THE IMPACT OF ACCULTURATION, TRAUMA, AND POST-MIGRATION STRESSORS ON THE MENTAL HEALTH OF AFRICAN IMMIGRANTS AND REFUGEES IN SWEDEN

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Mental health promotion is an important public health issue which warrants increased and immediate attention due to the significant impact that mental health can have on physical health, quality of life, and functioning. Immigrants and refugees often have unique mental health needs secondary to migration to a new country and the acculturative stressors and living difficulties that often accompany resettlement, as well as previous experiences of trauma. However, little to no research has been conducted regarding the mental health of African immigrants and refugees living in Sweden. This thesis describes data from a study conducted in Stockholm, Sweden from 2002 to 2005 that investigated African immigrant and refugee health and quality of life. Stratified quota sampling based on the 2001 Swedish census was used to recruit a representative sample of participants by gender and country of origin. Four hundred and twenty participants completed semi-structured interviews that utilized cross culturally validated survey instruments to measure depression, anxiety, post-traumatic stress disorder (PTSD), acculturation, traumatic events, and post-migration living difficulties. Twenty percent of participants met symptom criteria indicative of depression, and 18.5% met criteria indicative of anxiety. Eighty-nine percent of participants reported experiencing at least one traumatic event prior to immigration, and 47% met DSM-IV symptomology and functional impairment criteria for PTSD. Mental

health outcomes were found to be significantly associated with pre-migration trauma, acculturation level and type, and post-migration stressors. Recommendations for future research, mental health service provision, and integration policies are provided.

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PREFACE

Many thanks and much gratitude to:

Dr. Jennifer Steel, for giving me the opportunity to work in Sweden on the research study described in this thesis; the faculty and staff at Karolinska Institute and Dalarna Research Institute, especially Dr. Töres Theorell, Anette Hedberg, Elizabeth Berent, and Claes Herlitz, for their guidance, support, and assistance with the study; the Swedish Institute and the Swedish Council for Working Life and Social Research, for financial support of the study; the dedicated members of my thesis committee, for their time and thoughtful feedback throughout the thesis writing process; and my family and friends, for their support and encouragement during graduate school.

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1.0 INTRODUCTION

The World Health Organization (WHO) defines health as " a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" (WHO, 2005, p.2). Mental health is a core component of this definition, yet it is an area which until recently has often been overlooked, and continues to be seen as secondary to the promotion of physical health goals. Mental health is a significant predictor of both physical health and quality of life, and good mental health provides individuals with a foundation for well-being and effective functioning (WHO, 2005). Mental and physical health are interdependent, and as such, it is necessary to address individuals' mental health needs in order to improve overall health outcomes.

Mental health promotion is an important public health issue which warrants increased and immediate attention. The WHO and other international public health agencies have recognized improvement of mental health as an area of priority concern for low, middle, and high income countries (WHO, 2001a), as a significant gap currently exists between the global mental illness burden and the resources available to treat mental health conditions (WHO, 2001b). Rates of mental ill-health are increasing worldwide, and by 2020 mental disorders are expected to account for 15% of the global disease burden (WHO, 2005). It is also estimated that by 2020, depression will comprise the second largest disease burden worldwide (WHO, 2005). Mental health disorders can also result in significant costs, not only for the individuals who experience them,

but also for governments and societies, due to loss of productivity and decreased levels of functioning among people with mental illnesses (WHO, 2005).

Immigrants and refugees often have unique and increased mental health needs secondary to migration to a new country and the acculturative stressors and living difficulties that often accompany resettlement, as well as previous experiences of trauma. These pre- and post-migration factors can significantly impact mental and physical health, functioning, and quality of life among these individuals.

This thesis is based on data from a study that was conducted from 2002 to 2005 in Stockholm, Sweden which investigated African immigrant and refugee mental health, sexual health, and quality of life. The thesis will describe the prevalence of depression, anxiety and post traumatic stress disorder (PTSD) found among this sample of African refugees and immigrants. Prior research conducted in Sweden has demonstrated that foreign-born individuals have greater psychological distress (Bayard-Burfield, Sundquist, Johansson, & Traskman-Bendz, 1999; Iglesias, Robertson, Johansson, Engfeldt, & Sundquist, 2003), as well as poorer overall health status than native born Swedes (Iglesias, et al., 2003; Sundquist & Johansson, 1997a, 1997b). However, to the author's knowledge no study to date has examined the prevalence of mental health issues among African immigrants and refugees in Sweden specifically.

In addition, little to no research has been conducted regarding predictors of mental health among African immigrants and refugees in Sweden. This thesis will investigate whether or not relationships exist between mental health and 1) acculturation, 2) experiences of pre-migration trauma, and 3) post-migration living difficulties. More specifically, this research will examine associations between different levels and types of acculturation (e.g., language acculturation) and depression, anxiety, and PTSD. This thesis will also investigate if acculturation is associated

with the number of pre-migration traumatic events and post-migration stressors experienced by this population. The thesis will describe the amount and types of trauma experienced by this population, further examine how experiences of trauma may impact ability to acculturate secondary to mental health issues, and determine if there is an association between the number of pre-migration traumatic events and the number of post-migration stressors experienced by this population. This thesis will also describe the prevalence and types of post-migration stressors experienced by African immigrants and refugees in Sweden, and will examine associations between post-migration stressors, trauma, and acculturation.

Promoting and maintaining positive mental health is an important public health priority for refugees and immigrants. This thesis will provide valuable information regarding the mental health and integration and resettlement needs of African refugees living in Sweden. Chapter Two of this thesis describes some background information on the current state of refugees worldwide, a history of Swedish migration, current Swedish immigration policies, and the results of a literature review regarding how acculturation, trauma, and post-migration stress may impact refugee mental health. Chapter Three describes the study methodology, and Chapter Four provides the results of the study. Chapter Five discusses the importance and meaning of the results, and Chapter Six details recommendations for future research and the development of appropriate mental health and resettlement services for refugees and immigrants.

2.0 BACKGROUND

This section provides statistics on the current state of refugees worldwide, as well as a brief history of Swedish migration and information on current immigrant and refugee policies in Sweden. Also included in this section are the results of a literature review that was conducted to provide background information on immigrant and refugee mental health, including how acculturation, experiences of pre-migration trauma, and post-migration stressors may impact the mental health of immigrants and refugees.

2.1 REFUGEE STATISTICS

The United Nations High Commissioner for Refugees (UNHCR) recently reported that at the end of 2008, approximately 42 million people had been forcibly displaced due to conflict and persecution, including 16 million refugees and asylum seekers and 26 million internally displaced persons worldwide (2009a). Four-fifths of all refugees reside in developing countries, and three-fourths seek asylum in neighboring countries within their region of residence (UNHCR, 2009a); however, a significant number also seek asylum in Western countries. Europe currently hosts 15% of all refugees worldwide (UNHCR, 2009a), and in the first half of 2009 it accounted for 75% of all asylum claims made (UNHCR, 2009b). In 2008, Europe was the primary destination for asylum seekers, with 333,000 registered asylum claims (UNHCR,

2009a). In 2007 Sweden accepted the third largest number of asylum claims worldwide (36,400), after the United States and South Africa (UNHCR, 2008). In 2008 Sweden accepted 2,200 refugees from UNHCR for resettlement, accounting for over 12% of all refugees that UNHCR helped to resettle that year (UNHCR, 2009a).

At the end of 2008, there were approximately 2.1 million refugees from Africa, excluding North Africa (UNHCR, 2009a). In addition, in 2008 four of the top five countries from which the greatest numbers of new asylum claims were lodged were in Africa (UNHCR, 2009a). At the time that the research described in this thesis was conducted, 78% of refugees and internally displaced persons worldwide were from Africa (UNHCR, 2000), which highlights the disproportionate number of refugees from this region. In recent years these figures have changed, as there has been an increase in the number of refugees from several countries in the Middle East due to ongoing conflicts in this region. Despite this, nearly 10.4 million (33%) of the UNHCR persons of concern (31.7 million total) are from Africa (UNHCR, 2008).

2.2 HISTORY OF SWEDISH MIGRATION

Sweden has a long history of migration in and out of the country. Sweden's first recorded immigrants were English coinmakers who arrived around the year 1000, followed by 12th century immigration of German craftsmen and merchants (Nordin, 2005). The majority of all early immigrants to Sweden were from other Scandinavian and European countries. In the late 19th and early 20th century, Swedish migration was characterized more by emigration than immigration, and approximately 1.2 million Swedes (20% of the population at the time) emigrated to the United States (Jederlund, 1998). The resulting decrease in the Swedish

population led to a small influx of labor immigrants into the country (Jederlund, 1998). Prior to World War I there were very few restrictions on migration to Sweden. However, in 1917 Sweden instituted some of its first migration laws, which required prospective immigrants to have passports, visas, and work permits, and also instituted its first deportation laws, which were made partly in response to job competition and what were judged at the time to be potential security threats (Nordin, 2005).

Swedish immigration practices were quite liberal following World War II, and in the 1940s and 1950s, Sweden accepted refugees from Norway, Denmark, Finland, Germany, and other states in the Baltic region (Nordin, 2005; Pred, 2000). Partially due to Sweden's largely neutral stance and non-involvement in World War II, the country saw a period of great postwar prosperity and rapid industrial and economic growth during this time. This growth and expansion created a large demand for labor, which in part led to the liberal immigration policies of the 1940s and 1950s. A 1954 labor agreement between Finland, Norway, Denmark, and Sweden granted the citizens of these countries the right to work in any of the Nordic nations without a residence permit (Nordin, 2005). Sweden also actively recruited other foreign workers from several countries in southern and central Europe, including Italy, Greece, Germany, Austria, and Yugoslavia (Pred, 2000).

Sweden was unique among European countries in that it utilized an immigration policy rather than a guest worker policy to recruit workers to Sweden (Peterson, 1997), and as such labor immigrants in Sweden tended to stay for longer periods of time or permanently in the country. However, Swedish labor unions had the right to regulate the immigration of foreign laborers and could also limit the recruitment of non-Nordic labor immigrants if they felt that importation of such a labor force would jeopardize Swedish employment (Peterson, 1997).

During the 1940s and 1950s, approximately 250,000 immigrants resettled in Sweden (Nord, 1997). This labor based immigration continued well into the 1960s, with over 200,000 people immigrating to Sweden during this decade (Nord, 1997). However, the need for outside labor began to dwindle in the late 1960s and unemployment started to rise. As a result, new regulations on foreign labor were implemented in 1968 that were designed to prevent unemployment among Swedish citizens by requiring potential migrants to secure work permits and housing before entering the country (Nordin, 2005). Like many other countries, Sweden was impacted by the global economic crisis of the 1970s, and as economic growth and expansion dwindled so did labor shortages. In 1972, Sweden finally stopped large scale active recruitment of non-Nordic foreign workers (Baarnhielm, Ekblad, Ekberg, & Ginsburg, 2005; Nord, 1997; Peterson, 1997).

However, the restrictions placed on potential labor immigrants did not apply to refugees or persons who were deemed by the state to have experienced "refugee like" conditions (Pred, 2000). Sweden had been building a reputation as a country sensitive to humanitarian needs since its neutral stance during World War II and the country's condemnation of human rights violations and oppression occurring in Algeria, Ghana, and South Africa in the 1950s and 1960s (Nordin, 2005; Pred, 2000). Although refugees had been arriving in Sweden since the early 20th century, it was not until the 1970s and 1980s that Sweden experienced its first large influx of refugees and asylum seekers from several countries outside of Europe. Since the 1970s, migration to Sweden has primarily consisted of individuals who have fled from oppressive or war-like conditions in their home countries and *tied movers*, relatives of people who have already been granted residence in Sweden (Baarnhielm, et al., 2005).

During the 1970s and 1980s, large numbers of refugees from Chile, Serbia, Bosnia, Croatia, Ethiopia, Eritrea, Liberia, and Lebanon were granted asylum in Sweden (Scobbie, 2006). Due to increasingly large numbers of refugees coming into the country, Sweden instituted several immigration reform policies in the mid-1970s with the objectives of better ensuring immigrant equality and freedom of cultural choice and facilitating cooperation and solidarity between native Swedes and ethnic minority groups (Jederlund, 1998; Pred, 2000). However, these egalitarian policies were formulated during a time of stable economic growth and employment in Sweden. An economic recession in the 1990s led to rising costs for housing and other resettlement services (such as Swedish language courses) for refugees, and it became more difficult to ensure that these policy objectives were being met (Jederlund, 1998), even as considerable numbers of refugees continued to enter the country throughout the 1990s. As a result of economic downturns and shrinking labor markers, immigration policies again became more restrictive, and the government experimented with different programs and incentives to encourage people to return to their home countries (Pred, 2000).

2.3 CURRENT SWEDISH REFUGEE AND ASYLUM POLICIES

The difference between refugees and asylum seekers is generally a mere legal definition. Refugees are individuals who have been previously identified by the UNHCR as persons who need assistance, and they therefore receive some level of protection from the agency (Weaver & Burns, 2001). Asylum seekers are individuals who appeal directly to a host country for protection from the state or institution from which they fear persecution. Asylum seekers state their cases physically in the country where they are seeking protection, whereas this is not

necessarily true for refugees, whose cases are often first heard by UNHCR, which then makes recommendations regarding where refugees should be sent for resettlement (Weaver & Burns, 2001).

In 1951, along with several other countries, Sweden ratified the UN Convention on Refugees (also known as the Geneva Convention), which requires Sweden to review all asylum applications and to grant asylum to individuals who are recognized as refugees according to the Convention (Regeringskansliet, 2009a). Swedish rules for asylum are also governed by the Swedish Aliens Act which, along with the European Union's Qualification Directive, Reception Directive, and Asylum Procedure Directive, sets forth additional criteria regarding who qualifies for protection (Migrationsverket, 2010). Asylum policy in Sweden is also governed by the Dublin Regulation, which determines which country will be responsible for reviewing individual asylum cases, as asylum seekers do not have the right to choose the country that will handle their asylum case. In addition, the Geneva Convention states that refugees are not permitted to choose the country in which they want to apply for asylum, as they must apply in the first secure country they enter.

Asylum seekers who are awaiting their resettlement decisions in Sweden are granted housing, modest living allowances, emergency medical and dental care, and permission to work (Migrationsverket, 2010). Swedish law also allows for the possibility of reunification of nuclear families, but it is difficult to obtain residence permits for other family members, such as parents or siblings who did not reside in the same household with the asylum applicants prior to emigration from their country of origin.

In addition to hosting asylum seekers, since 1950 Sweden has partnered with the UNHCR to receive quota refugees, individuals who have been selected and given priority for resettlement

by the UNHCR (Migrationsverket, 2010). The Swedish parliament allocates funds annually to assist with the resettlement of quota refugees, and Sweden currently hosts approximately 1,700-1,900 quota refugees annually for permanent resettlement (Migrationsverket, 2010). The Swedish Migration Board, Migrationsverket, is responsible for the selection and transportation of all quota refugees.

Current refugee and asylum regulations in Sweden are stricter than they were in the past, but the country recently made amendments to the Aliens Act in order to be in accordance with the EU's Qualification and Asylum Procedure Directives (Migrationsverket, 2010). These directives contain asylum provisions that aim to improve the rights of asylum seekers in the European Union. The Migration Board is also currently working under a new system that has been shown to decrease waiting times for notification of asylum decisions (Migrationsverket, 2010).

Fourteen percent of the Swedish population today is foreign-born (Regeringskansliet, 2009b). Another four percent of Swedes have two parents who were foreign born, and an additional six percent have one parent who was foreign born (Regeringskansliet, 2009b). Contemporary Swedish society is more multicultural than ever before, and it is estimated that over 140 languages are spoken within the country (Peterson, 1997). In 2008, over 90,000 people were granted residence permits or right of residence in Sweden, 11,237 of whom were asylum seekers (Regeringskansliet, 2009b). An additional 10,665 residence permits were granted to family members of asylum seekers (Regeringskansliet, 2009b). Immigration to Sweden has continued to outpace emigration; for example, in 2004, when the study described in this thesis was conducted, 62,028 people immigrated to Sweden, 36,586 emigrated from Sweden, and over 23,000 sought asylum (Scobbie, 2006).

Between 1980 and 2006, over 32,000 residence permits were granted to persons from Africa, comprising nearly 10% of all residence permits that were given to convention or de facto refugees in Sweden (Statistics Sweden, 2008). First and second generation persons from Africa currently comprise about seven percent of the total first and second generation immigrant population in Sweden (Statistics Sweden, 2008); however, these figures are likely somewhat conservative, as they do not account for undocumented asylum seekers.

2.4 MENTAL HEALTH AMONG REFUGEES AND IMMIGRANTS

As mental health promotion has become increasingly recognized as an important public health priority, more research has been undertaken in recent years to better understand the prevalence and predictors of mental health disorders among immigrants and refugees. The experience of migration can negatively influence mental health (Furnham & Bochner, 1986) and immigrants may have an increased risk for mental health disorders and distress when compared to non-immigrants (Breslau, et al., 2007; Iglesias, et al., 2003). In addition, refugees tend to have more mental health problems than do non-refugees (Porter & Haslam, 2005). Previous epidemiological research (Steel, Silove, Phan, & Bauman, 2002) has found that PTSD and depression are the two most prevalent mental disorders among refugees, and the symptoms of these ailments are identifiable cross-culturally with only some variation. Yet prior studies have reported a wide range in the prevalence of PTSD symptoms among refugee populations, varying from 3% to 86% (Carlson & Rosser-Hogan, 1994; Fazel, Wheeler, & Danesh, 2005; Hauff & Vaglum, 1994; Knipscheer & Kleber, 2006; Sabin, Lopes Cardozo, Nackerud, Kaiser, & Varese, 2003; Scholte, et al., 2004). Rates of depression among refugee populations have also shown

great variation, ranging from 3% to 80% (Fazel, et al., 2005). Studies of refugees from Africa have shown PTSD prevalence rates ranging from 4% to 49% (Bhui, et al., 2006; Fox & Tang, 2000; Gerritsen, et al., 2006; Tang & Fox, 2001) and depression rates ranging from 6% to 60% (Bhui, et al., 2006; Fenta, Hyman, & Noh, 2004; Fox & Tang, 2000; Tang & Fox, 2001). This wide range may be due to differences in sample size, differences in demographic characteristics of the groups studied (including age, gender, and ethnicity), length of time since emigration, differences in diagnostic criteria or survey measures used to assess traumatic events and PTSD symptoms (Fazel, et al., 2005) and cultural differences between groups (Tang & Fox, 2001).

A recent meta-analysis (Fazel, et al., 2005) has provided evidence suggesting that one in ten refugees who have resettled in western countries has PTSD. This same study estimates that one in twenty refugees has depression, and that one in twenty-five refugees has generalized anxiety disorder. Additionally, these ailments may overlap in some individuals. For example, a study (Bhui, et al., 2006) of Somali refugees in the UK found that 80% of individuals with PTSD also had anxiety or non-psychotic depression. This suggests that despite the wide range of PTSD, depression and anxiety prevalence in refugee populations, the problem of poor mental health found among refugees overall is a significant one which requires immediate attention.

Additionally, a number of longitudinal studies have shown that mental health issues experienced by refugees tend to persist over time (Mollica, et al., 2001; Sabin, et al., 2003; Silove, Steel, Bauman, Chey, & McFarlane, 2007), or even worsen (Lie, 2002), while only a few studies have shown improvements (Beiser & Hou, 2001; Steel, et al., 2002). The presence of such longstanding mental health issues can impede quality of life and interfere with functioning and ability to work. The persistent nature of these mental health issues also provides evidence

which suggests that acculturation processes may be longer and the stressors that come along with these processes may be more difficult for refugees secondary to mental health problems.

The high prevalence of mental health issues found among refugees, their longstanding nature, and the significant impact that these issues can have on quality of life and functioning suggest the need for further mental health research among this population to better understand the factors that influence refugee mental health. The following sections will describe how acculturation, pre-migration trauma, and post-migration living difficulties may impact mental health among immigrants and refugees.

2.5 ACCULTURATION AND MENTAL HEALTH

The process of integration into a new society, commonly referred to as acculturation, has been defined as " a process of accessing, understanding, or adopting specific aspects or characteristics of a new culture" (Miller, et al., 2006, p. 135). Acculturation is a multi-faceted and complex construct which can be measured across several different dimensions, including language, cultural identity, values, norms, (Miller, et al., 2006) and social contact with people native to the country of immigration (Knipscheer & Kleber, 2007). Individuals' reasons for leaving their home country, their migration experience, the resources they have available to cope with their new and unfamiliar environments, and the reception of the host country can all impact acculturation processes (Segal & Mayadas, 2005). Berry (1980) has postulated that there are four types of acculturation, including 1) *integration,* whereby individuals retain the cultural norms and values of their home country while incorporating them into the values of their new country; 2) *assimilation*, whereby individuals reject the norms and values of their home country and adopt

those of their new country; 3) *segregation*, in which individuals retain the cultural norms and values of their home country and reject those of their new country; and 4) *marginalization*, in which individuals reject the norms and values of their country of origin as well as those of their new country of residence.

The acculturation process has previously been shown to impact various aspects of mental health and has also been associated with increased levels of stress (Haasen, Demiralay, & Reimer, 2008). Several studies (Ayers, et al., 2009; Berry & Kim, 1988; Miller, et al., 2006; Oh, Koeske, & Sales, 2002; Sundquist, Bayard-Burfield, Johansson, & Johansson, 2000) have found that individuals with higher levels of acculturation experience lower levels of stress or distress. Prior research (Ghaffarian, 1998; Miller, et al., 2006) has also shown a positive relationship between acculturation level and mental health, with individuals with higher levels of acculturation having better mental health outcomes than individuals with lower acculturation levels. More specifically, greater language acculturation has been associated with higher self esteem among older Mexican Americans (Meyler, Stimpson, & Peek, 2006), and better mental health outcomes among immigrants from the former Soviet Union (Blomstedt, Johansson, & Sundquist, 2007). Conversely, research (Gonzalez & Gonzalez, 2008; Kim, 2009) has also shown that lower levels of acculturation are associated with increased mental health problems, including depression.

Acculturation level has also been associated with PTSD. A study (Lee, et al., 2009) of aboriginal Taiwanese earthquake survivors found that persons with lower acculturation levels had a three times greater risk for PTSD than persons who were more highly acculturated. Among a sample of Bosnian refugee couples in the United States, PTSD symptoms were found to be negatively associated with acculturation (Spasojevic, Heffer, & Snyder, 2000). A study (Halcon,

et al., 2004) of young adult Somali and Oromo refugees in Minnesota found fewer PTSD symptoms among individuals with greater fluency in English and longer length of residence in the US, which are proxy measures of acculturation. Similarly, a study (Sondergaard & Theorell, 2004) of Iraqi refugees in Sweden found that speed of Swedish language acquisition was decreased in those who had greater PTSD symptoms, which has implications for traumatized individuals' ability to integrate into their new society.

Nonetheless, how acculturation influences mental health is rather complex and is not completely understood. Although the majority of studies have found positive relationships between acculturation and better mental health, some studies have found higher acculturation to be associated with greater levels of depression (Bhugra, 2003; Nguyen & Peterson, 1993), substance use (Abraido-Lanza, Chao, & Florez, 2005), and psychiatric disorders (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000; Vega, et al., 1998). These conflicting results suggest that acculturation may have a differential impact on health depending on culture, pre-migration factors, such as the type of trauma experienced in one's country of origin, and post-migration stressors, such as little social support and perceived discrimination.

Much of the existing literature on acculturation focuses on Hispanic and Asian immigrants and refugees living in North America, Australia, and New Zealand (Knipscheer & Kleber, 2007); therefore, a complete understanding of how acculturation may impact the health of African immigrants and refugees, as well as immigrants from several other regions in the world, is currently lacking. In addition, it is currently unclear which specific aspects of acculturation may impact mental health the most. A study (Knipscheer & Kleber, 2007) of Ghanaians residing in The Netherlands found no association between global acculturation level and mental distress, but did find that individuals who valued their native cultural traditions had

better mental health outcomes, while individuals who exhibited feelings of loss regarding their home countries had poorer mental health outcomes. As such, it is possible that the separate domains of acculturation may impact individuals differentially, depending on their cultural background, pre-migration experiences, and the customs, culture, and receptivity of the country to which they have immigrated.

2.6 PRE-MIGRATION TRAUMA AND MENTAL HEALTH

Most of the recent immigrants to Sweden are refugees and asylum seekers who have been forced to flee their home countries due to political conflict, genocide, famine, or other types of instability, and often have experienced traumatic events which may result in psychological disorders, including depression, anxiety, and PTSD. Refugees with a history of prior trauma are at greater risk for mental (Fenta, et al., 2004; Halcon, et al., 2004; Jaranson, et al., 2004; Matheson, Jorden, & Anisman, 2008; Robertson, et al., 2006) and physical health problems (Halcon, et al., 2004; Hollifield, et al., 2002). Experiences of trauma have also been associated with language acquisition and skills difficulties (Robertson, et al., 2006; Sondergaard & Theorell, 2004), decreased quality of life (Carlsson, Mortensen, & Kastrup, 2005) and increased morbidity (Hollifield, et al., 2002). Pre-migration traumas can also impair refugees' ability to integrate into a new society (Boehnlein, et al., 2004; Scuglik, Alarcon, Lapeyre, Williams, & Logan, 2007; Steel, et al., 2002), secondary to mental health issues caused by trauma.

The type of trauma experienced by refugees may differentially impact the psychological and physical manifestations of the traumatic events experienced. For example, exposure to torture has been associated with increased reporting of physical and psychological problems,

including PTSD, among Somali and Oromo refugee women (Robertson, et al., 2006). A study (Bhui, et al., 2003) of Somali refugees in the UK found that experiencing food shortages and being lost during a war situation were associated with higher levels of depressive and anxiety symptoms, while experiencing combat situations was associated with lower risk of anxiety and depression. There also appears to be a dose response relationship between trauma and psychological problems, with greater numbers of traumatic events being associated with greater deficits in psychological functioning (Bhui, et al., 2003; Halcon, et al., 2004; Robertson, et al., 2006). The aforementioned study (Bhui, et al., 2003) of Somali refugees in the UK also found that depression and anxiety were incrementally more common as the number of traumatic events experienced by the participants increased.

A significant amount of research (Boehnlein, et al., 2004; Fazel, et al., 2005; Gerritsen, et al., 2006; Sabin, et al., 2003; Scholte, et al., 2004; Silove, Steel, McGorry, & Mohan, 1998) has examined the mental health consequences (including depression, anxiety, and PTSD) of trauma among refugees who have resettled in Western countries. However, fewer studies have examined the types and prevalence of pre-migration traumatic experiences among African refugees, or how these experiences may impact refugees' psychological functioning. Studies which have been conducted among African refugees and asylum seekers have found pre-migration trauma to be associated with deficits in physical health (Halcon, et al., 2004; Matheson, et al., 2008), depression (Bhui, et al., 2006; Fenta, et al., 2004; Fox & Tang, 2000; Matheson, et al., 2008; Tang & Fox, 2001), anxiety (Fox & Tang, 2000; Tang & Fox, 2001), psychological distress (Halcon, et al., 2004; Robertson, et al., 2006; Schweitzer, Melville, Steel, & Lacherez, 2006), social problems (Halcon, et al., 2004), and post traumatic symptoms (Bhui, et al., 2006; Fox &

Tang, 2000; Halcon, et al., 2004; Matheson, et al., 2008; Robertson, et al., 2006; Tang & Fox, 2001).

To the author's knowledge, no studies concerning the impact of trauma on the mental health of African immigrants and refugees have been conducted in Sweden, although mental health research has been conducted among other refugee populations living in the country (Ghazinour, Richter, & Eisemann, 2004; Hermansson, Timpka, & Thyberg, 2003; Samarasinghe & Arvidsson, 2002; Sondergaard, Ekblad, & Theorell, 2003; Sondergaard & Theorell, 2004). Due to findings which suggest that many refugees face significant mental health burdens as a result of the traumas they have experienced, there is a great need to conduct mental health research among African refugees residing in Sweden in order to better understand how traumatic experiences impact mental health, functioning, and quality of life.

2.7 POST-MIGRATION STRESSORS AND MENTAL HEALTH

Migration to another country can be a difficult undertaking for many immigrants, as it entails leaving behind familiar cultural norms and values, family members, and friends to begin a new life in a country which may have unfamiliar customs, social conditions, and language. Refugees exhibit great resilience due to their ability to survive difficult conditions and traumas prior to emigration, yet they often face several stressors upon arrival in the host country which they may not be fully prepared to manage. Post migration stressors have consistently been shown to act as determinants of mental health disorders among refugees (Silove & Ekblad, 2002) and if left unaddressed, may also act as barriers to integration (Baarnhielm, et al., 2005; Lie, 2002), which can also negatively impact mental health. Examples of post-migration stressors associated with

poorer mental and physical health outcomes among immigrants and refugees include 1) feelings of loss related to emigration from one's country of origin (Samarasinghe & Arvidsson, 2002); 2) discrimination, racism, and xenophobia (Finch, Kolody, & Vega, 2000; Samarasinghe & Arvidsson, 2002; Segal & Mayadas, 2005); 3) lack of receptivity or acceptance by members of the host country (Blomstedt, et al., 2007; Samarasinghe & Arvidsson, 2002); 4) unemployment and economic concerns (Aroian & Norris, 2002; Beiser & Hou, 2001; Jamil, Nassar-McMillan, & Lambert, 2007; Lie, 2002; Samarasinghe & Arvidsson, 2002); 5) lack of recognition of skills or educational achievements (Simich, Hamilton, & Baya, 2006); 6) difficulties accessing medical care and welfare services (Silove, Steel, McGorry, & Drobny, 1999); 7) language acquisition difficulties (Jamil, et al., 2007; Segal & Mayadas, 2005); 8) fear of repatriation to the home country (Sourander, 2003); 9) stressors related to asylum processes and decision wait times (Baarnhielm, et al., 2005; Samarasinghe & Arvidsson, 2002); 10) separation from and worry about family members (Aroian & Norris, 2002; Jamil, et al., 2007; Lie, 2002; Matheson, et al., 2008; Sourander, 2003); 11) lack of social and emotional support (Burnett & Peel, 2001; Segal & Mayadas, 2005); 12) loneliness and homesickness (Samarasinghe & Arvidsson, 2002); and 13) unsatisfactory housing conditions (Porter & Haslam, 2005). Conversely, feelings of acceptance, welcoming societal attitudes by the host country, involvement with the host country's culture (Samarasinghe & Arvidsson, 2002), and access to employment opportunities (Porter & Haslam, 2005) have all been associated with better mental health outcomes among refugees, as have positive political events abroad that could improve difficult situations in refugees' home countries (Porter & Haslam, 2005; Sondergaard, Ekblad, & Theorell, 2001).

Post-migration stressors can become chronic (Porter & Haslam, 2005) and may lead to decreased quality of life and poorer health outcomes overall. A study (Samarasinghe &

Arvidsson, 2002) of refugees residing in Sweden reported that post-migration stressors can be as difficult or more difficult to cope with than traumas experienced prior to emigration. Another study (Ekblad, Abazari, & Eriksson, 1999) conducted in Sweden found that Iranian refugees with a history of trauma reported lower quality of life than did Swedes; in open-ended interviews that asked about factors influencing their quality of life, many of the participants discussed post-migration factors, and less attention was paid to the quality of life impact of pre-migration traumas. These findings highlight the effect that contextual factors and stressors can have on mental health and also underscore the importance of examining factors other than trauma in order to better understand predictors of mental health among refugees.

Similar to findings of a dose response relationship between pre-migration traumas and psychological problems described in the previous section, prior research has found the number of post-migration negative life events and stressors experienced by immigrants and refugees to be associated with self-reported health deteriorations (Sondergaard, et al., 2001). There is also evidence that post migration stress can add to the effects of prior traumas, and may increase individuals' risk of continually experiencing PTSD or other mental health symptoms (Silove, 2000). A study (Gerritsen, et al., 2006) of asylum seekers and refugees in the Netherlands found that greater post-migration stress and decreased social support were associated with PTSD, anxiety, and depression. Similar results were found among a study (Ellis, MacDonald, Lincoln, & Cabral, 2008) of Somali adolescent refugees in the United States, with post-migration stressors, including perceived discrimination, being associated with higher levels of PTSD symptoms.

A considerable amount of research has been conducted regarding the mental health of immigrants, refugees, and asylum seekers in their host countries, but much of this literature

focuses on the stress and impact of pre-migration traumas. Little research has been conducted with the specific aim of examining the post-migration stressors facing refugees in general (Porter & Haslam, 2005; Samarasinghe & Arvidsson, 2002; Silove, et al., 1998). Among African refugees and immigrants specifically, the research which has been conducted has largely focused on Sudanese individuals. A 2006 study (Schweitzer, et al., 2006) of Sudanese refugees in Australia found that post-migration stressors were associated with increased rates of depression, anxiety, and somatization. The most frequently reported stressors among this group were related to employment and difficulties adjusting to Australian culture, while social support from the Sudanese community and family members was associated with greater psychological well-being.

A review of studies on the mental health of Sudanese refugees by Tempany (2009) found that people were often more concerned with the impact of current stressors than prior traumas, although high levels of PTSD and depression were often found. Similarly, a study (Simich, et al., 2006) of Sudanese refugees in Canada found psychological distress and poorer overall health to be associated with post-migration economic hardships and unmet expectations of what life would be like in the host country. As host country characteristics can differ considerably, the types of stressors that different immigrant and refugee groups face once resettled may also vary significantly. In addition, the cultural and personal characteristics of the refugees themselves can impact the degree to which individuals experience stressors in the host country. Facilitating a positive resettlement process and actively addressing post migration stressors early in the immigration process can help to ensure that refugees and immigrants will be active, healthy and contributing members of society (Beiser & Hou, 2001).

3.0 METHODOLOGY

This section describes the research study from which the data for this thesis were derived. This study was conducted from October 2002 through April 2005 at the Karolinska Institute in Stockholm, Sweden. The aims of the larger study were to examine how psychosocial factors impact the mental health, sexual health, and quality of life of African immigrants and refugees residing in Sweden. The thesis author served as the project manager for this study and was responsible for community outreach, participant recruitment, data collection, data management, and other administrative project management duties. The study principal investigator made several trips to Sweden to monitor study progress. Daily email exchanges and weekly telephone meetings also took place between the project manager and principal investigator. The study was funded by The Swedish Council for Working Life and Social Research (Forskningsrådet för Arbetsliv och Social Vetenskap). Approval to conduct this research was obtained from the National Institutional Review Board in Sweden prior to the commencement of the study. The secondary data analyses conducted for the purposes of this thesis were approved by the University of Pittsburgh Institutional Review Board.

3.1 DESIGN AND PARTICIPANT RECRUITMENT

The study was cross sectional in nature, and participants were recruited using non-probability stratified quota sampling. The 2001 Swedish population census was used as a framework for recruitment procedures. An equal number of male and female immigrants and refugees from countries in Africa which comprised at least one percent of the total African immigrant population in Sweden were eligible to participate in the study. For example, at the time the study was conducted immigrants from Somalia comprised 30% of the total African immigrant population in Sweden, and as such they made up 30% of the total sample. Other eligibility criteria included 1) being at least 16 years of age, 2) currently living in Sweden, and 3) being either a first or second generation immigrant. A snowball technique was used to help recruit participants. The project manager contacted several local African cultural, community, and political organizations and other community leaders to inform them of the study and ask for their assistance with recruitment efforts. Both documented and undocumented participants were recruited, as well as individuals who were both active and non-active in cultural and community organizations. In total, 420 people participated in this study. All participants were compensated for their time with a gift certificate to their choice of a local food or clothing store, and translators and individuals who assisted with recruitment were also provided with financial compensation.

3.2 QUESTIONNAIRES

Semi-structured interviews that utilized several cross culturally validated questionnaires were conducted with all participants, the majority of which were previously validated with immigrant and/or refugee populations,

The Cultural Life Style Inventory (Mendoza, 1989) was used to measure level of acculturation. This questionnaire gives a total acculturation score as well as three subscale scores which reflect acculturation in terms of 1) language acquisition, 2) social integration, and 3) adoption of host country customs and traditions. This scale has been used in other immigrant populations with high reliability and validity (Ghaffarian, 1998; Lessenger, 1997; Walters, 1999).

The Harvard Trauma Questionnaire (HTQ) (Mollica, et al., 1996) was employed to measure pre-migration trauma and PTSD symptoms within the past week. The HTQ was developed specifically for use among refugees and has been validated among several refugee populations (Mollica, et al., 1996). It has been used with many culturally distinct refugee groups (Gerritsen, et al., 2006; Silove, et al., 1998), including populations from Africa (Schweitzer, et al., 2006; Tang & Fox, 2001). The traumatic events section of the questionnaire lists 46 forced choice traumatic event items, to which participants reply whether or not they have ever experienced the events. The traumatic events are categorized into eight subscales: 1) material deprivation; 2) war-like conditions; 3) bodily injury; 4) brain injury; 5) forced confinement and coercion; 6) forced to harm others; 7) disappearance, injury, or death of loved ones; and 8) witnessing violence to others. In addition, two qualitative questions were asked to assess any additional traumatic events not listed in the HTQ, both prior to emigration and during residence in Sweden. PTSD items on the HTQ are derived from diagnostic criteria set forth in the

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (American Psychiatric Association, 1994). The PTSD items included participants' ratings of the degree to which they experienced symptoms of 1) re-experiencing traumatic events, 2) avoidance and numbness regarding traumatic events, and 3) physiological and psychological arousal regarding traumatic events. To meet the DSM-IV symptom criteria for PTSD, participants must report that being impacted "quite a bit" or "extremely" on at least one of four re-experiencing symptoms, three of seven avoidance and numbness symptoms, and two of five arousal symptoms on the PTSD scale of the HTQ. Participants must also report that these symptoms cause them significant distress or create disturbances in their overall functioning, which are measured by items 17-40 on the PTSD scale. However, the HTQ assesses PTSD symptoms that occur within the past week, instead of the last month, which is the PTSD duration criterion for the DSM-IV.

The Hopkins Symptom Checklist (HSCL-25) (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) is a symptom inventory that was utilized to assess depression and anxiety symptoms within the past seven days. The checklist consists of 25 items, 10 of which assess anxiety symptoms and 15 of which assess depressive symptoms. HSCL-25 total scores have been shown to be correlated with severe emotional distress, and HSCL-25 depression scores have been correlated with major depressive disorder (Harvard Program in Refugee Trauma, 1998). HSCL-25 total scores, depression subscale scores, and anxiety subscale scores greater than 1.75 are considered to be positive for unspecified emotional distress, depression, and anxiety, respectively (Harvard Program in Refugee Trauma, 1998). This questionnaire has been validated cross culturally (Cepeda-Benito & Gleaves, 2000; Hollifield, et al., 2002; Kleijn, Hovens, & Rodenburg, 2001) and has also been widely utilized to assess depression and anxiety in African

refugee populations (Fox & Tang, 2000; Roberts, Damundu, Lomoro, & Sondorp, 2009; Schweitzer, et al., 2006; Tang & Fox, 2001).

The Post Migration Living Difficulties Scale (PMLD) (Sinnerbrink, Silove, Field, Steel, & Manicavasagar, 1997; Steel, et al., 2002) was utilized to assess current stressors and difficulties faced by the study participants in Sweden. The PMLD yields a total score as well as five subscale scores, which measure 1) financial; 2) health; 3) family and relational; 4) discrimination; and 5) immigration stressors. A high cumulative score indicates a high amount of post-migration stress. This questionnaire has been previously used among African refugee populations (Schweitzer, et al., 2006).

Demographic information about the participants was collected using a questionnaire developed by the study team which asked about 1) gender, 2) age, 3) education, 4) employment, 5) duration of residence in Sweden, 6) religion, 7) country of origin and ethnicity, and 8) information about the participants' family and current living situation.

3.3 INFORMED CONSENT AND INTERVIEWING PROCEDURES

Trained interviewers explained the study rationale and risks and benefits of participation to potential participants, and written informed consent was obtained from individuals who wanted to participate. Interviewers administered questionnaires at locations convenient for the participants and where privacy could be assured. Interview locations included participant homes, community centers and cultural organizations, libraries, and the project manager's office at Karolinska Institute. Interviews lasted from 1.5 to 4 hours. Translators from the participant's country of origin who matched the participant's gender were used to help conduct interviews

when participants did not speak English. A Swedish translator was used in cases where participants spoke Swedish and preferred to have a Swedish translator. All translators were trained by the project manager in appropriate interviewing techniques and skills and confidentiality ethics. Participants were provided with support and referrals to social service agencies as needed or requested.

3.4 STATISTICAL ANALYSES

An outside mentor assisted the author in performing all statistical analyses for this thesis, which were calculated using PASW V.17 (Chicago, IL). Descriptive statistics were used to test the distribution of the data and to determine the prevalence of mental health problems and the number of traumatic events and post-migration stressors experienced by the sample. Univariate analyses were conducted to test for differences between translated and non-translated interviews. Analysis of variance (ANOVA) was performed to test relationships between acculturation and mental health problems. Kruskal Wallis tests were used to assess relationships between traumatic events and mental health problems when data were non-normally distributed. Mann-Whitney or Kruskal Wallis tests were performed to test relationships between post-migration stressors and mental health problems when data were non-normally distributed.

4.0 RESULTS

This section will present the main findings of the thesis research, including 1) demographic characteristics of the sample; 2) the prevalence of mental health disorders among participants; 3) the amount and type of traumatic events and post-migration stressors experienced by the sample; 4) associations found between mental health and acculturation, prior trauma, and post-migration stressors; and 5) relationships found between acculturation, trauma, and post-migration stressors.

4.1 DEMOGRAPHIC CHARACTERISTICS

The demographic characteristics of the sample (N=420) are shown in Appendix A, Table A1. The mean age was 33 years, ranging from 16-80 years. Fifty two percent of the participants were male and 48% were female. Utilizing the United Nations regional definitions for Africa (United Nations, 2000) to categorize region of origin, the majority of the study participants were from East Africa (72%), most of whom were from Somalia (30%), Ethiopia (19%), and Eritrea (9%). Approximately 15% were from countries in Western Africa, 7% were from Northern Africa, 3% were from Middle Africa, and 2% were from Southern Africa. Most of the participants were single (45%) or married (31%), followed by those who were divorced (14%), widowed (4%), and separated (3%). Thirty-one percent of the participants had a college or graduate degree, and 49% had the equivalent of a high school education or some post secondary training. Eleven

percent had a secondary education and 9% had a primary education or less. Twenty percent were enrolled in college or post secondary training. Forty-eight percent reported current unemployment. Of those who were employed, excluding students, the most common occupations reported were clerical positions (9%), followed by administrative and unskilled labor positions (6% each, respectively). Approximately equal percentages of participants were Christian (51%) and Muslim (46%), and 3% practiced other religions or no religion.

4.2 TRANSLATOR INFLUENCE

Forty-two percent of the interviews were translated (36% of all male interviews and 48% of all female interviews). There was no difference found in the prevalence of depression, anxiety, and PTSD, the number of pre-migration traumatic events, or the level of post migration stress between interviews that were translated and interviews conducted in English. Only acculturation was found to be significantly different, with individuals who had a translator present during their interviews reporting lower levels of acculturation when compared to those who conducted their interviews in English [$F(1,411)=46.7$, $p=.001$].

4.3 PREVALENCE OF MENTAL HEALTH DISORDERS

Twenty percent of the sample had a positive score for depression on the HSCL-25, and 18.5 percent had a positive score for anxiety. Forty seven percent of participants reported

symptomology and functional impairment which met DSM-IV criteria for PTSD. Men reported significantly lower rates of depression and anxiety than did women (OR=.25; 95% CI=0.27-0.75 and OR=0.23; 95% CI=0.32-0.91 respectively). Shorter duration of residence in Sweden was associated with greater levels of depression and anxiety (OR=.25; CI=0.87-0.96 and OR=.23; CI=0.84-0.94 respectively); however, participants who had resided in Sweden for a longer period of time reported higher rates of PTSD symptoms (OR=7.24; CI=1.06-1.21).

4.4 TRAUMATIC EVENTS AND MENTAL HEALTH

Eighty-nine percent of participants reported at least one pre-migration traumatic event. The mean number of traumatic events experienced was 9.2 (SD=8.1), while the median number of traumatic events experienced was 8.0. The most commonly reported type of trauma was material deprivation (68%), followed by death or disappearance of family members (65%), witnessing violence (63%), forced confinement (60%), exposure to war like conditions (54%), bodily injury (38%), and being forced to harm others (21%). Overall, men reported experiencing a greater number of traumatic events (mean=11, SD=8) when compared to women (mean=7, SD=7) [$F(1,98)=14.5$, $p=0.001$]. Figure 1 displays the percentage of people who reported experiencing each of the 46 traumatic event items of the HTQ.

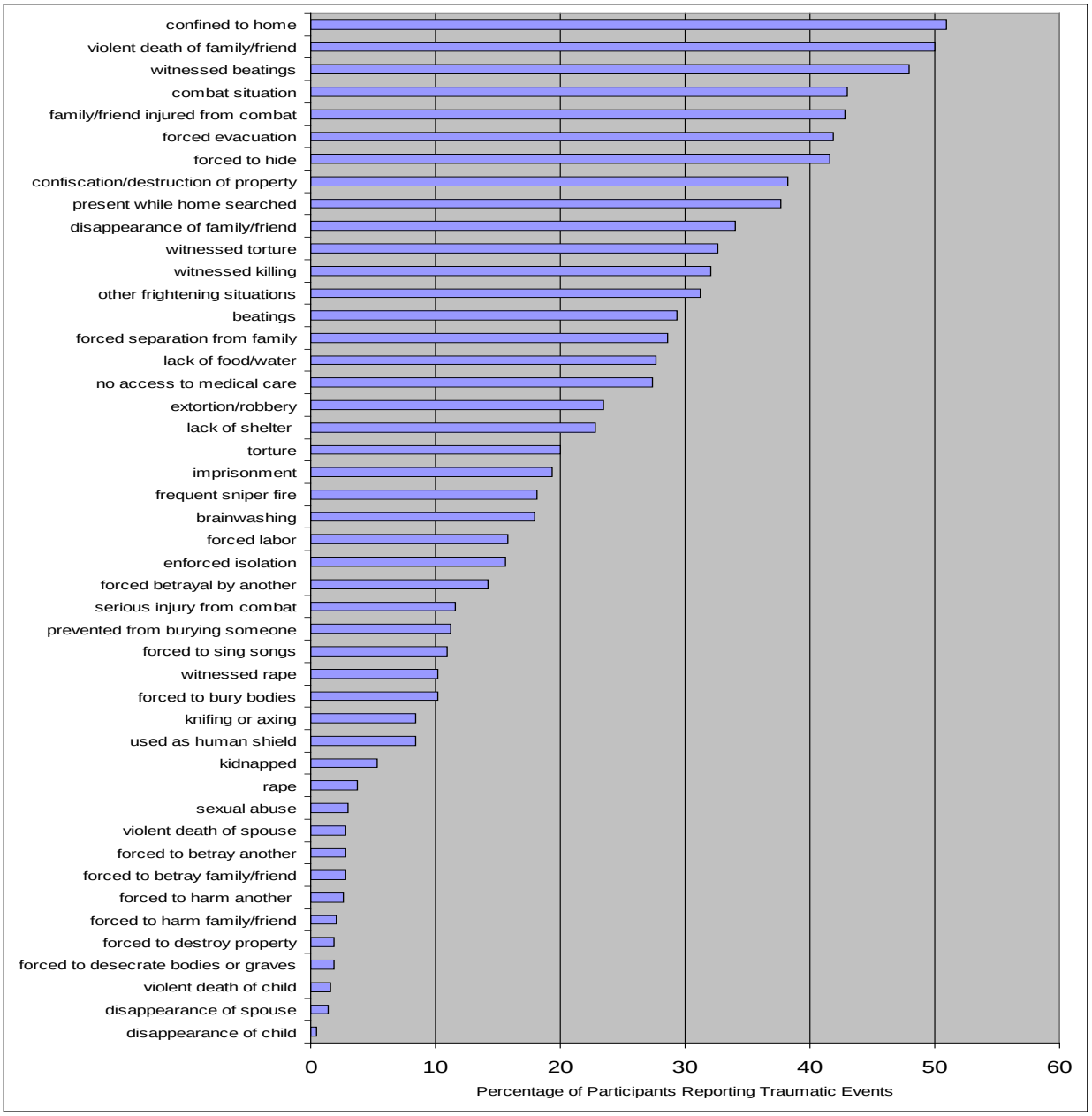

Figure 1. Pre-Migration Traumatic Events Reported by Participants

The distribution of data for depression, anxiety, and PTSD was analyzed and found to be non-normally distributed, and therefore non-parametric statistics (Kruskal Wallis tests) were used to determine if the number of traumatic events experienced was associated with depression, anxiety, and PTSD among the sample participants. We grouped traumatic events into four categories, as follows: 0 events, 1-10 events, 11-20 events, 21-30 events. We also removed three

outliers from the data: two individuals who had experienced 31-40 traumatic events, and one individual who had experienced more than 40 traumatic events. Results showed that greater numbers of traumatic events were significantly associated with higher levels of PTSD (χ^2=168.4, p=.001), depression (χ^2=42.1, p=.001), and anxiety (χ^2=34.1, p=.001). Table 1 shows the median PTSD, depression, and anxiety scores by number of traumatic events experienced.

Table 1. Median PTSD, Depression, and Anxiety Scores by Number of Traumatic Events

Number of Pre-Migration Traumatic Events	PTSD	Depression	Anxiety
0	12.00	0.38	0.25
1-10	19.00	0.54	0.42
21-30	31.00	0.92	0.75
31-40	37.00	1.46	1.25

4.5 ACCULTURATION AND MENTAL HEALTH

One-way ANOVA analysis showed that positive scores on the depression subscale of the HSCL-25 were associated with lower total acculturation scores [F(1,409)=6.0, p=.015] as well as lower language acculturation scores [F(1,410)=9.1, p=.003]. Those who scored positive for depression on the HSCL-25 had lower mean total acculturation scores (mean=54.3, SD=10.6) than did those who did not score positive for depression (mean=57.6, SD=10.9). Similarly, those with positive scores for depression also had lower language acculturation scores (mean=28.7, SD=8.2) than did those who did not score positive for depression (mean=31.7, SD=8.2). Depression was not associated with social acculturation or adoption of host country customs and traditions.

One-way ANOVA analysis additionally showed that positive scores for anxiety on the HSCL-25 were associated with lower total acculturation levels [$F(1,410)=13.6$, $p=.001$] as well as lower language acculturation [$F(1,411)=13.2$, $p=.001$] and lower social acculturation [$F(1,413)=12.6$, $p=.001$] scores. Individuals who scored positive for anxiety on the HSCL-25 had lower mean total acculturation scores (mean=52.8, SD=9.4) than did those who did not score positive for anxiety (mean=57.9, SD=11.1). Similarly, those who scored positive for anxiety also had lower language (mean=28.1, SD=7.4) and social (mean=8.0, SD=2.3) acculturation scores than did those who did not score positive for anxiety on the HSCL-25 (mean=31.9, SD=8.3, and mean=9.2, SD=2.7, respectively). Anxiety was not significantly associated with the adoption of host country customs and traditions.

One-way ANOVA analysis also found that PTSD was associated with lower total acculturation [$F(1,413)=19.4$, $p<.001$] as well as lower language [$F(1,418)=20.6$, $p<.001$] and social [$F(1,416)=12.0$, $p=.001$] acculturation levels. Individuals who met the DSM-IV symptom and functional impairment criteria for PTSD had lower mean total acculturation scores (mean=52.29, SD=8.41) than did those who did not meet the criteria (mean=58.12, SD=11.17). Those with PTSD also had lower mean language acculturation scores (mean=27.32, SD=5.84) than those without PTSD (mean=31.96, SD=8.74). Individuals with PTSD additionally had lower mean social acculturation scores (mean=8.04, SD=2.36) than those without PTSD (mean=9.18, SD=2.72). PTSD was not associated with adoption of host country traditions.

4.6 POST-MIGRATION STRESSORS AND MENTAL HEALTH

Figure 2 shows the post-migration living difficulties that participants reported as being "fairly big" or "serious" problems. The most commonly reported stressors were worries about family in country of origin (59%), separation from family members (55%), unemployment (49%), loneliness and boredom (46%), and being unable to return to country of origin in an emergency (44%). Men (mean=10, SD=9) reported significantly more stress overall than did women (mean=8, SD=9, $F(1,414)=5.3$, $p=0.002$]. Men also reported more problems with finances [$F(1,418)=7.6$, $p=.003$], discrimination [$F(1,416)=7.8$, $p=.002$], and healthcare [$F(1,418)=3.3$, $p=.05$] than women.

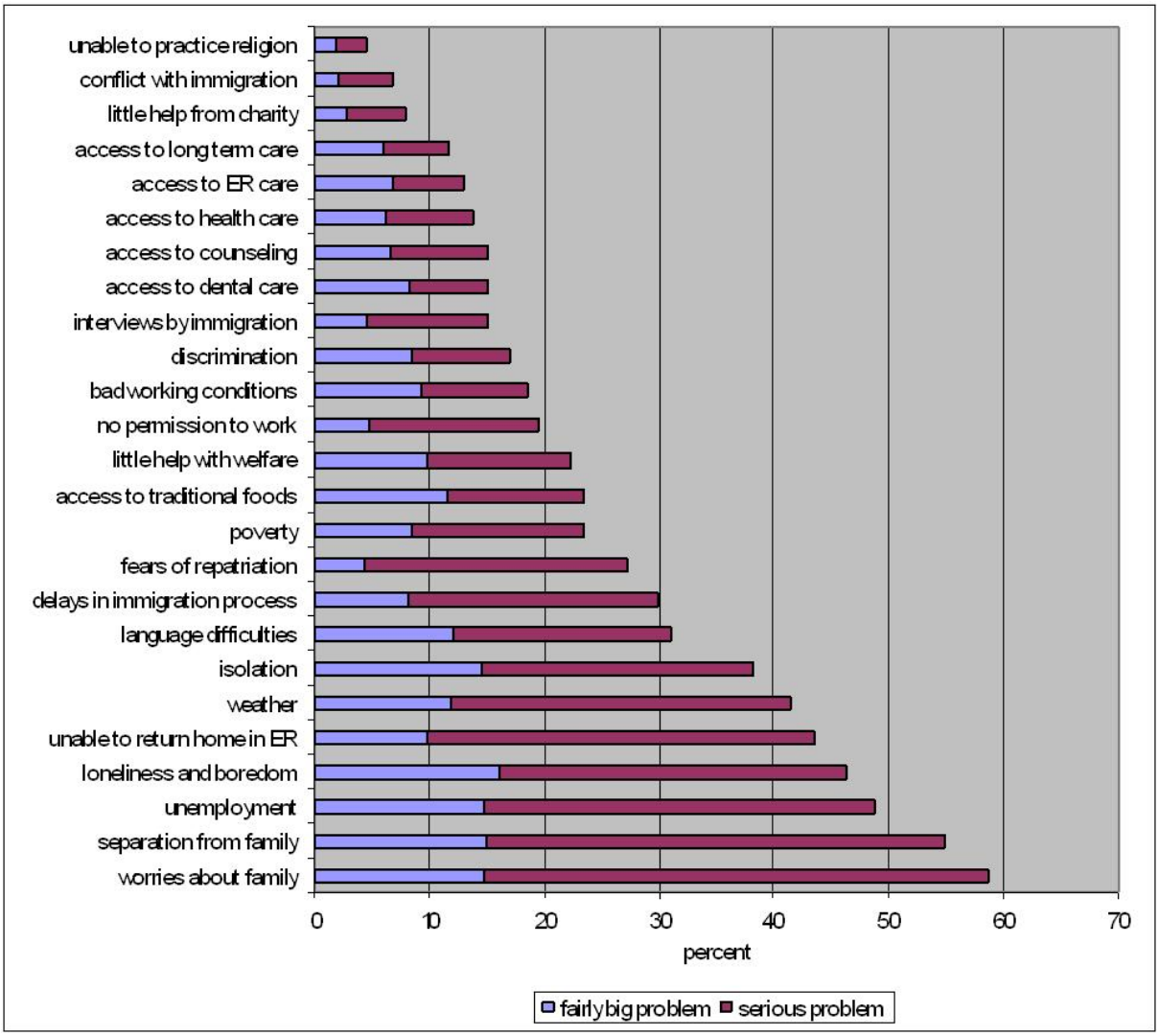

Figure 2. Post-Migration Stressors Reported by Participants

Mann-Whitney U tests were performed to examine the relationship between post-migration stress and mental health. Post-migration stress was found to be significantly associated with depression (Mann-Whitney U=5134, p<.001), anxiety (Mann-Whitney U=4703, p<.001), and PTSD (Mann-Whitney U=3171, p<.001). Those who had a positive score for depression on the HSCL-25 had a mean rank of 308.2, versus those who did not score positive for depression (mean rank of 180.2). Similarly, the mean rank of those who had a positive score for anxiety on the HSCL-25 was 311.9, versus the mean rank score of 181.6 for those who did not have a

positive anxiety score. Individuals who met the DSM-IV symptom and functional impairment criteria for PTSD had a mean rank of 327.8, versus those who did not meet the PTSD criteria who had a mean rank of 191.2.

4.7 ACCULTURATION AND POST-MIGRATION STRESSORS

Total scores on the PMLD were significantly negatively correlated with total acculturation scores ($r=-0.29$, $p<.001$) as well as language acculturation ($r=-0.31$, $p<.001$) and social acculturation ($r=-0.24$, $p<.001$) subscale scores. Total PMLD scores were not associated with the adoption of Swedish customs and traditions subscale. Four of the five PMLD subscales were significantly negatively correlated with total acculturation level, including the financial ($r=-0.37$, $p<.001$), health ($r=-0.15$, $p=.003$), family and relational ($r=-0.25$, $p<.001$), and immigration ($r=-0.16$, $p=.001$) subscales. The discrimination subscale of the PMLD was not significantly correlated with total acculturation level or any of the acculturation subscales.

4.8 TRAUMA AND ACCULTURATION

One-way ANOVA analysis was performed to test the relationship between number of traumatic events experienced and acculturation level. As before, the number of traumatic events experienced was grouped into four categories, as follows: 0 events, 1-10 events, 11-20 events, and 21-30 events, and three outliers were removed from the data (two individuals who had experienced 31-40 traumatic events, and one individual who had experienced more than 40

traumatic events). Results showed that total acculturation levels were lower among people who experienced greater numbers of traumatic events [F(3,410)=5.2, p=.002]. A similar relationship was also found for language acculturation [F(3,415)=4.9, p=.002] and social acculturation [F(3,413)=5.2, p=.002] but not for the adoption of Swedish customs and traditions. Table 2 shows the means and standard deviations for the total and subscale acculturation scores by number of traumatic events.

Table 2. Mean Total and Subscale Acculturation Scores by Number of Traumatic Events

Number of Pre-Migration Traumatic Events	Language* M (SD)	Social* M (SD)	Traditions M (SD)	Total* M (SD)
0	33.37 (11.4)	10.19 (2.9)	16.67 (3.7)	61.47 (13.2)
1-10	31.92 (8.0)	8.84 (2.6)	16.41 (3.6)	57.29 (10.6)
11-20	29.20 (7.6)	8.74 (2.6)	17.12 (3.5)	55.06 (10.6)
21-30	29.55 (5.6)	8.39 (2.4)	17.30 (3.2)	55.24 (7.5)
* significant at .002 level				

4.9 POST-MIGRATION STRESSORS AND TRAUMA

A Kruskal Wallis test was also used to test the relationship between post migration stressors and number of traumatic events experienced. Traumatic events were again grouped into the four categories described above and the same three outliers were removed from the data. Results showed that greater numbers of traumatic events were significantly associated with greater post migration stress (χ^2=71.50, p<.001), and a linear relationship was found in which mean rank scores for post-migration stress increased as the number of traumatic events

increased. Table 3 shows the mean rank post-migration stress scores by the number of traumatic events experienced.

Table 3. Mean Rank Post-Migration Stress Scores by Number of Traumatic Events

Number of Pre-Migration Traumatic Events	Mean Rank Scores
0	126.58
1-10	185.31
11-20	245.25
21-30	309.75

5.0 DISCUSSION

In the following section all references to the data analyzed for the purposes of this thesis will be referred to as "this study" or "this research." This study represents one of the first studies conducted in Sweden to examine the prevalence of mental health disorders among African immigrants and refugees, as well as several factors that impact mental health, including acculturation, trauma, and post migration stress. Depression, anxiety, and PTSD were assessed because these disorders have been shown in other studies to be the most common mental health problems faced by refugees and immigrants (Fazel, et al., 2005). Results of this study show that rates of depression found among this sample of African refugees and immigrants in Sweden are similar to rates found among other African refugees groups resettled in Western countries, ranging from 16 to 23% (Gerritsen, et al., 2006; Matheson, et al., 2008; Schweitzer, et al., 2006). Additionally, rates of depression and anxiety found in this study were higher than those found in the general population of Sweden (Psykologförbundet, 2009) but generally lower than other non-African refugee populations (Lie, 2002; Mollica, et al., 2001; Sabin, et al., 2003; Scholte, et al., 2004). Fewer studies have reported the prevalence of anxiety symptoms, but among studies which have, rates were similar to those found in our study (Bhui, et al., 2006; Gerritsen, et al., 2006), although a study of Somali refugees living in reception centers in the Netherlands found higher prevalence rates (Roodenrijs, Scherpenzeel, & de Jong, 1998).

Rates of PTSD in this study were higher than those found among African refugees in Western countries (Bhui, et al., 2006; Gerritsen, et al., 2006; Schweitzer, et al., 2006), and were similar to the PTSD rates found among Sierra Leonean refugees living in refugee camps in Africa (Fox & Tang, 2000). This suggests that rates of PTSD amongst African immigrants and refugees in Sweden are similar to those of people who have recently experienced trauma and may imply that PTSD symptoms persist or even increase over time in this population, as rates of PTSD were higher in people who had lived in Sweden for longer periods of time. This is consistent with previous findings which have shown persistence of mental health issues among refugee populations (Lie, 2002; Mollica, et al., 2001). High rates of PTSD and other psychological problems may also be due to lack of mental health and/or integration services available to refugees or because refugees and immigrants tend to underutilize such services even when they are available (Segal & Mayadas, 2005). Mental health disorders may also be caused or exacerbated by post-migration stressors, such as unemployment, discrimination, or feelings of isolation.

An interesting finding of this study was that rates of depression and anxiety were higher in people who had lived in Sweden for a shorter time, whereas for PTSD, rates were higher among people who had lived in Sweden for longer periods of time. It may be the case that the mental health of recently arrived immigrants is impacted more by the immediate post-migration stressors and acculturative difficulties facing them than the pre-migration traumas they experienced. Post-migration stressors may be more likely to cause depression and anxiety than PTSD, and over time these depression and anxiety symptoms may diminish as individuals are granted resettlement rights, develop social networks, and find social support. This explanation is supported by a study (Lindencrona, Ekblad, & Hauff, 2008) of the mental health of Middle

Eastern refugees residing in Sweden, which found that resettlement stressors accounted for 24% of the variance for common mental disorders, including depression and anxiety. However, these stressors did not contribute to the variance for PTSD (Lindencrona, et al., 2008), which is likely to be more impacted by trauma.

In addition, the way PTSD was measured in this study may have impacted the results. Instead of using the critical cutoff score of 2.5 to assess for PTSD, as is suggested by the HTQ manual (Harvard Program in Refugee Trauma, 1998), PTSD was measured using DSM-IV diagnostic criteria (with the exception of the one month symptom duration criteria) in order to obtain results that were more precise and indicative of a clinical diagnosis. The HTQ cutoff point measures post traumatic stress symptoms that reflect a probable diagnosis of PTSD. However, the sensitivity and specificity of this critical cutoff score has been questioned, with one study suggesting that the most efficient score for diagnosis was 1.17 (Hollifield, et al., 2002). Optimally, cutoff scores should be developed for the specific cultural group being assessed. Studies that use the 2.5 cutoff score for PTSD among populations for which this score has not been validated may miss some cases of PTSD. Use of the DSM-IV criteria may account for the higher rates of PTSD that were found in this study.

Any investigation into refugee health must take into consideration the potential impact of pre-migration trauma on mental health and functioning. High rates of pre-migration trauma were found in this study, with nearly all of the participants (89%) experiencing at least one traumatic event. This finding is similar to other studies of African refugees which have also used the HTQ to measure pre-migration trauma; rates in these studies have ranged from 77.5% to 100% of participants reporting at least one traumatic event (Fox & Tang, 2000; Schweitzer, et al., 2006; Tang & Fox, 2001). The amount of trauma experienced among this African refugee population

in Sweden was also found to be similar to rates found in non-African refugee populations (Lie, 2002; Sabin, et al., 2003; Scholte, et al., 2004).

The high rate of trauma experienced by participants in this research was found to be a predictor of depression, anxiety, and PTSD, consistent with previous studies that have tested these relationships (Bhui, et al., 2003; Gerritsen, et al., 2006; Matheson, et al., 2008; Schweitzer, et al., 2006). Trauma may directly lead to mental health disorders, which can lead to decreased functioning and inability to cope with stressors. These problems in turn may make it even more difficult for recently resettled immigrants to adjust to life in the host country and make their integration more difficult.

This study found that, in addition to pre-migration trauma, post-migration factors impacted psychological well-being. Post-migration stress was associated with all mental health outcomes assessed in this study. These findings are consistent with other studies of African (Schweitzer, et al., 2006) and non-African refugees (Silove, Sinnerbrink, Field, Manicavasagar, & Steel, 1997) which have shown similar relationships. Interestingly, the most common stressors reported by this sample of African immigrants and refugees in Sweden as being "fairly big" or "serious" problems were similar to those reported in a study of Sudanese refugees living in Australia, which used the same measure to assess post-migration stressors (Schweitzer, et al., 2006). In both studies worry about family in the country of origin was the most commonly reported stressor; unemployment and difficulty adjusting to life in the host country (including feelings of loneliness and boredom) were among the four most commonly reported stressors in both groups. Other studies which have examined post-migration living difficulties among African immigrants have also shown employment (Samarasinghe & Arvidsson, 2002; Simich, et al., 2006) and feelings of isolation (Samarasinghe & Arvidsson, 2002) to be commonly reported

stressors. As such, it seems evident that interventions are needed to combat post-migration stressors and that unemployment and feelings of isolation may be optimal stressors to target through interventions to improve both mental health and acculturation. These findings also highlight the importance of taking into account the influence that contextual factors in the host country can have on the development or maintenance of mental health disorders.

Acculturation was also shown to influence mental health outcomes in this study, with lower total acculturation levels being associated with higher levels of depression, anxiety, and PTSD. These results are consistent with other studies that have found similar relationships (Kim, 2009; Lee, et al., 2009; Miller, et al., 2006). However, when total acculturation scores were sub-divided to assess how different dimensions of acculturation were associated with mental health outcomes, the results were somewhat mixed. Lower language acculturation was consistently found to be associated with depression, anxiety, and PTSD. However, social acculturation was not a significant predictor of depression. It may be the case that individuals are finding sufficient social support from friends and relatives from their native countries to combat depression and as such, social integration into Swedish society is not influencing depression. However, lower social acculturation was significantly associated with anxiety and PTSD. In this case, it may be that isolation from the larger Swedish society influences other issues, such as unemployment, which can continually cause people stress and feelings of insecurity, and may exacerbate symptoms of anxiety and PTSD. Conversely, because the data are cross sectional and the direction of relationships between variables cannot be determined, it may be that existing symptoms of PTSD and anxiety are limiting immigrants' ability to integrate socially with other groups of people.

The adoption of host country customs and traditions acculturation subscale was consistently found not to be significantly associated with depression, anxiety, or PTSD. The CLSI measure which was used to assess acculturation has not been used previously among African refugee populations, and it may be that the measure is inappropriate for this group of refugees and immigrants. On the other hand, it may be that individuals are satisfied with celebrating their own cultural traditions and are not be interested in adopting Swedish traditions, or perhaps they have not lived in Sweden long enough to celebrate any holidays or traditions. It is also possible that religion may be impacting this finding. Half of the sample was Muslim, and as such, some of these individuals may not be interested in celebrating the traditional Christian holidays that are celebrated in Sweden.

In addition, it seems reasonable that the adoption of Swedish customs and traditions may not impact mental health to the extent that language and social acculturation would, as these facets of acculturation may be more essential to gaining entrée into Swedish society and engaging in activities of daily life, such as working, using public transportation, and shopping, for which language and social acculturation would be more essential. However, a recent study (Knipscheer & Kleber, 2007) of Ghanaians in the Netherlands found that preservation of native cultural traditions was associated with better health outcomes. It would be worth investigating whether or not a different measurement of cultural traditions would yield similar results among African immigrants and refugees in Sweden. Nonetheless, an overall association between acculturation and mental health does seem to exist among this population. Given the large numbers of refugees and immigrants that seek asylum or resettlement in Sweden, interventions that address the integration needs of immigrants and refugees are needed. Among Africans living in Sweden, it seems that language and social acculturation programs in particular are needed.

Significant relationships were also found in this study among acculturation, trauma, and post-migration stress. Greater post-migration stress was found to be negatively correlated with total acculturation as well as language and social acculturation, but not adoption of host country customs. However, the discrimination subscale of the PMLD was not associated with acculturation. It may be that people who are less acculturated do not have problems with discrimination because they are not integrated into society enough to report any problems with discrimination, as they may be largely confined to their homes or reside in neighborhoods in which the majority of other residents are also immigrants. It is also possible that the discrimination subscale may be an unreliable measure of stress due to discrimination, as this subscale consists of only three items. Greater levels of post-migration stress were also associated with greater amounts of trauma, and greater amounts of trauma were associated with lower acculturation levels overall.

These findings are important because they suggest that interventions targeting one of these factors may lead to improvements in another area, and can thus indirectly lead to greater improvements in mental health. In addition, knowing that all three of these factors do indeed impact mental health outcomes and each other suggests that interventions are likely to be highly effective because of the connections between these variables. For example, a study of Korean women in the US by Ayers (2009) found that greater levels of acculturation were associated with less stress, which in turn was associated with lower levels of depression. Thus, an intervention aimed at improving acculturation was successful in reducing stress and depression, and it is likely that similar results could be expected from interventions targeting these factors among African immigrants and refugees.

5.1 STUDY LIMITATIONS

Despite the significance of the research findings, the study results are tempered by several limitations. It was not possible to recruit a random sample among this population, and therefore the generalizability of the findings may be limited. Had records from the Swedish Migration Board which provided a list of African refugees and immigrants been available, a random sample may have been preferable; however, this method would have possibly resulted in a biased sample as undocumented asylum seekers would not have been included on such a list. It is likely that the study sample provides a reasonable estimate of the prevalence of mental health problems found among this population, given our efforts to recruit a community based sample of participants using census data that reflected Swedish population statistics as a framework for recruitment. In addition, the cross sectional nature of this study means that the causality of relationships found between variables cannot be determined, and longitudinal prospective studies are needed to further investigate the relationships found in this study.

Due to language barriers this study required the use of translators from the participants' countries of origin or Sweden to conduct many of the interviews. This has the potential to limit disclosure, as participants may sometimes withhold information in the presence of a third party, particularly when discussing sensitive issues such as trauma and mental health. However, no differences in the prevalence of mental health problems or amount of trauma were found between translated and non-translated interviews, suggesting that the presence of a translator did not significantly impact disclosure.

The study also did not differentiate among participants based on whether they were asylum seekers, refugees, or immigrants who had come to Sweden for other reasons, such as marriage or education. Other studies have shown that significant differences exist between these

groups in terms of the prevalence of mental health disorders (Gerritsen, et al., 2006; Silove, et al., 1997). Future studies should take these differences into consideration as they have important implications for tailoring the content of interventions. We also did not measure other factors that may mediate the development of mental health disorders, such as social support or coping resources. It would also have been interesting to assess expectations, as immigrants and refugees may sometimes have unrealistic expectations of a better life in the host country (Segal & Mayadas, 2005), only to be met with several unanticipated difficulties upon arrival that they were not prepared to face. Further investigations into these factors would provide additional information that could be used to inform the development of mental health programs.

Finally, although the majority of the measures used in this study were previously validated or used among refugees, the acculturation measure was not, although it has been used cross culturally among other immigrant populations. At present, no measure of acculturation currently exists that is used consistently cross culturally, likely because of significant differences that exist between different refugee groups and differences in host country characteristics. The study results consistently showed that the acculturation subscale regarding the adoption of Swedish customs and traditions was not a significant predictor of mental health. This suggests the possibility that this construct may not have been measured sufficiently by the CLSI questionnaire among this population, and further research is needed to develop a questionnaire suitable for this group.

Despite these limitations, the prevalence of mental health disorders found in this study was sufficiently high to show that interventions to improve mental health are needed in order to address this health disparity. This research provides valuable information that can be used to

inform the content of mental health interventions and factors which should be targeted for change and determine to whom these interventions should be targeted.

6.0 RECOMMENDATIONS AND CONCLUSIONS

This section outlines several recommendations for future research, as well as suggestions for the development of integration policies and culturally appropriate interventions to address the mental health and resettlement needs of African refugees and immigrants in Sweden.

6.1 RECOMMENDATIONS FOR FUTURE RESEARCH

The data presented in this study were derived from one of the first studies conducted in Sweden to examine the prevalence of mental health disorders and trauma, as well as an investigation into several predictors of mental health, including acculturation, trauma, and post migration stress. However, further research is needed among this population to 1) identify and understand other predictors of mental health among this group; 2) examine prospectively the prevalence of mental health disorders; and 3) develop culturally valid measures of depression, anxiety, PTSD, and acculturation among this population.

Although several predictors of mental health were assessed in this study, many other factors at multiple levels of influence can impact mental health outcomes and should be addressed in future studies, including but not limited to social support, coping styles and coping abilities, financial resources and security, and expectations of life in the host country, which may be unrealistic. Macro level influences include refugee and immigrant policies, political situations

in immigrants' home countries, and host country attitudes towards immigrants and refugees. Longitudinal studies that assess the prevalence of mental health problems among this population are also needed in order to determine how prevalence rates may change over time as well as how the factors that impact mental health may also change. Longitudinal studies will also help to determine causality and the direction of relationships between variables. Future research efforts should also be multidisciplinary in order to create a more thorough and robust understanding of the mental health of this refugee group.

In addition, measurement scales designed for specific African populations should be developed to measure depression, anxiety, PTSD, and acculturation. Even though the study used measures that have been validated with other immigrant and refugee populations, it would be ideal if these measures could be validated and adapted for African refugee groups specifically, as the cultural expression of mental health disorders may differ from Western conceptualizations of these problems. For example, some cultures may describe or experience mental health symptoms somatically (Segal & Mayadas, 2005), and as such these symptoms may not be accounted for when using Western measurement scales.

A recent review of instruments that measure refugee trauma and health status suggested that instruments developed with community samples using mixed methods approaches may be more valid than those developed from expert and consensus approaches (Hollifield, et al., 2002). Such an approach should be taken with this population in order to design more precise measures of mental health disorders. A culturally appropriate measure of acculturation should also be developed using similar methods. Many of the existing measures commonly used in acculturation research have been adapted from scales created for Hispanic populations in the US (Salant & Lauderdale, 2003), including the one used for this study, which may not be appropriate

for culturally distinct groups that are resettled in other Western countries. Such measures may also need to take into account the reason for migration, as differences between refugees and asylum seekers and other immigrant groups may impact acculturation patterns. Based on the limited data which are available, it also seems that specific aspects of acculturation may differentially impact mental health, and so measures should include different subscales which assess different domains of acculturation in order to provide a more robust assessment of how acculturation influences mental health. Scales should also measure the retention of cultural traditions, as other studies have found that the preservation of such traditions may be beneficial to mental health (Knipscheer & Kleber, 2007).

6.2 RECOMMENDATIONS FOR INTEGRATION POLICY AND MENTAL HEALTH SERVICE PROVISION

Sweden's current integration policy aims are fairly comprehensive, and detail seven areas of priority which largely focus on employment, education, and combating discrimination (Regeringskansliet, 2009b). However, mental health is neglected in these policies. Immigrants and refugees suffering from mental health problems cannot be expected to effectively deal with the stressors and demands of resettlement in the same way that immigrants who have no mental health problems do, and as such it is recommended that culturally appropriate mental health assessments and service provision be incorporated into Swedish integration policy.

The mental health of refugees and asylum seekers should be assessed upon their arrival in Sweden, so that appropriate mental health and integration services can be offered. Assessments

should be conducted in a culturally competent manner that takes into account the ways in which people from a specific culture experience mental health disorders. Mental health professionals should be educated in how culture and prior trauma may impact mental health and the expression of mental health symptoms.

It is equally important that the mental health services offered to immigrants and refugees be culturally appropriate, as this increases the likelihood that such services would be utilized and their overall effectiveness. Western mental health treatment methods may not be ideal for all refugees and asylum seekers, and the usefulness of alternative methods should be explored when appropriate. For example, many non-Western cultures use personal social networks and relationships to solve problems, rather than seeking outside help from strangers (Segal & Mayadas, 2005). Interventions should take this into consideration and perhaps use trained lay persons from the community to lead group interventions. However, some Western therapeutic methods have been shown to be effective in treating mental health disorders among refugees, such as narrative therapy (Woodcock, 2001) and cognitive behavioral therapy (Basoglu, Ekblad, Baarnhielm, & Livanou, 2004), and these should be used as appropriate.

In addition, whenever possible mental health professionals from the immigrants' countries of origin should be employed to conduct mental health assessments or provide mental health services, given that there are no cultural or political reasons to avoid such pairings (e.g., political party or clan affiliations which could cause feelings of mistrust). It is equally as important to provide individuals with consistent care by the same mental health professionals over time so that meaningful relationships can be formed and trust can be established. Trained counselors who are also willing to serve as interpreters when necessary, for example, during consultations with psychiatrists, should be available for each distinct cultural group.

It may also be beneficial for immigration authorities and mental health professionals to form partnerships with members of the local African immigrant and refugee communities in Sweden so that member individuals can assist mental health professionals in making their assessments and service provision. Partnerships with local communities may also serve to help establish a sense of trust and legitimacy between mental heath service providers and immigrants, particularly those with a history or trauma or oppression who may fear and distrust authority figures and therefore be less likely to disclose personal information or utilize mental health services.

Current Swedish integration policy also calls for immigrants to be provided with introduction guides (whom they can choose themselves) who can help them find employment (Regeringskansliet, 2009b). It may be helpful to create a partner organization to the Swedish Migration Board that is responsible for 1) welcoming refugees and immigrants into Swedish society; 2) assisting immigrants with their unique integration and mental health needs; and 3) facilitating the formation of interpersonal social support networks. Although many immigrants come to Sweden with members of their family, considerable numbers are solitary asylum seekers who may not know anyone in the host country. Particularly for these individuals, it would be beneficial to be matched with other immigrants from their home country who have successfully resettled into Swedish society, and who can provide them with social support and help them to meet other local people from their country of origin. Native Swedes can also be helpful in these processes providing there are no language barriers, and can assist refugees with resettlement issues such as finding employment and education opportunities, understanding the immigration system and asylum procedures, accessing health care services, obtaining legal advice, and enrolling in language acquisition courses. It would also be helpful to partner with existing

African cultural organizations to design and implement community based programs to help refugees with resettlement issues. This would have the added benefit of bringing employment into immigrant communities and could serve to empower the immigrant community at large.

A final recommendation would be to create comprehensive care clinics for refugees which could treat both mental and physical health care needs. Because of the unique pre-migration experiences of refugees, particularly those who have been the victims of violence of torture, it would be ideal to have facilities which are equipped with the resources to treat refugees' unique health needs, as well as staff which specialize in refugee health issues.

6.3 CONCLUSIONS

This thesis has provided a summary of the current refugee crisis worldwide, a brief history of Swedish migration, and an introductory view into the mental health and resettlement issues of concern for one of Sweden's most recent immigrant populations, individuals from Africa. The literature review conducted for this thesis has provided evidence which shows that immigrant and refugee mental health is influenced by several factors, including acculturation level, experiences of pre-migration trauma, and post-migration stress, which themselves are intertwined and impacted by factors at multiple levels of influence. The results of the data analyses conducted for this thesis support these findings from the literature; however, further research is needed to better understand the ways in which distinct dimensions of acculturation and different types of trauma impact mental health, and to identify additional post-migration stressors and difficulties that also impact mental health so that appropriate programs to address theses issues can be developed. The study results also highlight the need for integration policies

which address the unique mental health needs of refugees and increased provision of culturally appropriate mental health services for immigrants and refugees.

The population of African immigrants and refugees in this study experience high levels of mental health problems, at rates significantly higher than those found in the general Swedish population. The extremely high prevalence of PTSD symptoms and functional impairment in this study and the finding that PTSD rates were higher among individuals who had lived in Sweden for longer periods of time are of particular concern. Due to ongoing conflicts that continue to plague several countries in Africa and which force the displacement of millions of people, it can be expected that significant numbers of African refugees will continue to be resettled in Sweden in the coming years. It is essential to attend to the mental health and resettlement needs of these individuals in order to ensure that they can enjoy a quality of life which they have fought so hard to achieve. Resettlement to a country with vastly different customs and culture, language, and even weather presents significant challenges for any individual, and may be even more difficult for refugees due to prior experiences that can impact their functioning. However, the resiliency that refugees exhibit and their ability to survive hardships is a strength which should not be overlooked. Refugees are not victims of trauma, but survivors who have overcome significant obstacles to begin new lives. After such struggle, the only ethical course of action is to provide these individuals with the resources and assistance they need to become healthy, active, and productive members of their new society while still retaining their own unique cultural heritage and identity.

APPENDIX A

DEMOGRAPHIC CHARACTERISTICS

Table A1. Demographic Characteristics

	Males (%) N=219 (52%)	Females (%) N=201 (48%)	Total (%) N=420
Age (years)			
Mean	32	34	33
Range	16-65	16-80	16-80
Years Residing in Sweden			
Mean	6.4	8.4	7.3
Range	0.2-33	0.4-42	0.2-42
Region of Origin			
Eastern Africa	154 (71%)	149 (75%)	301 (72%)
Middle Africa	6 (3%)	6 (3%)	12 (3%)
Northern Africa	20 (9%)	11 (5%)	31 (7%)
Southern Africa	5 (2%)	5 (2%)	10 (2%)
Western Africa	34 (16%)	30 (15%)	64 (15%)
Marital Status			
Single	121 (56%)	69 (34%)	190 (45%)
Married	62 (28%)	67 (34%)	129 (31%)
Divorced	22 (10%)	38 (19%)	60 (14%)
Widowed	4 (2%)	14 (7%)	18 (4%)
Separated	6 (3%)	5 (3%)	11 (3%)
Engaged	3 (1%)	4 (2%)	7 (2%)
Education			
Primary	18 (9%)	17 (9%)	35 (9%)
Secondary	20 (9%)	25 (13%)	45 (11%)
High School Equivalent	81 (38%)	70 (37%)	151 (38%)
Some College	23 (11%)	21 (11%)	44 (11%)
College Degree	39 (18%)	39 (21%)	78 (20%)
Graduate/Professional	31 (15%)	13 (7%)	44 (11%)
Occupation			
Executive	1 (.5%)	1 (.5%)	1 (.5%)
Administrative	17 (8%)	7 (4%)	24 (6%)
Clerical	9 (4%)	30 (15%)	39 (9%)
Skilled Labor	11 (5%)	11 (6%)	22 (5%)
Unskilled Labor	12 (6%)	13 (7%)	25 (6%)
Military	1 (.5%)	1 (.5%)	1 (.5%)
Student	43 (20%)	40 (20%)	83 (20%)
Retired	3 (1%)	11 (6%)	14 (3%)
Leave of Absence	0	5 (3%)	5 (1%)
Unemployed	120 (55%)	82 (41%)	202 (48%)
Religion			
Christian	108 (49%)	105 (52%)	213 (51%)
Islam	100 (46%)	92 (46%)	192 (46%)
Other	11 (5%)	4 (2%)	15 (3%)

APPENDIX B

SELECT INTERVIEW QUESTIONNAIRES

Demographic Characteristics

We would first like to get some general information about you.

1. What is your gender?

   _____ male
   _____ female

2. How old were you at your last birthday?

   _____ (please give your age)

3. Have you ever attended school?

   _____ yes _____ no, please skip to question 5

4. What is the highest level of school you attended?

   _____ primary
   _____ secondary
   _____ vocational (secretarial, electrical, accounting)
   _____ university
   _____ graduate/professional

5. How long have you been living in Sweden?

   _____ (please give number of years)

6. Were you born in Sweden?

   ____ yes ____ no

7. Were your parents born in Sweden?

   ____ yes (___mother ___father) ____ no

8. What is your current employment or source of income?

   _____ (please give your source of employment)

9. What was your occupation in your country of origin (if from a country other than Sweden)?

   _____ (please give your occupation)

10. To which ethnic group do you belong? (country from)

_____ (please give your ethnicity)

11. What is your marital status?

_____ married (please also specify number of wives you have or that your husband has)
_____(number of wives)_____(number of wives living with you)
_____ single (never been married)
_____ divorced
_____ separated
_____ widowed
_____ engaged

12. How many children do you have?

_____ (please give TOTAL number of children)

How many children do you have that are living with you?

_____ (please give number)

How many children do you have that are NOT living with you?

_____ (please give number)

13. How many of your family members are living in Sweden?

_____(please give number)

13a. Please list family members who are living in Sweden.

_____

14. Who do you live with now?

_____ (Please list all persons who live in your house)

15. What is your religious affiliation?

_____ Christian/Catholic/Orthodox
_____ Jewish
_____ Islam/Muslim
_____ Hindu
_____ Buddhist
_____Other, please specify_____

Cultural Life Style Inventory (CLSI)

We are interested in learning more about your adjustment to the Swedish culture and lifestyle. For the following questions, please indicate which factors apply to you by responding with YES or NO.

1. At the time you moved from Africa, which of the following reasons to come to Sweden were important for you?

	YES	NO
1. To have a better economic situation		
2. To study		
3. To be with your family		
4. To have better health care		
5. To have less violence		
6. To feel free as a gay person		
7. Other, please specify_____ _____		

2. By living in Sweden have you gained anything in the following areas?

	YES	NO
1. Better financial situation		
2. Access to education		
3. Reunion with family members		
4. Better health care		
5. Political and social freedom		
6. Less violence		
7. Freedom to practice sexual orientation		
8. Other, please specify_____ _____		

3. By living in Sweden have you lost anything in the following areas?

	YES	NO
1. Cultural environment		
2. Contact with friends and family members		
3. Geographic environment		
4. Religious affiliations		
5. Traditions related to health care (traditional healers)		
6. Traditions related to gender roles		
7. Other, please specify_____ _____		

4. Have you been discriminated in Sweden for:

	YES	NO
1. Race		
2. Ethnicity		
3. Social class		
4. Sexual orientation		
5. Religion		
6. Occupational status		
7. Lack of documents		
8. Assumed HIV status		
9. Other, please specify_____ _____		

5. Please indicate how well you communicate in each of the following languages by using the following scale:

0=not at all
1=a little
2=can get around
3=can carry on conversation
4=fluent

_____ Swedish
_____ English
_____ Swahili
_____ Luganda
_____ French
_____ Italian
_____ Arabic
_____ Somali
_____ Amharic
_____ Other, _____
_____ Other,_____

6. What language do you speak to your friends in?_____

7. What language do you speak to your sexual partner in, if you have one?_____

8. What language do you speak at home, if you don't live alone?_____

9. What language do you speak to your parents?_____

10. What language do you speak to your siblings?_____

11. What is the language of the music you listen to?_____

12. What is the language of the television shows you watch?_____

13. What is the language of the newspapers/magazines you read?_____

14. What language do you pray in?_____

15. What language do you think in?_____

16. When it comes to SPEAKING Swedish, which of the following describes you?
_____ I know some words and expressions
_____ I can hold a simple conversation
_____ I can speak fairly well
_____ I can speak fluently and without difficulty
_____ Not at all

17. When it comes to READING Swedish, which of the following describes you?
_____ I know some words and expressions
_____ I can read simple stories in the newspaper
_____ I can read fairly well
_____ I can read fluently and without difficulty
_____ Not at all

18. When it comes to WRITING Swedish, which of the following describes you?
_____ I can write some words and expressions
_____ I can write simple notes or letters
_____ I can write fairly well
_____ I can write without difficulty
_____ Not at all

19. If you were offered a Swedish class to improve your language skills further would you be interested in taking it?

_____ Yes
_____ No

20. When celebrating holidays how much time do you socialize with people from other ethnic backgrounds?

_____ Never
_____ Infrequently
_____ Half of the time
_____ Frequently
_____ Always

21. What is the ethnic background of most of the people you have dated?_____

22. What is the ethnic background of most of your friends?_____

23. What is the ethnic background of people at social functions or parties you attend?_____

24. What is the ethnic composition of the neighborhood you live in?_____

25. How do you prefer to be identified?_____

26. Please state how important it is for you to:

	Not at all	Somewhat	Very much	Extremely
a. Follow the customs of your home country	1	2	3	4
b. Adopt Swedish customs	1	2	3	4
c. Celebrate the holidays of your home country	1	2	3	4
d. Celebrate Swedish holidays	1	2	3	4
e. Know something about the history of your home country	1	2	3	4
f. Know something about the history of Sweden	1	2	3	4

27. How many of your closest friends are from your home country? (what percentage)

_____%

28. If you could, would you like to return to your home country and live there?

_____ Yes
_____ No

Post-Migration Living Difficulties (PMLD)

We would like to ask you about some difficulties you may have experienced since immigrating to Sweden. Please answer the questions using the following scale, and choose the response which is most appropriate for you.

0= No problem
1= A little problem
2= Somewhat of a problem
3= A fairly big problem
4= Serious problem

1. **Worries about not getting treatment for health problems**

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

2. **Poor access to emergency medical care**

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

3. **Poor access to long term medical care (family doctor, Primary Care Physician)**

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

4. **Poor access to dental care**

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

5. **Poor access to counseling services (if you wanted counseling, would it be problem for you?)**

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

6. Little government help with welfare (unemployment benefits, financial help)

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

7. Little help with welfare from charities (social services, e.g., Red Cross, Salvation Army)

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

8. Delays in processing refugee/ immigrant applications

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

9. Communication difficulties/Language difficulties

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

10. Discrimination

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

11. Being unable to find work

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

12. Bad working conditions

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

13. Poverty (not having enough money for basic needs--- food, clothing, shelter)

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

14. No permission to work

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

15. Separation from family

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

16. Worries about family back home

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

17. Unable to return home to family in an emergency

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

18. Loneliness and boredom

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

19. Isolation (loneliness, being or feeling alone)

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

20. Poor access to traditional foods

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

21. Interviews by immigration

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

22. Conflict with immigration officials

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

23. Fears of being sent home

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

24. Being unable to practice your religion

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

25. Difficulty adjusting to the weather/climate

0	1	2	3	4
No problem	A little problem	Somewhat of a problem	A fairly big problem	Serious problem

Hopkins Symptom Checklist-25 (HSCL-25)

Directions:

The following is a list of problems people sometimes have. Please read each one carefully, and choose the option that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS, INCLUDING TODAY.

The options are as follows:
0= NOT AT ALL (NA)
1= A LITTLE BIT (LB)
2= MODERATELY (MO)
3= QUITE A BIT (QB)
4= EXTREMELY (EX)

In the past 7 days, how much were you distressed by…?

	NA	LB	MO	QB	EX
1. Headaches	0	1	2	3	4
2. Nervousness or shakiness inside	0	1	2	3	4
3. Faintness, dizziness or weakness	0	1	2	3	4
4. Loss of sexual interest or pleasure	0	1	2	3	4
5. Feeling low in energy or slowed down	0	1	2	3	4
6. Thoughts of ending your life	0	1	2	3	4
7. Trembling	0	1	2	3	4
8. Poor appetite	0	1	2	3	4
9. Crying easily	0	1	2	3	4
10. Feelings of being trapped or caught	0	1	2	3	4
11. Suddenly scared for no reason	0	1	2	3	4
12. Blaming yourself for things	0	1	2	3	4
13. Feeling lonely	0	1	2	3	4
14. Feeling blue (sad)	0	1	2	3	4
15. Worrying too much about things	0	1	2	3	4
16. Feeling fearful	0	1	2	3	4
17. Heart pounding or racing	0	1	2	3	4
18. Difficulty falling asleep and sleeping	0	1	2	3	4
19. Feeling hopeless about the future	0	1	2	3	4
20. Feeling tense or keyed up	0	1	2	3	4
21. Feeling everything is an effort	0	1	2	3	4
22. Spells of terror or panic	0	1	2	3	4
23. Feeling so restless you couldn't sit still	0	1	2	3	4
24. Feelings of worthlessness	0	1	2	3	4
25. Feeling no interest in things	0	1	2	3	4

Harvard Trauma Questionnaire (HTQ): Traumatic Events (part 1)

We would like to ask you about your past experiences prior to immigrating to Sweden. However, you may find some questions upsetting. If so, please feel free not to answer. All answers to the questions will be kept confidential.
Please indicate whether you have experienced any of the following events by marking the box next to each question with YES or NO.

	YES	NO
1. Lack of shelter (when needed)		
2. Lack of food or water		
3. Ill health without access to medical care		
4. Confiscation or destruction of personal property		
5. Combat situation (eg., shelling and grenade attacks)		
6. Used as a human shield		
7. Exposure to frequent and unrelenting sniper fire		
8. Forced evacuation under dangerous conditions		
9. Beating to the body		
10. Rape		
11. Other types of sexual abuse or sexual humiliation		
12. Knifing or axing (being injured by knife or axe)		
13. Torture (while in captivity you received deliberate and systematic infliction of physical or mental suffering)		
14. Serious physical injury from combat (e.g., shrapnel, burn, bullet wound, stabbing, etc.) or landmine		
15. Imprisonment		
16. Forced labor (like animal or slave)		
17. Extortion or robbery		
18. Brainwashing		
19. Forced to hide		
20. Kidnapped		
21. Other forced separation from family members		
22. Forced to find and bury bodies		
23. Enforced isolation from others		
24. Present while someone searched for people or things in your home (or the place where you were living)		
25. Forced to sing songs you did not want to sing		
26. Someone was forced to betray you and place you at risk of death or injury		
27. Confined to home because of danger outside		
28. Prevented from burying someone		
29. Forced to desecrate or destroy the bodies or graves of deceased persons		
30. Forced to physically harm family member or friend		
31. Forced to physically harm someone who is not family or friend		
32. Forced to destroy someone else's property or possessions		

	YES	NO
33. Forced to betray family member or friend, placing them at risk of death or injury		
34. Forced to betray someone who is not family or friend, placing them at risk of death or injury		
35. Murder or death due to violence of spouse		
36. Murder or death due to violence of son or daughter		
37. Murder or death due to violence of other family member or friend		
38. Disappearance or kidnapping of spouse		
39. Disappearance or kidnapping of son or daughter		
40. Disappearance or kidnapping of other family member or friend		
41. Serious physical injury of family member or friend due to combat situation/ land mine		
42. Witness beatings to head or body		
43. Witness torture		
44. Witness killing or murder		
45. Witness rape or sexual abuse		
46. Any other situation that was very frightening or in which you felt your life was in danger. Please specify all situations that have not been mentioned above.		

Harvard Trauma Questionnaire (HTQ): Brain Injury (part 2)

This section of the questionnaire asks about events you may have experienced that could cause brain injury. For each question, please indicate whether or not you have experienced each event, and if YES, please also indicate whether or not you lost consciousness and for how long.

Have you ever experienced…?

	EXPERIENCED?		**LOSS OF CONSCIOUSNESS?**		**IF YES, FOR HOW LONG?**	
	YES	**NO**	**YES**	**NO**	**HOURS**	**MINUTES**
1. Beatings to the head						
2. Suffocation or Strangulation						
3. Near Drowning						
4. Injury to the head from a nearby explosion						
5. Other types of injury to the head (e.g., shrapnel, bullet wound, stabbing, burns)						
6. Starvation (lack of food for a long period of time)						

If you have experienced starvation (lack of food for a long period of time), please answer the following questions:

7. Please give your normal weight and your starvation weight.

_____ normal weight

_____ starvation weight

8. Were you near death due to starvation?

_____ yes _____ no

Harvard Trauma Questionnaire (HTQ): PTSD (part 3)

The following are symptoms people sometimes have after experiencing hurtful or terrifying events in their lives. Please read each statement carefully and decide how much the symptoms bothered you in the past week.

The options are as follows:
NOT AT ALL, A LITTLE, QUITE A BIT, EXTREMELY

	Not at all	A little	Quite a bit	Extremely
1. Recurrent thoughts or memories of the most hurtful or terrifying events				
2. Feeling as though the event is happening again				
3. Recurrent nightmares				
4. Feeling detached or withdrawn from people				
5. Unable to feel emotions				
6. Feeling jumpy, easily startled				
7. Difficulty concentrating				
8. Trouble sleeping				
9. Feeling on guard				
10. Feeling irritable or having outbursts of anger				
11. Avoiding activities that remind you of the traumatic or hurtful event				
12. Inability to remember parts of the most hurtful or traumatic events				
13. Less interest in daily activities				
14. Feeling as if you don't have a future				
15. Avoiding thoughts or feelings associated with the traumatic or hurtful event				
16. Sudden emotional or physical reaction when reminded of the most hurtful or terrifying events				

	Not at all	A little	Quite a bit	Extremely
17. Feeling that you have less skills than you had before				
18. Having difficulty dealing with new situations				
19. Feeling exhausted				
20. Bodily pain				
21. Troubled by physical problem(s)				
22. Poor memory				
23. Finding out or being told by other people than you have done something you cannot remember				
24. Difficulty paying attention				
25. Feeling as if you are split into two people and one of you is watching what the other is doing				
26. Feeling unable to make daily plans				
27. Blaming yourself for things that have happened				
28. Feeling guilty for having survived				
29. Without hope				
30. Feeling ashamed of the hurtful or traumatic events that have happened to you				
31. Feeling that people do not understand what happened to you				
32. Feeling that others are hostile to you				
33. Feeling that you have no one to rely upon				
34. Feeling someone you trusted betrayed you				
35. Feeling humiliated by your experience				
36. Feeling no trust in others				

	Not at all	A little	Quite a bit	Extremely
37. Feeling powerless to help others				
38. Spending time thinking why these events happened to you				
39. Feeling you are the only one who suffered these events				
40. Feeling a need for revenge				

APPENDIX C

CONSENT FORM

Information regarding research project if you wish to participate

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WHY IS THIS RESEARCH BEING DONE?

The researchers from the universities above are conducting this research study to learn what factors may be involved in behaviors that may put individuals at risk for different health conditions.

WHO IS BEING ASKED TO TAKE PART IN THIS RESEARCH STUDY?

You have been asked to participate in this study because you have been identified as someone who is from Africa or your parents are from Africa. Approximately 250 other individuals from Africa or with African family origin will be asked to participate in the same study. Males and females between the ages of 16 to 85 years will be asked to participate in the study.

WHAT PROCEDURES WILL BE PERFORMED FOR RESEARCH PURPOSES?

If you agree to participate in this study, you will be asked to complete some questions. Your participation in this research study will require you to spend approximately 2-3 hours at the Karolinska Institute. The time will be spent completing an interview. A person from the study will be present to answer any questions you might have regarding the study.

WHAT TYPES OF QUESTIONS WILL I BE ASKED?

The questions you will be asked include issues such as: (1) personal information regarding age, gender, education; (2) stress you may have experienced since moving to Sweden; (3) adjustment to a new culture; (4) living difficulties you may have experienced since moving to Sweden; (5) discrimination; (6) questions related to mental health; (7) history of trauma; (8) quality of life; (9) relationship and sexual history; (10) gender roles.

Subject's initials _____

WHAT ARE THE POSSIBLE RISKS, SIDE EFFECTS, AND DISCOMFORTS OF THIS RESEARCH STUDY?

The potential risks of your participation are minimal. It may involve mild emotional discomfort while completing questions regarding your relationship or sexual history or experiences of war and trauma.

WHAT ARE THE POSSIBLE BENEFITS FROM TAKING PART IN TIDS STUDY?

There are no direct benefits to you by participating in this study. Benefits to future generations of persons from Africa may include understanding how the factors we will be asking you affect your quality of life and health.

IF I AGREE TO TAKE PART IN THIS RESEARCH STUDY, WILL I BE TOLD OF ANY NEW RISKS THAT MAY BE FOUND DURING THE COURSE OF THE STUDY?

You will be promptly notified if any new information develops during the conduct of this research study which may cause you to change your mind about continuing to participate.

WILL I BE CHARGED FOR THE COSTS OF ANY PROCEDURES PERFORMED AS PART OF TIDS RESEARCH STUDY?

There will be no costs to you or the persons who are receiving treatment for the procedures involved in the conduct of this research study.

WILL I BE PAID IF I TAKE PART IN THIS RESEARCH STUDY?

Upon completion of the questionnaires, you will be paid 190 SEK (270 SEK minus taxes).

WHO WILL KNOW ABOUT MY PARTICIPATION IN THIS RESEARCH STUDY?

All records pertaining to your involvement in this research study will be stored in a locked file cabinet at the Karolinska Institute and/or University of Pittsburgh. Your identity on these records will be indicated by a case number. This information will only be accessible to the investigators and their research team.

You understand that any information about you or your participation in this research study will be handled in a confidential (private) manner consistent with hospital medical records. You will not be specifically identified in any publication of research results. However, in unusual cases, your research records may be inspected by appropriate government agencies or be released in response to an order from a court of law.

Subject's initials _____

IS MY PARTICIPATION IN THIS RESEARCH STUDY VOLUNTARY?
You understand that you do not have to take part in this research study and, should you change your mind, you can withdraw from the study at any time.

VOLUNTARY CONSENT

All of the above has been explained to me and all my questions have been answered. I understand that, if not already done, I may request that my questions be answered by the investigators involved in the research study. I also understand that any future questions I may have about this research will be answered by the investigators listed on the first page of this consent document at the telephone numbers given. Any questions I have about my rights as a research subject will be answered by the Human Subject Protector Advocate of the IRB Office at the University of Pittsburgh (412-578-8570). By signing this form, I agree to participate in this research study.

_____ _____
Participant Signature Date

_____ _____
Witness Signature Date

INVESTIGATOR'S CERTIFICATION

I certify that the nature and purpose, the potential benefits, and possible risks associated with participation in this research study have been explained to the above individual and that any questions about this information have been answered.

_____ _____
Investigator Signature Date

I am willing to be contacted in the future in regard to this study or another study.

_____ _____
Participant Signature Date

_____

Participant Address and Phone Number

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