RELIGIOUS COPING, SYMPTOMS OF DEPRESSION AND ANXIETY, AND
WELL-BEING AMONG SOMALI COLLEGE STUDENTS

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EUNICE M. AREBA

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LAURA J. DUCKETT, CO-ADVISOR
CHERYL ROBERTSON, CO-ADVISOR

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Dedication

To

My parents, Mrs. Milkha M. Areba and the Late Mr. Evans O. Areba

Who gave me the love of books

My siblings, Mike, Edwin and Barbara

For the endless laughter through the hard times

The Areba and Ngare families

For believing in me and for your unwavering support, prayers and encouragement

Abstract

Background: Minnesota hosts the largest Somali population of any state in the U.S., with a median age of 25 years; Somalis are 12 years younger, on average, than the general population. Published reports reveal moderate to high rates of anxiety, depression, chemical use and trauma among young adult Somalis. Academic settings are ideal for prevention of mental health disorders and promotion of physical and emotional well-being. Religious coping is a strong predictor of health outcomes, but few studies have been conducted with young, non-western, non-Christian samples.

Purpose: The purpose of this study was to examine the associations among positive and negative religious coping, symptoms of anxiety and depression, and physical and emotional well-being among Somali college students in Minnesota's Twin Cities.

Method: An online, cross-sectional survey design was used to collect data to describe participants and measure study variables. The survey included: investigator-designed demographic items and standardized measures of acculturation, critical life event (The Social Readjustment Rating Scale), positive and negative religious coping (Brief RCOPE), symptoms of anxiety and depression (Partial Symptom Checklist – SCL-90), and physical and emotional well-being (the modified SF-12v2 Health Survey).

The online survey was pilot-tested with eight students and a community advisory board and revised prior to use in this study. Study participants were recruited from five universities in Minneapolis and St. Paul, MN. The final sample size was 156. Descriptive statistics, Pearson correlations, and structural equation modeling were used to explore the associations between and among the variables.

Results: The sample had a mean age of 21 years. Participants reported more symptoms of depression as compared to symptoms of anxiety and scored higher on physical well-being compared to emotional well-being. In this sample, Somali young adults mostly used positive religious coping mechanisms when faced with critical life events. In the multivariate analysis, all associations between religious coping and the other main variables were significant except three. Positive religious coping was positively associated with emotional well-being, and negatively with symptoms of depression and anxiety. Negative religious coping was positively associated with symptoms of depression and anxiety and negatively associated with emotional well-being. Gender was not significantly associated with any of the variables.

Discussion: Positive religious coping was associated with fewer symptoms of depression and anxiety, and an increase in levels of emotional well-being. In comparison, a higher level of negative religious coping was associated with more symptoms of both depression and anxiety and a lower level of emotional well-being. Low levels of physical well-being were associated with both positive and negative religious coping. This is probably because those with physical illnesses may use both mechanisms of religious coping at different times, depending on their health status throughout the period of ill health.

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Chapter I. The Research Problem

Background

Somalis' migration history. Millions of persons are displaced yearly due to a variety of causes including conflict and violence but there are few situations as dire as the one in Somalia (Refugee International, 2013). The collapse of the Siad Barre regime in 1991 was followed by a considerable amount of instability. The cascade of events that followed left Somalia without an effective central government, creating an environment conducive for warlords to establish control in South and Central Somalia. By mid-1992, 40% of the population had been displaced and 1.5 million people were at risk of starvation (Putman & Noor, 1993). Since then, extremist Islamic groups (e.g., Al-shabab) and Somali pirates have greatly compromised the security and stability of the surrounding region and the peace process in Somalia (Putman & Noor, 1993). Additionally, natural disasters, such as the extreme drought of 2012, have resulted in an increase in the number of Somali refugees crossing the borders into neighboring countries (e.g., Kenya and Ethiopia). The protracted conflict in Somalia has become more complex over the last 23 years with no tangible lasting solutions proffered. Following the parliamentary election of a president in 2012, efforts to rebuild Somalia are currently underway.

According to the United Nations High Commissioner for Refugees (Lejeune-Kaba, 2010), among countries of resettlement, the United States (U.S.) received the highest number of refugees during the year 2009. The Office of Refugee Resettlement (O.R.R., n.d.), mandated by the Refugee Act of 1980, has recorded more than 3 million refugees resettled in the U.S. since 1975. Somali refugees make up a significant number of refugees resettled in the U.S. since the late 1980s.

Many Somali refugees have survived traumatic events that could lead to long-term emotional and psychosocial difficulties including depression, anxiety and other problems that are detrimental to their coping, quality of life and readjustment in the U.S. (Bentley, Thoburn, Stewart, & Boynton, 2012; Turner & Gorst-Unsworth, 1990). Refugee parents who develop maladaptive coping mechanisms might transfer these to their children due to their inability to cope effectively. Consequently, like many who experience mental ill health, persons of refugee backgrounds could see these problems emerge during the early developmental years and persist into adulthood (National Research Council [NRC], 2009). There are an estimated 8,370 Somalis aged 18 years and above enrolled in colleges across the U.S. and 2,266 of these are in the state of Minnesota (U.S. Census Bureau, 2010), some of whom might be at risk of mental ill health. Institutions of learning have been highlighted as settings conducive to prevention and early detection of mental disorders and promotion of emotional and physical well-being, making Somali college students an accessible target population (National Research Council [NRC], 2009).

Somalis in the U.S. and Minnesota. Between 1983-2004, 55,036 Somali refugees were admitted into the U.S., 13,019 in the year 2004 alone (Centers for Disease Control and Prevention, 2013; O.R.R., n.d.). Minnesota hosts the largest number of Somali refugees compared to other states across the U.S. (Wissink, Jones Webb, DuBois, Krinke, & Ibrahim, 2005). By 2010, it was officially estimated that there were 32,449 Somalis in Minnesota; however, anecdotal accounts claim that as many as 60,000 Somalis live in Minnesota. This discrepancy in numbers is probably due to secondary migration between states in the U.S. (Minnesota Historical Society, 2014; U.S. Census Bureau, 2010). Probable reasons for the large numbers of Somalis in

Minnesota include economic opportunities, a welcoming social climate and a good social services provision system, reasons that have then been communicated to Somalis in other states (Horst, 2004).

According to the American Community Survey, the Somali population in Minnesota has a median age of 25 years and tends to be younger than the Minnesota population as a whole, whose median age is estimated at 37 years (U.S. Census Bureau, 2010). Approximately 21,914 Somalis in Minnesota are between the ages of 18 and 39 (U.S. Census Bureau, 2010). Popularly known as generation 1.5 are immigrants who were educated and or socialized in countries of origin (or transit and resettlement countries in the case of refugees) but migrated during middle childhood (6-12 years); those who migrated during adolescent years (13-17 years) are referred to as generation 1.25 (Rumbaut, 2004). For many Somali families who have resettled in the U.S. as a family unit, the children were likely to have been in the childhood or adolescent stage, as reflected by the 2010 census. For example, Halcon et al. (2004) reported that the Somali and Oromo youth participants in their study migrated at an average age of 15 and spent several years in transit. Given the statistics presented in the census, generations 1.5 and 1.25 make up the majority of the Somali population in Minnesota (U.S. Census Bureau, 2010). Somali youth enrolled in college are likely to be older than the average college student due to the years spent in transit and time spent closing the gap in academic achievement with their peers.

Refugee youth and well-being. Consequences of armed conflicts, including migration, contribute negatively to mental and physical well-being of refugee youth. These experiences may exacerbate existing illnesses or potentiate new ones. Refugee youth affected by mental health disorders (e.g., depression and anxiety) might resort to

abuse of self or others and are less likely to fully integrate into society, leading to loss in productivity due to inability to attain academic achievement or maintain a job (World Health Organization, 2014b). The National Research Council (NRC, 2009) estimated the cost of treatment and loss in productivity in young people due mental, emotional and behavioral disorders at \$247 billion per annum.

The WHO has documented depression as the leading cause of disability worldwide; furthermore, half of mental health disorders are diagnosed as early as 14 years of age and three quarters by age 24 (Giaconia et al., 1995; National Research Council [NRC], 2009; World Health Organization, 2014a). Consequently, for those who are affected, by the time some Somali youth reach college age they most likely have been or are soon to be diagnosed with mental health disorders. The few published reports reveal moderate to high rates of anxiety, depression, PTSD, truancy, chemical use and trauma among young Somalis (Adan, 2009; Ellis, MacDonald, Lincoln, & Cabral, 2008; Jaranson et al., 2004; Kroll, Yusuf, & Fujiwara, 2011). However, there is a dearth of research reports documenting the needs of the affected refugee youth (Jaranson et al., 2004).

Health and religious coping. Somalis are predominately Sunni Muslims; as adherents of Islam, many Somalis tend to adhere to the religion's dictates in most areas of their lives. Literature about the connection between religion and health has increased dramatically over the years (Gall et al., 2005; Seybold & Hill, 2001). Empirical observations have revealed that during crises people tend to turn to matters of faith for coping (Pargament, 1997). Religious coping has been reported as a strong predictor of both physical and mental health (Seybold & Hill, 2001). However, in comparison to studies of religious coping in western Judeo-Christian groups, there

have been fewer studies conducted among persons practicing other religions, for example, Islam (Abu-Raiya, Pargament, & Mahoney, 2011; Ai, Peterson, & Huang, 2003; Akuchekian, 2004; Braam et al., 2010). There are even fewer studies with youth and young adults of refugee backgrounds as participants (Ellis et al., 2010; Goodman, 2004; Raghallaigh, 2011).

Statement of Purpose

The purpose of this study was to examine the associations among religious coping, well-being, symptoms of anxiety, and symptoms of depression among university students of Somali origin in the twin cities, Minnesota.

Research Questions

The research questions outlined below were explored in a cross sectional study.

1. Is there an association between both negative and positive religious coping and physical well-being?
2. Is there an association between both negative and positive religious coping and emotional well-being?
3. Is there an association between both negative and positive religious coping and symptoms of depression?
4. Is there an association between both negative and positive religious coping and symptoms of anxiety?
5. What are the multivariate associations among positive religious coping, negative religious coping, symptoms of anxiety, symptoms of depression, physical well-being and emotional well-being?

Significance for Nursing

Nurses will be better prepared to care for Somali college students when they comprehend how students' use of religion as a coping mechanism is related to their health outcomes. Simply inquiring about patients' religious and spiritual preferences is not sufficient. Moreover, nurses need to understand the role religious coping plays in patients' health and illness experiences in order to provide holistic and effective care. Achieving the aim of this study contributes to and informs the work of healthcare providers, including nurses, educators, and policy makers who serve Somali college students.

Chapter II. Review of the Literature and Conceptual Framework

Literature Review

Cultural dictates and scientific causes of psychological disorders. There are salient differences in definitions, perceived etiology, and perceived appropriate treatment of psychological disorders among Somalis, persons from other similar non-western cultures, and western healthcare providers. Moreover, some researchers believe that the western biomedical view of mental health puts more weight on what is clinically important, overly simplifying the refugee mental health experience and lumping refugees into a single pathologized unit (Summerfield, 2001; Watters, 2001).

In addition to the effects of war, torture and trauma experienced by some refugees, other examples of documented causes of depression and anxiety include, but are not limited to: genetic predisposition, stress, personality traits, physical ailments, and cognitive, autonomic, endocrine and sleep abnormalities (Fava & Kendler, 2000; Manji, Wayne, Charney, & Charney, 2001; Nestler et al., 2002). On the other hand, similar to some cultural explanatory models in Sub-Saharan Africa, some Somalis believe that mental ailments are a result of: punishment from God, evil spirit (*jinn*) possession, one's behaviors, and or curses (Schuchman & McDonald, 2008).

Researchers examined referral practices among a group of Imams in the U.S., and found that mental health disorders were more likely to be attributed to stress, genetics, religious problems, a weak personality and less likely to brain chemistry or physical illness (O. M. Ali & Milstein, 2012). Additionally, many Somalis view the mind, body and spirit as one unit, and in many Sub-Saharan cultures, health is viewed as being holistic with some distinctions between the mind and body (Patel, 1995). This idea that there is a strong connection between mind, body, soul and physical health

was evident even among early Muslim physicians and philosophers, (e.g. *Al-Razi* and *Ibn Sina*) (Morgan, 2007). These physicians wrote extensively on the effects of emotions and unhealthy thought patterns on the human body, placing emphasis on the fact that diseases have scientific causes and were not punishment meted out by God. These theories were supported 900 to 950 years later in the works of Sigmund Freud, Carl Jung and Norman Cousins (Morgan, 2007). At some point in history it seems that these ideas were put aside as the medical establishment embraced the mechanistic view in treatment of diseases and illness over time.

In a study by Bhui et al. (2006) conducted in London, Somali patients with depression and anxiety or psychosis reported frequent visits to primary care providers. They were more likely to be placed on treatment for physical ailments, than for their mental health problems, reflecting the response of primary care providers to somatic presentation of depression and anxiety. However, there are numerous studies in which symptoms of mental illness have been documented.

Symptoms of depression and anxiety in Somalis. Participants in these studies are of varying age groups and have resettled in various countries across the globe. In a study conducted in the U.K., more than 50% of the Somali men reported symptoms of depression and anxiety, such as hopelessness, shortness of breath, rapid heart rates, suicidal thoughts, and difficulty sleeping (Silveira & Ebrahim, 1995). In examining the rates of depression and PTSD among Somali and Rwandan refugees in a Ugandan refugee camp, Onyut et al. (2009) found a high prevalence of somatic complaints, symptoms of anxiety and depression as well as co-morbid depression and PTSD. Bentley et al. (2012) reported that 45% of the Somali participants ($n = 75$) in their study were diagnosed with both depression and PTSD and that 17.6% met the

criteria for depressive disorder. In another study, (Bhui et al., 2003) identified 49.5% of their participants ($n = 180$) who were at-risk of developing depression and anxiety disorders. In a consequent study, 33.8% of the Somali participants ($n = 143$), were diagnosed with anxiety and depression compared to 14% who had PTSD (Bhui et al., 2006). In a study in the Netherlands with Iranian, Afghan and Somali participants ($n = 178$), 29.4% were diagnosed with depression and 41.2% with anxiety (Gerritsen et al., 2006). In Canada, Somali participants drawn from a refugee mental health program in Camden and Ottawa exhibited symptoms of mild to moderate depression (Jorden, Matheson, & Anisman, 2009; Palmer, 2006).

Symptoms of depression and anxiety in refugee youth. In these studies, the average age of the young refugee participants was between 17 and 29 years. Among Somali and Oromo youth ($n = 338$), both groups reported incidences of psychological disorders, but Oromos reported higher incidences (Halcón et al., 2004). In another study, (Ellis et al., 2008) reported high rates of depression and PTSD among their young Somali participants ($n = 135$). Additionally, Vietnamese youth ($n = 103$) in a camp reported high levels of depression and anxiety (Felsman, Leong, Johnson, & Felsman, 1990). In a Somali young adult out-patient population ($n = 600$), aged ≤ 30 years and having significant behavioral manifestations of psychoses (80% of males and 32.4% of females), 13% of males and 31% of females were diagnosed with depression (Kroll et al., 2011).

In a longitudinal study of young Cambodian refugees ($n = 46$), half of the participants had a diagnosis of PTSD and 48% had depression and anxiety disorders (Kinzie, Sack, Angell, Clarke, & Ben, 1989). In year 3 ($n = 27$), depressive symptoms reduced to 41%, (Kinzie et al., 1989) and then to 7% at year 6 ($n = 31$), but increased

to 14% after 12 years ($n = 31$) (Sack, Him, & Dickason, 1999). This illustrates that symptoms of psychological ailments persist over a long period of time, and may even reappear and even increase after a period of subsiding.

Factors associated with depression and anxiety. Researchers have described some of the factors associated with high rates of symptoms of depression and anxiety in Somalis. These included the female gender, single marital status, decreased religious practices, unresolved immigration status, age at time of migration, length of residency in country of resettlement, perceived discrimination, unemployment, pre-existing PTSD, and head trauma (Bhui et al., 2003; Bhui et al., 2006; Ellis et al., 2008; Jaranson et al., 2004; Kroll et al., 2011). Researchers also hypothesized that major depression facilitates the onset of PTSD and vice versa (Breslau, Davis, Peterson, & Schultz, 2000; O'Donnell, Creamer, & Pattison, 2004). Additionally, the use of khat (*qat* or *miraa*; a leaf that produces effects somewhat similar to but not as potent as amphetamines), and marijuana, cocaine, alcohol and amphetamines was associated with the onset of and exacerbation of symptoms of mental illness (Warfa et al., 2007). Even though usage is widely reported among Somalis, no causal link has been established between the use of khat as a social or cultural recreational stimulant and the onset of mental illness (Bhui et al., 2006; Ellis et al., 2008). However, there are documented complaints from Somali communities of khat causing family breakdown and “some medical problems” but these claims have not been empirically verified (Bhui & Warfa, 2010; Warfa et al., 2007).

Mental health status was not highly correlated with reports of torture in one study (Bhui et al., 2003). This is in contrast to strong links between torture, trauma, and psychological ailments reported in other studies with Somali participants and

comparable samples (Breslau et al., 2000; Ellis et al., 2008; Gerritsen et al., 2006; Halcón et al., 2004; Jaranson et al., 2004; Jorden et al., 2009). In conclusion, few researchers have reported the needs of refugee youths with mental health ailments, and those who have report moderate to high levels of symptoms of depression and anxiety. These mental health disorders are associated with many social factors including recreational drug use. In order to serve this population well, researchers need adequate information about mental health needs and what is effective in helping young Somali refugees and or young Somalis with refugee backgrounds cope and lead productive lives.

Definitions, cultural norms, customs and stressors. Well-being is often defined in terms of a person's psychological state. Positive well-being has been defined as a high level of positive affect and satisfaction with life; factors such as a person's disposition, environment and culture are thought to influence subjective well-being (Deci & Ryan, 2008). The effect of these factors is even more evident in persons living in environments and communities vastly different from the ones they were born or socialized in (e.g., refugees and immigrants). Furthermore, the influence of pre-migration norms and customs on a person's well-being depends upon social ties with one's home country, and a person's involvement in their present local community (Boyle & Ali, 2010).

Emotional well-being among Somalis. Pre-migration family and social structure in Somalia is lauded as having facilitated healthy family relationships and consequently positive well-being. Even so, many of the protective features of the collective tapestry of family and social institutions are usually absent in resettlement (Boyle & Ali, 2010; Schuchman & McDonald, 2008). In an attempt to promote their

well-being, participants in one study mentioned engaging in activities such as establishing a daily routine, listening to music, being optimistic, and eating traditional foods, as these were considered more healthful than western foods (Paisley et al., 2002). Some of the reported challenges Somali communities face might negatively affect their well-being. For example, some of the post-migration stressors reported among Somali youth and their families include, single parent homes headed by mothers, family life without the extended family, poverty, lack of recreational facilities and inadequate resources in schools (Adan, 2009; Midaynta Association of Somali Services Agencies Metro Toronto, 2004; Reitsma, 2001). Moreover, loss of immediate family members during the war, especially fathers, robbed young males of role models and necessitated many youth to live with extended kin. In some cases, the youth did not get along with their relatives and ended up homeless, joined gangs for social support and or resorted to using drugs (Adan, 2009).

Health status and well-being. A literature search of the term “refugee health issues” most often yields more research reports on mental health disorders than physical ailments. This is not surprising due to the psychological effects of the atrocities that many refugees endure prior to migration and difficulties faced during resettlement (Jaranson et al., 2004).

In studying well-being among non-refugee persons who faced serious illness, Folkman and Greer (2000) concluded that even though both patients and care providers are concerned about disease management, patients are more concerned with effects of the physical illness, maintaining their identity, and carrying out family and societal roles. This phenomenon has also been reported in some studies with Somali participants. For example, in two studies, Somali women participants with

average ages between 22 and 27 years expressed how important it was that they dealt with their emotions quickly and moved on to their responsibilities, defining well-being in terms of their physical ability to carry out familial roles such as parental duties, work, and education responsibilities (Carroll et al., 2007; Whittaker, Hardy, Lewis, & Buchanan, 2005). Moreover, constantly talking of one's problems was viewed as a weakness (Whittaker et al., 2005). Additionally, Somali women reported that Islam helped them recreate their lives and find meaning after the war and the *Qur'an* (Islamic holy text) became the treatment (McMichael, 2002). Ultimately, what seemed to have greater influence on how Somali participants viewed their well-being was the presence of physical disorders, which affected their ability to perform their roles. Despite these reports, many refugee youth are resilient and have been found to be coping relatively well (Ehnholt & Yule, 2006; Halcón et al., 2004).

Traditional beliefs and mental health disorders. As previously mentioned, perceived causes of mental illness in Somalis are often closely tied to traditional beliefs and customs. Traditional beliefs, such as belief in *zar* (i.e., spiritual possession), are commonly seen as the causes of both psychological and physical ill health, and consequently impact well-being. Traditional beliefs were rife among the most recent Egyptian refugees and contradicted both religion and western biomedical models (Endrawes, O'Brien, & Wilkes, 2007). Treatment of *zar* possession consisted of visiting a religious leader (e.g., an *imam*) for healing prayers or holding *zar* ceremonies to appease the spirits; the latter was frowned upon by religious leaders (Endrawes et al., 2007; Whittaker et al., 2005). Note that regular religious prayer and *zar* ceremonies are different, as the former is seen as a mainstream religious practice and the latter, a cultural belief not in line with the teachings of Islam. Moreover, factors such as age,

education and length of stay in country of resettlement influenced a person's view (acceptance or dismissal) of *zar* beliefs, with some Somalis seeing it as superstitious and cultic (Endrawes et al., 2007). In the western biomedical model, *zar* possession is classified as a culture-bound syndrome; such syndromes are usually not linked to any official category in the Diagnostic and Statistical Manual of Mental Disorders (American Psychological Association [APA], 2014; First, 2000; Guarnaccia & Rogler, 1999). Moreover, these syndromes have folk names and origins, yet they sometimes do occur as co-morbid disorders with other mental health disorders (Guarnaccia & Rogler, 1999).

Islam. In an effort to place religious coping in the context of Islam, a brief overview of some fundamental aspects are presented. Islam has close to 1.2 billion followers worldwide, making it one of the fastest growing and largest religions second to Christianity (Council on American-Islamic Relations [CAIR], 2013). There are approximately 6-7 million Muslims in the U.S. Islam is a monotheistic religion with numerous prophets who were given the eternal message however the message was finalized by the last prophet, Muhammad (Council on American-Islamic Relations [CAIR], 2013). The Qur'an is a record of words revealed to the prophet; it contains 114 (*surahs*) chapters. The word *Islam* is derived from the Arabic word *salaam* (peace), directly translated into English it means *surrender*, and thus a Muslim (follower of Islam) is one who surrenders to the will of *Allah* (Council on American-Islamic Relations [CAIR], 2013).

Fundamental beliefs of Islam. Muslims have differing religious perspectives (e.g. Sunni and Shia) that are also influenced by cultural and national norms (Bonab, Miner, & Proctor, 2013). Thus, some of the "religious" practices seen in society are not

uniformly accepted or even endorsed by all adherents of Islam. However, there are five pillars of Islam that are widely accepted among Muslims of various sects:

- declaration of faith (*iman*) (This is belief in one God and that Muhammad was his last prophet.);
- prayer (*salat*) (There are 5 times of prayers that are prescribed as obligatory and are at different times throughout the day. These can be done in a group or individually.);
- charitable or alms giving (*zakat*) (This is 2.5% of earnings and savings given yearly to those in need. The principle behind this tenet is that everything belongs to God and *man* is a trustee. Note that, alms giving and fasting are methods of self-purification for Muslims.);
- fasting (*sawm*) (During the lunar month of Ramadan Muslims fast from first light until after sunset.); and
- pilgrimage (*hajj*) (This is a once in a lifetime obligation for those who have the financial means and are physically able to make it to Mecca (S. R. Ali, Liu, & Humedian, 2004; Council on American-Islamic Relations [CAIR], 2013).

These beliefs and rituals hold central importance to Muslims. For the adhering Muslim, they are acts of relating to Allah, those around them and to nature (Bonab et al., 2013). By adhering to these beliefs and rituals, Muslims demonstrate a desire to attain and or maintain a close relationship with Allah during times of psycho-spiritual or physical problems. Because Allah is omnipresent, the idea of abandonment is unfathomable. In addition, there are 99 divine attributes given to Allah to illustrate his love for humans (e.g. preserver, bestower of security, ever-provider, shielder and ever-lasting refuge),

and these depict him as an attachment figure to adherents of Islam (Bonab et al., 2013). It is also important to note that just as there has been empirical evidence of lamenting loss of close proximity to God in Christian samples, Islamic writings give a glimpse of such among Muslims (Bonab et al., 2013).

Religious coping: definitions and examples. Religion and spirituality represent related terms rather than distinct and separate constructs. Additionally, both spirituality and religion have potential positive and negative sides (Pargament, 2002). Reference to religious coping in this paper includes activities of coping that have elements of spirituality. In many of the studies presented in this section, researchers used a number of different constructs in order to measure how people use religious coping; these include religious service attendance, religious faith, religious commitment, religiosity, and spirituality.

Religion, coping, spiritual beliefs and practices are geared toward “searching for and finding positive meaning” (Folkman, 1997; Pargament, 1997). However, unlike religion, coping is used when one is faced with a crisis and “does not necessarily relate to the sacred” (Pargament, 1997). In addition to finding meaning, religion can be used in other stages of the coping process (e.g., appraisal of the event, and transformation of values), and it can also be an outcome of the coping process (Pargament, 1997). Religious coping is, therefore, a search for significance in times of stress as related to the sacred. The sacred is defined as “the concepts of God and higher powers” but when secular entities are “tied to God or imbued with spiritual qualities” they can also be sacred, for example, marriage (Pargament, 1997; Pargament, Feuille, & Burdzy, 2011). Examples of religious coping activities include but are not limited to, attendance of religious services, affiliations and beliefs, prayer, fasting, and interpretation of one’s

circumstances using excerpts from religious texts and meditation (Gall et al., 2005; Lewis & Ogedegbe, 2008; McCullough, Hoyt, Larson, & Koenig, 2000). These activities vary widely according to denomination and between individuals within a denomination. Some of these activities have been empirically tested; for example, use of intercessory prayer and personal prayers was related to positive improvements among patients facing critical life events such as cardiovascular diseases (Ai et al., 2003; Townsend, Kladder, Ayele, & Mulligan, 2002).

Positive and negative religious coping. The religious-spiritual experience is thought to influence health outcomes and is generally assumed to be positive. However, some forms can be pathological, for example, blind allegiance to authoritarianism (Seybold & Hill, 2001). Positive religious coping has been linked to better psychological functioning, whereas, negative coping has been associated with increased symptoms of depression and anxiety (Tarakeshwar, Pearce, & Sikkema, 2005). Examples of positive religious coping activities include: (a) religious forgiveness (using religion to attain peace when faced with anger and hurt); and (b) benevolent religious reappraisal (stressor is seen as benevolent and beneficial); and (c) collaborating with God in addressing stressful situations. In contrast, examples of negative religious coping include, (a) questioning God's power and expressing discontent with the clergy or congregation; and (b) punishing God reappraisal (i.e., stressor is seen as punishment from God for the individual's sins) (Pargament, 2002). Neither of the two coping methods automatically leads to physical and or emotional well-being due to the unpredictable interplay of personal, religious, and cultural factors (Pargament et al., 2011).

Consider the following studies. In communities affected by the 1993 Midwest flood, positive religious reframing was linked to positive psychological outcomes. Conversely, negative religious coping was associated with poor psychological adjustment (Smith, Pargament, Brant, & Oliver, 2000; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998) reported that some forms of religiosity protected against depression but other forms exacerbated symptoms of depression. In addition, stressful events that occurred outside of the family structure were associated with positive religious coping, whereas internal family crises, such as loss of a child or divorce, were associated with negative religious coping (Strawbridge et al., 1998). Refugees from Kosovo and Bosnia residing in the U.S. exhibited a pattern of positive religious coping associated with optimism but not hope. Moreover, their level of religious commitment enhanced positive but not negative religious coping (Ai et al., 2003).

Use of mostly positive religious coping mechanisms has also been reported among Muslims from Bangladesh, Pakistan and Somalia, and African Americans (Bhui, King, Dein, & O'connor, 2008; Chapman & Steger, 2010). Additionally, religious coping has been overwhelmingly documented among the socially marginalized (Steffen, Hinderliter, Blumenthal, & Sherwood, 2001), women (Strawbridge, Shema, Cohen, & Kaplan, 2001), and persons with lower levels of educational attainment (Krause, 1998). Religious coping is also reportedly used differently among ethnic groups; for example, it has been linked to lower ambulatory blood pressure in African Americans but not in Caucasians (Steffen et al., 2001). The evidence presented herein indicates that religious coping can be an effective coping strategy for some people in some circumstances. However, there are few studies addressing the needs of the

youth. Additionally, this growing area of research in religious coping has not been received without criticism.

In a review of studies documenting the effects of use of religion on health outcomes, Sloan and Bagiella (2002) cited numerous “irrelevant claims and significant methodological flaws.” They concluded that many of the health benefits reported in the studies were not empirically based (2002, p.14). Some of the flaws in the studies they reviewed were due to use of Christian measures on persons who practice other religions, and inconsistent definitions of religion, spirituality, health, and well-being (Pargament, 2002; Seybold & Hill, 2001). In response to the criticisms by Sloan and Bagiella, some researchers have advocated for a more systematic and objective discourse in the form of new research designs used by collaborative teams with tailored measures in other samples practicing religions other than Christianity (Levin & Schiller, 1987; Pargament et al., 2011; Powell, Shahabi, & Thorensen, 2003).

Religious coping and health outcomes. In comparing non-religious and religious coping activities, religious coping had unique contributions beyond those of non-religious activities of coping in the emotional and physical outcomes of distress (Pargament et al., 1990; Pargament et al., 1992; Tarakeshwar et al., 2005; Tix & Frazier, 1998). In their review of the impact of religion and spirituality on physical and mental health, Seybold and Hill (2001) reported both physical and psychological effects of religion on health, including lower rates of cancer and stroke, as well as, general psychological well-being. In a review of 34 clinical trials designed to examine the impact of religion on health outcomes, religion was reported to positively influence blood pressure, immune function, depression, and anxiety (Townsend et al., 2002). Religious involvement was associated with lower rates of mortality in a meta-analysis

of data from 42 independent samples (McCullough et al., 2000; Townsend et al., 2002). Also, religious faith, rather than affiliation or behavior, was linked to general well-being in a review of 200 epidemiologic studies addressing nine disease categories (Levin & Schiller, 1987).

Studies designed to examine both homogenous (e.g. same religious affiliation, age groups, and gender) and heterogeneous groups have also had largely positive outcomes among persons who utilize religious coping as discussed in the next section. Tix and Frazier (1998) reported that among kidney transplant patients, religious coping was associated with less distress in significant others and more life satisfaction over time in both patients and their significant others. Ellison and Anderson (2001) found religious attendance, with some variance among individuals, to be a protective factor against domestic violence among couples in the U.S. In another study, researchers examined overall and cause-specific mortality data and concluded that at age 20, there was a seven year difference in life expectancy between those who attended religious services more than once a week and those who never attended (Hummer, Roger, Nam, & Ellison, 1999).

In a longitudinal study with participants who were diagnosed with HIV, use of religion and spirituality as a coping strategy was linked to a lower viral load and greater stability of CD4 cells over four years (Ironson, stuetzle, & Fletcher, 2006). In studying how religion influenced the bereavement process of caregivers of advanced HIV/AIDS patients, Folkman (1997) illustrated that when faced with prolonged and severe stress, spirituality and religiosity “cultivated positive reappraisals of the situation,” consequently supporting positive mental states of the caregivers.

Even though the impact of religion on both physical and emotional health is largely thought to be beneficial, the extent of its effect depends on the individual and varies by religion and the level of integration in a person's life (Pargament, 2002). Overall, well-being has been associated with an intrinsic, secure relationship with God and others, in contrast to an imposed and tenuous relationship (Pargament, 2002).

Religious coping in youth samples. Among youth samples in the U.S., researchers reported less symptoms of anxiety in African Americans than in Caucasians, with African Americans using more positive religious coping methods (Chapman & Steger, 2010). In examining the impact of the then ongoing Gulf war on non-combat U.S. college students, researchers reported increased distress among students who used religious avoidant behavior (use of religion as an escape from a problem) and had religious discontent with God and the church (Pargament et al., 1994). Similarly, religious discontent and coping among college students dealing with a friend's demise were negatively correlated (Park & Cohen, 1993). In a single study, researchers examined responses from samples of college students who had experienced a serious negative event and from residents of Oklahoma City during the 1995 bombing. For both groups, positive religious coping was associated with fewer symptoms of psychological distress, but negative coping was associated with an increase in symptoms of PTSD, emotional distress, and psychosomatic manifestations (Pargament, Smith, Koenig, & Perez, 1998).

Lastly, in examining the effect of healthy practices promoted by religious faith, Mahoney et al. (2005) reported that college students who viewed their bodies as sacred or sanctified engaged in regular exercise regimes and disapproved of consumption of alcohol, illicit drugs, and unhealthy eating habits. Practice of healthy

habits and use of positive religious coping methods resonate with the teachings of Islam, the religion of most Somali youth (Rassool, 2000). Thus, it is plausible that the effects reported in these studies will also be seen among Somali youth who utilize religious coping.

Conceptual Framework

Religious coping measures have been linked to physical and mental health related outcomes in a wide variety of events encountered over one's lifetime (Pargament et al., 1994). This can be attributed to the numerous research efforts that have dispelled the notion that critical life events (CLEs) are not highly related to or do not contribute to physical or emotional well-being over time (Pearlin, Schieman, Fazio, & Meersman, 2005; Rabkin & Struening, 1976). Furthermore, use of religious coping in readjusting to or coping with a CLE (e.g. starting college), like any other coping mechanism, is not only limited to when one encounters a negative event, because many celebrated events also demand readjustment e.g. marriage (Holmes & Rahe, 1967). However, it is important to note that in some instances, such as in the lives of refugees it is the long-term effects of numerous past CLEs that they might be struggling with in the present, compounded by life's daily stresses.

The conceptual model (see Figure 1), illustrates the complex relationships that were investigated in this study. The solid lines represent associations that were examined in questions one through four and were the main focus of this study. These questions are about the possible associations among some of the variables. For example, symptoms of depression might present with signs of anxiety and could be associated with negative and/or positive religious coping, consequently impacting a person's well-being. The dotted lines are possible additional associations that could be present among the variables, in addition to

those with positive and negative religious coping, as posed in question five. The bidirectional arrows indicate that at this point it is not known which variables are precursors for the other variables among Somali youth (e.g., symptoms of depression might lead to negative religious coping and vice versa). Additionally, the curved arrow indicates that religion plays various roles in the coping process, and thus the two religious coping variables might be correlated with each other.

Figure 1. Conceptual model of religious coping depicting hypothesized relationships among the variables.

Positive religious coping methods illustrate a secure relationship with the sacred, whereas negative religious coping mechanisms indicate a tense, conflict and struggle ridden relationship with the sacred (Pargament et al., 2011). However, even though negative religious coping might be associated with (psychological) emotional distress, these mechanisms could facilitate long-term well-being. Still, it should be noted that neither of the two coping methods automatically lead to physical and or emotional well-being (Pargament et al., 2011). Furthermore, due to lack of sufficient knowledge about the interrelations of

these variables and the cross-sectional design of the study, these predicted relationships were examined with caution.

In introducing their theoretical model of religion, which was influenced by the transactional model of stress and coping Pargament et al. (2011) elaborated upon several themes that are critical in the study of religious coping and should be well noted as outlined below:

- religion adds a unique dimension to the coping process and can be incorporated in every stage of the process;
- efficacy of religion in coping depends upon its availability and a belief that it offers compelling solutions; and
- religion can aid or hinder coping.

Conceptual Definition of Terms

Mental health. A state of well-being where persons know their own abilities, are able to cope with normal stress, are productive and make a contribution to their community. It is the foundation of individual well-being and effective functioning of the community (World Health Organization, 2014b).

Anxiety. The American Psychological Association (APA) has defined anxiety as “an emotion characterized by heightened autonomic system activity, specifically activation of the sympathetic nervous system (i.e., increased heart rate, blood pressure, respiration, and muscle tone), subjective feelings of tension, and cognitions that involve apprehension and worry ” (Kadzin, 2000, pp. 209-212).

Depression. Major depression is defined as “a mood disorder characterized by one or more episodes (at least two weeks of depressed mood or loss of interest or pleasure in nearly all activities) and at least four other symptoms: changes in sleep

patterns, appetite, or weight, and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; or recurrent thoughts of death or suicidal ideations.” (American Psychological Association [APA], 2014)

Well-being. Well-being is often defined in terms of a person’s psychological state, as evident in these definitions. Well-being is a personal evaluation of one’s state of wellness, the absence of negative conditions and feelings (Deci & Ryan, 2008; Keyes, 1998). Usually measured as a subjective construct (Deci & Ryan, 2008), well-being is the process by which people evaluate their lives, including emotional reactions to events, their moods, and judgments about their life satisfaction and fulfillment in domains such as marriage, work and school (Diener, Shigehiro, & Richard, 2003).

Emotional well-being. Emotional well-being is defined as the emotional quality of a person’s everyday experience, the frequency, and intensity of experiences of joy, stress, sadness and affection that make a person’s life pleasant or unpleasant (Kahneman & Deaton, 2010). Low levels of mental illness have been associated with happiness (Diener & Seligman, 2001).

Physical well-being. Physical well-being is the ability to understand what can make one’s body more efficient and effective, and identifying and respecting one’s own limitations (Washington State University, 2012). Additionally, it is a self-report of feeling healthy and full of energy (Centers for Disease Control and Prevention, 2013). Positive states of physical well-being have been associated with longevity (Danner, Snowdon, & Friesen, 2001), better immune functioning (Cohen, Doyle, Turner, Alper, & Skoner, 2003) and quicker recovery (Kopp et al., 2003).

Religious coping. Religious coping is a search for significance in times of stress as related to the sacred. The sacred is defined as “the concepts of God and higher powers” but when secular entities are “tied to God or imbued with spiritual qualities” they can also be sacred, for example, marriage (Pargament, 1997; Pargament et al., 2011).

Positive religious coping. This comprises of religious coping methods that reflect a generally secure relationship with what or who an individual may hold sacred. Note that these methods are not assumed to be invariably adaptive (Pargament et al., 2011).

Negative religious coping. This coping mechanism is sometimes synonymous with religious struggles, defined as having a tense, conflict and struggle ridden relationship with the sacred; it can also have positive outcomes. This is because struggle embodies growth and transformation (Pargament et al., 2011).

Youth. The definition of who comprises this group depends on the organization and the context of the issue being addressed. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2013) defined it as a transitional period from the dependence of childhood to adulthood’s dependence on and awareness of our interdependence as members of a community. There is no exact age bracket for this period; however, generally accepted ones are 15-24 years in the overall United Nations umbrella, 15-35 years in the African Youth Charter (UNESCO, 2013) and persons up to 25 years (Substance Abuse and Mental Health Services Administration [SAMHSA], 2013).

Acculturation. Acculturation is the process of cultural and psychological changes involving various forms of mutual accommodation, leading to some “longer-

term psychological and sociocultural adaptations between two or more cultural groups. This process can take many years or even several generations.” (Berry, 2005, p.699)

Assumptions

I attempted to identify and address some of my preconceived notions that underlie this research process as follows. Unlike the general college student population, many Somali students would readily profess and identify with their faith; furthermore, its dictates hold central importance in their lives (Mahoney et al., 2005). Additionally, I assumed that there might be many manifestations of religious coping seen among Somali college students; however, an overwhelming number were likely to endorse use of positive religious methods as opposed to negative religious coping methods (Pargament et al., 1998).

I also presumed that Somali college students would attempt to be proficient in the U.S. college culture but would still remain true to their local ethnic identities, such as Somali or Kenyan or Ethiopian-Somali. I, therefore, expected the students to have a selective integration of their culture and of those cultures around them, and more so than that of the majority culture. In light of these assumptions, a measure of bicultural identity and integration (see Appendix G) was added to evaluate the level of acculturation in this sample. In addition, suggestions from an advisory board and a focus group were used to modify the procedures, and further adapt the measures to the culture and religion of the students. Thus, it was my assumption that the measures developed for and tested with non-Somali samples, were appropriate for this sample after taking the aforementioned steps. Furthermore, I made an effort to be conscious of how these preconceived notions influenced my actions and thought process as I collected, analyzed and interpreted the data.

Chapter III. Methodology

Research Design

A cross-sectional survey design was used in an effort to understand how Somali college youth use religious coping in attaining and or maintaining their emotional and physical well-being when faced with Critical Life Events (CLEs). The cross-sectional design enables a researcher to collect data from a sample from the target population at one point in time and is, therefore, inexpensive and time efficient (Mann, 2003). When using a cross-sectional design a researcher can study multiple relationships at one time; however, the results generated cannot be used to establish causality because the element of temporality is lacking (Mann, 2003). Although associations can be inferred, a researcher has to provide evidence that the relationships the data reflect are not mere spurious associations. Despite the shortcomings of the cross-sectional design, it is well suited for the purpose and research questions addressed in this study.

Population and Sample

The target population for this study was Somali college students between 18 and 30 years of age. The accessible population was persons from the target population who were enrolled at the University of Minnesota Twin Cities, Hamline University, St. Catherine University, Metropolitan State University and Augsburg College. It was this author's assumption that a complete sampling frame from which to recruit Somali students was not available, because institutions of higher learning do not record the nationality of their students. Thus, the total number of Somali students in an institution can only be estimated. Somali students were identified through student associations and referrals; therefore, random sampling from the target population was not feasible.

Two types of sampling were employed: convenience sampling and snowball sampling (Spring et al., 2003). A convenience sample of students who were easily accessible through their student associations, and a snowball sample of students referred by participants, completed the web-based survey. Recruitment flyers were posted on the campuses in areas frequented by students, and leaders of student organizations with high enrollments of Somali students were requested to post the online versions of the flyers on their social media pages and email list-serves.

Inclusion and exclusion criteria. Persons were invited to participate in the study if they were: Somali college students between 18 and 30 years of age; enrolled at the aforementioned institutions; and could read, write and speak English fluently. Persons who met the inclusion criteria were excluded if they were unable to give informed consent. Instances in which a student might not have been able to give informed consent include the student feeling the need to get approval from a parent or guardian or a spouse or partner in order to participate. This situation did not occur during the course of conducting this study.

Sample size. The estimated sample size needed for any associations found among the variables to achieve statistical significance was roughly 100-200 participants. These numbers stem from the non-definitive rule of between 10-20 participants for every parameter estimated for sample size when using structural equation modeling (SEM) for data analysis (Bentler & Chou, 1987, p. 91; Hoe, 2008; Kenny, 2014). There were 15 parameters (see Chapter 2, Figure 1). The final sample size was 156 students.

Human Subjects Considerations

The University of Minnesota Institutional Review Board (IRB), and the IRBs of the four other institutions approved this study before any research activities were commenced (see Appendix A, B and C). Hamline, St. Catherine and Augsburg Universities waived internal IRB review upon being provided with the University of Minnesota's IRB application and approval letter. In an effort to protect the study participants, the survey was anonymous and participation was voluntary. Additionally, except for few mandatory demographic questions, which also ensured participant eligibility, as participants were not required to answer every question on the survey.

Data were collected and stored on REDCap (Research Electronic Data Capture), a secure, web-based database hosted by the University of Minnesota Health Center's Information Systems group (Harris et al., 2009). No protected health information was collected from the participants; however, official school emails were used to send the survey link to potential participants and distribute bookstore gift card codes to participants as compensation for time spent completing the survey. To increase the rate of participation, after three months of slow enrolment, a change in protocol was sought from the IRB, (see Appendix B), as follows:

1. collecting student identification numbers in order to deposit "gopher gold" on University of Minnesota participant's ID cards ("gopher gold" is a cashless debit value used to make purchases on campus, e.g. printing, meals and parking), and
2. adding three more data collection sites (Hamline University, Metropolitan State University and St. Catherine University).

The target population consisted of individuals who were deemed capable of making autonomous decisions. Therefore, informed consent was web-based.

Participants could decide to proceed to the survey or not depending on whether they felt comfortable with the information provided. Reading through the consent form and answering the survey questions indicated the participant's consent. Participants could also download a PDF version of the consent form if they wished. Following funding from the Consortium on Law and Values in Health, Environment & the Life Sciences at the University of Minnesota and IRB approval, research activities commenced.

Data Collection Instruments

Overview. Measures of study variables are described below; these instruments have been attached as Appendices D, E, F, G, H, I, and J. Appendix D is a printed version of the entire online survey that illustrates how the instruments were combined for web-based administration using the survey function in the REDCap database. However, the actual on-line version was more professional in appearance and more user friendly than the printed version.

Some instruments, such as the Brief RCOPE and the Benet-Martinez acculturation scale were adapted to reflect the religious and social norms of the Somali youth population who were to be the participants in the study. The original authors granted approval of these adaptations and permission to use the adapted instruments.

Demographics. These original questions were designed to collect information about participants' age, university where enrolled, history of migration, marital status, education, employment, and housing. A short inventory of the participant's access to and use of religious or spiritual resources was also included in this part of the survey (see Appendix E).

Critical life events. The Social Readjustment Rating Scale (SRRS; see Appendix F), also known as the Holmes and Rahe scale, is a 43-item measure of life

events that could indicate a great change in a person's present life pattern (Drohrenwend, 2006). Each event in this checklist is assigned a life change unit (LCU) score and the sum of the LCUs indicates the amount of stress and possibility of ill health. The events listed do not account for physiological meaning, emotional or social desirability (Holmes & Rahe, 1967). In a study among college students, Spearman's correlations were reported, illustrating the concordance in ranking life events among different groups, e.g. a coefficient of .94 for the Chinese and Malaysian cohorts, and a coefficient of .93 for the Malay and Ceylonese cohorts (Woon, Masuda, Wagner, & Holmes, 1971). Presently, SRRS is the most widely used checklist, and there have been numerous adaptations.

Acculturation. The Bicultural Identity Integration Scale – v2 (BII-2; see Appendix G) is a 20-item measure of both immigration and globalization-based acculturation (Benet-Martínez & Haritatos, 2005). It is constructed to measure the interplay of bicultural identity and acculturation, and highlights bicultural orientations and psychological outcomes (Chen, Benet-Martinez, & Bond, 2008). This version consists of 2 subscales, items 1-5 and 6-11 represent the harmony vs. conflict subscale and items 12-16 and 17-20 represent the blendedness vs. compartmentalization subscale, respectively. Items are rated on a 5-point likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). This version was validated among 1,000 self-identified bicultural college students, a majority of whom were first or second generation Latino (as) and Asian Americans. The internal consistency reliability for the harmony vs. conflict subscale was $\alpha = .81$ and for the blendedness vs. compartmentalization subscale was $\alpha = .86$; additionally, the structure for the BII-2 was similar across the two groups (Huynh, Nguyen, & Benet-Martínez, 2011).

Symptoms of depression and anxiety. The Hopkins Symptom Checklist (SCL-90) is a 90 item-scale (Derogatis, 1977). In this study, the shorter, more specific 25 item version was used (see Appendix H). The first 10-item subscale measures symptoms of anxiety and the second 15-item subscale measures depression. Participants rated each item on a 4-point scale indicating absence or severity of symptoms. Validity of the depression and anxiety sub-scales was established using the DSM-III R and the ICD-10 with primary care and psychosomatic outpatient samples respectively. Results indicated acceptable concurrent validity for both groups (Schmitz et al., 2000). The internal consistency coefficients for depression and anxiety subscales were reported as $\alpha = .90$ and $\alpha = .85$, respectively (Derogatis, Rickels, & Rock, 1976; Schmitz et al., 2000). The depression and anxiety subscales have been translated into Somali and validated among Somali participants, the two subscales were highly correlated $r = .95$ (Bhui et al., 2003). In another study, the internal consistency coefficient for the total scores in the depression and anxiety subscales was $\alpha = .92$ (Bentley, Thoburn, Stewart, & Boynton, 2011, p. 480).

Physical and emotional health. The SF-12v2® Health Survey (see Appendix I) is a 12-item measure of physical and emotional well-being that is not specific to age or disease categories. It is comprised of a physical component summary score (PCS) and a mental component summary score (MCS) (Ware, Kosinski, & Keller, 1996). In attempting to validate the SF-12v2® scale against the longer SF-36v2 scale, Ware et al. (1996) concluded that the SF-12v2® replicated the empirical validity of the SF-36v2 scale for both the PHS and MHS. Researchers have reported internal consistency coefficients for the SF-12v2® PCS and MCS sub-scales, using the Mosier alpha, at

$\alpha = .88$ and $\alpha = .82$, respectively (Cheak-Zamora, Wyrwich, & McBride, 2009). Test-retest reliability inter-class correlation scores for the PHS and the MCS were .78 and .60, respectively (Cheak-Zamora et al., 2009). Additionally, the SF-12v2® Health Survey is recommended for patient based assessment of both physical and mental health, and it reduces participant burden because it takes approximately 3 minutes to complete. The instrument has been used with Russian, Cambodian, Vietnamese, Somali and Iraqi refugees and found reliable (Hoffmann et al., 2005; Marshall et al., 2006; Steel et al., 2005). There are roughly 100 translations of the SF-12v2®. Scores on the SF-12v2® range from 50-100 (QualityMetric, 2014). Interpretation of the scores is norm-based; scores are estimated in standard units as deviations from the average instead of extremes such as 0-100 (Ware & Kosinski, 2001, p. 406).

Positive and negative religious coping. The 14-item Brief R-COPE scale (see Appendix J) is the most commonly used measure of religious coping with major life stressors. The Brief R-COPE contains two of the 21 subscales in the original longer RCOPE scale that has 105 items (Pargament et al., 2011). Questions 1-7 test positive religious coping (PRC), whereas, questions 8-14 test negative religious coping (NRC). Items are rated on a 4-point Likert scale that ranges from 0 (not at all) to 4 (a great deal).

The Brief RCOPE has mostly been used with U.S. and Western European Christian samples. The scale's internal consistency in previous studies was $\alpha = .6$ and $\alpha = .9$ among Muslim Pakistani students and cancer patients, respectively (Pargament et al., 2011). In studies among other religions and cultures (i.e., Moroccans, Turks and Surinamese and Antillean immigrants) results supported validity in the PRC scale but not the NCR because the alpha was too low (Braam et al., 2010). This scale has been

translated into a few languages including Urdu and Spanish (Pargament et al., 2011) but there are no translations into Somali known to this author at this time.

Study Procedures

Phase I: Pilot Study. The technological, theological, conceptual and cultural aspects of the web-based survey were examined as follows. Out of the eight students invited, six completed the survey. In place of an initially planned focus group, individual interviews were conducted, as students' schedules during the month of Ramadan made it difficult to schedule a focus group. Participants were asked to comment on the length of the survey, time taken to complete the survey and appropriateness of the questions in regard to cultural and religious practices. Participants identified minor typographical errors and provided comments about items in the RCOPE and the BII-2 instruments. Two participants suggested reducing the number of items in the BII-2 as they were repetitive, whereas another observed that the questions were designed in effort to get accurate answers.

Participants further pointed out that some concepts in the RCOPE represented a Judeo-Christian view rather than an Islamic view, e.g. the *mosque* represented a physical structure as opposed to how a church is defined in Christianity, as both a physical structure and a congregation. Additionally, questions 7-14 (negative religious coping skills) were termed as "unexpected", "surprising", "too direct" and "harsh" but not offensive. The students unanimously agreed that the survey was relevant to their community and the concept of religious coping was important and underestimated. They further reported taking between 25-30 min as opposed to the estimated 1 hour to complete the survey.

Phase II: Community Advisory Board. A community advisory board (CAB) consisting of four young Somali professionals and an Imam was invited to further validate the views of the students who took the survey during Phase I. Individual interviews were conducted in place of an initially planned group discussion with the CAB. Some of the comments from the students were validated, especially those pertaining to the R-COPE and the BII-2 instruments. Prior to any changes, a search for further evidence from the literature was conducted and approval sought from academic advisors. Changes were only implemented to ensure that participants would easily identify with the concepts being tested in the instruments. For example, instead of substituting the word “church” with “mosque” in item 12, (wondered whether my church had abandoned me), the word “ummah,” to represent fellow Muslims was found more suitable. Additionally, the word “Islam” was used in item 7 instead of “religion” (See Appendix J). In essence, the concepts were placed within the participants’ cultural, theological and conceptual definitions. The investigator examined the clarity of the instructions, the appropriateness of the questions and the time it took to complete the survey. Both the students in the pilot phase and members of the CAB received \$30 in cash as compensation for their time and insight.

Phase III: Recruitment and data collection. The survey was finalized (see Appendix D) and the main study page was opened in October 2013. The investigator visited the student associations at the first two data collection sites (University of Minnesota and Augsburg College) to introduce the study to the students and, after three months, visits included the other three sites. Student leaders received both IRB approved paper copies and online advertisements for the study. The advertisements included the eligibility criteria, purpose and a description of the study, amount of

compensation, and the investigator's contact information. Each participant received a unique link to the study associated with his or her official school email. This prevented the students from taking the survey multiple times; however, it also meant that when a potential participant was interested, he or she had to contact the investigator to get a unique link to the survey. The online survey was available for six months.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences, Version 22 (IBM Corp., 2013) and the sixth edition of Mplus (Muthén & Muthén, 2011).

For each measure, missing values were defined as either "user missing," where the participants opted not to answer the question by choosing "I prefer not to answer" or "system missing." The missing values in the modified SF12v2 were imputed using the multiple imputation function in SPSS prior to scoring the items using in the QualityMetric Health Outcomes™ Scoring Software 4.5. The use of the scoring software yielded the physical component summary (PCS) and mental component summary (MCS) norm-based scores. Scores for all other scales, were then summed and divided by the number of items in the scale each person answered. Internal consistency reliability was measured by Cronbach's alpha for all the scales.

Descriptive statistics were then calculated. Frequency distributions were created for each categorical variable within the instruments. For items measured on scales, means, standard deviations, and minimum and maximum values were calculated. A correlation matrix of Pearson's correlations was generated to examine linear associations among the key study variables.

In the multivariate analysis, the reference group for gender was male (i.e. female was coded as [1] and male [2]). Therefore, any associations with gender in the

SEM results are the effect of being male as compared to being female. Statistical modeling was used to estimate three observed variable structural equation models in order to determine the relationships among the observed variables depicted in Chapter 2, Figure 1. Model modifications were based on fit indices and theoretical interpretability.

The statistical methodology, structural equation modeling (SEM) using Mplus (Vers. 6, 2010) software, was employed to specify these relationships by simultaneously analyzing the associations among the variables. Even though SEM is often used to measure predictive relationships among both unobserved (latent) and observed (measured) variables (Byrne, 2012, pp. 3-4; Muthén & Muthén, 2011, pp. 1-11), all variables in this exploratory study were measured variables. Additionally, no predictive relationships were hypothesized or tested.

The hypothesized associations in the conceptual model for the study (Figure 1) were used to guide the assessment of the relationships among the six main variables in this study. When doing SEM, researchers use model fit indices to evaluate how well the hypothesized model describes the sample data (Byrne, 2012, p.64; Kenny, 2014). In this study, I used the following fit indices to evaluate how well the initial hypothesized model (Figure 1) and two plausible hypothesized alternative models described the data. The incremental indices, the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI), “measure the proportion of improvement in model fit by comparing the hypothesized model in which structure is imposed with less restricted nested baseline model (Byrne, 2012, pp. 70-71; Kenny, 2014).

The next two indices are absolute indices of fit, which measure the extent to which a priori model fits the sample data (Byrne, 2012, p. 72). The Root Mean Square

Error of Approximation (RMSEA) “represents the average residual value derived from the fitting of the variance-covariance matrix for the hypothesized model ... to the variance-covariance matrix of the sample data” (Byrne, 2012, p.76). The Standardized Root Mean Square Residual (SRMR) represents the mean difference between the observed sample and hypothesized correlation matrices (Byrne, 2012, p.76; Kenny, 2014). A 90% C.I. for the RMSEA is included in the Mplus output and indicates the precision of the RMSEA estimate (Byrne, 2012, p.75; Kenny, 2014).

The predictive index, Akaike Information Criterion (AIC), is used to compare two or more models and the model with the lowest AIC value represents the best fit and a parsimonious model (Byrne, 2012, p.72). Parameter values resulting from SEM model estimation should reflect a minimal discrepancy between the sample covariance matrix (S) and the population covariance matrix implied by the model $[\Sigma(\theta)]$ (Byrne, 2012, p. 65).

Chapter IV. Results

Setting

Five 4-year universities in Minneapolis and St. Paul, Minnesota were sites for data collection. One was a public research university with an enrollment of over 50,000 students, whereas the others were smaller liberal arts colleges with student enrollments between 2,000 and 5,000 students. There were two public and three private universities, one of which was an all-female university.

Sample

A convenience sample of 156 Somali college students completed the web-based survey. Data were downloaded from REDcap (Harris et al., 2009) and imported into SPSS (IBM Corp., 2013). See Table 1 for a summary of the participant characteristics.

The flow of participants in the different phases of the research project is depicted in Figure 2. In the five sites of data collection, potential participants were contacted and assessed for eligibility. A number of potential participants were ineligible because they were either outside the age range required to participate in the study (i.e., 18-30 years) or not of Somali origin. Many of the students who showed interest in the study but were ineligible were Oromo and Sudanese; both groups share many cultural, religious and ethnic characteristics with Somalis.

There were 193 students who received a link to the survey. In order to deter participants from taking the survey more than once, students only received a survey link through their official school email addresses. No other personal identifying information was collected except for school identification numbers of University of Minnesota students; these were used to facilitate the deposit of “gopher gold” onto their

student identification/ debit cards. The survey response rate among those who had indicated interest was 81%; there were 27 students who did not open the survey link, and 10 who opened the link, may have viewed the consent form and survey, but did not provide any responses (see Figure 2). Some participants ($n = 6$) had some missing data but provided enough data to be included in the analyses. Thus, there was variation in the final number of participants per scale due to missing values. A general rule of excluding all participants who had three or more missing values on a scale from analyses involving that scale was applied. For example, the Brief RCOPE consists of two subscales (i.e. the positive coping subscale and the negative coping subscale), each with seven questions. Any participant who had < 5 responses for either of the subscales did not get a score for that particular subscale.

Figure 2. Flow diagram illustrating recruitment and response rate through the various phases of the study

The final analytic sample consisted of 156 students. Most of the participants in this study were female (75%) and single (93.2%); only 3.8% of the participants were married. The age range of the sample was between 18 and 30 years with a mean age

of 21 years; most of the participants (72.5%) were between the ages of 18 and 21. Five percent owned a house, but most of the students ($n = 84$) rented their place of residence and only ($n = 11$) lived on campus in the dormitories. A majority of the sample, 60.7% of the females and 74.4% of the males, had part-time employment; 34.2% of the females and 17.9% of the males were unemployed; and only nine, 5.1% of the females and 7.7% of the males, had full time employment (see Table 1).

The largest group of participants was from the University of Minnesota ($n = 92$) followed by Augsburg College and Metropolitan State University; both Hamline and St. Catherine Universities each had the smallest number of participants ($n = 6$). The number of post-secondary years of education attained by the majority of participants was between 0-5 years ($n = 146$) (see Table 1).

Table 1^a*Sample Characteristics*

	Female <i>n</i> (%) 117 (75.0)	Male <i>n</i> (%) 39 (25.0)	Total <i>n</i> (%) 156 (100)
Marital Status			
Never married	109 (94.0)	38 (97.4)	147 (94.8)
Married	5 (4.3)	1 (2.6)	6 (3.9)
Divorced	1 (.9)	0	1(.6)
Other	1 (.9)	0	1(.6)
Missing ^b	1 (.9)	0	1(.6)
Housing			
Owns a house	7 (6.0)	2 (5.1)	9 (5.8)
Rents	58 (49.6)	26 (66.7)	84 (53.8)
Lives in a dormitory	10 (8.5)	1 (2.6)	11 (7.1)
Other	41 (35.0)	9 (23.1)	50 (32.1)
Missing ^b	1 (.9)	1 (2.6)	2 (1.3)
Employment Status			
Full-time	6 (5.1)	3 (7.7)	9 (5.8)
Part-time	71 (60.7)	29 (74.4)	100 (64.1)
Unemployed	40 (34.2)	7 (17.9)	47 (30.1)
Education Completed			
High school diploma	46 (39.3)	10 (25.6)	56 (35.9)
Undergraduate course work	63 (53.8)	23 (59.0)	86 (55.1)
Undergraduate degree	8 (6.8)	4 (10.3)	12 (7.7)
Graduate course work	0	1 (2.6)	1 (.6)
Graduate degree(s)	0	1 (2.6)	1 (.6)
Total years of post-secondary education			
0-5 years	110 (94.0)	35 (89.7)	145 (92.8)
5-10 years	3 (2.6)	3 (7.7)	6 (3.8)
≥ 10 years	4 (3.4)	1 (2.6)	5 (3.2)
School Attended			
University of Minnesota	70 (59.8)	22 (56.4)	92 (59.0)
Augsburg College	22 (18.8)	7 (17.9)	29 (18.6)
Metropolitan State University	14 (12.0)	9 (23.1)	23 (14.7)
Hamline University	5 (4.3)	1 (2.6)	6 (3.8)
St. Catherine University	6 (5.1)	0	6 (3.8)

Note. Sample size for Table 1 is $n = 156$.

^a Data represent participants who provided responses to each of the demographic questions. ^b Some participants opted not to provide a response by choosing "I prefer not to answer."

Religious and spiritual resources. When asked which resources they had access to and helped them to cope, females and males both ranked prayer, religious and spiritual texts, and place of worship near work or home in that order, as the most helpful. Conversely, religious and spiritual ceremonies, fellowship with other believers and clergy or faith leaders were, ranked as the least helpful.

Table 2^a

<i>Religious/ Spiritual Resources</i>						
	Female <i>n</i> (%) 117 (75.0)		Male <i>n</i> (%) 39 (25.0)		Total <i>n</i> (%) 156 (100)	
	Yes <i>n</i> (%)	No <i>n</i> (%)	Yes <i>n</i> (%)	No <i>n</i> (%)	Yes <i>n</i> (%)	No <i>n</i> (%)
Clergy/ Faith leaders	40 (34.2)	77 (65.8)	12 (30.8)	27 (69.2)	52 (33.3)	104 (66.7)
Place of worship near work or home	70 (59.8)	47 (40.2)	25 (64.1)	14 (35.9)	95 (60.9)	61 (39.1)
Fellowship with other believers	57 (48.7)	60 (51.3)	15 (38.5)	24 (61.5)	72 (46.2)	84 (53.8)
Religious/ spiritual texts	83 (70.9)	34 (29.1)	23 (59.0)	16 (41.0)	106 (67.9)	50 (32.1)
Religious/ spiritual ceremonies	55 (47.0)	62 (53.0)	20 (51.3)	19 (48.7)	75 (48.1)	81 (51.9)
Prayer	108 (92.3)	9 (7.7)	36 (92.3)	3 (7.7)	144 (92.3)	12 (7.7)
Other	14 (12.0)	103 (88.0)	2 (5.1)	37 (94.9)	16 (10.3)	140 (89.7)
Missing ^b	1 (.9)		0			

Note. Sample size for Table 2 is *n* = 156

^a Data represent participants' choice of resources that are accessible and that help them cope. ^b Some participants opted not to provide a response by choosing "I prefer not to answer."

Immigration history. As shown in Table 3 and Figure 3, most of the participants were born in Somalia (*n* = 113); the remaining were born in various countries across the globe, including Kenya (*n* = 16), Ethiopia (*n* = 7) and the U.S.

($n = 7$). Time between leaving countries of origin (country of birth) and arriving in the U.S. ranged from 0-16 years ($M = 1.9$, $SD = 3.9$). Participants who lived in another resettlement country ($n = 37$) besides the U.S, spent 1-20 years ($M = 7.4$, $SD = 5.8$) outside their country of origin before immigrating to the U.S. For those who lived in a transit country ($n = 72$) as they waited for resettlement, years in transit ranged between 1-15 years ($M = 5.0$, $SD = 3.9$). Even though most participants did not live in a refugee camp ($n = 129$), the participants who did ($n = 25$) spent between 1-13 years ($M = 3.2$, $SD = 3.4$) in a refugee camp.

Figure 3. Participants' countries of origin

Open-ended participant comments. Participants were given an opportunity to provide comments in an optional open-ended section about the survey as a whole, specific survey items, their responses or their impressions of the study as a whole (see Appendix D). Thirty-two percent of the 156 participants added comments, a majority of which provided additional insight into the concepts measured by the instruments, especially acculturation and religious coping. Some of these comments have been incorporated into the discussion section.

Table 3

Participants' Immigration History

	Female <i>n</i> (%) 117 (75)	Male <i>n</i> (%) 39 (25)	Total 156 (100)
Country of Origin ^a			
Somalia	84 (71.8)	29 (74.4)	113 (72.4)
Ethiopia	3 (2.6)	4 (10.3)	7 (4.5)
Eritrea	1 (.9)	0	1 (.6)
Kenya	12 (10.3)	4 (10.3)	16 (10.3)
U.S.A.	7 (6.1)	0	7 (4.4)
Canada	4 (3.4)	0	4 (2.6)
Yemen	2 (1.7)	0	2 (1.3)
Egypt	1 (.9)	0	1 (.6)
Syria	1 (.9)	0	1 (.6)
Uganda	1 (.9)	0	1 (.6)
U.A.E.	0	1 (2.6)	1 (.6)
Saudi Arabia	0	1 (2.6)	1 (.6)
Age when participants left country of origin			
0 – 5 years	54 (46.2)	11 (28.2)	65 (41.7)
6 – 10 years	22 (18.8)	12 (30.8)	34 (21.8)
11 – 15 years	12 (10.3)	8 (20.5)	20 (12.8)
16 – 25 years	2 (1.7)	1 (2.6)	3 (1.9)
≥ 26 years	1 (.9)	0	1 (.6)
Missing ^b	26 (22.2)	7 (17.9)	33 (21.2)
Year participants left country of origin			
1990 – 1995	29 (25.0)	10 (25.6)	39 (25.2)
1996 – 2000	38 (32.8)	10 (25.6)	48 (31.0)
2001 – 2005	13 (11.2)	8 (20.5)	21 (13.5)
2006 – 2010	11 (9.5)	2 (5.1)	13 (8.4)
2011 – 2014	0	1 (2.6)	1 (.6)
Missing ^b	25 (21.6)	8 (20.5)	33 (21.3)
Year participants arrived in the U.S.A			
1990 - 1995	17 (14.5)	3 (7.7)	20 (2.8)
1996 - 2000	40 (34.2)	10 (25.6)	50 (32.1)
2001 - 2005	15 (12.8)	10 (25.6)	25 (16.0)
2006 - 2010	19 (16.2)	8 (20.5)	27 (17.3)
2011 - 2014	0	1 (2.6)	1 (.6)
Missing ^b	26 (22.2)	7 (17.9)	33 (21.2)

Note. Sample size for Table 3 is *n* = 156.

^a Participants were asked what country they were born in. ^b Missing values include participants who were U.S. born (*n* = 7) and those participants who accidentally provided an incorrect answer but indicated elsewhere they were born in Somalia (i.e. they were born in Somalia but chose U.S as their country of birth).

Life Events. The majority of the participants in this study ($n = 105$), had cumulative life change units (LCUs) score of ≤ 300 as compared to 37 participants who had LCUs > 300 (see Table 4). Scores less than 300 indicate lower chances of developing stress related disorders and vice versa (American Institute of Stress [AIS], 2014; Dartmouth College, n.d.). In responding to which events they had experienced, (See Appendix F), social activities and personal habits received the most counts (e.g., celebrated Eid [$n = 103$], outstanding personal performance [$n = 79$], change in sleeping habits [$n = 78$], begin or end school or college [$n = 71$] and revision of personal habits [$n = 68$]). On the other hand, most participants had not experienced life events pertaining to marriage life, children, work or law enforcement issues (e.g., marriage [$n = 2$], divorce [$n = 3$], minor violations of the law [$n = 10$], jail [$n = 1$] and fired at work [$n = 7$]).

Table 4

Participants' Life Change Units (LCUs) from Rahe & Holmes Scale (n = 152)

Total LCU Scores	Female <i>n</i> (%)	Male <i>n</i> (%)	Total <i>n</i> (%)
0-50	6 (5.1)	5 (12.8)	11 (7.1)
51-100	14 (12.0)	3 (7.7)	17 (10.9)
101-150	18 (15.4)	3 (7.7)	21 (13.5)
151-200	14 (12.0)	4 (10.3)	18 (11.5)
201-250	15 (12.8)	3 (7.7)	18 (11.5)
251-300	13 (11.1)	7 (17.9)	20 (12.8)
301-350	8 (6.8)	3 (7.7)	11 (7.1)
351-400	8 (6.8)	3 (7.7)	11 (7.1)
401-450	1 (.9)	3 (7.7)	4 (2.6)
451-500	6 (5.1)	1 (2.6)	7 (4.5)
501-550	3 (2.6)	1 (2.6)	4 (2.6)
≥ 551	11 (9.4)	3 (7.7)	14 (9.0)

Note. In each item, participants had between 4 – 6 missing values in this scale. LCUs were calculated using the weights assigned to each event (e.g. death of a spouse is weighted at 100 LCUs). These values then were multiplied by the number of times a participant experienced the event.

Acculturation. The two subscales in the BII-2 scale (see Appendix G) were used to measure the participants' bicultural identity and bicultural orientations. Items in this scale had between six and eleven missing values. Six people did not provide valid responses to items in the Harmony vs. Conflict subscale and seven provided invalid responses to the Blendedness vs. Compartmentalization subscale; this resulted in sample sizes of 150 and 149 respectively.

The questions, "I feel Somali and American at the same time" and "I relate better to a combined Somali American culture than to a Somali or American culture alone" had the highest number of missing values at ($n = 11$) and ($n = 10$), respectively. There was a wider spread of scores on the harmony and conflict subscale (scores seemed to be in a "continuum" on the scale) as compared to the blendedness vs.

compartmentalization subscale, which was slightly skewed to the right (see first two histograms in Appendix K). To affirm their bicultural identity, the majority of participants ($n = 113$, 72.5%) agreed or strongly agreed that they felt Somali-American, and disagreed or strongly disagreed that Somali and American cultures were complementary ($n = 79$, 50.6%). This is in contrast to those ($n = 44$, 28.2%) who agreed or strongly agreed that Somali and American cultures were complementary. The means and standard deviations for the subscales were as follows, harmony vs. conflict subscale ($M = 3.21$, $SD = .88$, $n = 150$) with a Cronbach's $\alpha = .90$, blendedness vs. compartmentalization subscale ($M = 3.83$, $SD = .70$, $n = 149$) with a Cronbach's $\alpha = .8$.

Table 5

Participants Responses to the BII-2 Scale

	Missing ^a <i>n</i> (%)	1 Strongly Disagree <i>n</i> (%)	2 Disagree <i>n</i> (%)	3 Not sure <i>n</i> (%)	4 Agree <i>n</i> (%)	5 Strongly Agree <i>n</i> (%)	<i>M</i> (<i>SD</i>)
Harmony vs. Conflict Subscale (<i>n</i> = 150)							
I find it easy to harmonize Somali and American cultures	7 (4.5)	12 (7.7)	31 (19.9)	28 (17.9)	58 (37.2)	20 (12.8)	3.3 (1.2)
I rarely feel conflicted about being bicultural	7 (4.5)	13 (8.3)	42 (26.9)	18 (11.5)	45 (28.8)	31 (19.9)	3.3 (1.3)
I find it easy to balance both Somali and American cultures	7 (4.5)	12 (7.7)	33 (21.2)	11 (7.1)	67 (42.9)	26 (16.7)	3.4 (1.2)
I do not feel trapped between the Somali and American cultures	8 (5.1)	10 (6.4)	32 (20.5)	15 (9.6)	59 (37.8)	32 (20.5)	3.5 (1.2)
I feel that Somali and American cultures are complementary	7 (4.5)	20 (12.8)	59 (37.8)	26 (16.7)	25 (16.0)	19 (12.2)	2.3 (1.3)
I feel torn between the Somali and American cultures	8 (5.1)	37 (23.7)	59 (37.8)	16 (10.3)	27 (17.3)	9 (5.8)	2.4 (1.2)
I feel that Somali and American cultural orientations are incompatible	9 (5.8)	25 (16.0)	43 (27.6)	30 (19.2)	37 (23.7)	12 (7.7)	2.8 (1.2)

Being bicultural means having two cultural forces pulling on me at the same time	8 (5.1)	27 (17.3)	48 (30.8)	17 (10.9)	39 (25.0)	17 (10.9)	2.8 (1.3)
I feel conflicted between the Somali and American ways of doing things	9 (5.8)	28 (17.9)	40 (25.6)	18 (11.5)	50 (32.1)	11 (7.1)	2.8 (1.3)
I feel like someone moving between two cultures	9 (5.8)	25 (16.0)	39 (25.0)	20 (12.8)	48 (30.8)	15 (9.6)	2.9 (1.3)
I feel caught between the Somali and American cultures	7 (4.5)	37 (23.7)	59 (37.8)	16 (10.3)	27 (17.3)	9 (5.8)	2.7 (1.3)

Blendedness vs. Compartmentalization Subscale (*n* = 149)

I cannot ignore the Somali or American side of me	8 (5.1)	6 (3.8)	8 (5.1)	13 (8.3)	67 (42.9)	54 (34.6)	4.1 (1.0)
I feel Somali and American at the same time	11 (7.1)	7 (4.5)	19 (12.2)	13 (8.3)	55 (35.3)	51 (32.7)	3.9 (1.2)
I relate better to a combined Somali-American culture than to Somali or American culture alone	10 (6.4)	8 (5.1)	17 (10.9)	22 (14.1)	44 (28.2)	55 (35.3)	3.8 (1.2)
I feel Somali-American	9 (5.8)	6 (3.8)	11 (7.1)	17 (10.9)	53 (34.0)	60 (38.5)	4.0 (1.1)
I feel part of a combined culture that is a mixture of Somali and American	9 (5.8)	4 (2.6)	12 (7.7)	17 (10.9)	60 (38.5)	54 (34.6)	4.0 (1.0)
I find it difficult to combine Somali and American cultures	7 (4.5)	29 (186)	63 (40.4)	24 (15.4)	25 (16.0)	8 (5.1)	2.5 (1.1)
I do not blend my Somali and American cultures	6 (3.8)	37 (23.7)	42 (27.3)	73 (46.8)	16 (10.3)	20 (12.8)	2.2 (1.1)

I feel just like a Somali who lives in North America (that is, I do not feel "Somali-American")	8 (5.1)	49 (31.4)	61 (39.1)	18 (11.5)	13 (8.3)	7 (4.5)	2.1 (1.1)
I keep Somali and American cultures separate in my life (that is, I don't mix them).	8 (5.1)	43 (27.6)	62 (39.7)	24 (15.4)	17 (10.9)	2 (1.3)	2.1 (1.0)

Note. ^aMissing values are the number and percentage of persons who did not provide a valid response to items in the subscales. Participants had an option to not respond to the question by choosing "I prefer not to answer."

Key Study Variables: Descriptive Statistics

Symptoms of depression and anxiety. Table 6 includes the participants' responses to the items that comprise the two subscales in the SCL. The SCL items were measured on 4-point Likert-type scales. One person answered none of the anxiety or depression items; another person answered only 9 of the 15 items and was not included in the sample for the depression items and subscale. This resulted in sample sizes of 155 and 154 for the anxiety and depression items respectively, and their corresponding subscales. For all other participants, the final scores were calculated as follows; scores were summed up and divided by the total number of items in the subscale each person answered.

Most questions did not have more than 1% missing values. However, 7% of participants checked "I prefer not to answer" for one question (loss of sexual interest or pleasure) in the depression subscale. The final means and standard deviations for the subscales were as follows, anxiety ($M = 1.46$, $SD = .46$, with a Cronbach's α of .93) and depression ($M = 1.53$, $SD = .57$, with a Cronbach's α of .84). The four most reported (rated "quite a bit or "extremely") anxiety symptoms were: faintness, dizziness or weakness (11%); nervousness or shakiness inside (11.6%); headaches (19.5%) and feeling restless and cannot sit still (12.9%). The 12 most reported depression symptoms were: feeling low in energy, slowed down (22.7%); blaming yourself for things (16.9%); poor appetite (15.5%), difficulty falling asleep or staying asleep (16.9%), feeling hopeless about the future (16.2%); feeling blue (sad) (12.3%); worrying too much about things (31.8%); and feeling everything is an effort (20.7%) (see Table 6).

Table 6

Participants Responses to the Hopkins Symptom Checklist – SCL

	Missing ^a n (%)	1 Not at all n (%)	2 A Little n (%)	3 Quite a bit n (%)	4 Extremely n (%)	M (SD)
Symptoms of Anxiety (n = 155)						
Suddenly scared for no reason	0	118 (76.6)	30 (19.5)	5 (3.2)	1 (.6)	1.3 (.55)
Feeling fearful	0	103 (66.9)	41 (26.6)	9 (5.8)	1 (.6)	1.4 (.63)
Faintness, dizziness, or weakness	0	96 (62.3)	41 (26.6)	15 (9.7)	2 (1.3)	1.5 (.75)
Nervousness or shakiness inside	0	91 (59.1)	45 (29.2)	15 (9.7)	3 (1.9)	1.6 (.75)
Heart pounding or racing	0	101 (65.6)	40 (26.0)	11 (7.1)	2 (1.3)	1.4 (.69)
Trembling	0	129 (83.8)	18 (11.7)	6 (3.9)	1 (.6)	1.2 (.54)
Feeling tense or keyed up	0	93 (60.4)	45 (29.2)	10 (6.5)	6 (3.9)	1.5 (.79)
Headaches	0	44 (28.6)	80 (51.9)	24 (15.6)	6 (3.9)	1.9 (.78)
Spells of terror or panic	1 (.6)	133 (86.4)	16 (10.4)	3 (1.9)	1 (.6)	1.2 (.47)
Feeling restless, cannot sit still	1 (.6)	101 (65.6)	32 (20.8)	13 (8.4)	7 (4.5)	1.5 (.84)
Symptoms of Depression (n = 154)						
Feeling low in energy, slowed down	0	60 (39.0)	59 (38.3)	25 (16.2)	10 (6.5)	1.9 (.90)
Blaming yourself for things	0	79 (51.3)	49 (31.8)	16 (10.4)	10 (6.5)	1.7 (.90)
Crying easily	1 (.6)	112 (72.7)	29 (18.8)	7 (4.5)	5 (3.2)	1.4 (.73)
Loss of sexual interest or pleasure	11 (7.1)	125 (81.2)	11 (7.1)	5 (3.2)	2 (1.3)	1.2 (.56)
Poor appetite	0	82 (53.2)	48 (31.2)	15 (9.7)	9 (5.8)	1.7 (.88)

Difficulty falling asleep or staying asleep	1 (.6)	88 (57.1)	39 (25.3)	18 (11.7)	8 (5.2)	1.7 (.89)
Feeling hopeless about the future	0	96 (62.3)	33 (21.4)	15 (9.7)	10 (6.5)	1.6 (.91)
Feeling blue (sad)	0	109 (70.8)	26 (16.9)	14 (9.1)	5 (3.2)	1.4 (.79)
Feeling lonely	0	111 (72.1)	25 (16.2)	9 (5.8)	9 (5.8)	1.5 (.85)
Thoughts of ending life	0	151 (98.1)	2 (1.3)	1 (.6)	0	1.0 (.19)
Feeling of being trapped or caught	0	126 (81.8)	15 (9.7)	10 (6.5)	3 (1.9)	1.3 (.67)
Worrying too much about things	1 (.6)	62 (40.3)	42 (27.3)	31 (20.1)	18 (11.7)	2.0 (1.04)
Feeling no interest in things	0	101 (65.6)	38 (24.7)	10 (6.5)	5 (3.2)	1.5 (.76)
Feeling everything is an effort	1 (.6)	87 (56.5)	34 (22.1)	19 (12.3)	13 (8.4)	1.7 (.98)
Feeling worthless	1 (.6)	129 (83.8)	14 (9.1)	8 (5.2)	2 (1.3)	1.2 (.60)

Note. ^aMissing values are the number and percentage of persons who did not provide a valid response to the items. Participants had an option to not respond to the question by choosing "I prefer not to answer."

Physical and emotional well-being. Responses to the 12 individual SF12v2® items (see Appendix I) are presented in Table 7. Two persons answered none of the SF12v2® items; another person answered only 8 of the items; these three participants were not included in the sample for this instrument. This resulted in a sample size of 153. Missing values for specific items in the scale were between 0 and 3 (1.9%). Thus, on Table 7 below, the responses for each item, including the missing responses, all have a total n of 153. These missing values for the SF12v2® were imputed using the multiple imputation function in SPSS prior to scoring the data using the QualityMetric Health Outcomes™ Scoring Software 4.5.

The scoring program for the 12 individual items in the SF12v2® resulted in eight domains of functioning and well-being: vitality (VT), social functioning (SF), role emotional (RE) mental health (MH), and physical functioning (PF), role physical (RP), bodily pain (BP) and general health (GH). From these eight domains two composite scores, the Physical Component Scale (PCS) and the Mental Component Scale (MCS), were obtained. In this study, these are referred to as the physical well-being and emotional well-being subscales. The scores in these subscales are norm-based (i.e. $M = 50$, $SD = 10$) and thus comparable to the general population. Higher scores indicate greater well-being. The means and standard deviations for these subscales were as follows physical well-being ($M = 53.6$, $SD = 6.4$), emotional well-being ($M = 49.4$, $SD = 9.3$). Participants scored slightly lower in emotional well-being as compared to physical well-being.

Table 7

Participants' Responses to the SF12v2™ Items

	Missing ^a n (%)	1 Excellent n (%)	2 Very good n (%)	3 Good n (%)	4 Fair n (%)	5 Poor n (%)	M (SD)
In general you would say your health is	3 (1.9)	31 (20.3)	50 (32.7)	49 (32.0)	19 (12.4)	3 (2.0)	2.43 (1.01)
The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so how much?							
		1 Yes, limited a lot	2 Yes, limited a little	3 No, Not at all			
Moderate activities such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	0	5 (3.3)	16 (10.5)	132 (86.3)	2.8 (.46)		
Climbing several flights of stairs	0	10 (6.5)	40 (26.1)	103 (67.3)	2.6 (.61)		
		1 All of the time	2 Most of the time	3 Some of the time	4 A little of the time	5 None of the time	M (SD)
During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?							
Accomplished less than you would like?	0	2 (1.3)	4 (2.6)	29 (19.0)	35 (22.9)	83 (54.2)	4.3 (.9)
Were limited in the kind of work or other activities?	1 (.7)	2 (1.3)	3 (2.0)	18 (11.8)	33 (21.6)	96 (62.7)	4.4 (.9)

During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

Accomplished less than you would like?	0	6 (3.9)	6 (3.9)	25 (16.3)	35 (22.9)	81 (52.9)	4.2 (1.1)
Did work or activities less carefully than usual?	1 (.7)	3 (2.0)	7 (4.6)	26 (17.0)	34 (22.2)	82 (53.6)	4.2 (1.0)
	1	2	3	4	5		
	Not at all	A little bit	Moderate	Quite a bit	Extremely		<i>M (SD)</i>

During the past 4 weeks, how much did pain interfere with your normal work (including both outside the home and housework)?

0	104 (68.0)	37 (24.2)	7 (4.6)	5 (3.3)	0	1.4 (.7)
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These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

1	2	3	4	5		
All of the time	Most of the time	Some of the time	A little of the time	None of the time		<i>M (SD)</i>

How much of the time during the <u>past 4 weeks</u> have you feltcalm and peaceful?	0	22 (14.4)	68 (44.4)	40 (26.1)	13 (8.5)	10 (6.5)	2.5 (1.1)
Did you have a lot of energy?	0	14 (9.2)	57 (37.3)	57 (37.3)	19 (12.4)	6 (3.9)	2.7 (.9)
Have you felt downhearted and depressed?	0	5 (3.3)	3 (2.0)	15 (9.8)	47 (30.7)	83 (54.2)	4.3 (.9)

During the past 4 weeks, how much of the time has your <u>physical health</u> or <u>emotional problems</u> interfered with your social activities (like visiting with friends, relatives etc.)?	0	6 (3.9)	6 (3.9)	15 (9.8)	34 (22.2)	92 (60.1)	4.3 (1.1)
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Note. Sample size for Table 7 is $n = 153$. The SF-12v2 was slightly modified for the REDCap survey administration. This included the absence of question numbers and a left vertical alignment of the items. Scores for each item ranged from 1 to 3 or 1 to 5 depending on the item.

^a Participants had an option to not respond to individual questions by choosing “ I prefer not to answer.”

Positive and negative religious coping. The Brief RCOPE includes 14 questions rated on 4-point Likert-type scales; each of the two religious coping subscales includes 7 questions. Response options ranged from “not at all” (1) to “a great deal” (4). Five persons did not answer either the positive or the negative religious coping items; an additional person answered only 3 of the 7 negative religious coping items and was not included in the sample for the negative religious coping items and the subscale. This resulted in sample sizes of 151 and 150 for the positive and negative coping items, respectively, and the corresponding subscales.

Missing values per item ranged from 0% to 2% in the positive subscale and 0% to 2.7% for the negative subscale. Responses were skewed to the right for positive coping and to the left for negative coping. Participants overwhelmingly chose positive religious coping mechanisms (see Table 8). For example, questions relating to a positive personal relationship with *Allah* (God) got the highest score (e.g. asked for forgiveness for my sins).

Before creating the subscale scores, the sum for each item was divided by the number of participants who provided a valid response for the item. This resulted in a mean item score corrected for the missing data. Thus, the positive and negative subscale scores had a possible range 1 through 4. Final subscale means and standard deviations were as follows, positive subscale (3.36, $SD = .68$) and negative subscale (1.36, $SD = .52$). The internal consistency reliabilities (cronbach's alphas) were .89 for the positive sub-scale and .82 for the negative sub-scale.

Because of their skewed distributions, the religious coping subscales scores were dichotomized as follows for the multivariate analysis for research question 5: positive religious coping subscale – participants endorsed the choice “a great deal” (weighted code 4 recoded to “2”) versus “quite a bit” to “not at all” (weighted codes 1

through 3 recoded to “1”), and negative religious coping subscale - participants endorsed statements “somewhat” to “a great deal” (weighted codes > 1.5 to 4 recoded to “2”) versus “not at all” (weighted codes 1-1.5 recoded into “1”).

Table 8

Participants responses to the Brief RCOPE

<i>Brief RCOPE</i>	Missing ^a <i>n</i> (%)	1 Not at all <i>n</i> (%)	2 Somewhat <i>n</i> (%)	3 Quite a bit <i>n</i> (%)	4 A great deal <i>n</i> (%)	<i>M</i> (<i>SD</i>)
Positive Religious Coping Subscale (<i>n</i> = 151)						
Looked for a stronger connection with Allah	0 (0.0)	3 (2.0)	21 (14.0)	30 (20.0)	96 (64.0)	3.46 (.81)
Sought Allah's love and care	1 (.7)	2 (1.3)	22 (14.7)	34 (22.0)	92 (61.3)	3.44 (.79)
Sought help from Allah in letting go of my anger	2 (1.3)	10 (6.7)	28 (18.7)	33 (22.0)	77 (51.3)	3.20 (.97)
Tried to put my plans into action together with Allah	3 (2.0)	7 (4.7)	20 (13.3)	34 (22.7)	86 (57.3)	3.35 (.89)
Tried to see how Allah might be trying to strengthen me in this situation	3 (2.0)	7 (4.7)	21 (14.0)	29 (19.3)	90 (60.0)	3.37 (.90)
Asked for forgiveness for my sins	0 (0.0)	2 (1.3)	15 (10.0)	30 (20.0)	103 (68.7)	3.56 (.73)
Focused on Islam to stop worrying about my problems	3 (2.0)	16 (10.7)	20 (13.3)	39 (26.0)	72 (48.0)	3.14 (1.0)
Negative Religious Coping Subscale (<i>n</i> = 150)						
Wondered whether Allah had abandoned me	1 (.7)	118 (78.7)	15 (10.0)	7 (4.7)	9 (6.0)	1.38 (.83)
Felt punished by Allah for my lack of devotion	4 (2.7)	82 (54.7)	43 (28.7)	8 (5.3)	13 (8.7)	1.67 (.93)
Wondered what I did for Allah to punish me	1 (.7)	123 (82.0)	16 (10.7)	4 (2.7)	6 (4.0)	1.28 (.71)

Questioned Allah's love for me	2 (1.3)	127 (84.7)	11 (7.3)	4 (2.7)	6 (4.0)	1.25 (.70)
Wondered whether the ummah had abandoned me	1 (.7)	131 (87.3)	9 (6.0)	5 (3.3)	4 (2.7)	1.21 (.63)
Decided the devil made this happen	3 (2.0)	88 (58.7)	39 (26.0)	13 (8.7)	7 (4.7)	1.59 (.84)
Questioned the power of Allah	0 (0.0)	136 (90.7)	5 (3.3)	4 (2.7)	5 (3.3)	1.19 (.64)

Note. Scores for each item ranged from 1 to 4.

^a Participants had an option to not respond to the question by choosing 5= "I prefer not to answer."

Bivariate Correlations and Multivariate Analysis

Pearson's correlations were used to estimate the presence, strength and direction of linear associations between pairs of the six main variables (i.e. anxiety, depression, physical well-being, mental well-being, positive religious coping and negative religious coping) (see Table 9). Most of the correlations were statistically significant, and some bivariate correlations indicated strong associations between the variables. For example, depression and anxiety had a strong, positive and linear correlation ($r = .78, p = .001$). There was a strong negative and linear correlation between emotional well-being and depression ($r = -.61, p = .001$) and a moderate, negative linear correlation between emotional well-being and anxiety ($r = -.42, p = .001$), all of which were statistically significant. Results for each of the five research questions are presented below.

Question 1: Is there an association between both negative and positive religious coping and physical well-being?

The associations between negative religious coping and physical well-being ($r = -.11, p = .07$), and positive religious coping and physical well-being ($r = -.15, p = .18$) both were weak, negative and linear correlations that were not statistically significant (see Table 9).

Question 2: Is there an association between both negative and positive religious coping and emotional well-being?

The association between negative religious coping and emotional well-being was a weak, negative and linear correlation ($r = -.13, p = .13$) that was not statistically significant. Conversely, positive religious coping and emotional well-being had a weak,

positive and linear correlation ($r = .37, p = .001$), that was statistically significant correlation, see Table 9.

Question 3: Is there an association between both negative and positive religious coping and symptoms of depression?

There was a significant, positive, weak and linear correlation between negative religious coping and depression ($r = .27, p = .001$) and a weak, negative and linear correlation between positive religious coping and depression ($r = -.20, p = .02$) (see Table 9).

Question 4: Is there an association between both negative and positive religious coping and symptoms of anxiety?

The correlation between negative religious coping and anxiety ($r = .21, p = .01$) was weak, positive, linear and statistically significant; the correlation between positive religious coping and anxiety was weak, negative, linear and non-significant ($r = -.08, p = .35$) (see Table 9).

Table 9

Correlation Matrix of the main variables

Variables	1.	2.	3.	4.	5.	6.
1. SCL-Anxiety subscale	-					
2. SCL-Depression subscale	.78**	-				
3. Physical well-being	-.33**	-.27**	-			
4. Emotional well-being	-.42**	-.61**	-.21**	-		
5. R-COPE positive subscale	-.08	-.20*	-.15	.37**	-	
6. R-COPE negative subscale	.21*	.27**	-.11	-.13	-.14	-

Note. *Correlation is significant at .05 level (2-tailed). **Correlation is significant at .01 level (2-tailed).

Question 5: What are the multivariate associations among positive religious coping, negative religious coping, symptoms of anxiety, symptoms of depression, physical well-being and emotional well-being?

Model testing, interpretation and selection. Model 1, the initial hypothesized model (see Figure 1) was comprised of the six main variables (positive and negative religious coping, symptoms of depression and anxiety, and physical and emotional well-being). Model 1, had the lowest AIC (3364.7), the highest TLI (.901) and a CFI of .950; however, the RMSEA was .085 (90% CI [.04, .13]) and the SRMR was .092, values not indicative of a good fit (see Table 10). The variables gender (Model 2) and gender and acculturation, which include two subscales (Model 3) were added to the two subsequent models. Only Model 2 had a RMSEA value of < .08 (RMSEA = .075, 90% CI .031, .0116). Note that the recommended value of RMSEA < .05 is a conservative cutoff value, and values up to < .08 are acceptable (Byrne, 2012, p.73) (see Table 10). The SRMR value in Model 2 was also within the acceptable range, and its TLI and CFI were essentially the same as Model 1. However, it had a higher AIC. Model 3 had the highest AIC and its TLI and RMSEA were not in the acceptable range (see Table 10). Additionally, Model 3 had more estimated parameters (35) as compared to Model 1 (14) and Model 2 (20). An increase in the number of parameters adds to model complexity. Some indices, such as the AIC, TLI and RMSEA penalize complex models, particularly when the parameters do not adequately contribute to the improvement of fit (Byrne, 2012, pp. 71 - 73).

After careful consideration of the underlying conceptual framework, parameter estimates, appropriateness of the standard errors and statistical significance of the parameter estimates in addition to the fit indices, Model 2 was chosen as the best fit to

the data (see Table 10, Table 11 and Figure 4). Model 2 included the variables of positive and negative religious coping, symptoms of depression and anxiety, physical and emotional well-being and gender. Unstandardized coefficients are presented in Figure 4 and Table 11.

Table 10

Goodness of Fit Indices and Modifications

Model	AIC	TLI	CFI	RMSEA	SRMR	Modifications
1	3364.7	.901	.950	.085	.092	Initial model
2	3556.6	.899	.955	.075	.083	Add gender
3	3559.2	.802	.995	.105	.022	Add gender and acculturation
Recommended values ^a	Smallest value	Approaching 1.00	≥ .95	< .05 ^b < .08 ^c	≤ .08	

Note. The Akaike Information Criterion (AIC) was used to compare the three estimated models. The Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) and the Standardized Root Mean Square Residual (SRMR) and were then evaluated to choose the best fitting model.

^a See (Byrne, 2012, pp. 70-76; Kenny, 2014). ^b Indicates a good fit. ^c Indicates a reasonable error of approximation, see (Byrne, 2012, pp. 73) regarding RMSEA

In Figure 4, unstandardized coefficients depict the relationships among the main variables of the study (positive and negative religious coping, symptoms of depression and anxiety, and physical and emotional well-being). There were three non-significant relationships among these six variables. The relationships between positive religious coping and symptoms of anxiety ($b = -.01$, $p = .57$), and negative religious coping and physical well-being ($b = -.38$, $p = .09$) and emotional well-being ($b = -.28$, $p = .34$). All other assessed relationships were significant. The strongest relationships with negative religious coping were with depression ($b = .06$, $p = .003$) and anxiety ($b = .04$, $p = .05$). The strongest relationships with positive religious coping were in this

order, emotional well-being ($b = 1.39, p < .001$), physical well-being ($b = -.45, p = .04$) and depression ($b = -.04, p = .05$). Physical and emotional well-being, emotional well-being depression and anxiety all had significant multivariate associations with each other (see Table 11). All associations with gender were non-significant, only one association (with physical well-being) approached significance ($b = .43, p = .058$).

Figure 4. Final religious coping model. Unstandardized path coefficients between pairs of variables and their corresponding p -values (2-tailed) are shown. The double sided arrows indicate correlational associations and no prediction was intended.
^a The relationship depicted between positive and negative religious coping is a zero-order Pearson's correlation (2-tailed).

Table 11

Unstandardized Parameter Estimates for the Final Model (Model 2)

Variables	Estimate	S.E.	Est./S.E	p-value
Positive R-COPE				
Physical well-being	- .454	.216	- 2.098	.036
Emotional well-being	1.391	.335	4.147	<. 001
Symptoms of anxiety	- .009	.015	- .574	.566
Symptoms of depression	- .037	.019	-1.982	.048
Gender	.006	.015	.436	.663
Negative R-COPE				
Physical well-being	- .372	.224	- 1.659	.097
Emotional well-being	- .278	.311	- 0.894	.372
Symptoms of anxiety	.040	.017	2.424	.015
Symptoms of depression	.061	.020	2.998	.003
Gender	.004	.016	0.279	.780
Physical well-being				
Emotional well-being	-12.78	4.868	- 2.625	.009
Symptoms of anxiety	- .969	.299	-3.246	.001
Symptoms of depression	- .958	.248	-3.866	<. 001
Gender	.426	.224	1.899	.058
Emotional well-being				
Symptoms of depression	- 3.150	.484	- 6.514	<. 001
Symptoms of anxiety	- 1.746	.366	- 4.769	<. 001
Gender	.031	.321	.098	.922
Symptoms of depression				
Symptoms of anxiety	.201	.026	7.694	<. 001
Gender	- .018	.019	- .928	.353
Symptoms of anxiety				
Gender	- .023	.016	- 1.456	.145

Chapter V. Discussion of Findings

Sample

Only 4.5% of the sample were married or had previously been married, 64% of the students had part-time employment, and only 6.8% ($n = 8$) of the females and 10.3% ($n = 4$) of the males had completed an undergraduate degree (see Table 1).

Participants in this study were drawn from four-year universities ($n = 4$) and one 4-year college, and their mean age of 21 years was slightly below the mean age of the Somali population in Minnesota (25 years) (U.S. Census Bureau, 2010). In this sample, 42% of the students were in the ages 0-5 year category, 22% in the ages 6-12 category, 13% in the 11-15 year category and only 2% were in the 16-25 year category at the time they migrated.

Similar to previous studies (Ellis et al., 2008; Halcón, 2004; Jorden et al., 2009) with Somali youth and young adults, most participants in this study spent some time in transit, migrating to one or more countries before resettling in the U.S. (see Table 3). In this study, nativity (foreign or U.S. born) was not treated or perceived as a proxy for ethnicity, as evidenced by the participants' comments such as this, "I was not born in Somalia but I am Somali, American and Pakistani." Persons of Somali descent are spread across neighboring countries in Africa (e.g. Somalia, Ethiopia, Djibouti and Kenya) and to a smaller extent globally (e.g. the Middle East, Italy and U.S.) but many will self-identify as Somali.

The majority of the participants' year of departure from their country of birth (between 1990 - 2005, see Table 3) coincides with the start of the civil war in 1991 and the subsequent years of unrest in Somalia, a probable major reason for migration. Most Somali college youth in this study were not older than the average college student, despite the years spent in transit.

Life events. The Life events reported by the participants mostly pertained to life changes in their social activities and personal habits. The Social Readjustment Scale did not seem to be a good measure of life changes in this particular sample, as some indicated that they were too many questions on marriage and family life that they could not identify with. This also brought into question the accuracy of the “Life-Changing-Units” (weights) assigned to a particular event because the effect of a stressor and subsequent coping mechanisms employed varies per person, depending on the resources one has at his or her disposal.

Acculturation. As seen in Table 3 and Figure 3, most participants had experienced more than one culture. In trying to form their identity, bicultural individuals most often compare themselves to other groups on socially constructed characteristics such as religion, race and nationality (Benet-Martínez & Haritatos, 2005; Ellis et al., 2008; Rumbaut, 1994). During this phase, ethnic self-awareness can be heightened or decreased depending on the degree of congruency with other groups (Berry, 2005; Rumbaut, 1994, p. 754) as one participant in this study explained.

Before I moved to the suburbs being a Somali-American was never something I thought much about ... I was around ... other Somali-Americans ... (then) ... I became ashamed of who I was religiously and culturally, I even claimed Yemen as my home country at cultural nights at my school.

Results from the BII-2 scale and participants’ comments indicate that they experienced more conflict than harmony in trying to navigate between Somali and American cultures. Low BII scores indicate strained intercultural relations, experiences of discrimination, less proficiency in English, cultural isolation and less identification with the American culture (Benet-Martínez, 2012, p.23; Benet-Martínez & Haritatos, 2005, p.1023). However, in addition to being multilingual, participants in this study were

proficient in English and despite cultural conflict due to perceived incompatibility, participants were somewhat able to blend both cultures; “Although I do find it difficult to combine being Somali-American, or Muslim-American ... I still incorporate both aspects into my life.”

For those participants who had been in the U.S. since childhood or were U.S. born, it was much harder for them to combine both cultures. Understandably, these cultures have different family structures, and social, political and religious norms that require adaptation in every facet. Time spent in the U.S. seemed to result in more intrapersonal conflict than harmony; “being bi-cultural is not easy. I agree I'm Somali - American instead of a Somali ... If I grew up in Kenya, I wouldn't have this sense of lost identity.” In agreement, another commented that with time whether a person liked it or not, they somehow had to blend the cultures “they are mixing the longer I live here.” However, another participant saw this as a loss of values, “there is a big gap between the Somalis who grew up in western countries and the Somalis that come from Africa. The more [longer] Somalis stay in western countries, the more they lose their culture and religion.”

Participants in this study not only self-identified as Somali-American but also Muslim-American; for them Islam was yet another identity: “I love being Muslim-Somali-American.” Another student who had to embrace her heritage as she grew older commented, “being a Somali Muslim American is hard but denying your identity for so long and trying to 'relearn' your identity is even harder.” In relation to other concepts, the concept of bicultural identity and integration has previously been positively associated with psychological well-being (Chen et al., 2008). Therefore, it is expected that persons who are able to harmonize and blend two or more cultures might also experience optimal psychological (emotional) well-being.

Question 1: Is there an association between both negative and positive religious coping and physical well-being?

Responses to the SF12v2® (see Table 7) revealed a relatively healthy sample of college students, who scored higher on the physical well-being sub-scale ($M = 53.6$, $SD = 6.4$) as compared to the normative score ($M = 50$, $SD = 10$) and as compared to their emotional well-being sub-scale score ($M = 49.4$, $SD = 9.3$). This is not surprising, as the physical well-being scores are expected to be higher in younger samples and diminish with increased age due to expected decreased muscle mass and strength to carry out activities of daily living.

In relation to the Brief-RCOPE, there were weak negative correlations between both negative and positive religious coping and physical well-being, indicating an inverse relationship. However, these associations were not statistically significant and therefore, concrete inferences cannot be made about the associations and how the variables might affect each other.

Question 2: Is there an association between both negative and positive religious coping and emotional well-being?

In comparison to the physical well-being sub-scale scores, participants had lower emotional well-being sub-scale scores as noted in the previous section. There was also a much wider variability in the emotional well-being scores with individual scores as low as 10.1, 15.8 and 21.8, whereas the highest scores were between 50 and 60.

The association between religious coping and emotional well-being was only statistically significant between positive religious coping and emotional well-being. However, this association was weak ($r = .37$, $p = .01$, 2-tailed) and therefore suggests a modest influence of the variables on each other. It is possible that use of positive

religious coping might be associated with higher levels of emotional well-being but the exact nature of the association cannot be determined from this cross-sectional study.

Question 3: Is there an association between both negative and positive religious coping and symptoms of depression?

Responses to the SCL depression subscale indicate that participants in this study experienced fewer symptoms of depression in comparison to the moderate to high rates reported in similar studies with young adult samples (Ellis et al., 2008; Ellis et al., 2010; Halcón, Robertson, Monsen, & Claypatch, 2007; Kroll et al., 2011; Warfa et al., 2007). There was a statistically significant inverse (negative) relationship between symptoms of depression and positive religious coping ($r = -.20$, $p = .05$, 2-tailed); depression had a positive significant association with negative religious coping ($r = -.27$, $p = .01$, 2-tailed), a finding that has been previously documented (Ano & Vasconcelles, 2005). Even though these associations are weak, they indicate that positive religious coping might be associated with fewer symptoms of depression whereas negative religious coping could be associated with augmentation of symptoms of depression.

Question 4: Is there an association between both negative and positive religious coping and symptoms of anxiety?

In comparison to symptoms of depression (see Table 6), there were fewer symptoms of anxiety reported by participants in this study, a trend also seen in previously conducted studies (Bentley et al., 2012; Ellis et al., 2010; Halcón et al., 2004; Onyut et al., 2009). Positive religious coping had a non-significant negative correlation with anxiety and negative religious coping had a statistically significant weak positive correlation ($r = .21$, $p = .05$, 2-tailed) with symptoms of anxiety. In this

sample, positive religious coping did not seem to be associated with alleviation of symptoms of anxiety, but a higher negative religious coping score appeared to be associated with more symptoms of anxiety.

Question 5: What are the multivariate associations among positive religious coping, negative religious coping, symptoms of anxiety, and symptoms of depression, physical well-being and emotional well-being?

Religious or spiritual resources. The most helpful religious and or spiritual resources that the participants cited were personal and individual rather than communal, i.e. prayer, religious texts and places of worship as opposed to fellowship with others and the clergy (see Table 2). One probable reason for the lower use of the clergy as a helpful coping resource might be due to the ages of the college students in the sample. The Muslim clergy are usually consulted for various issues (O. M. Ali & Milstein, 2012), for example religious, marital, relationship, and family matters. Because most of these young Somalis are yet to experience issues with marriage and their own families, they are most likely to consult their families first before the clergy or older family members would consult the clergy on their behalf (S. R. Ali et al., 2004). In addition, many Muslim clerics are of an older generation and have a more conservative outlook as opposed to the youth and young adults. They might feel that the Muslim clergy cannot relate to their struggles because of these generational differences.

Religious coping. As predicted, responses to the Brief-RCOPE showed an overwhelming endorsement of positive religious coping mechanisms in comparison to negative religious coping mechanisms (See Table 8 and histograms in Appendix K). Use of mostly positive religious coping mechanisms has also been documented in many groups, including women and other minorities such as refugees and less with western samples (Bhui et al., 2008; Braam et al., 2010; Chapman & Steger, 2010;

Pargament, 1997; Pargament et al., 1998; Peterson & Huang, 2003; Strawbridge et al., 2001).

The participants' preferences of what religious coping resources and mechanisms to draw upon provide more evidence that people use mechanisms that exemplify a secure relationship with God as opposed to a tenuous one (Pargament et al., 1998, p.720). As illustrated by this participant's comment, persons in this study demonstrated a conscious effort to maintain a close relationship with Allah.

Religion has played a great part in my life. I ... don't stress much but whenever I feel stressed about anything concerning school, I feel that my connection with Allah is becoming weaker. So by repairing my connection with Allah, all of my stress goes away with it. Remembering my purpose in life is the best coping strategy I use in my life.

This type of relationship to Allah was also noted by Bonab et al. (2013).

Associations of well-being with health outcomes in the multivariate analysis. Physical well-being was significantly associated with both depression and anxiety. Higher levels of physical well-being were associated with fewer symptoms of depression and symptoms of anxiety (see Table 11). Similarly, emotional well-being was also significantly associated with both depression and anxiety. Higher levels of emotional well-being were associated with fewer symptoms of depression and symptoms of anxiety (see Table 11). Gender did not have a significant association with either physical or emotional well-being or symptoms of depression or symptoms of anxiety. The closest association of any variable with gender was with physical well-being (see Table 11), but it was not significant.

Associations of religious coping with health outcomes in the multivariate analysis. Positive religious coping was significantly associated with emotional well-

being, physical well-being, and depression and but not with anxiety. Greater positive religious coping was associated with increased levels of emotional well-being and fewer symptoms of depression. However, greater positive religious coping was associated with decreased levels of physical well-being. In comparison, greater negative religious coping was significantly associated with more symptoms of depression and anxiety. Negative religious coping was not significantly associated with either physical or emotional well-being. Similarly, gender was not significantly associated with positive or negative religious coping.

Interestingly, physical well-being was negatively associated with both positive and negative religious coping, indicating, as Pargament et al. (1998, p.721) postulated, that some mechanisms of religious coping contribute to a decrease in physical health, and more so among persons with chronic ailments (Ferraro & Kelley-Moore, 2000). Probably the most plausible explanation is that low levels of physical well-being might induce stressful states that in turn lead to seeking more mechanisms of religious coping or higher levels of a variety of both negative and positive religious coping mechanisms.

The role of religion. Students in this study reported less than a 2% rate of violations of the law and subsequent actions of reprove from law enforcement. Additionally a number of participants declined to answer questions about their sexual health. One reason might be that, because many Somalis belong to a conservative society, answering questions about sex on the SCL and Social Readjustment Scales was seen as taboo. Alternatively, as observed in one study, students who practiced healthful habits promoted by their religious faith, treated their bodies as sacred (Mahoney et al., 2005) and abstained from activities that might be seen as profane. Students in this study also held the belief that in times of major stressors including ill

health, religion provided relevant and adequate coping mechanisms. A participant in this study explained that, “we believe that, Islam is like a bird, if disease is on one wing, then the treatment is on the other wing.” Use of religious practices and societal support for the Muslim patient dealing with drug issues, depression and suicide has been encouraged (S. R. Ali et al., 2004).

Additionally, the minimal use of negative coping mechanisms indicates that most found the idea of abandonment by Allah (God) unfathomable as observed in a previous study (Bonab et al., 2013). For example, in this study, a participant commented, “throughout all the mosque sessions I've attended, we usually talk in the sense of the Muslim ummah drifting away from the creator.” Religious struggles reported in a previous study by Pargament et al. (2011, p. 54) were also observed in this study. Despite the considerable use of positive religious coping, some participants also indicated use of negative religious coping methods, reflective of tension, conflict and struggles. In this study a participant commented, “It's when I moved to the ... area that I became ashamed of who I was religiously and culturally. My older brother and I were the only minority students in the school.” Yet another student described more religious struggles;

I have gotten into conflict with my dad because of his ... views. He cites religion and its blasphemy to argue [against] it. I disagree with some parts of Islam (I'm sinning as I'm writing this) or at least my parents' interpretation.

Religious struggles do not necessarily lead to low levels of well-being or ill health, they might in fact produce the opposite, higher levels of well-being (Pargament et al., 2011). Participants' comments about items in the religious coping measure (RCOPE), and the acculturation measure (BIIS-2), indicate that it was hard for this sample to respond to questions of religious coping without referring to culture and vice versa.

Chapter VI. Limitations and Recommendations

This study had the following limitations, which should be taken into account when interpreting the results presented herein. As a cross-sectional study, relationships between religious coping mechanisms and measures of health and well-being cannot be used to deduce causation. In addition, the religious coping model designed for this study was used to assess the relationships in the model and not to predict specific changes in health status.

In this convenience sample, males (25%) were underrepresented and the participants consisted of students from only 4-year universities in a metropolitan area in Minnesota. It is therefore probable that students from community colleges and or smaller rural towns might have a different perspective regarding their use of religious coping. Additionally, because recruitment was mostly conducted through student groups, participants in the same social network might ascribe to the same ideals as opposed to randomly selected participants.

Some of the instruments required the participants to recall activities or health status within the last month, which might have affected the accuracy of their responses. After reviewing the results from the Life Events Checklist, it appears that this instrument was inappropriate for this sample, as there were more students who were younger (18 - 22), as compared to those who were older. Participants were not able to relate to many of the questions. An adapted version of an appropriate instrument such as the Rahe and Holmes college student version or the Traumatic Life Events Questionnaire (TLEQ) would have adequately aided in identifying relevant life events for this sample. Additionally responses to the survey were self-report and participants might have underestimated or overestimated number of events, or symptoms experienced.

Recommendations for practice. The integration of appropriate and effective religious coping resources and interventions in a patient's recovery plan should be considered. One's attachment to Allah (God) should be evaluated when providing care to Muslim young adults (Bonab et al., 2013) as Islam is an important coping mechanism to many adherents. Access to religious and spiritual resources (e.g. prayer rooms, religious and or spiritual texts, and an imam [spiritual/ religious leader]) should be made available to patients and their families, and/or use of these should be encouraged.

In-service education focused on the importance of identifying and facilitating appropriate patient endorsed coping mechanisms can help care providers navigate unfamiliar or uncomfortable situations. Health and education institutions should seek advice from the communities served, including faith leaders, prior to development of any educational materials or interventions. Additionally, care practitioners and educators should also seek more information about cultural preferences when the need arises, instead of assuming that a patient or student would be more comfortable with one or the other. Some of these discussions should include parents and the community to foster understanding and support for the youth and young adults from the parents and the community.

Recommendations for research. Additional analyses of the data obtained could help distinguish which particular questionnaire items relate most to the other concepts in this study, such as items in the acculturation scale to items in the depression subscale. Participants' comments could also be useful in further revision of the measures, such as the Brief RCOPE and the BII-2 scales. There is need for longitudinal cohort studies of both community and clinical samples in order to learn more about religious coping and its relationship to other, health related variables

among youth and young adults with refugee backgrounds. Additionally, mixed methods studies would help to tease out the nuanced differences in which influences on health outcomes are cultural and which ones are religious. In essence, which particular demographic and religious coping mechanisms directly influence health outcomes as opposed to those that specifically facilitate health outcomes. This could also help clarify which prescribed or proscribed religious behaviors improve or worsen a person's health risk.

Religious discontent or struggle was minimally used in this sample, but for those participants who used negative religious coping mechanisms, these could be evidence of short-term stressors but for others, these could be signs of long-term health problems. These indicators need to be appropriately addressed before they escalate into mental disorders. Negative religious coping items from the RCOPE measure have been associated with "religious red flags" and these require effective and immediate interventions (Pargament et al., 1998, p. 722).

The Brief RCOPE was designed and tested with Christian samples, and over time, it has also been validated with Muslim samples (Ai et al., 2003; Pargament et al., 2011). This study adds to and improves upon the area of research about religious coping in Somali Muslim young adults. The modified versions of the Brief RCOPE, BII-2 and SF12v2 have proved to be appropriate, applicable and reliable measures of religious coping, acculturation and well-being in this sample of Somali young a

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APPENDIX A: University of Minnesota Institutional Review Board Approval

UNIVERSITY OF MINNESOTA

Twin Cities Campus

*Human Research Protection Program
Office of the Vice President for Research*

*D528 Mayo Memorial Building
420 Delaware Street S.E.
MMC 820
Minneapolis, MN 55455
Office: 612-626-5654
Fax: 612-626-6061
E-mail: irb@umn.edu or ibc@umn.edu
Website: <http://research.umn.edu/subjects/>*

06/13/2013

Eunice M Areba
School of Nursing
Room 7-135D WDH
308 Harvard St S E
Minneapolis, MN 55455

RE: "Religious Coping, Symptoms of Depression and Anxiety, and Well-being Among Somali College Students"
IRB Code Number: **1305P34441**

Dear Ms. Areba:

The referenced study was reviewed by expedited review procedures and approved on June 13, 2013. If you have applied for a grant, this date is required for certification purposes as well as the Assurance of Compliance number which is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA 00004003). Approval for the study will expire one year from that date. A report form will be sent out two months before the expiration date.

Institutional Review Board (IRB) approval of this study includes the consent form, dated February 4, 2013; and the recruitment e-mail and recruitment flyer, both received May 22, 2013.

The reviewer commends you for a well-written application.

The IRB would like to stress that subjects who go through the consent process are considered enrolled participants and are counted toward the total number of subjects, even if they have no further participation in the study. Please keep this in mind when calculating the number of subjects you request. This study is currently approved for 200 subjects. If you desire an increase in the number of approved subjects, you will need to make a formal request to the IRB.

The code number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

APPENDIX B: Change in Protocol Approvals

UNIVERSITY OF MINNESOTA
Change In Protocol Request

Route this form to:
See instructions below.

Rev: Nov 2012

Instructions:

Use this form when submitting change requests on IRB protocols. This form is for use when the changes are initiated by the PI. Do not use this form to respond when changes are requested by the IRB. Please do not use this form when responding to changes requested in a stipulation letter.

Submit this form to the Human Research Protection Program:

U.S. Mail Address: or
Human Research Protection Program
MMC 820
420 Delaware St. SE
Minneapolis, MN 55455-0392

Electronic Submission:
Submit to: irb@umn.edu
PI must submit request using
University of Minnesota e-mail
Account.

The UMN IRB reviewed and APPROVED this submission including all attachments listed on this form by expedited review.

By Jeffery Perkey on Jul 11, 2013

IRB Protocol Information

IRB Study Number:	1305P34441
Principal Investigator:	Eunice M. Areba
Primary StudyTitle:	"Religious Coping, Symptoms of Depression and Anxiety, and Well-being Among Somali College Students"
Date of this Submission	July 3, 2013
Study Includes	☐ Drug(s) / Biologic(s) ☐ Device(s)

Indicate the type of change :

- ☐ Protocol Amendment: Version , Dated
☐ Revised Investigator Brochure: Version , Dated
☐ Recruitment Changes/Advertisements
☐ Notice of Closure to Accrual
☐ Change(s) to Study Procedures
☒ Other: Changes and additions to the consent form.

1. Briefly summarize the change(s). For protocol amendments, do not say "See summary of changes provided with amendment." Rather, summarize the nature of the significant revisions.

- 1) On the approval letter the consent form is dated February 4, 2013 but the correct date is May 20, 2013. I have also added the IRB code in the footer.
 2) Under "Confidentiality" in #3 I have added the value of the bookstore gift voucher.
 3) Under "Voluntary Nature of the Study" I have added a statement to indicate that some questions that test eligibility are mandatory despite the voluntary nature of the study.

2. Describe the rationale for the change(s):

To correct discrepancies and clarify the voluntary nature of the project.

3. In your opinion as principal investigator, how will these changes affect the overall risk to subjects in this study?

There is no added risk to the participants.

UNIVERSITY OF MINNESOTA

Route this form to:
See instructions belowRevised
October 2013**Change In Protocol Request****Instructions:**

Use this form when submitting change requests to approved IRB protocols. This form is for use when the changes are initiated by the PI. Do not use this form to respond when changes are requested by the IRB. Please do not use this form when responding to changes requested in a stipulation or deferral letter.

Submit this form to the Human Research Protection Program:

U.S. Mail Address: **or**
Human Research Protection Program
MMC 820
420 Delaware St. SE
Minneapolis, MN 55455-0392

Electronic Submission:
Submit to: irb@umn.edu
PI must submit request using
University of Minnesota e-mail
Account.

The UMN IRB reviewed and APPROVED this submission including all attachments listed on this form by expedited review.
By Jeffery Perkey on Dec 12, 2013

IRB Protocol Information

IRB Study Number:	1305P34441
Principal Investigator:	Eunice M Areba
Primary Study Title:	Religious Coping, Symptoms of Depression and Anxiety, and Well-being Among Somali College Students
Date of this Submission	11/20/2013
Study Includes	☐ Drug(s) / Biologic(s) ☐ Device(s)

Indicate the type of change(s)	Additional information/requirements
☒ Change(s) to Study Procedures/Protocol Amendment Protocol Version , Dated	<p>Does the change affect study design, change the study endpoint(s) or change the statistical method?</p> <p>☐ No ☐ Yes</p> <p>Is this protocol under Masonic Cancer Center's Cancer Protocol Review Committee (CPRC) review?</p> <p>☒ No ☐ Yes, CPRC #</p> <p>If "Yes" is checked for <i>both</i> questions above, this submission (Change in Protocol form and any supporting documentation) must be reviewed by CPRC (CCPRC@umn.edu) prior to review by the IRB. CPRC will forward this submission to the IRB after CPRC approval. Submission to CPRC must meet the IRB signature requirement (signed by the PI or sent from the PI's x.500 UMN email account).</p>
☐ Notice of Closure to Accrual	
☒ Recruitment changes/Advertisements	Attach a copy of the revised material (flyer, script, etc.) with the submission
☐ Revised Investigator Brochure	Version , Dated
☒ Updated consent form	Include both an updated form with changes highlighted and a "clean" version
☐ Other	Briefly Describe:

1. Briefly summarize the change(s). For protocol amendments, do not say "See summary of changes provided with amendment." Rather, summarize the nature of the significant revisions.

I am planning on adding 4 more recruitment sites to the study: St. Catherine University, Concordia University, Metropolitan State University and Hamline University. This change is reflected in the recruitment flyer, email to student leaders, the consent form and the demographics tool by including the names of these institutions. I have contacted the relevant departments in the above named institutions and the concerned persons are willing to invite students on their list-serve to participate in the study.

Additionally, I am planning on adding the option of gopher gold as compensation for UMN participants instead of offering just the bookstore card. This will give them more options of where to spend the \$20 on campus.

2. Describe the rationale for the change(s):

The data collection phase is slow, as I currently have 62 participants who have completed the survey. I believe adding the other four institutions might enable me to reach the target sample of 150 participants within the agreed upon timeline.

3. How will these changes affect the overall risk to subjects in this study?

These changes do not affect the overall risk to the subjects in the study.

4. Do the changes to the study prompt changes to the consent form(s)?

☐ No.

☒ Yes. If yes:

- Attach a copy of the revised consent form(s) with changes tracked or highlighted as well as a clean copy.

- 4.1 Will currently enrolled subjects will be notified of the changes?

☒ No

☐ Yes, explain below how they will be notified (i.e. subjects will be re-consented with the updated form once approved, subjects will be provided with an information sheet, subjects will be told of changes at next study visit, etc.).

5. List and attach all documents included with this request, including version dates:

- 1) Consent form
- 2) Recruitment flyer
- 3) Recruitment email to students
- 4) Demographics form

Principal Investigator's Signature

Date

Cancer Protocol Review Committee (CPRC) Use Only:

APPENDIX C: Metropolitan State University Human Subjects Approval

Human Subjects Review Board

NOTICE OF APPROVAL

TO: Dr. Cheryl Robertson, Dr. Laura Duckett, Ms. Eunice M Areba

FROM: Dr. Katryna Johnson, HSRB Reviewer, Dr. Brian Goodroad, HSRB Chair

RE: HSRB Application #38: Religious Coping, Symptoms of Depression and Anxiety, and Well-being Among Somali College Students

The Human Subjects Review Board has reviewed and approved the research proposal referenced above. The approval is good for one year from the date noted on this memo. As the responsible project investigator of this study, you assume the following responsibilities:

CONTINUING REVIEW: You are required to apply for renewal of approval at least once a year for as long as the study continues. The enclosed **Research Status Form** is used for this continuing review. If you complete your research prior to the end of the year of approval, please complete and submit the enclosed **Research Completion/Termination Form**.

AMENDMENTS: Investigators are required to report any changes to the research study, including study design, subject recruitment procedures, consent forms and procedures, and subject population (including size). New procedures must not be implemented without review and approval of the HSRB. Minor protocol amendments must be requested from the HSRB on the enclosed Research Minor Modification form. Major modifications require the investigator to submit a new application.

ADVERSE EVENTS: Adverse events are unexpected problems whose nature, severity, and frequency are not described in the information provided to the HSRB or to subjects. Examples include unexpected complications for a subject, missteps in the consent documentation, or

breaches of confidentiality. As the responsible project investigator you are responsible for reporting any adverse events to the HSRB within 10 working days of the event.

KEEPING RECORDS: Researchers must maintain a file of all documents concerning the use of human subjects in research for at least three (3) years. The documents that researchers must have on file include: 1) a copy of the original application submitted to the HSRB, 2) the HSRB notice of approval or approval renewal, and 3) copies of all other correspondence with the HSRB. HSRB records are subject to inspection by federal authorities. Sanctions for incomplete or nonexistent records include suspension of funding, fines, and exclusion from future funding.

For further information regarding the above, please consult the HSRB website at

www.metrostate.edu/hsrb

APPENDIX D : The Religious Coping Survey Instrument

Confidential

Page 1 of 21

Religious Coping Survey

Welcome! Soo dhowow! Karibu!

Kindly complete the survey below. Keep in mind that you have the option of saving your responses and completing the survey later.

Please note that you can resize the font, this option is located to the top right of the survey.

Thank you!

Confidential

Page 2 of 21

CONSENT FORM

Religious Coping, Mental Health, and Well-being Among Somali College Students

You are invited to consider participating in a research study to determine the associations among religious coping, mental health and physical and emotional well-being in Somali college students.

This study is being conducted by Eunice M. Areba, BSN, RN, PhD Candidate in Nursing, School of Nursing, University of Minnesota.

You are eligible to participate if you are a Somali college student attending the University of Minnesota, Augsburg College, Hamline University, St. Catherine University, Concordia University or Metropolitan State University and are between the ages of 18 and 30.

The intended number of participants is approximately 150 men and women. If you meet the eligibility criteria and are interested in considering participation, I ask that you read this consent form before agreeing to be in the study.

If you would like to ask any questions before you decide whether or not to participate please contact Eunice Areba by phone (507- 990-1448) or e-mail (areba002@umn.edu).

Background Information:

College students often experience long and short term stress that can affect their mental health. The purpose of this study is to investigate the interrelationships among religious coping, mental health, and physical and emotional well-being among Somali young adult college students, who usually have an Islamic faith background. The results of this study may enable health care providers and educators serving Somali students to gain a better understanding of the use of religion in Somali students' health and illness experiences. This information is essential in order to provide effective holistic care and education. You will not be asked to recount any traumatic experiences you might have experienced or are currently experiencing.

Procedures:

If you agree to participate in this study, your participation would involve the following things:

1. If you are eligible, and you agree to participate in this study, you will complete a survey with five parts. It will probably take you about one hour to complete the survey. In the event that you cannot complete the survey at one time you will have the option of returning at a later time to do so.

2. You will take this survey only once.

3. After you have completed the survey, the investigator will receive an email notification that you completed the survey and will then send you an email detailing how you can claim your bookstore gift card, which is the compensation that participants will receive for the time they spend completing the survey (See more details about this below).

Neither the investigator nor her advisors will be able to use your email address to link you to the answers you provide in the survey.

Risks and Benefits of Being in the Study:

The study has minimal risks. The survey includes questions about religious coping, mental health, and well-being. Some of these questions are sensitive and personal and they could trigger memories of painful events that participants experienced, or were exposed to, in the past.

There is no specific benefit to participants in this study. However, information from this study may help healthcare providers serving Somali college students to give more holistic and culturally appropriate care

Compensation:

If you participate, you will receive a \$20 gift voucher to spend at your institution's bookstore as compensation for the time you spend responding to the survey.

NB: University of Minnesota students have the option of getting gopher gold.

Confidentiality:

The records of this study will be kept private and the survey responses will be anonymous. Your answers will not be linked to you or your email address. In any sort of presentation or publication resulting from this research, I will not include any information that will make it possible to identify you as a respondent in this study.

Research records will be stored securely on the Academic Health Center server and only the researcher and her advisors will have access to the records. After the legally required time for keeping records, they will be deleted.

Please note that your email address has been, and will only be, used to send you:

1. a link to the survey;

www.project-redcap.org

2. a unique validation number to reenter the survey in case you need to take a break in the process of answering the questions; and

3. Instructions for how to claim your \$20 gift voucher at the bookstore.

Neither the investigator nor her advisors will be able to use your email address to link you to the answers you provide in the survey.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision, whether or not to participate will not affect your current or future relations with the University of Minnesota, Augsburg College, Hamline University, St. Catherine University, Concordia University or Metropolitan State University. If you decide to participate, you are free to not answer any question that you are uncomfortable answering. You may discontinue participation at any time without penalty or loss of benefits that you are entitled to as a student.

The only exception is a number of mandatory questions that are necessary to ascertain your eligibility to participate in the study and enable compensation.

Contacts and Questions:

The researcher conducting this study is Eunice M. Areba. You may email or call her with questions at any time. You are encouraged to contact her at the University of Minnesota, School of Nursing at 507-990-1448 or through email at areba002@umn.edu. If you call, you can identify yourself as a participant or potential participant in the religious coping study who wants to ask questions about the web-based survey. You will not be asked to provide your name.

Faculty co-advisors for this study are:

Laura Duckett, BSN, MS, PhD, MPH, RN, Associate Professor School of Nursing, University of Minnesota
ducke001@umn.edu
612-624-9160 (office)

Cheryl Robertson, BS, MPH, PhD, RN, FAAN, Associate Professor School of Nursing, University of Minnesota
rober007@umn.edu
612-624-5412 (office)

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher or her co-advisors, you are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455, and (612) 625-1650.

You can download or save a copy of this information to keep for your records.

If you complete the survey, that will indicate your consent to participate. You do not have to sign a form or provide your name.

[Attachment: "AREBA-Consent-Form-11-20-13 Clean copy.pdf"]

Please Fill in your demographic information.

Date of Birth

(Make sure to choose the day if you choose the calendar icon)

Gender

- ☐ Female
☐ Male

I am a student at

- ☐ University of Minnesota
☐ Augsburg College
☐ Metropolitan State University
☐ Hamline University
☐ St. Catherine University

Confidential

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Country of origin
((where were you born?))

- ☐ Somalia
☐ Ethiopia
☐ Eritrea
☐ Kenya
☐ Other, please specify

country of origin

Age when you left country of origin

(If you were born in the USA enter 99)

Year of leaving country of origin

(If you were born in the USA enter 9999)

Year of arrival in the U.S.A

(If you were born in the USA enter 9999)

Marital Status

- ☐ Never Married
☐ Married
☐ Separated
☐ Widowed
☐ Divorced
☐ Other
☐ I prefer not to answer

Education Completed

- ☐ High school diploma
☐ Undergraduate course work
☐ Undergraduate degree
☐ Graduate course work
☐ Graduate degree (s)
☐ I prefer not to answer

Total years of post high school education

Housing

- ☐ Owns home
☐ Rents
☐ Dormitory
☐ Other
☐ I prefer not to answer

Employment:

- ☐ Yes, full time
☐ Yes, part- time
☐ No,
☐ I prefer not to answer

Years lived in refugee camp

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Years lived in transit country:

(Where you lived before you came to the US (not in the refugee camp). You can list more than one country.)

Years in another resettlement country

Indicate which of these you have access to and that help you to cope:
(choose ALL that help you)

- ☐ Clergy/ faith leaders
- ☐ Place of worship near work/ home
- ☐ Fellowship with other believers
- ☐ Religious/ spiritual texts
- ☐ Religious/ spiritual ceremonies
- ☐ Prayer
- ☐ Other
- ☐ I prefer not to answer

What is your religion?

- ☐ Islam
- ☐ Christianity
- ☐ Other, please specify

What is your religion?

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Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much the symptoms bothered or distressed you in the last week, including today. Place a check in the appropriate column.

	Not at all	A Little	Quite a bit	Extremely	I prefer not to answer
Suddenly scared for no reason	☐	☐	☐	☐	☐
Feeling fearful	☐	☐	☐	☐	☐
Faintness, dizziness or weakness	☐	☐	☐	☐	☐
Nervousness or shakiness inside	☐	☐	☐	☐	☐
Heart pounding or racing	☐	☐	☐	☐	☐
Trembling	☐	☐	☐	☐	☐
Feeling tense or keyed up	☐	☐	☐	☐	☐
Headaches	☐	☐	☐	☐	☐
Spells of terror or panic	☐	☐	☐	☐	☐
Feeling restless, cannot sit still	☐	☐	☐	☐	☐
Feeling low in energy and slowed down	☐	☐	☐	☐	☐
Blaming yourself for things	☐	☐	☐	☐	☐
Crying easily	☐	☐	☐	☐	☐
Loss of sexual interest or pleasure	☐	☐	☐	☐	☐
Poor appetite	☐	☐	☐	☐	☐
Difficulty falling asleep or staying asleep	☐	☐	☐	☐	☐
Feeling hopeless about the future	☐	☐	☐	☐	☐
Feeling blue (sad)	☐	☐	☐	☐	☐
Feeling lonely	☐	☐	☐	☐	☐
Thoughts of ending life	☐	☐	☐	☐	☐
Feeling of being trapped or caught	☐	☐	☐	☐	☐
Worrying too much about things	☐	☐	☐	☐	☐
Feeling no interest in things	☐	☐	☐	☐	☐
Feeling everything is an effort	☐	☐	☐	☐	☐
Feeling worthless	☐	☐	☐	☐	☐

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In this section, indicate your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Answer every question by selecting the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

In general, would you say your health is:

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ I prefer not to answer

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? if so how much? Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

- ☐ Yes, limited a lot
- ☐ Yes, limited a little
- ☐ No, not limited at all
- ☐ I prefer not to answer

Climbing several flights of stairs

- ☐ Yes, limited a lot
- ☐ Yes, limited a little
- ☐ No, not limited at all
- ☐ I prefer not to answer

During the PAST 4 WEEKS, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health? Accomplished less than you would like

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

Were limited in the kind of work or other activities

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

During the PAST 4 WEEKS, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)? Accomplished less than you would like

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

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Did work or activities less carefully than usual

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

During the PAST 4 WEEKS, how much did pain interfere with your normal work (including both work outside the home and housework)?

- ☐ Not at all
- ☐ A little bit
- ☐ Moderately
- ☐ Quite a bit
- ☐ Extremely
- ☐ I prefer not to answer

These questions [the next 3] are about how you feel and how things have been with you during the PAST 4 WEEKS. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the PAST 4 WEEKS Have you felt calm and peaceful?

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

Did you have a lot of energy?

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

Have you felt downhearted and depressed?

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

During the PAST 4 WEEKS, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives etc.)?

- ☐ All of the time
- ☐ Most of the time
- ☐ Some of the time
- ☐ A little of the time
- ☐ None of the time
- ☐ I prefer not to answer

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Please indicate if you have experienced any of the following events in the PAST YEAR.

Note: Choose 'YES' if you experience the event ONLY ONCE. If you experienced the same event MORE THAN ONCE choose "experienced more than once" and then indicate in the text-box that will appear the number of times you have experienced the event. Choose "NO" if you did not experience the event in the PAST YEAR.

Death of a spouse

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Divorce

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Marital separation

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Jail term

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Death of close family member

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Personal injury or illness

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Marriage

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred

Fired at work

- ☐ Yes
☐ No
☐ Experienced more than once

How man times has this event occurred?

Marital reconciliation

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in health of family member

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Pregnancy

- ☐ Yes
☐ No
☐ Experienced more than once

how many times has this event occurred?

Gain of new family member

(This means gaining a new family member in your household (e.g., through birth, marriage, adoption, or arrival of parents, siblings and/or other relatives and their families.))

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Business readjustment

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in financial state

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Death of a close friend

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change to a different line of work

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in number of arguments with spouse

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

A large mortgage or loan

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Foreclosure of mortgage or loan

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Change in responsibilities at work

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Son or daughter leaving home

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Trouble with in-laws

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Outstanding personal achievement

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Spouse begins or stops work

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Begin or end school/college

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in living conditions

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Revision of personal habits

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Trouble with boss

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in work hours or conditions

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in residence

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in school/college

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in recreation

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in mosque activities

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Change in social activities

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

A moderate loan or mortgage

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in sleeping habits

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Change in number of family get-togethers

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Vacation

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Celebrated Eid

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

Minor violations of the law

- ☐ Yes
☐ No
☐ Experienced more than once

How many times has this event occurred?

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Sex difficulties

- ☐ Yes
- ☐ No
- ☐ Experienced more than once

How many times has this event occurred?

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The following items deal with ways you coped with a significant trauma or a negative event in your life. There are many ways to try to deal with problems.

These items ask what part Islam played in what you did to cope with this negative event. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you did what the item says. How much or how frequently? Don't answer on the basis of what worked or not - just whether or not you did it. Use the response choices below each item.

Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

Looked for a stronger connection with Allah

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Sought Allah's love and care

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Sought help from Allah in letting go of my anger

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Tried to put my plans into action together with Allah

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer no to answer

Tried to see how Allah might be trying to strengthen me in this situation

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

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Asked for forgiveness for my sins

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Focused on Islam to stop worrying about my problems

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Wondered whether Allah had abandoned me

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Felt punished by Allah for my lack of devotion

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Wondered what I did for Allah to punish me

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Questioned Allah's love for me

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Wondered whether the ummah had abandoned me

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

Decided the devil made this happen

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

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Questioned the power of Allah

- ☐ Not at all
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A great deal
- ☐ I prefer not to answer

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As a student who is an immigrant/ethnic minority/international student/refugee living in the U.S., you have been exposed to at least TWO cultures: your own heritage or ethnic culture (for example, Somali, Djibouti, Kenyan, Ethiopian) and the mainstream, dominant American culture. Thus, you could be described as a bicultural or multicultural individual.

The experience of having and managing two cultures (or more) is different for everybody, and we are interested in YOUR PARTICULAR EXPERIENCE. Please use the scale below to rate to what extent you agree or disagree with the following statements. Please rate all statements, even if they seem redundant to you. Try to avoid using "Not sure" if possible.

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree	I prefer not to answer
I find it easy to harmonize Somali and American cultures.	☐	☐	☐	☐	☐	☐
I rarely feel conflicted about being bicultural.	☐	☐	☐	☐	☐	☐
I find it easy to balance both Somali and American cultures.	☐	☐	☐	☐	☐	☐
I do not feel trapped between the Somali and American cultures.	☐	☐	☐	☐	☐	☐
I feel that Somali and American cultures are complementary	☐	☐	☐	☐	☐	☐
I feel torn between Somali and American cultures.	☐	☐	☐	☐	☐	☐
I feel that Somali and American cultural orientations are incompatible.	☐	☐	☐	☐	☐	☐
Being bicultural means having two cultural forces pulling on me at the same time.	☐	☐	☐	☐	☐	☐
I feel conflicted between the Somali and American ways of doing things.	☐	☐	☐	☐	☐	☐
I feel like someone moving between two cultures	☐	☐	☐	☐	☐	☐
I feel caught between the Somali and American cultures.	☐	☐	☐	☐	☐	☐
I cannot ignore the Somali or American side of me.	☐	☐	☐	☐	☐	☐
I feel Somali and American at the same time.	☐	☐	☐	☐	☐	☐
I relate better to a combined Somali-American culture than to Somali or American culture alone.	☐	☐	☐	☐	☐	☐
I feel Somali-American	☐	☐	☐	☐	☐	☐

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I feel part of a combined culture that is a mixture of Somali and American.	☐	☐	☐	☐	☐	☐
I find it difficult to combine Somali and American cultures	☐	☐	☐	☐	☐	☐
I do not blend my Somali and American cultures.	☐	☐	☐	☐	☐	☐
I feel just like a Somali who lives in North America (that is, I do not feel "Somali-American").	☐	☐	☐	☐	☐	☐
I keep Somali and American cultures separate in my life (that is, I don't mix them).	☐	☐	☐	☐	☐	☐

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Optional (not required in order to receive compensation for participating). Please add any comments you would like to make about the survey as a whole, any specific survey items, your responses, or your impressions about the study as a whole.

Appendix E. Demographics Form

Date of Birth: _____ (YYYY/MM/DD)

I am a student at:

- ☐ University of Minnesota
- ☐ Augsburg College
- ☐ Hamline University
- ☐ St. Catherine University
- ☐ Concordia University
- ☐ Metropolitan State University

Country of origin: _____

Age when you left country of origin: _____
(If you were born in the USA enter 99)

Year of leaving country of origin: _____
(If you were born in the USA enter 9999)

Marital Status:

- ☐ Never Married
- ☐ Married
- ☐ Separated
- ☐ Widowed
- ☐ Divorced
- ☐ Other
- ☐ I prefer not to answer

Education Completed:

- ☐ High school
- ☐ Undergraduate course work
- ☐ Undergraduate
- ☐ Graduate course work
- ☐ Graduate degree (s)
- ☐ I prefer not to answer

Years of education _____

Employment:

Yes (Full time)

☐ No ☐ Yes (Part-time) ☐

Housing:

☐ Owns home ☐ Rents ☐ Dormitory ☐ Other _____

Please answer ALL that apply:

Years lived in:

Refugee camp _____

Transit country _____

Other Resettlement country _____

United States _____

Indicate which of these you have access to and are helpful in your coping mechanism:

- ☐ Clergy/ faith leaders
- ☐ Place of worship near work/ home
- ☐ Fellowship with other believers
- ☐ Religious/ spiritual texts
- ☐ Religious/ spiritual ceremonies
- ☐ Prayer
- ☐ Other _____

What is your religion? _____

Appendix F: Rahe and Holmes Scale

THE SOCIAL READJUSTMENT RATING SCALE

1

Please indicate if you have experienced any of the following events in the PAST YEAR:

	Life Events	Value	Check if this applies
1	Death of spouse	100	
2	Divorce	73	
3	Marital separation	65	
4	Jail term	63	
5	Death of close family member	63	
6	Personal injury or illness	53	
7	Marriage	50	
8	Fired at work	47	
9	Marital reconciliation	45	
10	Retirement	45	
11	Change in health of family member	44	
12	Pregnancy	40	
13	Sex difficulties	39	
14	Gain of new family member	39	
15	Business readjustment	39	
16	Change in financial state	38	
17	Death of close friend	37	
18	Change to a different line of work	36	
19	Change in number of arguments with spouse	35	
20	A large mortgage or loan	31	
21	Foreclosure of mortgage or loan	30	
22	Change in responsibilities at work	29	
23	Son or daughter leaving home	29	
24	Trouble with in-laws	29	
25	Outstanding personal achievement	28	
26	Spouse begins or stops work	26	
27	Begin or end school/college	26	
28	Change in living conditions	25	
29	Revision of personal habits	24	
30	Trouble with boss	23	
31	Change in work hours or conditions	20	
32	Change in residence	20	
33	Change in school/college	20	
34	Change in recreation	19	
35	Change in <i>mosque</i> activities	19	
36	Change in social activities	18	
37	A moderate loan or mortgage	17	
38	Change in sleeping habits	16	
39	Change in number of family get-togethers	15	
40	Change in eating habits	15	
41	Vacation	13	
42	Celebrated Eid	12	
43	Minor violations of the law	11	
	Your Total		0

Participant ID: _____

Date: _____

APPENDIX G: Bicultural Identity Integration Scale-2

As a student who is an immigrant/ethnic minority/international student/refugee living in the U.S., you have been exposed to at least TWO cultures: your own heritage or ethnic culture (for example, Somali, Djibouti, Kenyan, Ethiopian) and the mainstream, dominant American culture. Thus, you could be described as a bicultural or multicultural individual.

The experience of having and managing two cultures (or more) is different for everybody, and we are interested in YOUR PARTICULAR EXPERIENCE. Please use the scale below to rate to what extent you agree or disagree with the following statements. Please rate all statements, even if they seem redundant to you. Try to avoid using "Not sure" if possible.

	Strongly Disagree	Disagree	Not sure	Strongly Agree	Agree
I find it easy to harmonize Somali and American cultures.					
I rarely feel conflicted about being bicultural.					
I find it easy to balance both Somali and American cultures.					
I do not feel trapped between the Somali and American cultures.					
I feel that Somali and American cultures are complementary					
I feel torn between the Somali and American cultures.					
I feel that Somali and American cultural orientations are incompatible.					
Being bicultural means having two cultural forces pulling on me at the same time.					
I feel conflicted between the Somali and American ways of doing things.					
I feel like someone moving between two cultures					
I feel caught between the					

	Strongly Disagree	Disagree	Not sure	Strongly Agree	Agree
Somali and American cultures.					
I cannot ignore the Somali or American side of me.					
I feel Somali and American at the same time.					
I relate better to a combined Somali-American culture than to Somali or American culture alone.					
I feel Somali-American					
I feel part of a combined culture that is a mixture of Somali and American.					
I find it difficult to combine Somali and American cultures					
I do not blend my Somali and American cultures.					
I feel just like a Somali who lives in North America (that is, I do not feel "Somali-American").					
I keep Somali and American cultures separate in my life (that is, I don't mix them).					

APPENDIX H: Hopkins Symptom Checklist

Listed below are some symptoms or problems that people sometimes have. Please read each one carefully and decide how much the symptoms bothered or distressed you in the last week, including today. Place a check in the appropriate column.

Anxiety Symptoms	Not at all	A Little	Quite a bit	Extremely
1. Suddenly scared for no reason				
2. Feeling fearful				
3. Faintness, dizziness, or weakness				
4. Nervousness or shakiness inside				
5. Heart pounding or racing				
6. Trembling				
7. Feeling tense or keyed up				
8. Headaches				
9. Spells of terror or panic				
10. Feeling restless, can not sit still				

Depression Symptoms				
11. Feeling low in energy, slowed down				
12. Blaming yourself for things				
13. Crying easily				
14. Loss of sexual interest or pleasure				
15. Poor appetite				
16. Difficulty falling asleep or staying asleep				
17. Feeling hopeless about the future				
18. Feeling blue (sad)				
19. Feeling lonely				
20. Thoughts of ending life				
21. Feelings of being trapped				
22. Worrying too much about things				
23. Feeling no interest in things				
24. Feeling everything is an effort				
25. Feeling worthless				

APPENDIX I: The modified SF12v2

SF 12V2@ HEALTH SURVEY

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Answer every question by selecting the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:
Excellent	Very good	Good	Fair	Poor
☐	☐	☐	☐	☐

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	Yes,
limited a
lot	Yes,
limited a
little	No, not
limited
at all
2. Moderate activities, such as moving a table,
pushing a vacuum cleaner, bowling, or
playing golf	☐	☐	☐
3. Climbing several flights of stairs	☐	☐	☐

During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	All of
the time	Most of
the time	Some
of the
time	A little
of the
time	None of
the
time
4. Accomplished <u>less</u> than you would like	☐	☐	☐	☐	☐
5. Were limited in the kind of work or other
activities	☐	☐	☐	☐	☐

During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	All of
the time	Most of
the time	Some
of the
time	A little
of the
time	None of
the
time
6. Accomplished <u>less</u> than you would like	☐	☐	☐	☐	☐
7. Did work or activities less carefully than usual	☐	☐	☐	☐	☐

SF 12V2@ HEALTH SURVEY

8. During the **past 4 weeks**, how much did **pain** interfere with your normal work (including both work outside the home and housework)?

Not at all A little bit Moderately Quite a bit Extremely

☐ ☐ ☐ ☐ ☐

*These questions [the next 3] are about how you feel and how things have been with you **during the past 4 weeks**. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the **past 4 weeks**.*

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
9. Have you felt calm and peaceful?	☐	☐	☐	☐	☐
10. Did you have a lot of energy?	☐	☐	☐	☐	☐
11. Have you felt downhearted and depressed?	☐	☐	☐	☐	☐
12. How much of the time has your physical health or emotional problems interfered with your social activities (Like visiting friends, relatives etc.?)	☐	☐	☐	☐	☐

Appendix J. The modified Brief RCOPE

The following items deal with ways you coped with a significant trauma or negative event in your life. There are many ways to try to deal with problems. These items ask **what part Islam played in what you did to cope with this negative event**. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you did what the item says. **How much or how frequently**. Don't answer on the basis of what worked or not – just whether or not you did it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

1. Looked for a stronger connection with Allah	____
2. Sought Allah's love and care	____
3. Sought help from Allah in letting go of my anger	____
4. Tried to put my plans into action together with Allah	____
5. Tried to see how Allah might be trying to strengthen me in this situation	____
6. Asked for forgiveness for my sins	____
7. Focused on Islam to stop worrying about my problems	____
8. Wondered whether Allah had abandoned me	____
9. Felt punished by Allah for my lack of devotion	____
10. Wondered what I did for Allah to punish me	____
11. Questioned Allah's love for me	____
12. Wondered whether the <i>ummah</i> had abandoned me	____
13. Decided the devil made this happen	____
14. Questioned the power of Allah	____

APPENDIX K: Histograms and Scatterplots