 31.32 | 15-60 | 12.41 | .28 (.27) | -1.00 (.53) |
| 5. Post-Traumatic Stress (PSS) | 21.89 | 0-6 | 6.80 | 1.97 (.27) | 3.22 (.53) |
| 6. Acculturation (AMAS-21) | 56.23 | 22-84 | 14.10 | -.13 (.27) | -.65 (.53) |
| 7. Cultural Identity-American | 20.41 | 6-24 | 5.49 | -1.68 (.27) | 1.62 (.53) |
| 8. English Language Competence | 21.84 | 9-36 | 8.67 | .07 (.27) | -1.13 (.53) |
| 9. Cultural Competence-American | 13.99 | 6-24 | 5.90 | .18 (.27) | -1.07 (.53) |

*Table 7. Correlations for all variables of interest*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | - | .11 | .75** | .37** | .01 | -.07 | -.36** | .28* | .40** | -.23* | .02 | .35** | .40** | .31** | -.40** | -.25* |
| 2. Sex | | | -.43 | -.1 | .17 | .28* | .39** | -.11 | -.38** | .27* | .17 | -.30** | -.42** | -.38** | .38** | .43** |
| 3. No. Children | | | - | .46** | -.04 | -.15 | -.43** | .39** | .50** | -.18 | -.01 | .42** | .46** | .38** | -.33** | -.30** |
| 4. Marriage | | | | - | -.11 | .05 | -.2 | .23* | .18 | -.24 | 0 | .14 | .19 | .11 | -.27* | -.27 |
| 5.Time U.S. | | | | | - | .40** | .47** | -.22 | -.30** | .38** | .05 | -.21 | -.33 | -.26* | .48** | .44** |
| 6. Employment | | | | | | - | .47** | 0 | -.31** | .37** | -.05 | -.26* | -.33** | -.124 | .42** | .37** |
| 7. Education | | | | | | | - | -.27* | -.47** | .55** | .15 | -.40** | -.49** | -.32** | .72** | .55** |
| 8. CTI-104 | | | | | | | | - | .43** | .08 | .23* | .50** | .36** | .12 | -.04 | .13 |
| 9.HSCL-25 | | | | | | | | | - | -.20 | .06 | .95** | .98** | .38** | -.40** | -.23* |
| 10.AMAS-21 | | | | | | | | | | - | .06 | -.14 | -.22* | .22 | .89** | .86** |
| 11. PSS-17 | | | | | | | | | | | - | .05 | .06 | -.13 | .11 | .10 |
| 12. Anxiety | | | | | | | | | | | | - | .87** | .26* | -.31** | -.11 |
| 13. Depression | | | | | | | | | | | | | - | .44** | -.44** | -.29** |
| 14. American Cultural ID | | | | | | | | | | | | | | - | -.17 | -.17 |
| 15. English Language | | | | | | | | | | | | | | | - | .82** |
| 16. American Cultural | | | | | | | | | | | | | | | - | - |

n = 80

**$p$<.01 *$p$<.05

**Preliminary Analysis**

To prepare for hypothesis testing, preliminary analyses were run to verify that the variables tested were all multivariate normal and approximately linear. Skewness and kurtosis for each variable were examined, see Tables 5 and 6, and none had absolute values greater than 2.00, with the exception of the total score for Post-Traumatic Stress Symptoms scale. This scale had a kurtosis value of 3.221, though still within the range recommended by Kline (2005) with a value under 10. Visual examination of the data and histograms revealed that subjects likely under-reported their symptoms due to their endorsement of symptoms on the HSCL-25 and denial of most or all symptoms on the PSS. The scale appeared slightly platykurtic and negatively skewed. This seems particularly likely given that this was the final measure included in the questionnaire and participants occasionally noted the length of the test after completing the survey. This measure was left in the analyses and will be discussed in further detail in the discussion since the likelihood of under-reporting reduces power in detecting a true relationship between post-traumatic stress symptoms and other variables.

To check for univariate outliers, z-scores were visually inspected to identify cases where $z > +/- 3.29$ from the mean (Tabachnik & Fidell, 2007). One univariate outlier was found on the PSS total score for one participant. After inspecting the responses on the PSS for this participant, the items and total PSS score were kept. This participant was one of the few to respond to the PSS with more severe symptoms and these symptoms were also consistent with their self-report of anxiety and depression. The structural model was run with and without the outlier and the data was not significantly affected (see Primary Analysis section).

Multivariate outliers were examined by calculating Mahalanobis distance values, Cook's Distance, and Leverage values. The Mahalanobis distance values were compared to the corresponding critical values in the $\chi^2$ table (Kline, 2011). No case had a Mahalanobis Distance that exceeded the cutoff of 22.46 ($df = 6$, $p < .001$) when all scales and sub-scales were tested. According to Tabachnick and Fidell (2007), the recommended cut-off score for Cook's distance is 1, and leverage values above .5 should be further examined. Upon examination, no cases exceeded a Cook's distance of 1 or a Leverage value of .5. All cases were retained. To test for homoscedasticity, the Durbin-Watson statistic was used, in addition to checking scatterplots for equal residual variance across all dependent variables. No autocorrelation was shown between variables and the assumption of homoscedasticity withheld.

Variance inflation factors (VIF) and tolerance were examined in order to check for extreme multivariate collinearity. The assumption was not violated, as VIF statistics were below 10 and tolerance was above .10. Collinearity was assessed by examining Pearson's correlations between all independent variables and dependent variables. Two pairs exceeded an *r*-value of .80. One of these pairs, the anxiety and depression subscales of the Hopkins Symptom Checklist-25 were highly correlated ($r = .87$), suggesting that these subscales are measuring similar constructs. Since these variables were both tested as outcome variables in the model and not predictors, their multicollinearity was not a concern. The other multicollinear pair, the English Language Competency and American Cultural Competence subscales of the Abbreviated Multidimensional Acculturation Scale ($r = .82$), were also deemed not to be problematic since they were only tested in the hypothesized model as a singular measure of acculturation and not as separated components of acculturation in the

same model. These subscales were tested to discern whether specific aspects of acculturation are more or less likely to predict particular mental health symptoms in subsequent exploratory models.

To assess for the potential impact of demographic variables on the outcome variables, a correlation matrix was run. Table 7 shows the correlations between demographic variables: age, sex, number of children, marital status, number of years in the U.S., employment status, and education with the outcome variables: acculturation (American cultural identity, English language competency, and American cultural competence), anxiety, depression, PTSD. Each of these demographic variables were correlated with one or more outcome variables and these variables were added to the model to see if they significantly affected model fit. Significant correlations were tested in the model as control variables. See Figures 2 and 3. The model fit was not significantly better than the hypothesized and re-specified models. Due to the relatively small sample size, it is possible that these variables may be significant factors in how mental health symptoms are experienced and reported and may also significantly influence the process of acculturation. These possibilities will be further addressed in the discussion.

## Primary Analysis

**Path Model.** The hypothesized path model was assessed using the maximum likelihood estimation method with the statistical software program, AMOS 24. The hypothesized model is depicted in Figure 1. Model fit was evaluated by the Chi-square ($\chi^2$) test, comparative fit index (CFI), standardized root-mean-square-residual (SRMR), the root-mean-square-error of approximation (RMSEA) with a 90% CI and the Akaike Information Criterion (AIC) index. According to Kline (2011), models have a good fit under the following conditions: (a) $\chi^2$ non-significant (do not reject the null hypothesis), (b) CFI greater than .95, (c) SRMR < .08, (d) RMSEA ≤ .05 for good ≤ .08 for adequate ≥.10 poor fit, and (e) the lowest AIC when comparing fit between non-nested models.

Fit statistics for this model were $\chi^2$ (4) = 12.322, *p* = .015, CFI = .947, SRMR = .078, RMSEA = .162 (90% CI [.064, .269], AIC = 46.322. The fit statistics overall suggested a poor model fit and that the model can be improved. After examining significant correlations, the model was trimmed to combine the anxiety and depression mental health subscales due to their high degree of multicollinearity and reported as a total scale score (HSCL-25). This model is depicted in Figure 4.

**Modified Path Model with Demographic Variables.** Before testing the collapsed mental health scale and eliminating a measured variable, demographic controls were tested in the original hypothesized model to determine whether the fit could be improved. The hypothesized path model was assessed again, with added demographic variables that were significantly correlated with the independent and dependent variables (see Table 6). Multinomial variables were not included (Employment status and Marital status) in the model. This modified path model is depicted in Figure 2. Fit statistics for this model were $\chi^2$

(7) = 20.69, $p$ = .004, CFI = .000, RMSEA = .157 (90% CI [.081, .238], AIC = 114.685. The fit statistics overall suggested a poor model fit. After examining significant beta weights, two paths were identified that may improve fit, while trimming the rest.

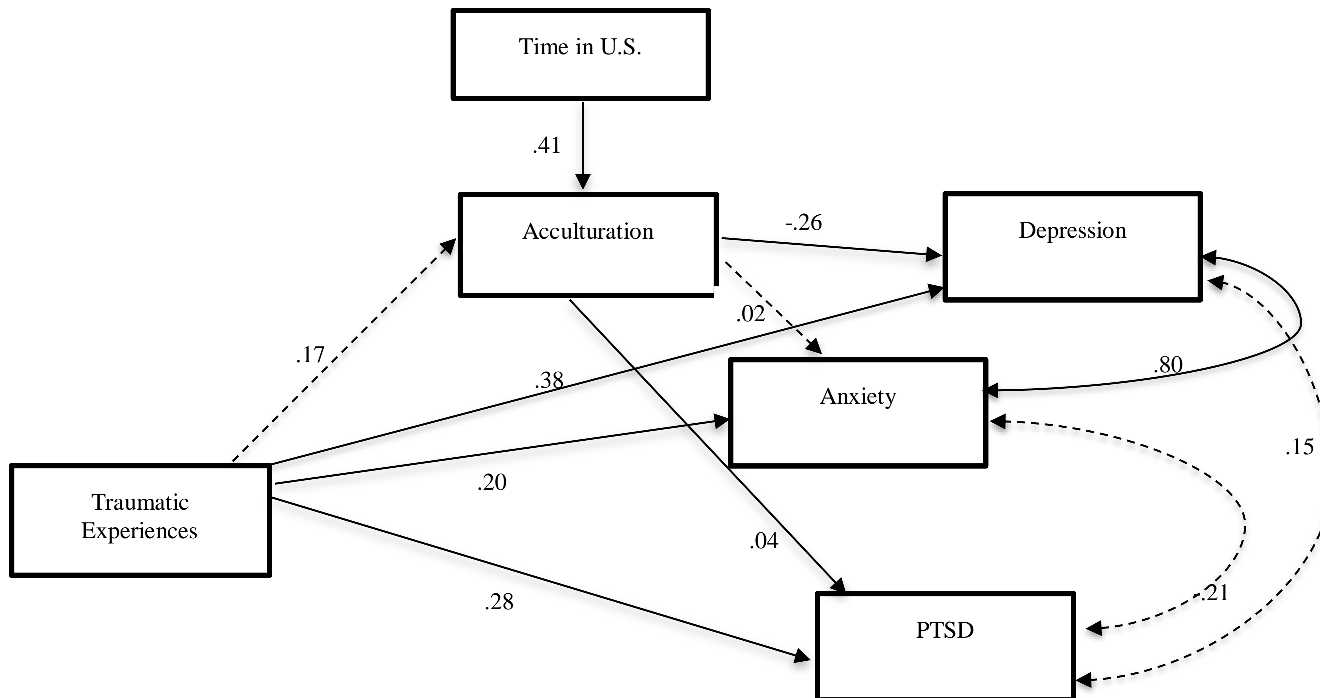



*Figure 1***.** Hypothesized Model. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

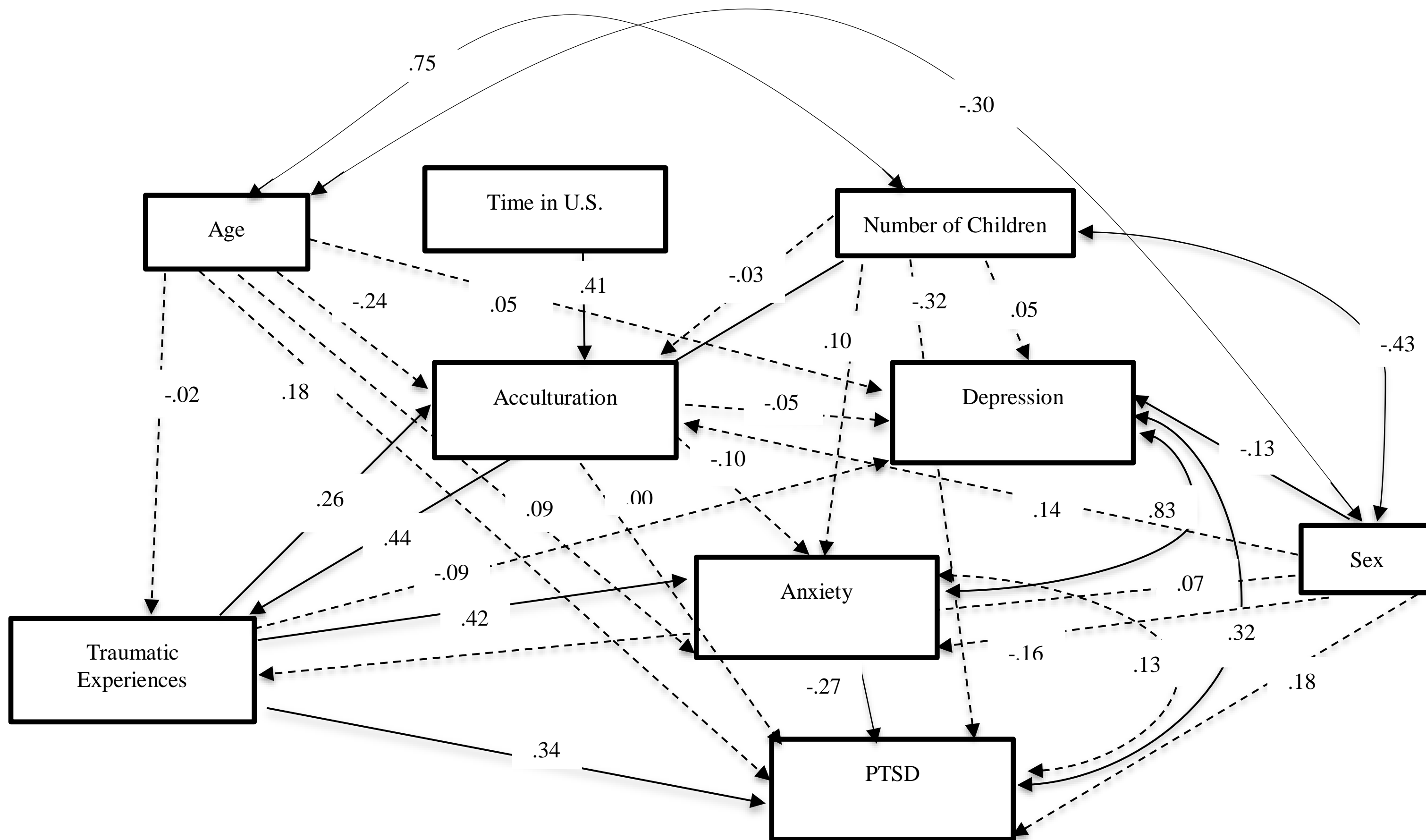



*Figure 2.* Modified Path Model with Demographic Controls. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

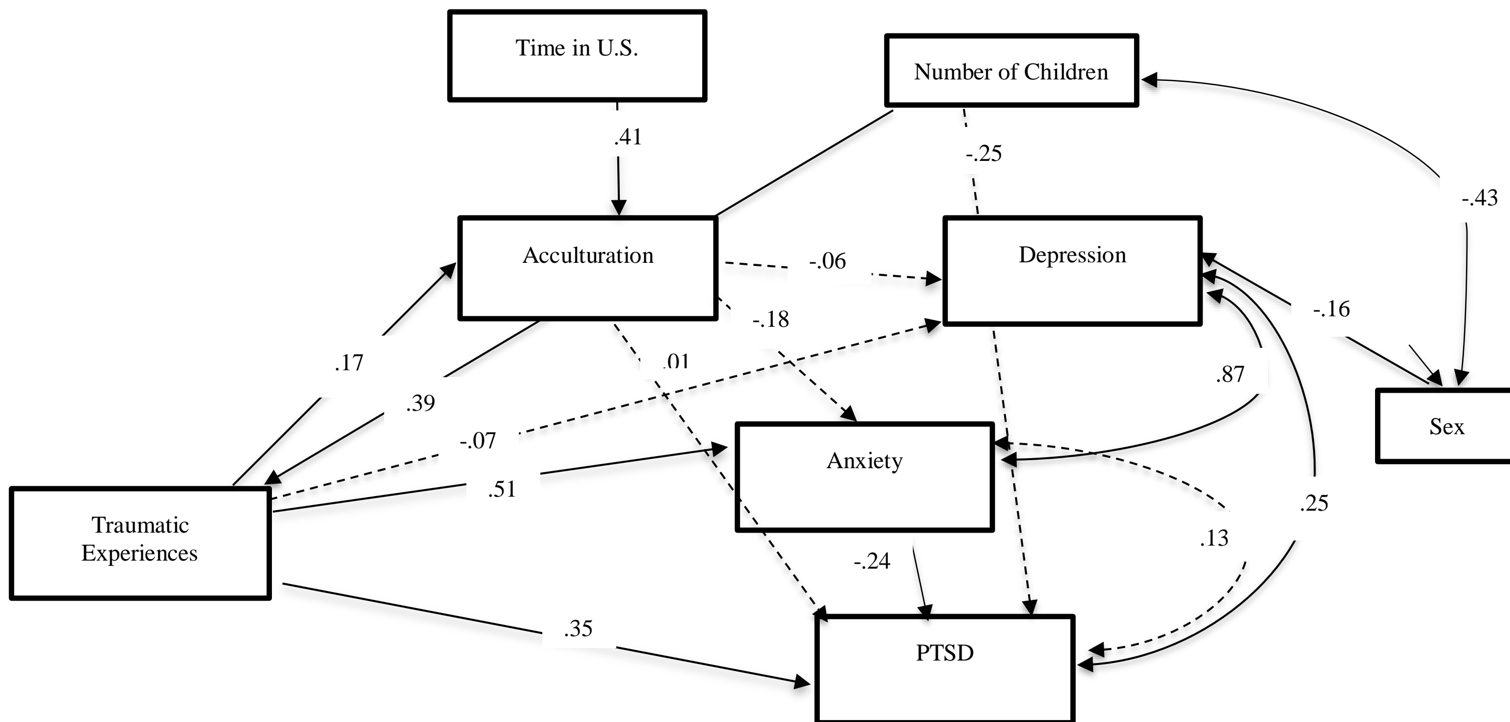



*Figure 3***.** Re-specified Model with Demographic Controls. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

**Re-specified Model with Demographic Variables**. The modified path model with demographic controls was assessed with the trimmed model and is depicted in Figure 3. Fit statistics for this model were $\chi^2$ (13) = 39.90, $p$ = .000, CFI = .873, SRMR = .161, RMSEA = .162 (90% CI [.106, .220], AIC = 101.901. The fit statistics again suggested an overall poor model fit. Therefore, these control variables were dropped from the model when hypothesis testing. These variables may not have added significantly to the model due to low power in the sample. However, there is a reasonable indication that these controls, particularly differences in age, sex, and employment status and how they may significantly impact acculturation and mental health symptoms should be considered in future studies.

**Modified Path Model with HSCL-25 Total Score**. The modified path model with collapsed HSCL-25 total score is depicted in Figure 4. Due to the highly correlated sub-scales of the HSCL-25, the total score was tested in the model for fit. Model fit statistics were $\chi^2$ (3) = 5.945, $p$ = .114, CFI = .920, SRMR = .08, RMSEA = .111 (90% CI [.000, .243], AIC = 29.945. This model had a lower AIC value when the HSCL-25 total score was used. This reflects an overall improved model fit. The fit was slightly improved by the non-significant chi-square, the slightly improved RMSEA, the SRMR within the recommended value, and the smaller AIC; however, the CFI and mixed RMSEA statistics suggest that fit might still be improved or may be indicative of low power due the sample size. See Table 8 for unstandardized and stardized path coefficients, variances, and $R^2$ values.

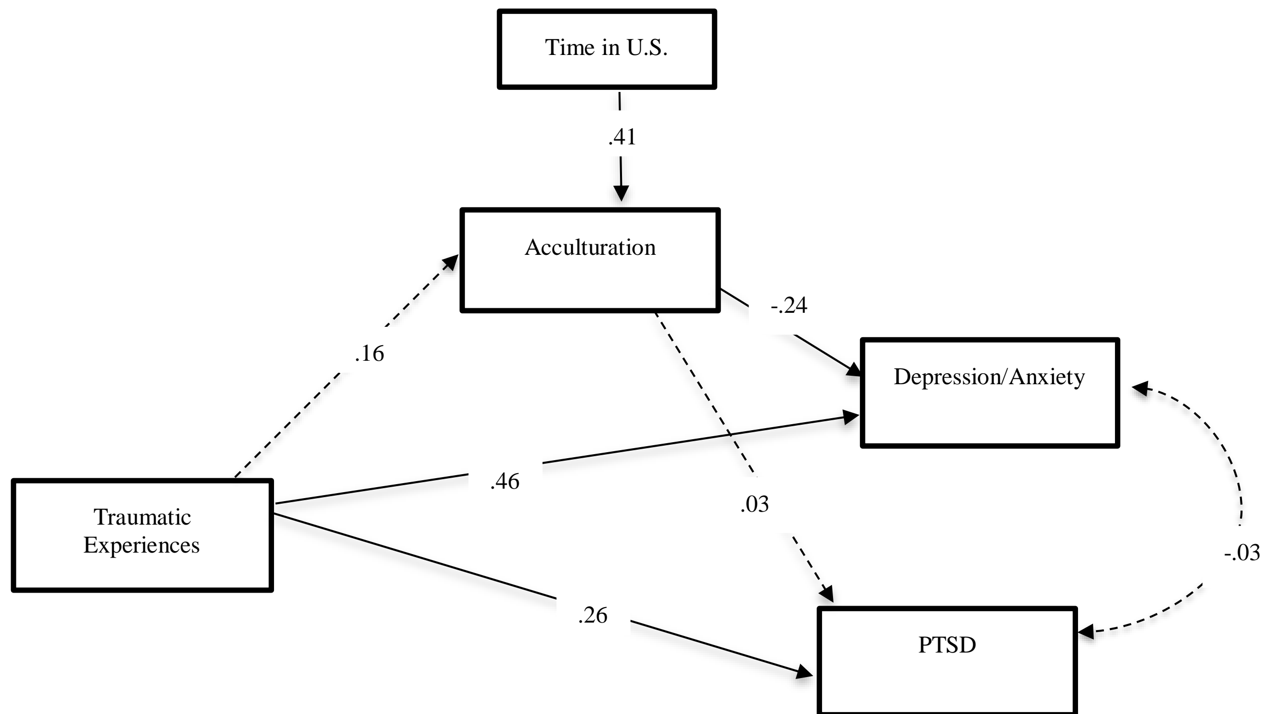



*Figure 4.* Modified Path Model with HSCL-25 Total Score. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

Table 8.

*Parameter Estimates of the Final Path Model (N = 80)*

| Direct path coefficients | | | Indirect path coefficients | | |
|---|---|---|---|---|---|
| Path | Unstandardized(*SE*) | Standardized | Variable | Unstandardized (*SE*) | *r* |
| AMAS ← CTI | .11(0.07) | .16 | CTI ↔ HSCL | -.02(0.23) | .08 |
| AMAS ← YearsUS | 3.34(0.81) ‡ | .41 | CTI↔ PSS | 0.00(0.00) | .24 |
| HSCL ← AMAS | -.34(0.14) † | -.24 | | | |
| HSCL ← CTI | .46(0.10) ‡ | .46 | | | |
| PSS ← AMAS | .01(.05) | .03 | | | |
| PSS ← CTI | .09(.04) ‡ | .26 | | | |
| PSS ← HSCL | -.01(.04) ‡ | -.03 | | | |

Variances

| Variable | Unstand.(*SE*) | $R^2$ |
|---|---|---|
| YearsUS | 3.01(.48)‡ | .00 |
| CTI | 408.34(64.57) | .00 |
| AMAS | 159.64(25.24)‡ | .19 |
| HSCL | 301.70(47.70)‡ | .24 |
| PSS | 42.61(6.74)‡ | .06 |

*Note.* CTI = Comprehensive Trauma Inventory-104. AMAS = Abbreviated Multidimensional Acculturation Scale. HSCL = Hopkins Symptom Checklist-25. PSS = Post-traumatic Stress Scale.
*$p < .05$. † $p < .01$. ‡ $p < .001$.

**Exploratory Modified Path Models Acculturation**

**Exploratory Model A.** The exploratory modified path model A is depicted in Figure 5. Upon examining significant scale and subscale correlations, the acculturation (AMAS-21) subscales were swapped in as a singular acculturation measure to examine the unique individual aspects of acculturation and the relationship to mental health symptoms (with HSCL-21 total score and the PSS). The acculturation scale depicted in Figure 5 is the American Cultural Identity subscale. This measure included questions about the degree to which one feels American (i.e. pride, part of the culture, views self as an American). Fit statistics for this model were $\chi^2$ (3) = 6.057, $p$ = .109, CFI = .915, SRMR = .08, RMSEA = .114 (90% CI [.000, .245], AIC = 30.057. The fit indices give overall good results. The non-significant chi-square, the relatively small AIC, and the RMSEA fit within the 90% confidence interval suggests adequate fit. See Table 9 for unstandardized and stardized path coefficients, variances, and $R^2$ values.

**Exploratory Model B.** A second exploratory path model, depicted in Figure 6, was tested for model fit with the second acculturation subscale, English language competency. This measure included questions about how well one speaks and understands English in various contexts (i.e. at school, with friends, in media). Fit statistics for this model were $\chi^2$ (3) = 4.002, $p$ = .261, CFI = .981, SRMR =.07, RMSEA = .065 (90% CI [.000, .211], AIC = 28.002. The fit indices indicate the best overall model fit of all the models explored. The non-significant chi-square, the relatively small AIC, the CFI above .95, the SRMR below .08, and the RMSEA fit within the 90% confidence interval suggests an overall great model fit. See Table 10 for unstandardized and stardized path coefficients, variances, and $R^2$ values.

Table 9.

*Parameter Estimates of Exploratory Path Model A (N = 80)*

| Direct path coefficients | | | Indirect path coefficients | | |
|---|---|---|---|---|---|
| Path | Unstandardized(*SE*) | Standardized | Variable | Unstandardized (*SE*) | *r* |
| CultID ← CTI | .02(0.03) | .07 | CTI ↔ HSCL | .04(0.03) | .12 |
| CultID ← YearsUS | -.76(0.34) * | -.24 | CTI↔ PSS | -0.01(0.00) | .29 |
| HSCL ← CultID | 1.21(0.35) ‡ | .34 | | | |
| HSCL ← CTI | .38(0.10) ‡ | .39 | Variances | | |
| PSS ← CultID | -.21(.14) | -.17 | Variable | Unstand.(*SE*) | $R^2$ |
| PSS ← CTI | .08(0.04) * | .25 | YearsUS | 3.05(.49)‡ | .00 |
| PSS ← HSCL | .01(.04) ‡ | .02 | CTI | 3.05(2.49) ‡ | .00 |
| | | | CultID | 27.69(4.41)‡ | .06 |
| | | | HSCL | 277.97(44.23)‡ | .28 |
| | | | PSS | 41.94(6.67)‡ | .07 |

*Note.* CTI = Comprehensive Trauma Inventory-104. CultID = American Cultural Identity sub-scale. HSCL = Hopkins Symptom Checklist-25. PSS = Post-traumatic Stress Scale.
**p* < .05. † *p* < .01. ‡ *p* < .001.

Table 10.

*Parameter Estimates of Exploratory Path Model B (N = 80)*

| Direct path coefficients | | | Indirect path coefficients | | |
|---|---|---|---|---|---|
| Path | Unstandardized(*SE*) | Standardized | Variable | Unstandardized (*SE*) | *r* |
| Lang ← CTI | .03(0.04) | .07 | CTI ↔ HSCL | .01(0.04) | .57 |
| Lang ← YearsUS | 2.46(0.49) ‡ | .49 | CTI↔ PSS | -0.00(0.00) | .04 |
| HSCL ← Lang | -.89(0.21) ‡ | -.40 | | | |
| HSCL ← CTI | .41(0.09) ‡ | .42 | Variances | | |
| PSS ← Lang | .10(.09) | .12 | Variable | Unstand.(*SE*) | $R^2$ |
| PSS ← CTI | .08(0.04) * | .23 | YearsUS | 3.01(.49)‡ | .00 |
| PSS ← HSCL | .00(.05) | .01 | CTI | 405.00(64.44)‡ | .00 |
| | | | Lang | 56.61(9.01)‡ | .25 |
| | | | HSCL | 262.26(41.73)‡ | .31 |
| | | | PSS | 42.49(6.76)‡ | .08 |

*Note.* CTI = Comprehensive Trauma Inventory-104. Lang = English Language Competency sub-scale. HSCL = Hopkins Symptom Checklist-25. PSS = Post-traumatic Stress Scale.
**p* < .05. † *p* < .01. ‡ *p* < .001.

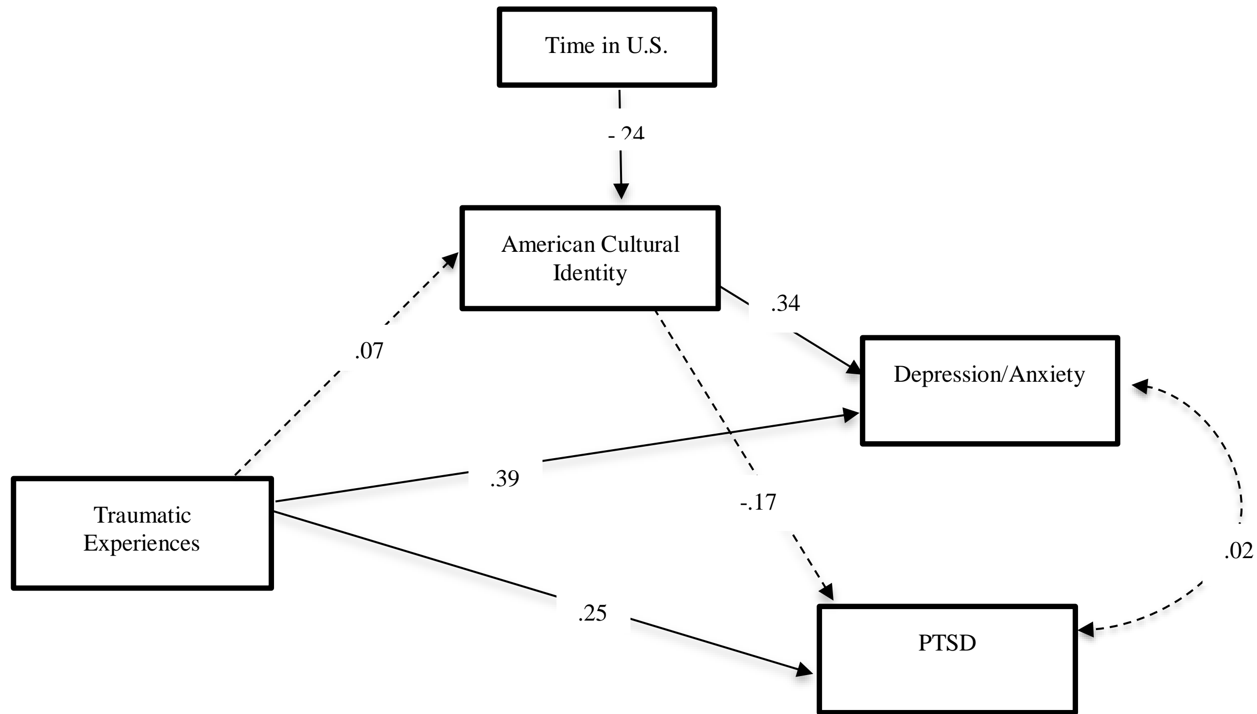



*Figure 5.* Exploratory Model A. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

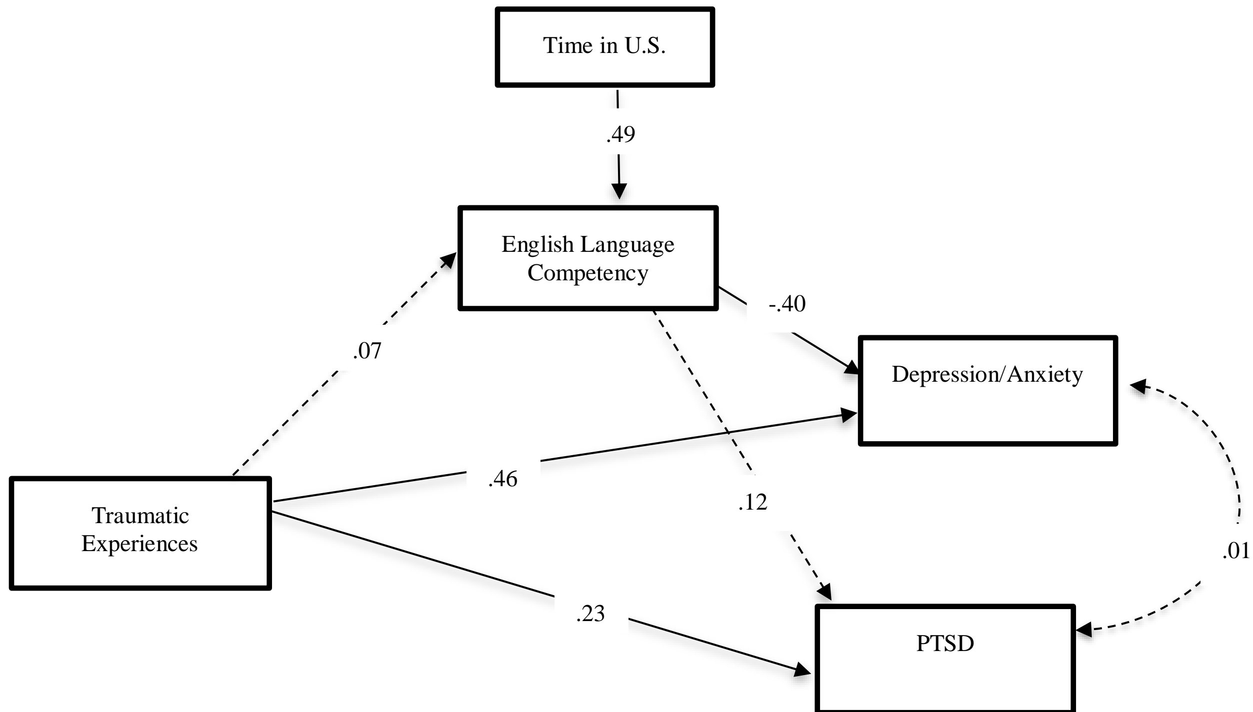



*Figure 6.* Exploratory Model B. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.

**Exploratory Model C.** A final exploratory path model, depicted in Figure 7, was tested for model fit with the third acculturation subscale, American Cultural Competency. This measure included questions about one's knowledge about American popular culture and facts (i.e. media, heroes, history, and political leader). Fit statistics for this model were $\chi^2$ (3) = 7.207, $p$ = .066, CFI = .975, SRMR = .08, RMSEA = .133 (90% CI [.000, .261], AIC = 31.207. The fit indices give overall adequate results. The non-significant chi-square, the relatively small AIC, the CFI above .95, the SRMR at .08, and the RMSEA fit within the 90% confidence interval suggests good model fit. See Table 11 for unstandardized and stardized path coefficients, variances, and $R^2$ values.

Table 11.

*Parameter Estimates of Exploratory Path Model C (N = 80)*

| Direct path coefficients | | | Indirect path coefficients | | |
|---|---|---|---|---|---|
| Path | Unstandardized(*SE*) | Standardized | Variable | Unstandardized (*SE*) | *r* |
| CultComp← CTI | .07(0.03) | .23 | CTI ↔ HSCL | -.04(0.03) | .51 |
| CultComp ← YearsUS | 1.64(0.33) ‡ | .48 | CTI↔ PSS | 0.00(0.01) | .25 |
| HSCL ← CultComp | -.97(0.33) † | -.30 | | | |
| HSCL ← CTI | .46(0.10) ‡ | .47 | Variances | | |
| PSS ← CultComp | .07(.13) | .07 | Variable | Unstand.(*SE*) | $R^2$ |
| PSS ← CTI | .08(0.04) | .24 | YearsUS | 3.05(.49)‡ | .00 |
| PSS ← HSCL | -.01(.04) | -.03 | CTI | 404.99(64.44)‡ | .00 |
| | | | CultComp | 25.99(4.14)‡ | .28 |
| | | | HSCL | 289.69(46.01)‡ | .25 |
| | | | PSS | 42.49(6.82)‡ | .06 |

*Note.* CTI = Comprehensive Trauma Inventory-104. CultComp = American Cultural Competency sub-scale. HSCL = Hopkins Symptom Checklist-25. PSS = Post-traumatic Stress Scale.
*$p < .05$. † $p < .01$. ‡ $p < .001$.

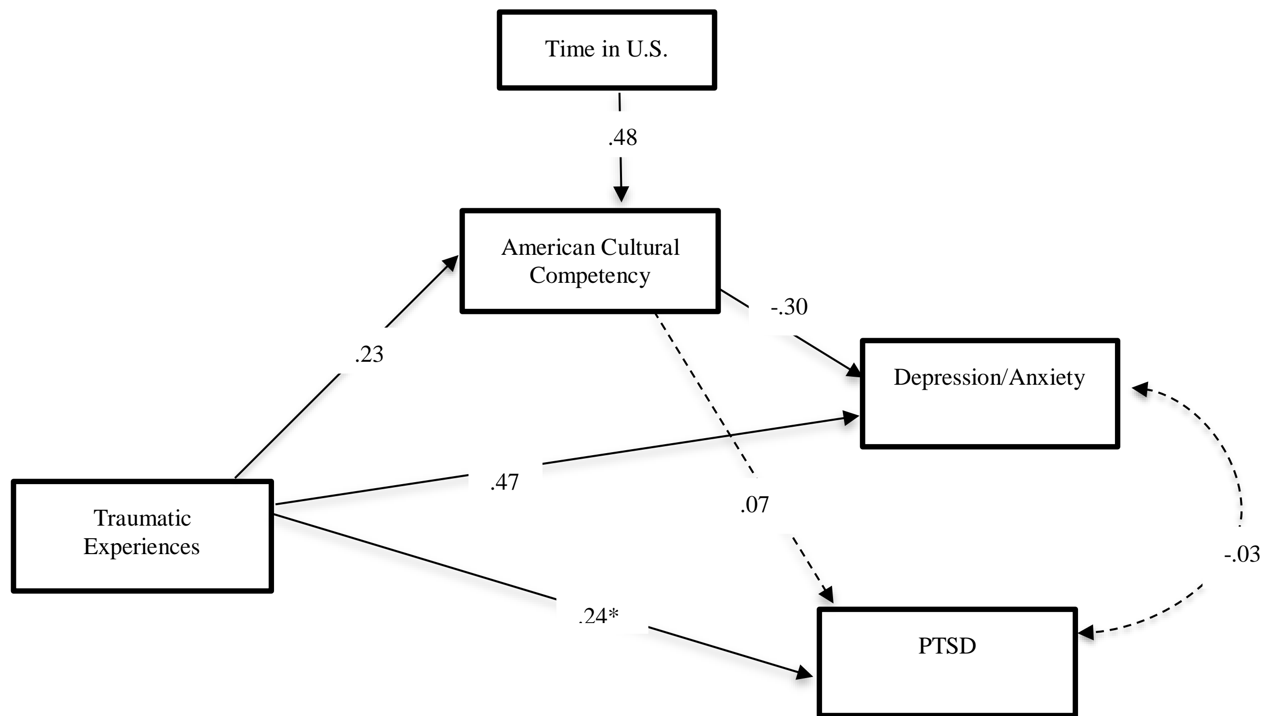



*Figure 7***.** Exploratory Model C. Rectangles are measured variables. Solid lines represent paths that are statistically significant ($p < .05$); dashed lines represent non-significant paths. Parameter estimates are reported as standardized.
* $p = .06$, approaching statistical significance

**Research Question 1a and 1b, and Hypotheses 1, 2, and 3**

Research question 1a (*Do traumatic experiences predict greater acculturation?*) was tested through examining the direct path from traumatic experiences to acculturation in the model (Figure 1). Results showed that traumatic experiences do not significantly predict acculturation ($\beta = .17$, $p = .10$), though 20% of the variance in acculturation in the model can be accounted for by traumatic experiences and time in the US. Similarly, research question 1b *(Does greater acculturation predict more symptoms of PTSD, depression, and anxiety?*) was tested by examining the direct path from acculturation to PTSD, depression, and anxiety in the model. Results showed that greater acculturation was significantly associated with less depression ($\beta = -.26$, $p < .01$), but did not significantly correlate with symptoms of anxiety ($\beta = .014$, $p = .66$) or PTSD ($\beta = .02$, $p = .71$). Results indicated that traumatic experiences, acculturation, time in the US, and depressive symptoms together explained 79% of the variance in anxiety.

Due to the overall good model fit, I was able to move forward with hypothesis testing. Hypotheses 1, 2, and 3 respectively each proposed that acculturation would serve as a mediator between traumatic experiences and symptoms of PTSD, depression, and anxiety. Specifically, I hypothesized that as acculturation level increased, symptoms of PTSD, depression, and anxiety would also increase. To assess for mediation, the indirect effects between the predictor to the mediator and the mediator to outcome were compared to the direct effect of the predictor to the outcome. According to Kline (2011), mediation is inferred when indirect paths are significant. As previously stated, the direct effects of traumatic effects to acculturation was nonsignificant and the direct effects of acculturation to depression, anxiety, and PTSD was only significant between acculturation and depression.

To evaluate the direct effect of the predictor to the outcome, the standardized path coefficient from traumatic experiences to PTSD, anxiety, and depression was examined. Results indicated that traumatic experiences significantly predicted each of these mental health outcomes (PTSD: $\beta = .28$, $p = .03$; anxiety: $\beta = .20$, $p < .01$; depression: $\beta = .384$, $p < .01$). Indirect effects were estimated via bootstrapping with the PROCESS macro (Hayes, 2016). The nonsignificant indirect effects from the predictor to the mediator to the outcomes indicate that acculturation does not serve as a mediator between traumatic experiences and mental health outcomes in this study.

**Research Question 2 and Hypotheses 4, 5, and 6**

Research question 2 (*Will mental health symptoms, including anxiety, depression, and PTSD be related amongst resettled Somali refugees*) was tested by looking at the standardized direct effects between each of the measured mental health symptoms. Hypotheses 4, 5, and 6, predicted significant positive relationships between anxiety, depression, and PTSD. The results showed that were depression and anxiety were significantly related ($\beta = .80$, $p < .01$), depression and PTSD were not significantly related ($\beta = .15$, $p = .5$), and anxiety and PTSD were significantly related ($\beta = -.209$, $p < .01$). Curiously, anxiety and PTSD are negatively correlated when previous research and typical symptomology of PTSD includes clusters of anxious type behaviors would predict a positive correlation. This outcome will be revisited in the discussion section.

**Research Question 3 and Hypothesis 7**

Research question 3 (*How does the amount of time spent in the United States following resettlement impact degree of acculturation amongst Somali refugees?*) was tested by looking for a significant direct effect between time spent in the United States and

acculturation. Hypothesis 7 predicted a significant positive relationship between time spent in the United States and acculturation. The results indicated a significant positive relationship between time since resettlement in the United States and the acculturation measure ($\beta = .41$, $p < .01$). This provides some support for the assumption that acculturation is partially a function of time, and that other factors (presumably English language comfort/acquisition, cultural competency, and cultural identity) also play a significant role in one's ability to acculturate.

**Acculturation as Cultural Identity, English proficiency, and Cultural Competency Explored**

The three subtests of the AMAS-21 were tested separately to examine the relationship of each of these individual components of acculturation to traumatic experiences and mental health symptoms (HSCL-21 total score and PSS). Since each of these models indicated adequate fit, research questions 1a and 1b were once again examined with these separate components of acculturation.

**American Cultural Identity.** American cultural identity was first used in place of the total acculturation scale as the mediator in Exploratory Model A. The direct paths from traumatic experiences to American cultural identity and from American cultural identity to anxiety/depression and PTSD were examined as a first step in evaluating the mediator. Traumatic experiences did not significantly predict American cultural identity ($\beta = .07$, $p = .52$), though American cultural identity did significantly predict both anxiety and depression ($\beta = .335$, $p < .01$) and PTSD ($\beta = -.168$, $p < .05$). Additionally, results indicated that 6.4% of the variance in American Cultural Identity can be explained by traumatic experiences and time in the U.S., 28.2% of the variance in anxiety and depression (HSCL-25 total score) can

be explained by traumatic events, time in US and American Cultural Identity combined, and 8.5% of the variance in PTSD can be explained by traumatic experiences, American Cultural Identity, and Time in the U.S. These findings suggest that the more one identifies as American, the more anxiety and depression they report. Inversely, the more one identifies as American, they report fewer symptoms of PTSD. This finding will be further discussed in the following chapter. Since the path from traumatic experiences to American cultural identity was nonsignificant, we can rule this out as a mediator.

**English Language Competency.** English language competency was next evaluated as a potential mediator in Exploratory Model B. The direct paths from traumatic experience to English language competency and from English language competency to mental health symptoms were examined. Traumatic experiences did not significantly predict English language competency ($\beta = .07$, $p = .471$), though English language competency did significantly predict anxiety and depression ($\beta = -.397$, $p < .01$). This finding suggests that the more proficient one feels in speaking and understanding English, the fewer symptoms of depression and anxiety that they experience or report. English language competency did not significantly predict PTSD ($\beta = .12$, $p = .30$). Since the path from traumatic experiences to English language competency was also nonsignificant, we can rule this out as a potential mediator. In this model, 25% of the variance in English language competency can be explained by traumatic experiences and time in the U.S., 31% of the variance in anxiety/depression (HSCL-25 combined score) can be explained by the previous predictors (traumatic experiences, time in U.S., and English language competency) and similarly, 7.5% of the variance in PTSD symptoms can be explained by previous predictors in the model (traumatic experiences, time in U.S., and English language competency).

**American Cultural Competency.** American cultural competency was the final acculturation variable evaluated as a potential mediator in Exploratory Model C. The direct paths from traumatic experiences to American cultural competency and from American cultural competency to mental health symptoms were examined. Traumatic experiences did significantly predict American cultural competency (β = .23, $p < .02$) and American cultural competency also significantly predicted anxiety and depression (β = -.295, $p < .01$), though not PTSD (β = .07, $p = .58$). This finding suggests that as one begins to understand American culture and history, one may feel less depression and anxiety. Traumatic experiences also significantly predicted anxiety and depression (β = .47, $p < .01$) and the direct path from traumatic experiences to PTSD was nearly significant (β = .24, $p = .06$). These results indicate that American cultural competency partially mediates the relationship between traumatic experiences and anxiety/depression, as reported in the HSCL-21. In other words, the relationship between traumatic experiences and anxiety and depression can be partially explained by one's competence of American cultural norms and history. American cultural competency explains 27.8% of the variance in the model, anxiety/depression explains 24.5%, amd PTSD explains 6.4% of the variance, as indicated by squared multiple correlations.

# CHAPTER 5

# DISCUSSION

The intention of this study was to expand on present knowledge about the relationship between traumatic experiences, acculturation, and mental health of refugees. Various aspects of acculturation were considered, including identity as an American, English language competency, and American cultural competency. Traumatic experiences were measured with a comprehensive inventory, meant to more fully encapsulate any traumatic experiences one may encounter both while living though a war, fleeing a war, and while living in a refugee camp. Each of these are essential components to the pre-migration experience and have not been studied in as much detail with Somali refugees previously.

This chapter begins with a brief review of each variable that was examined in this study and included in the path model. Significant findings are then presented, followed by hypotheses that were not supported by the results in this study. Clinical implications, recommendations, and study limitations are also discussed. This discussion concludes with recommendations for future research.

## Traumatic Experiences

Previous studies with Somali refugees indicated a potentially high number of traumatic experiences due to war and/or life in a refugee camp. In one sample of 516 Somalis resettled in Uganda, participants averaged 11.95 traumatic events out of 34 possible events (Onyut et. al, 2009). In the present study, participants endorsed an average of 33 traumatic events out of a possible 104. This study was consistent with the findings of Onyut et. al (2009) with participants endorsing approximately 32% of the total traumatic experiences, compared to 35% respectively. One key difference in this study, however, is that participants

were asked to recount their traumatic experiences many years after resettlement, in many cases- over a decade later. It is notable that participants endorsed a consistently high number of traumatic events and one might expect this number to be greater when measured prior to resettlement while in a refugee camp since recall would likely be improved.

Traumatic experiences have been shown to be positively related to mental health symptoms, in that the greater number of traumatic experiences one endorses, the more likely they are to report mental health symptoms (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011). This example of a dose-response relationship stands up for traumatic events such as natural disasters and combat situations (Shore et al., 1986), as well as with refugee populations (Matheson, Jorden, & Ainsman, 2008). The relationship between traumatic experiences and acculturation has not yet been studied with Somali refugee populations, though more recently, researchers are looking into the relationship between acculturation and mental health symptoms for both refugee and immigrant populations (Ellis et al., 2010; Pumariega & Roth, 2010).

**Acculturation**

The process of acculturation has not been studied in much detail with refugees generally. Despite the high number of resettled Somali refugees in the United States, the acculturation process has long been overlooked in how Somalis may be influenced and their experiences shaped—both on individual and community levels. Somalis may be more likely than other refugee groups to experience discrimination in the United States due to the predominant religion, Islam, with women wearing headscarves and increasing their visibility (Ellis et al., 2010). African refugees also often find that racial tensions in the United States, particularly between Black and White Americans to be a new and uncomfortable burden for

them (Hadley & Patil, 2009). Studies with immigrant populations highlight the broad challenges to acculturate, primarily with a focus on post-migration barriers such as language and employment (Birman & Tran, 2008). No studies, to my knowledge, have examined the link between pre-migration experiences and the acculturation process.

Time spent in the United States was included in the model as an adjunct to acculturation. Though the process of acculturation includes behavioral and emotional changes and is not as simple as the amount of time one has lived in a new place, one would expect time and formal measures of acculturation to be related. In addition, previous studies have used time as a function of adjustment and acculturation (Nilsson, Brown, Russell, Khamphakdy-Brown, 2008; Nilsson & Jorgenson, 2013). Therefore, time spent in the United States was included in the model to further explore the relationship to various facets of acculturation, as well as an exploration as to how time relates to the other variables of interest.

**Mental Health Symptoms**

Mental health symptoms were measured with regard to the expression of symptoms related to anxiety, depression, and PTSD. Symptom expression has been shown to vary by culture (e.g. Elsass, 2001; Miller et. al, 2006); therefore, measuring mental health in terms of three different diagnoses was done with the intention to examine whether Somali refugees are more or less likely to disclose symptoms associate with one or more of these particular disorders. It was also of interest in this study to examine the potentially unique relationship between acculturation and these mental health outcomes, as acculturation to the United States may impact self-reporting for a variety of the symptoms associated with anxiety, depression,

and PTSD (i.e. Vojvoda, Weine, McGlashan, Becker, & Southwick, 2008; Escobar & Vega, 2000; Ellis et. al, 2010).

**Correlational Analyses for Main Study Variables**

Bivariate correlations between each of the variables indicated statistically significant relationships in both expected and unexpected directions. Consistent with previous research (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011) traumatic experiences were significantly and positively correlated with mental health symptoms, specifically anxiety, depression, and PTSD. Traumatic experiences were not significantly correlated with acculturation more generally, a surprise to this researcher ($r$ = .08). It was hypothesized that an increase in reported traumatic experiences would predict difficulty acculturating, or lower acculturation scores. When acculturation was separated by subscales, however, American cultural competency was significantly and positively correlated with traumatic experiences. This suggests that those who reported more traumatic experiences, believe themselves to better understand American cultural values, history, and politics. However, the English language competency and American cultural identity subscales were not significantly correlated with traumatic experiences. Perhaps the most surprising finding was that English language competency did not seem to be impacted by the number of traumatic events experienced ($r$ = .04). Based on the literature regarding trauma and the capacity for learning new skills, namely a new language, it had been hypothesized that language learning ability may have been negatively impacted for those reporting a higher number of traumatic experiences.

Acculturation, as measured as the total score, was only significantly and negatively correlated with depression ($r$ = -.22). This result suggests that for those who reported a higher

degree of acculturation, they experienced fewer symptoms related to depression. However, when the acculturation subscales were examined separately, significant correlations were identified. American cultural identity was positively and significantly correlated with anxiety and depression ($r$ = -.23), but not PTSD ($r$ = .06). This finding suggests that as American cultural identity increases, self-reporting of anxiety and depression also increase. This lends support to one of my hypotheses and will be discussed in further detail in the next section. English language competency and mental health symptoms were significantly correlated ($r$ = -.40), again with anxiety and depression, though this time negatively. This finding suggests that as English speaking and listening abilities improve, symptoms of anxiety and depression decrease. This runs counter to my hypotheses and again will be discussed in further detail of why this may have occurred. Lastly, American cultural competence was significantly and negatively correlated with both depression and anxiety ($r$ = -.23). This finding similarly suggests that as knowledge of American cultural icons, history, and politics increased, symptoms of anxiety and depression decreased.

These findings lend some support to the importance of examining specific aspects of acculturation, rather than using a total score. The process of acculturation is much more complicated and variable than a total score can explain. Significant differences in how distinct aspects of acculturation (such as language competency, cultural identity, and cultural competency measured in this study) relate in varied ways to mental health outcomes highlight their uniqueness. Therefore, future researchers should be aware that acculturation is multi-dimensional and that these dimensions may have unique and distinct relationships with other variables of interest.

Though time spent in the United States was not included in the path model as a mediator, it was significantly correlated with other variables of interest and may help to shed more light on some of the findings. Specifically with regard to acculturation as a general measure, acculturation and time in the United States were positively and significantly correlated. This would make practical sense because as a general rule, the longer one lives in a new place, the more acculturated they will feel over time. Interestingly, time in the United States was not positively correlated with American cultural identity. In this case, time in the United States and American cultural identity were significantly and negatively correlated ($r$ = -.26), suggesting a pattern that people who are new arrivals to the United States are more likely to feel as though they are American, compared to those who have lived in the United States for a longer period of time. In other words, the longer one has lived in the United States, the less likely they were to rate themselves as being/feeling like an American. Both English language competency ($r$ = .48). and American cultural competency ($r$ = .44). were positively and significantly correlated with time spent in the United States. This finding may be due to the practicalities of learning a new language and learning about American culture and history—both of which, take more time.

**Summary of Findings**

This study contributes to the existing literature on Somali refugee mental health and acculturation following resettlement. The concept of acculturation was included in the model because it is a continual process following resettlement, one that would seem to influence the mental health of refugees and be affected by the amount or severity of trauma experienced prior to migration. The relationship between traumatic experiences and acculturation, and

acculturation and mental health were the crux of the research questions put forth and the hypotheses that were examined in this study.

**Research Questions 1a and 1b and Hypotheses 1, 2, and 3.** The primary question I wanted to explore in this study is whether acculturation mediates the relationship between traumatic experiences and mental health symptoms (PTSD, depression, and anxiety). In hypotheses 1, 2, and 3, I predicted that acculturation would serve as a significant mediator between traumatic experiences and mental health. More specifically, I predicted that as degree of acculturation increased, symptoms of PTSD, depression, and anxiety would also increase.

When acculturation was used as a total score measure, it did not significantly mediate the relationship between traumatic experiences and mental health symptoms. Negative Mental health symptoms, however, as measured by depression and anxiety, were predicted both by traumatic experiences and degree of acculturation. Although acculturation as a global measure was not shown to mediate the relationship between traumatic experiences and depression/anxiety, the results echo that of previous research on the dose-response nature of how trauma predicts poor mental health outcomes (Schweitzer, Brough, Vromans, & Asic-Kobe, 2011). Acculturation as a variable and how it relates to depression/anxiety was also introduced as a factor that may be important for clinicians and researchers alike to consider when working with refugees. As a global measure, the findings indicate that the more acculturated one is, the less likely they are to experience depression/anxiety. Acculturation as separated by dimensions, however, painted a slightly different picture of the acculturation process for Somali refugees and expression of mental health symptoms.

Acculturation as measured by American cultural competency, partially mediated the relationship between traumatic experiences and depression/anxiety. More traumatic experiences predicted greater American cultural competency and greater American cultural competency predicted less depression/anxiety. Also important to note, is that time in the United States was positively correlated with American cultural competency ($r$ = .48), meaning that the longer people have lived in the United States, the more likely they felt competent about American culture. American cultural competency was measured by asking participants to rate how well they know American history, television shows, and political leaders, as some examples. These are all the types of things that one likely needs time and repeated exposure to begin to understand and recognize. Particularly for Somalis who received no or little formal education prior to resettlement, knowledge of world political leaders and American history would be acquired in resettlement when they have potentially more means to receive an education in these areas or access to the news and popular culture via media.

It is unclear why more traumatic experiences predicted greater American cultural competency. This could be due to differences in the timing of resettlement and the differences in experience between those who may have lived in Somalia during part of the civil war and also had to escape to live in a refugee camp, vs. those who were perhaps born in a refugee camp or escaped the war at a young age for the refugee camp. Unfortunately, it is not as simple as controlling for age to discern whether participants may be statistically different based on these different experiences due to fact that the Somali war has gone on for decades. The resettlement process has remained slow and challenging, meaning that some

people may have only lived in a camp for a few years, while others have lived in them for as many as 20 or 30 (Smith, 2004).

English language competency, as measured by how well one both speaks and understands English in different contexts (i.e. on the phone, with strangers, at school or work), was not predicted by traumatic experiences. The results showed little to no statistical relationship ($r$ = .07), indicating perhaps varied experiences in English language acquisition and confidence. Resources, both cognitive and those related to access (such as money, a school or community center, instructors, transportation, etc.) likely also impact the process for learning and practicing a new language. English language competency did predict depression/anxiety, with greater English competency predicting fewer symptoms of depression/anxiety. To help explain why this may be the case, it is of interest that, time in the United States was again positively predictive of the acculturation dimension, English language competency. This is likely reflective of how time to practice and access to English language learning resources would lend itself to better English speaking and listening abilities. Therefore, the more time one spends in the United States, the more time one has to work through any mental health concerns they may have had soon after their arrival. Additionally, access to English classes may indicate access to other resources of support, such as counseling, but also to other refugees and immigrants lending new arrivals a renewed sense of community. This is an important element, since social support can buffer the effects of poor mental health symptoms (Cohen & Wills, 1985).

American cultural identity, measured by items asking how one thinks and feels about notions of identity such as being U.S. American, part of American culture, and feeling good about being U.S. American, was also not predicted by traumatic experiences. Again, the

results indicated little to no statistical relationship ($r$ = .07). Curiously, time lived in the United States negatively predicted American cultural identity, suggesting that people may feel or view themselves as more American earlier in the resettlement experience as compared to those who have lived in the United States a long time. This finding is of particular interest to this researcher as it may suggest that specific post-migration experiences such as experiences with discrimination or harassment, education, employment, and community (whether one is resettled near a large Somali community or in an area with fewer Somalis) negatively impact one's sense of being American. The sample in this study was not large enough get a good sense of the various demographic variables that may also impact the acculturation process more broadly, but also on this specific dimension.

American cultural identity predicted depression/anxiety, wish greater acculturation predicting more depression/anxiety. At first glance, this would seem to lend some support to my initial hypotheses that as acculturation increased, mental health symptoms would increase. However, given what has been shown how these various acculturation dimensions bear out differently for those who have lived in the United States a longer time, with varying degrees of trauma, this finding should be interpreted with caution. Since those who may be newer in the United States and likely have not acculturated in other meaningful ways, such as feeling that they understand broader cultural elements such as history, politics, media, and may not feel as comfortable communicating in English, this finding may be indicative of the fact that American cultural identity may not be as representative of acculturation as the construct is more generally represented in the literature.

**Research Question 2 and Hypotheses 4, 5, and 6.** I also wanted to explore whether mental health symptoms are inter-related for Somali refugee populations, as there is often

symptom overlap when measuring anxiety, depression, and PTSD in those populations who have experienced significant trauma. With hypotheses 4, 5, and 6, I predicted significant positive relationships between symptoms of depression, PTSD, and anxiety. Interestingly, PTSD was not related to acculturation in any of the tested models, nor was it related to depression or anxiety. However, PTSD was predicted by traumatic experiences, just not as strongly as anxiety and depression. This finding suggests that the DSM-V diagnostic criteria, as measured by items in the PSS-17, either may not be a good measure of PTSD for Somali refugees, or that PTSD is not as common a diagnosis for Somalis who have experienced trauma and otherwise report symptoms related to depression and anxiety. I believe that more research is needed to discern potential cultural differences in symptom presentation that otherwise reflect what clinicians view as PTSD, but may not currently fit diagnostic criteria. Understanding symptoms as being related to a specific trauma, or several traumas as is the case with this population, would be important in order to determine appropriate treatment and to communicate with other health professionals who may not conduct therapy, but would read a diagnosis for purposes such as to prescribe medications, make educational accommodations, bill for services or determine eligibility for specific programming.

**Research Question 3 and Hypothesis 7.** As a proxy for acculturation, I examined whether time spent in the United States is a significant predictor. Time since resettlement significantly predicted acculturation as a total score. This provides support for the idea that acculturation is a function of time, but that other factors also uniquely impact how quickly or slowly one acculturates. When acculturation was separated by dimensions (subscales of the AMAS-21), time in the United States was negatively related to American Cultural Identity ($\beta$

= -.24), but positively related to English Language Competency (β = .49) and American Cultural Competency (β = .48).

In this study, those who have lived in the United States for a shorter period of time reported feeling more American, or had higher scores on the American Cultural Identity sub-scale. This finding was striking and should be studied further. In my personal work with refugees, I've experienced a pattern in that many refugees report significant pride in their new identity as an American immediately following resettlement. They feel that they are finally about to experience all the glamour that their limited exposure via Hollywood films or cable tv shows have portrayed. It may be that this sense of pride and identity diminishes over time as the realities of finding employment, learning a new language and culture, and working through the lingering effects of trauma become realized. Combined with the real experiences of discrimination more prevalently felt by Somali refugees in the United States, it seems reasonable to expect that American Cultural Identity might diminish, especially for those who reported high levels near their initial arrival.

**Strengths and Limitations**

This study was one of the first to more thoroughly assess both traumatic experiences and acculturation of Somali refugees in the United States. To my knowledge, the relationship between acculturation and mental health outcomes have not been previously studied with this population. There are many barriers to conducting research with refugee populations. These barriers include, but are not limited to: validation of measures and translations, availability of an interpreter, access to populations, trust as a researcher within these populations, literacy rates, familiarity with surveys-- specifically likert-type ratings, and time. This study took at a minimum 40 minutes to complete and up to 90 minutes. Data was collected over the span of

5 months. An interpreter was needed for all in-person administrations and for several of those taken on a computer accessing the survey online. Participants had questions about the item meaning, wording of items, and ultimately about how and for what purpose the study would be used, despite the information given in the informed consent. Participants also mentioned a few times that they found the items to be difficult to answer because they brought back unsettling memories. These aforementioned barriers made obtaining a large sample size a challenge in the present study and make research with refugee populations more difficult in general. Without substantial participant incentives and access to language interpreters and/or cultural ambassadors, substantial power to examine potential statistical relationships between variables is difficult to obtain. With these difficulties of obtaining an adequately large sample size, I was less likely to detect a true effect using SEM. This is a good thing for minimizing error, but it possible that replicating this study with a larger sample may yield more significant relationships between variables.

Another limitation to this study was the difference between measures in response formats. For each of the measures evaluating mental health symptoms and acculturation, different question stems and rating scales were used and this may have impacted responses. For example, on the HSCL-25, partipants were asked to rate symptoms during the past month and answered 25 very short phrases or words about possible symptoms related to anxiety and depression. On the AMAS-21, participants again responded to a short sentence or a few words about their acculturation, but with two different rating scales. One rating scale measured agreement with American Cultural Identity (strongly disagree to strongly agree) while another rating scale measured English ability and American Cultural Competency in terms of mastery (not at all to extremely well). Lastly, the PSS-SR-17 scale evaluates

symptoms of PTSD within the last 2 weeks and participants must respond to complete sentences that at face value seem more challenging compared to the other measures. I am concerned that compared to the other measures, this measure was much more difficult to understand. Additionally, the difference in the response scales between measures may have caused confusion and led to under-reporting of symptoms, particularly towards the end of the survey. Future researchers may consider this limitation and attempt to streamline their measures to make them simpler to understand and standardize the response scales. By keeping the symptom scales short—only a few words for each item, confusion may be minimized and completion time may be substantially less on average.

Given these barriers, however, this study builds upon existing research in the area of refugee mental health following resettlement and helps to paint a broader picture of the types of trauma more common for Somali refugees. For professionals who work with Somali refugees, having an increased understanding of the types of experiences encountered even prior to resettlement would be helpful in order to increase sensitivity and tailor services to meet their unique needs. This study also expands on what is known, and unknown, about the process of acculturation specific to Somali refugees. The multi-dimensional model of acculturation has not been used previously with Somali refugees, though revealed how the process might be dependent upon experiences related to acculturative stress, time in the United States, and pre-migration trauma. This richer view of acculturation for Somalis also adds to the literature, particularly since acculturation has not been measured in such detail previously.

On the whole, despite some mixed support for the research questions and hypotheses, a richer understanding of the Somali refugee experience is known as a result. Future research

can be built upon this study in order to more thoroughly examine the acculturation process, the fitness of the PTSD diagnostic criteria for Somali refugees, and to better understand variables related to the post-migration experience. Though the sample size may have made find true relationships between variables more difficult due to reduced power, there are so few studies with this population in general that any increase in understanding may be seen as welcoming to those who work closely with Somali refugees in communities across the United States.

**Implications for Future Research**

Barriers aside, the findings of this study help bring to light many questions for future research that are worthy of exploration. The process of acculturation and its multi-dimensions should be examined in greater detail, particularly since the findings in this study indicate that the process is rather complicated for Somali refugees. One of these dimensions, American cultural identity was negatively predicted by time in the United States, highlighting how acculturative stress may uniquely impact certain acculturation dimensions over others. Therefore, the impact of variables related to acculturative stress need to be studied in more detail with this population. Specific variables such as language, employment, experiences with discrimination/harassment, whether one lives near a large Somali community, and access to resources that provide support and/or buffer the challenges inherent to adjustment, would be important to tease out and examine the potential for the unique effects on the acculturation process. Each of the acculturation dimensions measured in this study had different relationships with the main variables of interest, depression/anxiety, traumatic experiences, and time lived in the United States. This study should be replicated and if possible, a larger sample size obtained in order to better

understand the relationship between acculturation with mental health and how it may be impacted by pre-migration trauma.

Due to the length of the survey used for this study, the Somali enculturation items adapted on the AMAS (Zea, Asner-Self, Birman, & Buki, 2003) were not included. Somali enculturation would be an interesting variable to examine further, given that it may serve as a protective factor to certain aspects of acculturative stress for some or contribute to feelings of isolation or distance from American culture or identity for others. Perhaps with more resources and participant incentives, these items could be included in future studies so that the additional length in the survey will buffered by the motivation to persist and complete the survey.

A curiosity in this study was that PTSD was not related to the other measures of mental health symptoms, though PTSD and anxiety and depression were both positively predicted by traumatic experiences. As mentioned in the literature review of the challenges unique to measuring PTSD, it may be that this diagnosis does not hold well for this population, whether or not the participants are indeed negatively impacted by trauma. More research is needed on PTSD with Somali refugee populations to determine whether it is an issue with the general construct, the diagnostic criteria, or differences in cultural expression of symptoms that when re-interpreted may indeed be representative of symptoms such as avoidance and re-experiencing. It is also the case that the PTSD measure was the final scale included in the survey and that some participants may have become fatigued and changed their response style. Replication with a larger sample size would be helpful in order to gauge whether PTSD as a potential diagnosis for Somalis who are otherwise experiencing poor

mental health is appropriate or a matter of fatigue with some participants in this particular study.

Lastly, future research may build upon this study by adding a qualitative component to better understand the process of acculturation and unique cultural variables related to mental health. During the data collection process, many Somalis voiced that they have experienced a change in how welcome they feel in the United States evidenced by subtle, but significant shifts in behavior by other Americans towards them. These statements were even made by those who have lived in the United States for several years. Specifically, some participants noted an increase in comments made about their hijab (if female), about not belonging in the United States (and comments suggesting they should leave), and a general fear about what's to come. These comments increased somewhat following the Presidential election in November 2016, about halfway through data collection, though these participants also noted a growing increase in such outward comments and feelings of discomfort prior to the election as well. Participants also noted their initial apprehension to participate in such research given these experiences and general feelings of distrust, though did so due to either their relationship with this researcher and/or the interpreter and after hearing the rationale for this study. Qualitative research on these specific experiences, perhaps even noting the changes felt in a political climate that reflects more apprehension about U.S. policies on refugee resettlement, prejudicial attitudes towards Muslims and those perceived to be Muslim, and a more general reflection on acculturation over time would be fruitful, providing additional research questions to examine quantitatively.

**Implications for Clinical Practice**

Given the findings about how varying dimensions of acculturation relate to mental health outcomes, clinicians should be aware of how their clients may be impacted. For example, if a refugee client does not feel competent communicating in English, they may feel more isolated and less likely to access the support that they need. They may also struggle to ask for help, particularly given some differences in how mental health symptoms are expressed in Somali culture.

In this study, American cultural competency and English language competency was positively correlated with time spent in the United States. Those who reported higher levels of acculturation on these dimensions also reported lower mental health symptoms. However, for those who have lived in the United States for a long time and have not had the opportunity or easy access to education, tv, internet, or employment, their acculturation scores would likely be lower on these two dimensions. Clinicans should be aware that for those people, they may also have higher levels of mental health symptoms.

Lastly, there is evidence from this study that PTSD as a diagnosis may not hold as well for Somali refugees. Although Somali refugees are likely to have experienced significant and complex traumas, at least for those who lived through the war, they may be more likely to express residual effects in terms that correspond better with anxiety or depression. Clinically, this may mean that treating for anxiety or depression may be the best course. On the other hand, if these symptoms are the result of trauma and there is a cultural barrier in how this is communicated or understood, clinicans should note the high incidence rate of traumatic experiences and be mindful of this possible cause.

## Appendix A

## SOLICITATION STATEMENTS TO INVITE STUDY PARTICIPATION

### Facebook and E-mail Participation Solicitation

Hello!

My name is Katie Jorgenson and I am associated with the School of Education at the University of Missouri-Kansas City. I am conducting a study on Somali adults' experiences in the United States and Somalia and would like to invite you to participate in this research project. I hope that the information obtained from this study will further our understanding about the experiences of Somali men and women and to improve services to your community.

Participation in this study will require you to complete a questionnaire (see link below). You will be asked questions about your experiences in Somalia, your adjustment to the United States, and any mental health symptoms you may be experiencing. You will also be asked about some of the traumatic experiences you may have had prior to traveling to the United States. There is a slight risk that these questions may cause some discomfort, so please remember that your participation is completely voluntary.

This questionnaire is available in both English and Somali language and should take between 20-40 minutes. You do not need to give your name and your individual responses will not be shared.

In appreciation for your time and participation, you will be entered in a raffle to win a $20 gift card of your choice. In order to be eligible to receive the card, you will have to provide your name and e-mail address. However, this information will be kept separate from your responses to the questionnaire and is confidential.

You may take the survey in either English or Somali language

Link to Survey in Somali: https://www.surveymonkey.com/s/YZLGRNW

Link to Survey in English: https://www.surveymonkey.com/s/YPGTWW6

Somali miya tahay? Ma jeclaan laheed inaad nagu caawiso cilmi baaris muhiim ah?

Waxan bixin doona $20 oo kaarar hadiyo ah oo aad uga adeegan karto dukaamada kala ah target, walmart, ama amazon! Waxan kaloo diyaar ku ah alaabta lagu ciyaaro iyo boogag si jilicsan looso isticmaalay oo aad xaafada uqaadan karto si bilaash ah!
Cilmi baaristaan waxey udhaceysa si loo ogaado sidi looga faiideysan laha bulshada soomaaliyed ee ku sugan wadanka United States.
Saa'id ayan kaaga mahadnaqaya ka qeyb qaadashadaada!!
Fadlan caawi oo faafi fariinta!!

Hadii aad ka doorbideyso inaad baaritan guud kaan ku sameyso dhank internet ka, warqada hooso gooso oo ciiwaanka ku qoran booqo.

**https://www.surveymonkey.com/s/YZLGRNW**

Wixi dheeraad ah kala soo xiriir Katie Jorgenson jorgensonk@umkc.edu

APPENDIX B

ONLINE INFORMED CONSENT

Informed Consent for Online Survey Participation:

My name is Katie Jorgenson and I am associated with the School of Education at the University of Missouri-Kansas City. I am conducting a study on Somali men and women's experiences in the United States and Somalia and would like to invite you to participate in this research project. I hope that the information obtained from this study will further our understanding about the experiences of Somali men and women and to improve services to your community.

Participation in this study will require you to complete a questionnaire. You will be asked questions about your experiences in Somalia, your adjustment to the United States, and any mental health symptoms you may be experiencing. You will also be asked about some of the traumatic experiences you may have had prior to traveling to the United States. There is a slight risk that these questions may cause some discomfort, so please remember that your participation is completely voluntary.

This questionnaire is available in both English and Somali language. You will also be asked a few questions about yourself, such as your age, number of years that you have lived in the United States, and level of education. You do not need to give your name and your individual responses will not be shared.

This questionnaire should take between 20-40 minutes.

Your participation in this study is also entirely voluntarily, this means that you do not have to participate and you can stop participating at any time by exiting the survey. You may choose not to answer any questions. Your decision not to participate will in no way impact your relationship with the online organization through which you saw the recruitment for this study. Your participation in the study is your consent for me to use your responses to the questions as a group.

I know your time is valuable, so to show our appreciation of your participation in this study, I will enter your names in a raffle to win a $25 gift card of your choice. The raffle will take place at the end of the recruitment phase for this study. In order to be eligible for the raffle, you will need to provide a name and e-mail address. However, this information will be kept separate from the questionnaire data and will also remain confidential.

There is the possibility of slight risk in completing the questionnaire due to the sensitive nature of some of the questions. It is possible that these questions could cause some discomfort by bringing up memories of previous traumatic experiences. Please remember that you do not need to participate and you may skip any question that makes you feel uncomfortable. Should you to want discuss your situation further or need any additional support, a list of online counseling services will be available at the end of the questionnaire.

The University of Missouri-Kansas City appreciates the participation of people who help it carry out its function of developing knowledge through research. If you have any questions about the study that you are participating in you are encouraged to e-mail (Katie Jorgenson), the investigator, at Katherine.jorgenson@gmail.com. If you have questions about your rights as a research participant you should contact the administrative office of the UMKC Institutional Review Board (IRB) at 816-235-6150.

Although it is not the University's policy to compensate or provide medical treatment for persons who participate in studies, if you think you have been injured as a result of participating in this study, please call the IRB Administrator of UMKC's Social Sciences Institutional Review Board at 816-235-6150.

Katherine Jorgenson, M.Ed.
Johanna Nilsson, Ph.D.
Division of Counseling and Educational Psychology
University of Missouri-Kansas City

IN-PERSON INFORMED CONSENT

Hello:

My name is Katie Jorgenson and I am associated with the School of Education at the University of Missouri-Kansas City. I am conducting a study on Somali men and women's experiences in the United States and Somalia and would like to invite you to participate in this research project. I hope that the information obtained from this study will further our understanding about the experiences of Somali men and women and to improve services to your community.

Participation in this study will require you to complete a questionnaire. You will be asked questions about your experiences in Somalia, your adjustment to the United States, and any mental health symptoms you may be experiencing. This questionnaire is available in both English and Somali language. If you don't understand a question, please feel free to ask for an explanation. You will also be asked a few questions about yourself, such as your age, number of years that you have lived in the United States, and level of education. You do not need to give your name and your individual responses will not be shared.

This questionnaire should take between 20-40 minutes.

Your participation in this study is also entirely voluntarily, this means that you do not have to participate and you can stop participating at any time by simply saying so. You may choose not to answer any questions. Your decision not to participate will in no way impact your relationship with me, UMKC or the person who recruited you to this meeting. Your participation in the study is your consent for me to use your responses to the questions as a group.

I know your time is valuable, so to show our appreciation of your participation in this study, I will enter your names in a raffle to win a $25 gift card of your choice. The raffle will take place at the end of the group administration.

There is the possibility of slight risk in completing the questionnaire due to the sensitive nature of some of the questions. It is possible that these questions could cause some discomfort by bringing up memories of previous traumatic experiences. Please remember that you do not need to participate and you may skip any question that makes you feel uncomfortable. Should you to want discuss your situation further or need any additional support, I will provide you with a list of services available to adults. If you are in need of immediate emotional support, a counselor will be provided on site. Attached is a list of resources available should you need services following participation.

The University of Missouri-Kansas City appreciates the participation of people who help it carry out its function of developing knowledge through research. If you have any questions about the study that you are participating in you are encouraged to call (Katie Jorgenson), the investigator, at (773-420-6613). If you have questions about your rights as a research participant you should contact the administrative office of the UMKC Institutional Review Board (IRB) at 816-235-5927.

Although it is not the University's policy to compensate or provide medical treatment for persons who participate in studies, if you think you have been injured as a result of participating in this study, please call the IRB Administrator of UMKC's Social Sciences Institutional Review Board at 816-235-5927.

Katherine Jorgenson, M.Ed.
Johanna Nilsson, Ph.D.
Division of Counseling and Educational Psychology
University of Missouri-Kansas City

APPENDIX C

MEASURES USED IN DISSERTATION- ENGLISH VERSION

**DEMOGRAPHIC QUESTIONNAIRE**

**Please circle one option for each of the following questions:**

| | |
|---|---|
| 1. Age | a. 18-24 |
| | b. 25-34 |
| | c. 35-44 |
| | d. 45-54 |
| | e. 55-70 |
| | f. 70-99 |
| 2. Sex | a. Female |
| | b. Male |
| | c. Other |
| 3. Number of Children | a. none |
| | b. 1-2 |
| | c. 3-4 |
| | d. 5 or more |
| 4. Marital Status | a. not married |
| | b. divorced |
| | c. widowed |
| | d. married |
| 5. Number of Years in the U.S. | a. 0 |
| | b. 1-2 years |
| | c. 2-4 years |
| | d. 5-9 years |
| | e. 10-15 years |
| | f. 16-20 years |
| | g. 20 + years |

**DEMOGRAPHIC QUESTIONNAIRE**

| | |
|---|---|
| 6. Employment Status | a. Unemployed, looking for work |
| | b. Unemployed, NOT looking for work |
| | c. Employed* |

*If employed, please indicate hours worked per week __________

| | |
|---|---|
| 7. Education | a. No formal education |
| | b. Some primary school (up to grade 6) |
| | c. Some secondary school (up to grade 12) |
| | d. Completed secondary school |
| | e. Some college |
| | f. Bachelor's Degree and beyond |

## COMPREHENSIVE TRAUMA INVENTORY-104

**Instructions:** The list of events below are things that happen to people during war. Please read each item carefully and check either **"NO"** if the event did **not** happen to you or check **"Yes"** if it did happen to you.

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 1. Having your home, school, or workplace searched or ransacked | | |
| 2. Having your home (or important place like school or workplace) severely damaged or destroyed | | |
| 3. Fleeing or hiding from soldiers or enemies | | |
| 4. Having to lie to protect yourself or others (includes signing official statement to protect yourself or others) | | |
| 5. Living in the middle of war, and being forced into dual loyalties to survive | | |
| 6. Being threatened with harm or feeling like you are in serious danger | | |
| 7. Being in an area of active war combat, but you were not actively participating and were not injured | | |
| 8. Actively participating in combat either as a soldier or civilian fighter | | |
| 9. Forced to join military | | |

| | NO<br><br>Did **NOT** happen to me | YES<br><br>Did happen to me |
|---|---|---|
| 10. Being near death because of illness or injury | | |
| 11. Your pregnancy (for men: your wife's) was threatened, or a young baby died because of war conditions | | |
| 12. Death of a family member besides a young baby due to war | | |
| 13. Death of friends due to war | | |
| 14. Having to abandon injured, dead, or dying people | | |
| 15. Death of your child | | |
| **PHYSICAL INJURY** | | |
| 16. Directly exposed to chemical weapons | | |
| 17. Being injured in active combat | | |
| 18. Being shot or shelled with explosives | | |
| 19. Forced to stand, kneel, or walk for a long time | | |
| **DETENTION AND INTENTIONAL ABUSE** | | |
| 20. Being forced to attend party activities or having ideas or beliefs forced on you ("brainwashing") | | |
| 21. Being intimidated or "blackmailed" | | |
| 22. Being humiliated in front of others (stripped naked, insulted, screamed at, beaten) | | |
| 23. Being beaten in front of family or friends | | |

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 24. Being handcuffed, tied up, or shackled | | |
| 25. Being blindfolded | | |
| 26. Being intentionally NOT told what was going to happen to you next or where you were going to be taken | | |
| 27. Being taken and left in an unknown place | | |
| 28. Being hit, slapped, beat, or kicked by a person or with an object | | |
| 29. Having your ears, eyes, nose, or mouth injured with objects | | |
| 30. Having any part of your body subjected to burning, freezing, or electrical shocks | | |
| 31. Having your body injured by hanging, needles, or having hair or nails pulled | | |
| 32. Being immersed in water or sprayed with high-powered water | | |
| 33. Being cut or stabbed | | |
| 34. Being nearly killed by hanging or suffocation, near-drowning, or other intentional injury (like being dragged) | | |
| 35. Being abused with urine or feces | | |
| 36. Being abused with bright lights, loud noises, or bad smells | | |
| 37. Being placed in solitary (isolated) confinement or being deprived of sensations | | |

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 38. Being deprived of adequate food or water | | |
| 39. Being awakened repeatedly and being deprived of sleep | | |
| 40. Having medical care withheld when you were very sick | | |
| 41. Living in very poor conditions in prison (crowding, problems with sanitation or temperature) | | |
| 42. Being forced to work hard or for a long time or under very bad conditions | | |
| 43. Being interrogated, physically searched, stopped for identification and questioned | | |
| 44. Being falsely accused of things you did not do or being arrested | | |
| 45. Forced to make a confession about yourself or others | | |
| 46. Being threatened with severe injury or execution | | |
| 47. Being made to watch while others were tortured or executed, or hearing others being injured or tortured | | |
| 48. Being confined in a village, town, or house by soldiers or police | | |
| 49. Being jailed for less than three months | | |
| 50. Being in jail, prison, or a re-education camp for more than three months | | |

## SEXUAL TRAUMA OR ABUSE

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 51. Any unwanted sexual experience | | |
| 52. Having your private parts touched when you do not want that | | |
| 53. Being threatened to be sexually molested or raped (but it didn't actually happen) | | |
| 54. Having your private parts harmed (cut, burned, cold or heat, electricity, etc...) | | |
| 55. Having your private parts penetrated by objects or hands | | |
| 56. Being "raped" (forced to have sexual intercourse [vaginal, anal, oral] against your will) | | |

## WITNESSING ABUSE, INJURY, OR DEATH

| | | |
|---|---|---|
| 57. Seeing your family or friends get seriously injured or ill because of war | | |
| 58. Seeing other people get seriously injured or ill because of war | | |
| 59. Seeing a family member or a friend being raped | | |
| 60. Seeing another person being raped | | |
| 61. Seeing your family or friends being killed | | |
| 62. Seeing others being killed | | |

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 63. Seeing someone being mutilated or blown-up | | |
| 64. Watching other people die | | |
| 65. Helping ill or wounded people (includes refugees) | | |
| 66. Seeing dead bodies or parts of human remains | | |
| 67. Digging up, burying, or handling dead bodies or parts of human remains | | |
| 68. Seeing organized violence, mass demonstrations, or horrible events on television | | |
| 69. Seeing injury or death of many people at once, or witnessing mass graves | | |
| 70. Seeing injured or dead animals | | |

**HEARING ABOUT INJURY OR DEATH**

| | | |
|---|---|---|
| 71. Heard about people being abused by harsh methods | | |
| 72. Heard that children or other innocent people were injured or killed | | |
| 73. Heard about mass killings and people being put in mass graves | | |

**DEPRIVATION AND DISCRIMINATION**

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 74. Having very little food, water, or clothing because of poverty or discrimination | | |
| 75. Having to live in poor conditions (fleeing, in mountains, poor shelter and hygiene) | | |
| 76. Having your home, business or important personal property confiscated | | |
| 77. Being forced to stop work or schooling | | |
| 78. Being monitored (repeatedly investigated, or watched and followed, or having to report to officials) | | |
| 79. Being oppressed (can't gather publicly, meet friends, speak your opinion) | | |

**BETRAYAL**

| | | |
|---|---|---|
| 80. Being lied to or being made to feel uncertain about family member's whereabouts | | |
| 81. Being abandoned by your family while you were in prison | | |
| 82. Feeling like you were abandoned by allies during the war | | |
| 83. Feeling like you were deceived by your own leaders or high-ranking officials | | |

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 84. Being disgraced | | |
| 85. Having bombs or gunfire go off in “safe” areas (like evacuation areas) | | |
| 86. Being forced to monitor and report on family or neighbors | | |
| 87. You refused or escaped from imposed military duty | | |
| **DOMESTIC DISCORD AND VIOLENCE** | | |
| 88. Experiencing severe family conflict because of the war | | |
| 89. Experiencing violence from a family member because of the war | | |
| **DISPLACEMENT** | | |
| 90. Being moved to a government area or “new economic area” | | |
| 91. Having to flee from your home or community because of danger | | |
| 92. Having to flee from your home or community because there is no work or because of other discriminations | | |

## SEPARATION AND ISOLATION

| | **NO**<br><br>Did **NOT** happen to me | **YES**<br><br>Did happen to me |
|---|---|---|
| 93. Raising your children by yourself | | |
| 94. Your children were often alone because of war circumstances | | |
| 95. Being taken away by enemies, and separated from your family | | |
| 96. Having a spouse or a child be put in jail, prison, or camp | | |
| 97. Being separated from your family because of war circumstances | | |
| 98. NOT being able to take care of family members because of separation | | |
| 99. NOT being able to see a family member who is dying, or can't witness burial | | |
| 100. Being beat up or poorly treated in a refugee camp | | |

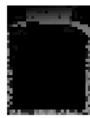
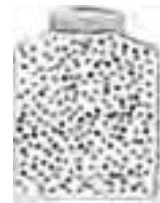
## DIFFICULTIES DURING MIGRATION

| | | |
|---|---|---|
| 101. Thinking you would not ever be able to leave a refugee camp | | |
| 102. You or family members were denied refugee or asylum status | | |
| 103. Feeling afraid that you will be sent back to your country from a refugee camp | | |
| 104. Separated from family members during fleeing or migration | | |

# HOPKINS SYMPTOM CHECKLIST-25

LISTED BELOW ARE SOME SYMPTOMS OF STRAIN THAT PEOPLE SOMETIMES HAVE. **Instructions:** Please Read Each One Carefully And Check The Answer Which Best Reflects How Much That Symptom Has Bothered You During the **Past Month.**

| | **1**<br>**Not at all** | **2**<br>**A little** | **3**<br>**Quite a bit** | **4**<br>**Extremely** |
|---|---|---|---|---|
| **1. Suddenly scared for no reason** | | | | |
| **2. Feeling fearful** | | | | |
| **3. Faintness, dizziness, or weakness** | | | | |
| **4. Nervousness or shakiness inside** | | | | |
| **5. Heart pounding or racing** | | | | |
| **6. Trembling** | | | | |
| **7. Feeling tense or keyed up** | | | | |

| | 1<br>Not at all | 2<br>A little | 3<br>Quite a bit | 4<br>Extremely |
|---|---|---|---|---|
| **8. Headaches** | | | | |
| **9. Spells of terror or panic** | | | | |
| **10. Feeling restless, can’t sit still** | | | | |
| **11. Feeling low in energy—slowed down** | | | | |
| **12. Blaming yourself for things** | | | | |
| **13. Crying easily** | | | | |
| **14. Loss of sexual interest or pleasure** | | | | |
| **15. Poor appetite** | | | | |
| **16. Difficulty falling asleep, staying asleep** | | | | |
| **17. Feeling hopeless about the future** | | | | |

| | 1<br><br>Not at all | 2<br><br>A little | 3<br><br>Quite a bit | 4<br><br>Extremely |
|---|---|---|---|---|
| **18. Feeling blue** | | | | |
| **19. Feeling lonely** | | | | |
| **20. Feeling trapped or caught** | | | | |
| **21. Worrying too much about things** | | | | |
| **22. Feeling no interest in things** | | | | |
| **23. Thoughts of ending your life** | | | | |
| **24. Feeling everything is an effort** | | | | |
| **25. Feelings of worthlessness** | | | | |

Abbreviated Multidimensional Acculturation Scale (Adapted from: Zea, Asner-Self, Birman, & Buki)

**Instructions: Please mark the number from the scale that best corresponds to your answer.**

| | **1**<br>**Strongly**<br>**Disagree** | **2**<br>**Disagree**<br>**Somewhat** | **3**<br>**Agree**<br>**Somewhat** | **4**<br>**Strongly**<br>**Agree** |
|---|---|---|---|---|
| 1. I think of myself as being U.S. American. | | | | |
| 2. I feel good about being U.S. American. | | | | |
| 3. Being U.S. American plays an important part in my life. | | | | |
| 4. I feel that I am part of U.S. American culture. | | | | |
| 5. I have a strong sense of being U.S. American. | | | | |
| 6. I am proud of being U.S. American. | | | | |

**Please answer the questions below using the following responses:**

| | **1**<br><br>**Not at all** | **2**<br><br>**A Little** | **3**<br><br>**Pretty Well** | **4**<br><br>**Extremely well** |
|---|---|---|---|---|
| **How well do you speak English:** | | | | |
| 7. at school or at work | | | | |
| 8. with American friends | | | | |
| 9. on the phone | | | | |
| 10. with strangers | | | | |
| 11. in general | | | | |
| **How well do you understand English:** | | | | |
| 12. on television or in movies | | | | |
| 13. in newspapers and magazines | | | | |
| | | | | |
| 14. words in songs | | | | |
| 15. in general | | | | |
| **How well do you know:** | | | | |
| 16. American national heroes | | | | |
| 17. popular American television shows | | | | |
| 18. popular American newspapers and magazines | | | | |
| 19. popular American actors and actresses | | | | |
| 20. American history | | | | |
| 21. American political leaders | | | | |

**Sometime in the past you may have had traumatic experiences related to war and migration. These experiences may have occurred at anytime in your life. In the PSS-SR Questionnaire the words "traumatic events" refer to any of these experiences that may be occurring.**

Directions: Please answer the following questions according to what has happened during the **past 2 weeks** using the 0-3 scale below.

**0 = Not at all**

**1 = Once per week / a little bit / once in a while**

**2 = 2 to 4 times per week / somewhat / half the time**

**3 = 5 or more times per week / very much / always**

1. In the past 2 weeks, have you had upsetting thoughts or images about the trauma that came into your head when you didn't want them to? ______

2. In the past 2 weeks, have you been having bad dreams or nightmares about the trauma? ______

3. In the past 2 weeks, have you had the experience of reliving the trauma, acting or feeling as if it were happening again? ______

4. In the past 2 weeks, have you been very EMOTIONALLY upset when reminded of the trauma (includes becoming very scared, angry, sad, etc.)? ______

5. In the past 2 weeks, have you been having PHYSICAL reactions (for example, break out in a sweat, heart beats fast ) when reminded of the trauma? ______

6. In the past 2 weeks, have you been trying not to think about or have feelings associated with the trauma? ______

7. In the past 2 weeks, have you been making efforts to avoid activities, situations, or places that remind you of the trauma? ______

8. In the past 2 weeks, are there any important parts about the trauma that you still cannot remember? ______

9. In the past 2 weeks, have you found that you are not interested in things you used to enjoy doing? ______

10. In the past 2 weeks, have you felt distant or cut off from others around you? ______

11. In the past 2 weeks, have you felt emotionally numb (for example, feel sad but can't cry, unable to have loving feelings)? ______

12. In the past 2 weeks, have you felt that any future plans or hopes have changed because of the trauma (for example, will have no career, marriage, children, or long life)? DO NOT INCLUDE MOVING. ______

13. In the past 2 weeks, have you been having problems falling or staying asleep? ______

14. In the past 2 weeks, have you been more irritable or having outburts of anger? ______

15. In the past 2 weeks, have you been having more difficulty concentrating (for example, drift in and out of conversations, lose track of story on television, difficulty in remembering what you have read)? ______

16. In the past 2 weeks, have you been overly alert (for example, checking to see who is around you, uncomfortable with your back to a door, etc)?

17. In the past 2 weeks, have you been jumpier, more easily startled (for example, when someone walks up behind you)? ______

# APPENDIX D

## MEASURES USED IN DISSERTATION- SOMALI VERSION

TIRINTA DHAMAYSKATIRAN EE ARGAGAXA-104

**Tilmaamaha:** Liiska dhacdooyinka ee hoos ku qoran waa waxyaalaha dadka kudhaca wakhtiga dagaalka. Fadlan u akhri shay kasta si degan waxaadna calaamaysaa **"Maya"** haddii aysan **ahayn** dhacdadu mid kugu dhacday ama calaamee **"Haa"** haddii ay tahay mid kugu dhacday.

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 1. Waxaa la fatashay ama la baaray gurigaaga, iskoolkaaga, ama xaruntaada shaqada | | |
| 2. Waxaa dhaawac daran loo gaystay ama la burburshay gurigaaga (ama meel muhiim ah sida iskoolkaaga ama xaruntaada shaqada) | | |
| 3. Waad qaxday ama waxaad kadhuumatay askar ama cadaw | | |
| 4. Waxaa khasab kugu noqotay in aad been sheegtid si aad naftaada u ilaalisid ama kuwo kale u ilaalisid (waxaa kujira saxiixa xog rasmi ah si aad naftaada u ilaalisid ama kuwo kale u ilaalisid) | | |
| 5. Noolaanshaha dagaal dhexdi, iyo in lagugu khasbay in aad labo qolo taageertid si aad u badbaadid | | |
| 6. Waxaa laguugu cagajugleeyey in dhib lagu gaarsiinayo ama waxaad dareentay in aad dhib weyn kudhexjirtid | | |
| 7.Waxaad kusugnayd meel uu dagaal kasocdo,balse adigu kama aadan qeyb qaadaneyn dagaalka dhaawacna kaama soo gaarin | | |
| 8. Waxaad uga qeyb qaadatay dagaalka askari ahaan ama sidii dagaalyahan shicib ah | | |

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 9. Waxaa lagugu khasbay in aad ku biirtid ciidanka | | |
| 10. Waxaad kudhawaatay geeri sabab laxariirta xanuun ama dhaawac darteed | | |
| 11. Uurkaagii (nimanka: uurka xaaskaaga) waxaa soo gaaray khatar, ama ilmo yar ayaa u dhintay sababo laxariira xaaladaha dagaalka | | |
| 12.Dhimashada xubin qoyska kamid ah oo aan ka ahayn ilmo yar sabab laxariirta dagaalka | | |
| 13.Dhimashada saaxiibbo dagaal dartiis | | |
| 14. Waxaa khasab noqotay katagidda dad dhaawac ah, dhintay, ama dhimanaya | | |
| 15. Ilmo aad dhashay ayaa dhintay | | |
| **DHAAWAC JIRKAA** | | |
| 16. Waxaad sitoos ah u wajahday hub kiimiko ah | | |
| 17. Waxaad ku dhaawacantay dagaal socda | | |
| 18. Xabbad ayaa lagugu dhuftay ama waxaa lagugu dukheeyey waxyaalo qarxa | | |
| 19. Waxaa lagugu khasbay in aad istaagtid, jilbo jabsatid, ama aad socotid wakhti dheer | | |

## XABSI IYO FARAXUMAYN KAS AH

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 20. Waxaa lagugu khasbay in aad xaadirtid hawlaha xisbiga ama  waxaa lagugu khasbay fikrado ama caqiidooyin (“dhaqanrogid”) | | |
| 21. Waa lagu xaqiray ama “rikaateeyey” | | |
| 22. Waxaa lagugu bahdilay dad kale hortood (waa lagu qaawiyey, lagu caayey, lagugu qayliyey, lagu garaacay) | | |
| 23. Waxaa lagugu garaacay qoyska ama saaxiibada hortooda | | |
| 24. Waa lagu jeebbeeyey, lagu xirxiray, ama lagu silsiladeeyey | | |
| 25. Waa lagu madax duubay ama lagu indho xiray | | |
| 26. Waxaa si kas ah laguugu sheegi DIIDEY waxa xiga ee kugu dhici doona ama meesha lagu geyn doono | | |
| 27. Waxaa lagu geeyey lagaagana tagay meel aadan garaneyn | | |
| 28. Waa lagu garaacay, dharbaaxay, tumay ama haraatiyey ama shay ayaa lagugu tumay | | |
| 29. Waxaa dhaawac lagaa gaarsiiyey dhagaha, indhaha, sanka, ama afka ayada oo shay la isticmaalayo | | |
| 30. Qeyb kamid ah jirkaaga ayaa lagubay, aad loo qaboojiyey, ama koronto lagu dhajiyey | | |

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 31. Jirkaaga ayaa waxaa lagu dhaawacay daldalaad, cirbado, ama in timaha ama cidiyaha lagaa siibo | | |
| 32. Waxaa lagugu dhex quusiyey biyo ama waxaa lagugu buufiyey biyo xawligoodu sarreeyo | | |
| 33. Waxaa lagugu jeexay ama lagugu duray mindi | | |
| 34. Waxaad in lagugu dilo kudhawaatay daldalaad ama cabburin, quusin, ama dhaawacyo kale oo ulakac ah (sida in lagu jiido) | | |
| 35. Waxaa lagugu ciqaabay kaadi ama xaar | | |
| 36. Waxaa lagugu ciqaabay nal if badan, cod qaylo dheer, ama ur qarmuun | | |
| 37. Waxaa lagu galiyey xabsi gooni ah (takooran) ama waxaa laguu diiday dareemada | | |
| 38. Waxaa laguu diiday cunto ama biyo kugu filan | | |
| 39. Waxaa laguu toosiyey si noqnoqosho ah waxaana laguu diiday hurdo | | |
| 40. Waxaa lagaa xannibay daryeelka caafimaad markii aad ahayd mid aad ujiran | | |
| 41. Waxaad kunoolayd xaalad aad u hoosaysa xabsiga dhexdiisa (buuxdhaaf, dhibaatooyin dhanka nadaafadda ama heer kulka ah) | | |
| 42. Waxaa lagugu khasbay in aad si dhib badan u shaqaysid ama muddo dheer aad shaqaysid ama xaalado xunxun kushaqaysid | | |

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 40. Waxaa lagaa xannibay daryeelka caafimaad markii aad ahayd mid aad ujiran | | |
| 41. Waxaad kunoolayd xaalad aad u hoosaysa xabsiga dhexdiisa (buuxdhaaf, dhibaatooyin dhanka nadaafadda ama heer kulka ah) | | |
| 42. Waxaa lagugu khasbay in aad si dhib badan u shaqaysid ama muddo dheer aad shaqaysid ama xaalado xunxun kushaqaysid | | |
| 43. Waxaa lagaa qaaday waraysi, jir ahaan ayaa lagu baaray, waa lagu istaajiyey si aqoonsi laguu weydiiyo waxaana lagu weydiiyey su'aalo | | |
| 44. Waxaa si aan dhab ahayn laguugu dacweeyey waxyaabo aadan samayn ama waa lagu xiray | | |
| 45. Waxaa lagugu khasbay in aad wax nafsadaada ama dad kale kusaabsan qirtid | | |
| 46. Waxaa laguugu goodiyey dhaawac daran ama dilid | | |
| 47. Waxaa lagugu khasbay in aad daawatid markii dad kale la jirdilayey ama la khaarijinayey, ama maqalka dhaawicidda iyo jirdilka dad kale | | |
| 48. Waxay askartu ama booliisku kugu xannibeen xaafad, tuulo, ama guri | | |
| 49. Waxaa khabsi lagu gashay in kayar saddex bilood | | |

**ARGAGAXA GALMADA AMA FARAXUMAYNTA**

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 50. Waxaad gashay jeel, xabsi,ama goob waxbarasho ku celin ah in kabadan saddex bilood | | |
| 51. Wax galmo aadan rabin ah oo kusoo maray | | |
| 52. Xubnahaaga taranka ayaa lataabtay adiga oo aan rabin taas | | |
| 53. Waxaa laguugu goodiyey in galmo ahaan lagu furaxumayn doono ama lagu kufsan doono (balse dhab ahaan uma aysan dhicin) | | |
| 54. Xubnahaaga taranka ayaa dhib loo gaystay (goyn, gubid, qabow ama kulayl, koronto, iwm…) | | |
| 55. Xubnahaaga taranka ayaa waxaa lagashay alaab ama gacmo | | |
| 56. Waa lagu “kufsaday” (waxaa lagugu khasbay in aad galmo [siilka, dabada, afka] samaysid adiga oo aan rabin) | | |
| 57. Waxaad aragtay qoyskaaga ama saaxiibadaa oo si halis ah loo dhaawacay ama jirran dagaalka dartiis | | |
| 58. Waxaad aragtay dad kale oo si halis ah udhaawacmay dagaalka dartiis | | |
| 59. Waxaad aragtay xubin qoyskaaga kamid ah ama saaxiib la kufsanayo | | |

| | MAYA<br><br>Ma **AYSAN** igudhicin aniga | HAA<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 60. Waxaad aragtay qof kale oo la kufsanayo | | |
| 61. Waxaad aragtay qoyskaaga ama saaxiibbo ladilayo | | |
| 62. Waxaad aragtay dad kale oo ladilayo | | |
| 63. Waxaad aragtay qof la googoynayo ama la qarxinayo | | |
| 64. Waxaad daawatay dad kale oo dhimanayo | | |
| 65. Waxaad caawisay dad jirran ama dhaawac ah (oo ay kujiraan qaxootigu) | | |
| 66. Waxaad aragtay meyd dhintay ama qeybo kamid ah jirka bini aadamka | | |
| 67. Qufidda, xabaalidda, ama qabashada meyd dhintay ama qeybo kamid ah jirka bini aadamka | | |
| 68. Waxaad ka aragtay rabshad lasoo agaasimay, bannaanbax dadweyne, ama dhacdooyin xunxun taleefishinka | | |
| 69. Waxaad aragtay dhaawaca ama dhimashada dad badan mar qura, ama waxaad shaahid kanoqotay xabaal wadareed | | |
| 70. Waxaad aragtay xawayaan daawac ah ama dhintay | | |
| 71. Waxaad maqashay dad loogu xadgudbo qaabab daran | | |

## MAQALKA KUSAABSAN DHAAWACA AMA DHIMASHADA

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 71. Waxaad maqashay dad loogu xadgudbo qaabab daran | | |
| 72. Waxaad maqashay in carruur ama dad kale oo aan dambi lahayn ladhaawacay ama la dilay | | |
| 73. Waxaad maqashay gumaad iyo dad lagu riday xabaal wadareed | | |
| **MANCINTA IYO TAKOORIDDA** | | |
| 74. Waxaad heshay wax aad u yar oo cunto, biyo ama dhar ah sababo laxariira saboolnimada ama takoorka dartood | | |
| 75. Waxaad u khasbanaatay in aad ku noolaatid xaalado hooseeya (qaxid, buuro dushood, guri iyo nadaafad aan fiicnayn) | | |
| 76. Waxaa lagaa qaatay gurigaagii, ganacsigaagii ama hanti shakhsi ahaaneed oo muhiim ah | | |
| 77. Waxaa lagugu khasbay in aad joojisid shaqada ama wax barashada | | |
| 78. Waa lagu kormeeraa(si noqnoqod ah ayaa laguu baaraa, ama waa lagu daawadaa laguna raacaa, ama waxaad ku khasbantahay in aad saraakiisha iska diiwaan galisid) | | |
| 79. Waa lagu cadaadiyey (si bablig ah uma kulmi kartaan, saaxiibbo lama kulmi kartid, fakarkaaga kuma hadli kartid) | | |

**KHIYAANO**

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 80. Been ayaa laguu sheegay ama waxaa lagaa dhigay mid aan hubin meesha ay xubnaha qoyskaagu joogaan | | |
| 81. Qoyskaaga ayaa ku dayriyey intii aad kujirtay xabsiga | | |
| 82. Waxaad dareemaysay sidii in saaxiibadaa ay kudayrsheen intii lagu guda jiray dagaalka | | |
| 83. Waxaad dareemaysay sidii in ay madaxdaadii ama saraakiishii sar sare ku khiyaameen | | |
| 84. Waa lagu ceebeeyey | | |
| 85. Bumbooyin ama xabado ayaa kadhacay meelihii “ammaanka” ahaa (sida meelaha loo barakaco) | | |
| 86. Waxaa lagu khasbay in aad kormeertid aadna xogtooda soo gudbisid qoyskaaga ama dariskaaga | | |
| 87. Waad diidey ama ka carartey waajibaadkii ciidanka ee khasabka ahaa | | |
| **TAFARAARUQA GURIGA IYO RABSHADDA** | | |
| 88. Waxaad la kulantay khilaaf adag oo qoyska ah dagaalka dartiis | | |
| 89. Waxaad rabshad kala kulantay xubin kamid ah qoyska dagaalka dartiis | | |

**RARID**

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|
| 90. Waxaa laguu raray meel ay dowladdu leedahay ama “ meel dhaqaale oo cusub” | | |
| 91. Waxaa khasab kugu noqotay in aad kaqaxdid gurigaaga ama bulshadaada khatar darteed | | |
| 92. Waxaa khasab kugu noqotay in aad kaqaxdid gurigaaga ama bulshadaada sababtoo ah majiraan wax shaqo ah ama sababtoo ah takoorid kale | | |

**KALAGEYN IYO TAKOORID**

| | | |
|---|---|---|
| 93. Waxaad korisay carruurtaada adiga oo kaligaa ah | | |
| 94. Carruurtaadu inta badan kaligood bay ahaayeen xaaladaha dagaalka awgood | | |
| 95. Waxaa ku kaxaystay cadawga, waxaana lagaa fogeeyey qoyskaaga | | |
| 96. Xaaskaaga ama ilmahaaga ayaa lagaliyey jeel, xabsi, ama xero | | |
| 97. Waxaa lagaa fogeeyey qoyskaaga xaaladaha dagaalka awgood | | |
| 98. Ma aadan AHAYN mid awood u leh in uu daryeelo xubnaha qoyskaaga kala fogeynta awgeed | | |
| 99. Ma aadan AHAYN mid awood u leh in uu arko xubin qoyskaaga kamid ah oo dhimanaya, ama ma aadan xaadiri karin aaskiisa | | |
| 100. Waa lagu garaacay ama si xun baa laguula dhaqmay xerada qaxootiga dhexdeeda | | |

| | **MAYA**<br><br>Ma **AYSAN** igudhicin aniga | **HAA**<br><br>Waa ay igudhacday aniga |
|---|---|---|

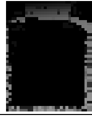
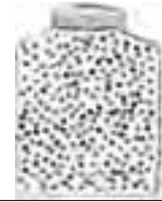
**DHIBAATOOYINKII XILLIGII SADCAALKA**

| | | |
|---|---|---|
| 101. Waxaad ku fakari jirtay in aadan waligaa katagi karaynin xerada qaxootiga | | |
| 102. Adiga ama xubnaha qoyskaaga waxaa loo diiday qaxootinimo ama mudnaan magangalyo | | |
| 103. Waxaad dareemi jirtay baqdin ah in dib laguugu celin doono waddankaagii oo xerada qaxootiga lagaa eryi doono | | |
| 104. Waxaad kala lunteen xubnihii qoyskaaga wakhtigii qaxa ama sadcaalka | | |

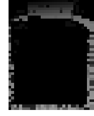
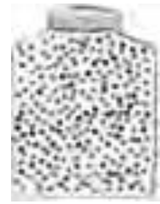
## LIISKA WARBIXINTA EE IFAFAALAHA HOPKINS-25

WAXAA HOOS KUTAXAN QAAR KAMID AH IFAFAALAHA DHAAWACA AY DADKU MARMARKA QAAR QABAAN. Tilmaamaha: Fadlan U Akhri Mid Kasta Si Degan Dabadeedna Calaamee Jawaabta Kuhabboon Inta Uu Ifafaalahaasu Kudhibay Intii Lagu Gudajiray Bishii Lagagudbay.

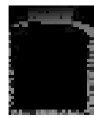
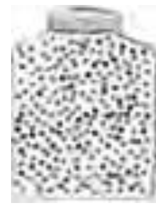
| | **1**<br>**Ma ayan dhicin** | **2**<br>**Wax yar** | **3**<br>**Xoogaa bay dhacday** | **4**<br>**Aad bay udhacday** |
|---|---|---|---|---|
| **1. Si kadis ah baan u cabsaday sabab la'aan** | | | | |
| **2. Baqdin baan dareemayaa** | | | | |
| **3. Suuxid, wareer, ama tabar darro** | | | | |
| **4. Naxdin ama gariir gudaha ah** | | | | |
| **5. Wadnaha ayaa boodboodaya ama aad u garaacaya** | | | | |
| **6. Gariir** | | | | |
| **7. Waxaad dareentay feejignaan iyo digtoonaan** | | | | |

| | 1<br>Ma ayan dhicin | 2<br>Wax yar | 3<br>Xoogaa bay dhacday | 4<br>Aad bay udhacday |
|---|---|---|---|---|
| **8. Madax xanuun** | | | | |
| **9. Naxdin soo booddo ah iyo baqdin** | | | | |
| **10. Waxaad dareentay nasiino la'aan, si degan uma fadhin kartid** | | | | |
| **11. Waxaad dareentay tabar yari--- gaabin** | | | | |
| **12. Waxaad naftaada ku eedaysay waxyaalo** | | | | |
| **13. Si fudud baad u oyday** | | | | |
| **14. Waxaa kaa lumay xiisayntii galmada ama raaxadeedii** | | | | |
| **15. Oomoteed xumo** | | | | |

| | 1<br>Ma ayan dhicin | 2<br>Wax yar | 3<br>Xoogaa bay dhacday | 4<br>Aad bay udhacday |
|---|---|---|---|---|
| **16. Dhibaato ah in aad hurdo hesho, aad ahaatid mid hurda** | | | | |
| **17. Waxaad dareentay quus kusaabsan mustaqbalka** | | | | |
| **18. Waxaad dareentay murugo** | | | | |
| **19. Waxaad dareentay cidlo** | | | | |
| **20. Waxaad dareentay xirxiraan ama qabasho** | | | | |
| **21. Aad baad uga walwashaa waxyaalaha** | | | | |
| **22. Wax xiiso ah kuuma qabto waxyaalaha** | | | | |

| | 1<br>Ma ayan dhicin | 2<br>Wax yar | 3<br>Xoogaa bay dhacday | 4<br>Aad bay udhacday |
|---|---|---|---|---|
| **23. Waxaad kufakartay in aad naftaada goysid** | | | | |
| **24. Waxaad dareentay in wax walbaa dadaal yihiin** | | | | |
| **25. Waxaad dareentay qiimo la'aan** | | | | |

Abbreviated Multidimensional Acculturation Scale

(Adapted from: Zea, Asner-Self, Birman, & Buki)

**Tilmaamaha: Fadlan calaamee nambarka cabbirkan kamidka ah  ee ku habboon ama la xariira jawaabtaada.**

| | 1<br><br>Aad baan u diidanahay | 2<br><br>Si baan u diidanahay | 3<br><br>Si baan u ogolahay | 4<br><br>Aad baan u ogolahay |
|---|---|---|---|---|
| 1. Anigu waxaan isu haystaa in aan ahay Ameerikaan. | | | | |
| 2. Waan ku faraxsanahay in aan ahay Ameerikaan. | | | | |
| 3. Ahaanshaha aan ahay Ameerikaan waxay ka qaadataa kaalin muhiim ah noloshayda. | | | | |
| 4. Waxaan dareemayaa in aan kamid ahay dhaqanka Ameerikaanka. | | | | |
| 5. Aad ayey iigu weyntahay in aan ahay Ameerikaan. | | | | |
| 6. Waxaa faan ii ah in aan ahay Ameerikaan. | | | | |

**Fadlan ka jawaab su'aalaha hoos ku qoran adiga oo isticmaalahaya jawaabaha soo socda:**

| | **1**<br><br>**Gebi ahaanba maya** | **2**<br><br>**Wax yar** | **3**<br><br>**Si Fiican** | **4**<br><br>**Si aad u fiican** |
|---|---|---|---|---|
| **Sidee luuqadda Ingiriiska ugu hadli kartaa:** | | | | |
| 7. markaad joogtid iskuulka ama shaqada | | | | |
| 8. markaad lajirtid saaxiibadaada Ameerikaanka ah | | | | |
| 9. markaad taleefoonka kuhadlaysid | | | | |
| 10. markaad dad baadi ah la hadlaysid | | | | |
| 11. guud ahaan | | | | |
| | | | | |
| **Sidee luuqadda Ingiriiska u fahantaa:** | | | | |
| 12. markaad taleefishinka ama filimada daawanaysid | | | | |
| 13. joornaallada iyo jariiradaha | | | | |
| 14. erayada iyo heesaha | | | | |
| 15. guud ahaan | | | | |

| **Sidee u taqaannaa:** | **1**<br><br>**Gebi ahaanba maya** | **2**<br><br>**Wax yar** | **3**<br><br>**Si Fiican** | **4**<br><br>**Si aad u fiican** |
|---|---|---|---|---|
| 16. Halyeeyada qaran ee Ameerika | | | | |
| 17. shoowyada taleefishinka ee caanka ah ee Ameerika | | | | |
| 18. joornaallada iyo jariiradaha caanka ah ee Ameerika | | | | |
| 19. atoorayaasha iyo atariishooyinka caanka ah ee Ameerika | | | | |
| 20. Taariikhda Ameerika | | | | |
| 21. Hogaamiyeyaasha siyaasadda ee Ameerika | | | | |

**Mar lasoo dhaafay waxaa laga yaabaa in ay kusoo mareen dhacdooyin argagaxa oo dagaal iyo sadcaal la xariira. Dhacdooyinkani waxaa laga yaabaa in ay dhaceen xiligey doontaba ha noqotee noloshaada dhexdeeda. Xog uruuriyaha PSS-SR dhexdiisa erayada "dhacdooyin argagax leh" waxaa loola jeedaa wax kamid ah dhacdooyinkan laga yaabo in ay dhacayaan.**

Hagid: Fadlan kajawaab su'aalahan soo socda ayada oo aad u fiirinaysid wixii dhacay intii lagu gudajiray **2dii asbuuc ee tagay** adiga oo isticmaalaysid cabbirka hoose ee 0-3.

**0 = Maba aysan dhicin**
**1 = Hal mar asbuuciiba/ wax yar/ markii muddo lajoogaba hal mar**
**2 = 2 ilaa 4 jeer asbuuciiba/ marmar/ wakhtiga barki**
**3 = 5 jeer ama in kabadan asbuuciiba/ wax badan/ mar walba**

1. 2dii asbuuc ee tagey, ma heshay fikrado ama sawirro kumurugo galinaya oo kusaabsan argagaxa kuwaas oo kusoo dhacay madaxaaga xilli aadan rabin in aad kufakarto? ______

2. 2dii asbuuc ee tagey, makusoo mareen riyooyin ama qaraw kusaabsan argagaxa? ______

3. 2dii asbuuc ee tagey, makusoo martay dhacdo ah in aad dib ugu nooshahay argagax, ma u dhaqantay ama ma dareentay sidii in ay haddana dhacayso? ______

4. 2dii asbuuc ee tagey, ma noqotay mid SHUCUUR AHAAN murugaysan markii lagu xasuusiyey argagaxa (waxaa kujira in aad aad u baqday, u xanaaqday, u murugootay, iwm.)? ______

5. 2dii asbuuc ee tagey, ma heshay fal celin JIRKA AH ( tusaale ahaan, dhidid makaa yimid, wadnuhu aad ma u garaacay) markii

lagu xasuusiyey argagaxa? ______

6. 2dii asbuuc ee tagey, ma ahayd mid isku dayaya in aadan kafakarin ama aadan helin dareen kusaabsan argagaxa? ______

7. 2dii asbuuc ee tagey, ma samaynaysay dadaal ah in aad iska ilaalisid hawlaha, xaaladaha, ama meelaha kusoo xasuusin kara argagaxa? ______

8. 2dii asbuuc ee tagey, majiraan qeybo muhiim ah oo kusaabsan argagaxa oo aadan wali xasuusan? ______

9. 2dii asbuuc ee tagey, ma ogaatay in aadan xiisaynaynin waxyaalihii aad ku raaxaysan jirtay? ______

10. 2dii asbuuc ee tagey, ma dareentay in aad kafogtahay ama aad ka go'day dadkii kale ee hareerahaaga joogay? _______

11. 2dii asbuuc ee tagey, ma dareentay in aad shucuur ahaan tahay mid suuxsan( tusaale ahaan, murugaad dareentay balse ma ooyi kartid, ma awoodid in aad heshid dareemo jacayl ah)? ______

12. 2dii asbuuc ee tagey, ma dareentay in qorshayaasha mustaqbalka ama rajooyinku ay isbadaleen argagaxa darti (tusaale ahaan, ma haysan doontid wax xirfad ah, guur, ilmo, ama nolol dheer) HAKU DARIN GUURITAANKA. ______

13. 2dii asbuuc ee tagey, ma qabtey dhibaatooyin ah in hurdo kaa imaato ama aad seexatid? ______

14. 2dii asbuuc ee tagey, ma ahayd ma ahayd mid didsan ama ma helaysay xanaaq  kadis ah? ______

15. 2dii asbuuc ee tagey, ma helaysay dhibaatooyin dhanka digtoonaanta ah ( tusaale ahaan, ma baxaysay mana soo laabanaysay wadasheekaysiga dhexdiisa, makaa dhumaysay

17. 2dii asbuuc ee tagey, ma ahayd mid bood boodaya, si fudud u turaanturoonaya (tusaale ahaan, markii qof uu socdo gadaashaada)? ______

sheekada taleefishinka kasocota, ma helaysay dhiibaato ah in aad xasuusatid wixii aad akhriday)? ______

16. 2dii asbuuc ee tagey, ma ahayd mid aad u feejigan (tusaale ahaan, in aad fiirfiirisid cidda hareerahaaga joogta, xasillooni madareemayn in dhabarkaaga ama gadaashaada albaab kuyaal, iwm)? ______

**XOG ARUURIYAHA ARRIMAHA BULSHADA**

**Fadlan goobo gali hal dookh middii kasta oo kamid ah su'aalaha soo socda:**

1. Da'da
   - a. 18-24
   - b. 25-34
   - c. 35-44
   - d. 45-54
   - e. 55-70
   - f. 70-99

2. Jinsiyadda
   - a. Dumar
   - b. Rag
   - c. Kukale

3. Tirada Carruurta
   - a. waxna
   - b. 1-2
   - c. 3-4
   - d. 5 ama kabadan

4. Mudnaanta Guurka
   - a. guur kuma jiro
   - b. garoob
   - c. waa lagadhintay
   - d. guur baan kujiraa

6. Tirada sanadaha aad Maraykanka kunoolayd.
   - a. 0
   - b. 1-2 sano
   - c. 2-4 sano
   - d. 5-9 sano
   - e. 10-15 sano
   - f. 16-20 sano
   - g. 20 + sano

**XOG ARUURIYAHA ARRIMAHA BULSHADA**

7. Mudnaanta shaqada
 - a. Ma shaqeeye, shaqo raadinaya
 - b. Ma shaqeeye, AAN shaqo raadineyn
 - c. Shaqeeye*

*Haddii aad shaqeysid, fadlan qeex saacadaha aad shaqeysid asbuuciiba __________

8. Waxbarashada
 - a. Maleh waxbarasho rasmi ah
 - b. Qeyb kamid ah dugsiga hoose (ilaa fasalka 6aad)
 - c. Qeyb kamid ah dugsiga sare ( ilaa fasalka 12aad)
 - d.Waa dhammeeyey dugsiga sare
 - e. Qeyb kamid ah koleejo
 - f. Digriiga Baajolaarka iyo wax dhaafsiisan

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# VITA

Katherine C. Jorgenson was born on December 23, 1983, in Shawnee Mission, Kansas. She was raised by her parents, Mark and Mary Jorgenson, along with her three siblings, Ellen, Molly, and David in Shawnee, Kansas. Katie graduated from Shawnee Mission North High School in 2002, where she was a honors student, involved in Student Council, band, the arts, and a state competitor in basketball and track.

Ms. Jorgenson attended Truman State University in Kirksville, Missouri, graduating in 2006 cum laude with a double major Bachelor of Arts in Psychology and Fine Arts (emphasis: Ceramics). She then completed a Master of Education degree at Loyola University Chicago in Community Counseling in 2008. Katie continued to work in Chicago as a counselor, working with refugee children and families until 2010 when she was accepted into the doctoral program at the University of Missouri-Kansas City.

During her doctoral training, Ms. Jorgenson completed clinical training in various treatment settings, including a psychiatric hospital, an outpatient clinic for adults and children, and a college counseling center. She continued to work with local refugee and immigrant groups, linking individuals to counseling and case management services, while also providing psycho-educational workshops on a variety of topics.

Ms. Jorgenson completed her pre-doctoral internship at University of Missouri-Kansas City Counseling Services in 2016-2017. Her professional clinical and research interests are in refugee mental health and policy, critical consciousness training, and gender studies.