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The Relationship Between Religiosity and Depression Among Sampled Kenyans In The Twin Cities Metro Area

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THE RELATIONSHIP BETWEEN RELIGIOSITY AND DEPRESSION AMONG SAMPLED KENYANS IN THE TWIN CITIES METRO AREA

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Abstract

The Relationship Between Religiosity And Depression Among Sampled Kenyans In The Twin Cities Metro Area, is a thesis By Dorcas W. Waite, for partial fulfillment for the degree Master of Science In Health Science, Community Health Education at Minnesota State University, Mankato, Minnesota on May 2017.

The purpose of this study was to assess whether there is a relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area, in Minnesota. The sample consisted of 63 individuals who were members or visitors at Destiny Faith Ministries and United Seventh-Day Adventist Church.

Results showed that 98.4% (n=60) of participants identified themselves with a specific religion, 90.4% (n=57) scored 40 and above on the religiosity scale, which indicated strong religiosity. Majority of participants (66.8%, n=42) indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. No significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans (r=-.192, n=63, p>.05).

These results added to the existing research that remains controversial and debatable on the relationship between religiosity and depression. Based on this the researcher recommended that more research is done on this topic, with a focus on immigrant populations, especially small underrepresented immigrant populations.

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Chapter I: Introduction

Introduction

In the years 2000 to 2012, the United States experienced a significant increase in the number of foreign-born individuals living in the United States. The immigrant population increased by 31.2 percent, and the number of foreign-born individuals rose from 31.1 million to 40.7 million (Center for American Progress, 2014). According to the 2008-2012 American Community Survey (ACS), an estimated 95,000 foreign born Kenyans live in the United States (Gambino, Trevelyan, & Fitzwater, 2014). Due to the fact that Kenyans only make up 0.23 percent of the foreign-born individuals in the United States their mental health needs often go unnoticed and neglected (Rousseau, Mekki-Barrada, & Moreau, 2001).

A majority of immigrants move to the United States in pursuit of a better life, to escape war and to avoid political violence in their home country. They face challenges as they migrate, settle, and reside in the United States (Wong & Miles, 2014). Increasing evidence obtained from cross-sectional studies suggests that immigrants encounter many stressors such as discrimination, perceived financial needs, and loss of family and culture, which places them at a higher risk for mental disorders, including depression (Cook, Alegría, Lin, & Guo, 2009).

Depression is a serious medical condition in which a person feels very sad, hopeless, and insignificant and often unable to enjoy everyday life. In the United States, a nationally representative face-to-face household survey indicated that 7.2 % of

Americans age 12 years and older experienced a major depressive episode in the past 12 months (Centers for Disease Control and Prevention, 2014). In fact, depression affects an estimated 350 million people worldwide (World Health Organization, 2016).

Though depression affects a large number of people worldwide, it may be triggered by different causes in different populations and individuals. For example, immigrants from South Sudan, Somalia, and Kenya often leave their home countries due to war, violence, political persecution, and significant hardships that motivated them or forced them to leave their home country (Wong & Miles, 2014). In addition to immigrants leaving their home country immigrants face additional stresses such as loss of family and cultural support, economic pressures, drop in socioeconomic status, culture shock/culture conflict, language barriers, prejudice, discrimination, and isolation (Tilbury, 2007).

In times of stress, it is not a surprise that immigrants like the Kenyan population, who place a high value on religion, may turn to religion to seek spiritual support, community support, and to cope with the stress related to being an immigrant (Putman, Lea, & Eriksson, 2011). The Pew Research Center (2015), found that 86% of Kenyans say that religion is a very important part of their lives. Approximately 83% of Kenyans are Christians; 47.7% are Protestants and 23.4% Catholics. Muslims account for about 11.2%, indigenous religions account for 1.7%, 2.4% of Kenyans do not have any religious affiliations, and .02 are unknown (Central Intelligence Agency, 2016).

According to Gall Maletee & Younger (2011), religion involves “a belief in a higher power such as God, Allah, and Buddha” (para. 29). From religion comes the term

religiousness or religiosity, which according to Gall et al. (2011), is the act of praying, going to church, temple, or mosque in order to be in contact with God. “It is to believe in God and to integrate God into one's spirituality” (Gall et al., 2011, para. 29). Religiosity can also be defined as “the strength, participation, and commitment an individual has to religious beliefs” (Flugum, 1995, p. 34).

Recently, research has focused on whether people who are religious are less likely or more likely to suffer from depression (Behere, Yaday, & Behere, 2013). Studies by Gupta, Avasthi, & Kumar (2011), as well as Leurent, Nazareth, Bellón-Saameño, Geerlings, Maaroos, Saldivia, et al. (2011) bring up conflicting ideas on whether the relationship between religion and depression is positive or negative. By surveying the Kenyan population, who find religion to be of high importance to their lives (Pew Research Center, 2015), this research will assess whether a correlation exists between religion and depression.

Statement of the Problem

Immigrants face many different stressors as they move and settle in a new country. The role that religion plays in depression is controversial (Park, Hong, & Cho, 2012). Recently, research has indicated that the relationship between religion and depression may have negative outcomes (Luerent, et al., 2013; Park at al., 2012) or possibly have positive outcomes (Gupta et al., 2011; Miller, et al., 2012).

A majority of Kenyans say that religion plays an important part in their lives (Pew Research Center, 2015). Kenyans also make up a small percent of immigrants in the United States (Gambino, Trevelyan, & Fitzwater, 2014). It is important that research is

done on this population, who face similar social circumstances as other small immigrant populations who say that religion is an important part of their lives. This research may provide valuable information on populations whose mental health needs go unnoticed and neglected because they are a small under represented immigrant population in the US.

This study will focus on assessing a possible relationships between religiosity and depression among Kenyans in the Twin Cities Metro Area, in Minnesota. This study will also investigate the self-reported level of religiosity and the self-reported level of depression among Kenyans in the sampled population.

Need for the Study

This study is needed because there is a need for more research on the relationship between religiosity and depression. This study will hopefully enhance the awareness on the rate of depression in the Kenyan immigrant population, which may be similar to other underrepresented immigrant populations in the United States.

This topic is important to the health education discipline because it will help health educators better understand whether a relationship exists between religiosity and depression. It will also help health educators gain knowledge of depression among immigrants, so that they can educate, advocate for, and bring resources to individuals who experiencing depression.

This study may also be important to clergy as they train and practice, because it may help them gain knowledge on the relationship between religiosity and depression and how it may impact their congregations. Regardless of whether a positive or negative

relationship exists between religiosity and depression, clergy have a role to play as an intermediate or mediator between a religion and its practitioners.

Purpose of the Research

The purpose of this research was to assess the possible relationship between religiosity and depression among sampled Kenyans. To do so the research will focus on the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area, of Minnesota. Through this study, I hoped to shine a light on depression among immigrants and the role religion plays in mental health.

Research Questions

1. What is the self-reported level of religiosity among sampled Kenyans?
2. What is the self-reported level of depression among sampled Kenyans?
3. What is the relationship between self-reported religiosity and self-reported level of depression among sampled Kenyans?

Limitations

1. Participants may exhibit social desirability by responding to questions in the survey in a way that makes them seem more favorable or appealing (Social Desirability Bias, n.d).
2. Because participants were recruited in churches, the sample may not be representative of non-Christian religions.
3. Participants may have chosen not to complete the survey due to the sensitive nature of the topics addressed.

4. Participants may have difficulty filling out the survey due to lack of fluency in English.
5. Results may not be generalizable to other populations or ethnic groups.
6. Religious attendance and participation were equated with religiosity.

Delimitations

1. The research focused on individuals of Kenyan descent, currently residing in the Twin Cities Metro Area, of Minnesota.
2. The study sample included participants who were born in Kenya and those who were descendant of parents born in Kenya.
3. This study aimed to recruit fifty participants.
4. Data collection took place in the Twin Cities Metro Area in Minnesota.
5. Participants were recruited from two local Kenyan churches in the Twin Cities Metro Area. Recruitment took place during church announcements.
6. Data were collected right after church service.
7. Data collection was limited from March 4th, 2017 to March 5th, 2017.

Assumptions

1. Participants understood questions listed in the survey.
2. Participants understood directions on how to complete the survey.
3. Participants answered questions truthfully, and honestly to the best of their ability.
4. Depression impacts immigrants, including Kenyans.

Definition of Terms

- **Depression** - is a mental disorder that is quite common, as it affects an estimated 350 million people worldwide. Depression can be characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, loss of sleep or appetite, feelings of tiredness, and poor concentration (WHO, 2016).
- **Religion** - is, “a belief in a high power such as God, Allah, and Buddha”; (Gall et al., 2011, para. 29).
- **Religiosity** - is “the strength, participation, and commitment an individual has to religious beliefs” (Flugum, 1995, p. 34).

Chapter II: Review of Literature

Introduction

An increasing body of evidence from cross-sectional studies suggests that immigrants encounter many stressors that place them at risk for depression (Wong & Miles, 2014, Cook et al., 2009). The purpose of this study is to assess whether there is a relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans. This study will investigate the sampled populations' self-reported level of religiosity, and their self-reported level of depression.

In this chapter, current literature related to religion and depression will be reviewed. This review will critically define religion, religiosity, and depression. It will then discuss depression among immigrants, sigma and possible cultural factors related to perceptions of religion and depression. Last, the literature review will address possible conflicting ideas based on studies that have found ether a positive or negative relationship between religiosity and depression.

Religion

Religion has become a topic of interest in psychiatric disorders, possibly because religious practices have been shown to effect the incidence of depression (Gupta, Avasthi, & Kumar, 2011). Gupta and colleagues (2011) stated that religion can be challenging to define and acknowledged that as yet scholars have not found a definition that applies to all religions. According to Yinger (1960), among the first people to develop an inclusive functional definition of religion, religion should be defined not in

terms of what it essentially is but by what it does. Further, Yinger (1960) suggested that the definition of religion would be only satisfying to the one who comes up with the definition

In contrast, Behere and colleagues (2013) stated that religion has to do with socially based beliefs and traditions, which are often associated with rituals and ceremonies. To put it more directly, Leurenta and colleagues (2013) defined religion as the practice of faith, by going to a temple, mosque, church or synagogue.

From religion comes the term religiosity, defined as "the strength, participation, and commitment an individual has to religious beliefs" (Flugum, 1995, p. 34). This definition of religiosity is used throughout this thesis and the survey. Flugum (1995), did a study on the influence of religiosity, parental influence, and gender, on college students' decision to engage in sexual intercourse.

Depression

Depression has become a variable of interest in relating psychiatric disorders to religion, perhaps because American society is strongly passionate about religion (Blazer, 2012). It is an important topic because, according to the World Health Organization (2016) depression affects an estimated 350 million people worldwide. The National Institute of Mental Health (2016), defines depression as a common but serious mood disorder, which causes severe symptoms that effect how a person feels, thinks, and handles daily activities. These activities may include sleeping, eating, or working.

The National Institute of Mental Health (2016) also gives a list of signs and symptoms of depression. These include the following signs and symptoms occurring for most of the day nearly every day, for at least two weeks:

- “Persistent sad, anxious, or “empty” mood
- Feelings of hopelessness, or pessimism
- Irritability
- Feelings of guilt, worthlessness, or helplessness
- Loss of interest or pleasure in hobbies and activities
- Decreased energy or fatigue
- Moving or talking more slowly
- Feeling restless or having trouble sitting still
- Difficulty concentrating, remembering, or making decisions
- Difficulty sleeping, early-morning awakening, or oversleeping
- Appetite and/or weight changes
- Thoughts of death or suicide, or suicide attempts
- Aches or pains, headaches, cramps, or digestive problems without a clear physical cause and/or that do not ease even with treatment” (NIMH, 2016, para 7)

Not all people with depression experience all the above symptoms. Some individuals may experience few symptoms and some may experience many (WHO, 2016).

While effective treatments are available for depression, according to the World Health Organization, less than half of those who experience depression worldwide get the treatment they need (WHO, 2016). Low treatment levels may be caused by barriers such as lack of health care providers who are trained in mental health, lack of resources, and stigma associated with mental disorders (WHO, 2016).

Depression among Immigrants

Immigrants face many challenges in their home countries that motivate them or force them to leave their countries of origin (Wong & Miles, 2014; Rousseau et al., 2001). As they move and settle in new countries they face other hardships, such as loss of family, lack of cultural support, and economic pressures. These and other hardships associated with migration place immigrants at a higher risk for mental disorders such as depression (Cook, et al., 2009; Wong & Miles, 2014). Wong & Miles (2014) analyzed prevalence of depression and associated correlations among a national sample of immigrants newly admitted to legal permanent residence to the United States. The researchers focused on adult immigrants who had acquired legal permanent residence in the United States between May 2003 and November 2003. They sampled 12,500 adult immigrants, where a total of 8,573 immigrants completed the survey. The results indicated that approximately 3 % of participants were at risk for depression in the past 12 months. Female immigrants were twice as likely to meet the criteria for probable depression than male immigrants. The study also indicated that, even after change of status, the effects of being a refugee, and the exposure to political violence remained significantly associated with depression (Wong & Miles, 2014).

Areba (2014) examined the association of 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. Results indicated that participants who were young Somali adults reported more symptoms of depression than symptoms of anxiety and had higher levels of physical well-being compared to emotional well-being. Results also showed that participants mostly used positive religious coping mechanisms

(prayer, religious text, and place of worship) when faced with serious life events. Positive religious coping was positively associated with emotional well-being and negatively with symptoms of depression and anxiety. Negative religious coping (questioning God's power, feeling dissatisfaction with clergy or congregation, and seeing stressors as God's way of punishing an individual's sin) was positively associated with symptoms of depression and anxiety and negatively associated with emotional well-being (Pargament, 2002; Arabe, 2014).

Stigma and Perceptions of Depression and Religion

Alonso, Buron, Bruffaerts, He, PosadaVilla, Lepine et al., (2008) analyzed stigma surrounding mental health illness in 16 countries, revealing that developed countries had less stigma surrounding mental illness than developing countries. In addition, Ndetei and colleagues (2015) found that African nationals have had stigma rates when it came to depression. In countries like Kenya, mental illness is widely misunderstood and stigmatized (Users and Survivors of Psychiatry-Kenya [USPKENYA], 2012). Consequently, these high rates of stigma influence those with mental illness to be more secretive about their mental illness, and unwilling to disclose about mental illness, which creates barriers to seeking treatment (Ndetei et al., 2015).

Culture plays a part in the stigma that surrounds depression around the world (Ndetei et al., 2015). Culture is defined as the "belief systems and value orientations that influence customs, norms, practices, and social institutions, including psychological processes, or organization" of a group of people (American Psychological Association (APA, 2002, p. 8). The APA (2002) further describes culture as the embodiment of a

worldview through learned and transmitted beliefs, values, and practices, including religious and spiritual traditions.

According to Putman, Lea, & Eriksson (2011) religion has a strong influence in many collectivistic cultures, such as Kenya. Religious traditions play an important part in the culture for nearly 90% of Kenyans (Pew Research Center, 2015). Approximately 70% of Kenyans are Christian, while 11.9% are Muslim, and 1.7% are of indigenous religions. Approximately 2.4% of Kenyans do not have any religious affiliations (CIA, 2016). In Kenya, whether through religion or through culture, most Kenyan people believe that "mental illnesses are not diseases but equated to possession of evil spirits, witchcraft, or curse" (Kingua & Njagi, 2013, p. 14).

Relationship between Religiosity and Depression

The relationship between religion and depression has been debated and remains controversial (Park et al., 2012). According to Leurent and colleagues (2013), the relationship between religion and depression is complex. In addition, Park and colleagues stated that, "the most plausible explanation of these mixed results is that the relationship between religion and mental health is not robust and is sensitive to the definitions adopted, the measures employed, and the samples studied" (Park et al., 2012, para. 5). This complexity or sensitivity may be why there are conflicting ideas on whether the relationship between religion and depression leads to positive outcomes (Gupta et al., 2011; Miller et al., 2012) or negative outcomes (Luerent et al., 2013; Park et al., 2012).

Positive Findings in the Relationship between Religiosity and Depression

Gupta, and colleagues (2011), found a negative correlation between depression and the level of religiosity among their sampled population. The study researched 30 depressed patients who had low religiosity and 30 patients who had high religiosity. Results from the study indicated that there was a significant effect on the psychopathology of depressed patients, particularly on feeling hopelessness and suicidal intent. Religion has a buffering effect, which reduced the impact of life stress on psychological well-being (Wills & Isasi, 2007). Gupta and colleagues (2011, para. 24) concluded "that the incorporation of religious elements in the treatment of the depressed is likely to have a useful positive impact".

Miller and colleagues (2012) followed 114 adult subjects who were children of depressed and nondepressed parents in a longitudinal study. The longitudinal study included 10 to 20 years of follow up assessments. Results indicated that offspring who reported at year ten that religion was highly important to them had one-fourth the risk of experiencing major depression between the 10th and 20th year compared to other offspring. Miller and colleagues (2012) suggested that a high level of perceived importance of religion may have a protective effect against recurrence of depression.

Negative Findings in the Relationship between Religiosity and Depression

Leurent and colleagues (2013), collected data in a prospective cohort study on adult general practice attendees across seven countries (U.K, Spain, Slovenia, Estonia, Netherlands, Portugal, and Chile). There were 8318 attending participants were followed at 6 and 12 months. Results indicated that people who held a religious or spiritual

understanding of life had a higher incidence of depression than those who did not. Though that was the case, some of the results indicated a different outcome in countries like the UK, but "regardless of country the stronger the spiritual or religious belief at baseline the, the higher the risk of onset of depression" (Luerent et al., 2013, p. 2117).

Park and colleagues (2012), conducted a nationwide study to compare the rates of three psychiatric disorders in South Korea, where major depression was one of the disorders, according to religious affiliation or spiritual values in South Korea. Six thousand, two hundred and seventy five people were interviewed using a Korean version of Composite International Diagnostic Interview. Results indicated that Catholics had higher lifetime odds of having a single incident of depression than Protestants, and Buddhists. Results also indicated that holding strong spiritual values among the Protestants, Buddhists, and Catholics, was positively associated with increased rates of current depressive disorder (Park et al., 2012). The findings pointed toward a positive correlation between religiosity and depression, Park and colleagues (2012, para. 4), suggested that, "the associations between religion, spiritual values, and mental health have not been fully elucidated and warrant further exploration".

Summary

Immigrants face many challenges in their home countries that motivate them or force them to leave their home land. Though they escaped those hardships, they face other stressors as they move and settle in a new country (Wong & Miles, 2014; Rousseau et al., 2001). These stressors place immigrants at a higher risk for mental disorders such as depression (Cook et al., 2009). During times of stress, immigrants who place a high

value on religion may turn to religion to seek spiritual support, community support, and to utilize religion to cope with the stress related to being an immigrant (Putman, Lea, & Eriksson, 2011). Religion has a strong influence in many collectivistic cultures, such as in Kenya (Putman, Lea, & Eriksson, 2011) and in Somalia (Areba, 2014). Areba (2014) examined the association of 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

However, there remain conflicting ideas on the relationship between religiosity and depression. Studies like those done by Miller and colleagues (2012), as well as Gupta, Avasthi, & Kumar (2011) indicate positive outcomes in relationship between religiosity and depression. Recently studies by Leurent and colleagues (2013), as well as Park and colleagues (2012), indicate negative outcomes in the relationship between religiosity and depression. It is therefore important that research is done to assess the relationship between religiosity and depression.

Chapter III: Research Methodology

Introduction

The purpose of this study was to assess whether there is a relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area, in Minnesota. The research design and methodology helped answer the following questions:

1. *What is the self-reported level of religiosity among sampled Kenyans?*
2. *What is the self-reported level of depression among sampled Kenyans?*
3. *What is the correlation between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans?*

Subject Selection

The sample consisted of individuals who were members and visitors at Destiny Faith Ministries in Brooklyn Center and United Seventh-Day Adventist Church in the Twin Cities Metro Area. These churches were chosen because a majority of their members are Kenyans. Church attendees volunteered to participate in the study. The sampled population included adults age 18 and older who were born in Kenya or those who are descendants of parents born in Kenya. The study aimed to recruit fifty participants, and exceeded the goal by 18. Surveys were filled out, but 5 surveys were excluded from the study due to missing data, leaving a total of 63 participants. To assure that an adequate number of participants was recruited, the researcher kept track of the

numbers of surveys filled out, and if needed additional churches or events were to be visited to recruit more participants.

Instrumentation

This study used non-experimental, quantitative research methods to gather data pertaining to self-reported levels of religiosity, and the self-reported symptoms of depression among sampled Kenyans in the Twin Cities Metro Area.

A survey instrument was used. The survey instrument used for the study (see Appendix A) included an 11-item Likert scale on religiosity. This section, items 1-2 were developed by the researcher, while survey items 3-11 were developed by Flugum (1995) (see Appendix B). The survey included a second section on the self-reported level of depression (see Appendix A), with a patient health questionnaire-9 (PHQ-9) consisting of a 10-itemed Likert scale developed by Spitzer, Williams, Kroenke, and colleagues (n.d) (see Appendix C). The researcher developed items 14-15 of the survey. According to Pfizer Inc. the legal copyright holder, "no permission is needed to reproduce, translate, display or distribute the PHQ-9 (Spitzer, Williams, & Kroenke, n.d).

The survey consisted of four sections that assessed religiosity, depression measured by the PHQ-9, demographics, and comment section. The survey was anonymous, therefore participants were instructed not to write their names. Participants also received consent form. The consent form clearly stated that turning in a completed survey implied consent to participate in the research.

Religiosity Measurement: In this section of the survey, data were collected on religiosity. For the purpose of the study this term religiosity was defined as, "the strength, participation, and commitment an individual has to religious beliefs"

(Flugum, 1995, p. 34). For the purpose of this thesis's study the religiosity scale used by Flugum (1995) was refined and used to collect data on the self-reported level of sampled Kenyans in the Twin Cities Metro Area (see Appendix A & B). The questions in Flugum (1995) religiosity scale were based on questions used in past studies. The questions used in items 1-2 were developed by the researcher, while survey items 3-11 were developed by Flugum (1995).

Participants were asked whether they identified with any religion. The participants could choose whether they were Agnostic, Atheist, Buddhist/Taoist, Christian/Catholic, Christian/LDS, Christian/Protestant, Christian/Other, Hindu , Jewish, Muslim/Islam, or Spiritual but not religious. Participants could write in a religion not listed.

Participants were then asked about their attendance to religious activities, services, and events, the frequency of their observation of religious practices (prayer, meditation, etc.), and their voluntary exposure to religious material (books, music, etc) (Flugum, 1995). Participants' response options were never, less than once a month, once a month, a few times a month or several times a week.

Participants were then asked how important their religious beliefs were while growing up, during the last few years, and how important they are at the present time. The options participants could pick from were strongly disagree, disagree, neutral, agree, or strongly agree. Lastly, participants were asked how strong their religious beliefs were, how committed they were to their religious beliefs, and whether their religious beliefs help them through their daily life. Likewise, the options were either strongly disagree, disagree, neutral, agree, or strongly agree (Never and Strongly disagree =1, Less than

once a month and Disagree =2, Once a month and Neutral =3, A few times a month and Agree =4, Several times a week and Strongly agree= 5).

Patient Health Questionnaire-9 (PHQ-9): In the second section of the survey data were collected on the self-reported level of depression as measured by the Patient Health Questionnaire-9 (PHQ-9) instrument, which was designed to measure specific symptoms of depression. The PHQ-9 is a diagnostic tool for mental health disorders. It is a shorter version of the Patient Health Questionnaire (PHQ) a self-reported version of the PRME-MD diagnostic tool for common mental disorders. The PHQ-9 is a 9 item instrument used by health care professionals that is quick and easy for patients to complete. It was developed by Spitzer, Williams, Kroenke, and colleagues (n.d).

According to Pfizer Inc. the legal copyright holder, "no permission is needed to reproduce, translate, display or distribute the PHQ-9 (Spitzer, Williams, & Kroenke, n.d). In 2001, Kroenke, Spitzer, and Williams examined the validity of the PHQ-9 the new and shorter version of the PHQ. Results indicated that the PHQ-9 is a reliable and valid measure of depression severity. Due to this, its shortness, and that it makes a criteria-based diagnoses of depressive disorders, the PHQ-9 is a useful clinical and research tool to assess depressive disorders (Kroenke, Spitzer, and Williams, 2001).

In the research done for this thesis the PHQ-9 was used as a tool to assess the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area (see Appendix C). The researcher developed items 14-15 of this section.

Using the PHQ-9 item 12 and 13, participants were asked to indicate how often they had experienced symptoms of depression over the last two weeks. The options participants could pick were not at all, several days, more than half the days, or nearly

every day. The last question on the PHQ-9 (item 13) asked participants if they checked off any problems/symptoms, how difficult these problems/symptoms made it for them to do their work, take care of things at home, or get along with other people. Participants could pick from not at all difficult, somewhat difficult, very difficult, or extremely difficult (Spitzer, Williams, & Kroenke, n.d). The PHQ-9 scale scores ranged from 0 to 27 (1-4= minimal depression, 5-9= mild depression, 10-14= moderate to depression, 15-19= moderately severe depression, and 20-27= severe depression) (Pfizer Inc, 1991).

Items 14 and 15 asked the participants whether their community had resources to help those who experience depression, and to list any resources that they knew were available for those who experience depression. The options were whether they strongly disagree, disagree, neutral, agree, or strongly agree, and a blank space to list any known resources.

Demographics: This was the last section of the survey. Participants provided information on their gender, age, country of birth, the city they live in, and their highest level of education.

Comment Section: This comment section was added so that participants could leave comments.

Procedures

Testing Procedures: The researcher asked permission from Destiny Faith Ministries in Brooklyn Center and United Seventh-Day Adventist Church, to recruit participants for the study. The researcher was given an opportunity to make an announcement to introduce the survey and to explain qualifications for participation in the study. Participants needed to be adults 18 and over, were born in Kenya or

descendants of parents born in Kenya. The consent form and the survey were then administered to volunteer participants during tea time, which took place at the end of the church service. The researcher read the consent form and the survey instructions. Participants were informed that they could withdraw from the study at any time without penalty. Participants could keep a copy of the consent form for their records. The survey took about five minutes to complete. The researcher left the room and had two envelopes on a table next to the exit doors where participants could return their completed survey as they left the room. Participants could return their survey in any of the envelopes. The researcher then left the room while participants completed the survey, and retuned 20 minutes after to retrieve the envelopes.

Data Analysis

Data were entered into an SPSS spreadsheet for analysis. Scales were computed for religiosity, using the Likert numbers as scored, and for the PHQ-9, using the established scoring model. Standard deviations, means, and frequencies were conducted in order to analyze the data. A Pearson r correlation was conducted to assess whether there is a relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area, of Minnesota.

CH IV: Results of the Study

The purpose of this study was to assess whether there is a relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area, in Minnesota. A 25-item survey instrument was developed including an 11-item Likert scale on religiosity, a 10-itemed Patient Health Questionnaire-9 (PHQ-9), a demographics section (item 16-22), and a comment section. This chapter reports findings gathered from the study by answering each research question.

Descriptive Results

Demographic Results: Table 1 represents basic descriptive statistics from the quantitative analysis of data. The sample consisted of 63 Kenyan adults, 51.6% (*n*=32) males, and 48.4% (*n*=30) females. One hundred percent of the participants were born in Kenya, 98.3% were descendants of parents born in Kenya, and 96.8% (*n*=60) were non-refugees. The age range of 28 to 38 was the largest, with 36.1% (*n*=22) participants, followed by the age range between 18 and 27, with 29.5% (*n*=18) participants. Religious affiliation was greatly dominated by Seventh-Day Adventist, with 62.9% (*n*=39) participants. A majority of the participants (75.9%, *n*=44) declared their highest level of education, as college education.

Community Resources: In the PHQ-9 section of the survey participants were asked whether their community has resources to help those experiencing depression. One third of the participants agreed (*n*=20) or strongly agreed (*n*=9) that community resources

were available, while 25.4% (*n*=16) were neutral, and 17.5 % (*n*=11) disagreed, and 11.1 (*n*=7) strongly disagreed. When participants were asked to list any known resources, 58.7% (*n*=37) did not know any resources or list any resources, 22.2% (*n*=14) listed clinical resources, and 14.3% (*n*=9) listed religious affiliated resources.

Table 1

Demographics of Participants (n= 63)

Variable		*n*	%
Gender:			
	Male	32	51.6
	Female	30	48.4
Age:			
	18-27	18	29.5
	28-38	22	36.1
	39-49	13	21.3
	50-60	6	9.8
	61-71	2	3.3
County of Birth:			
	Born in Kenya	62	100
	Other	0	0
Descendant of Parents Born in Kenya:			
	Parents born in Kenya	59	98.3
	Other	1	1.7

(Table continues)

Table 1

Demographics of Participants (n = 63)

Refugee			
	Refugee	2	3.2
	Not a refugee	60	96.8
Highest Level of Education:			
	High School	11	19.0
	College	44	75.9
	Post-Graduate	3	5.2
Religion			
	Christian/Seventh-Day Adventist	39	62.9
	Christian/Protestant	18	29.0
	Christian/Catholic	3	4.8
	Christian/LDS	2	3.2
	Jewish	0	0
	Muslim/Islam	0	0
	Buddhist/Taoist	0	0
	Agnostic	0	0
	Atheist	0	0
	Other	0	0

Comment Section Results

A majority of participants did not write any comments in the comment section. Only 6 participants left comments. One participant wrote a comment which read, "counseling (taboo in the Kenyan community)". Another participant wrote, "Christianity is good and makes one's perception of life change, listening and hearing the word of God is very important". Another participant wrote that, "through religion depression can be experienced. Thank God I have had satisfaction due to a fulfilled prayer life". Lastly a participant asked a question regarding item 14 in the PHQ-9 section. The participant wondered whether the statement, "our community" meant the African community or the Minneapolis community. This indicated that perhaps the way item 14 was phrased may have been somewhat confusing.

Findings by Research Question

Question 1: What is the self-reported level of religiosity among sampled Kenyans?

Using SPSS and the Likert numbers as scored on the survey (Never and Strongly disagree =1, Less than once a month and Disagree =2, Once a month and Neutral =3, A few times a month and Agree =4, Several times a week and Strongly agree= 5) a scale on religiosity was computed. The religiosity scale scores range was nine to 46. Of the 63 participants who responded to item 1 to 11 of the religiosity section the mean was 42.73, with a standard deviation of 4.76 (see Table 2).

In this study 98.4% (*n*=60) participants identified themselves with a specific religion, and 90.4% (*n*=57) scored 40 and above on the religiosity scale. A majority of

participants (*n*=42) attended religious services, activities, and events several times a week (see Appendix D). Almost all participants reported that they observed religious practices several times a week (*n*=60). Eighty one percent of participants (*n*=51) indicated that they read books or materials, and/or listened to religious music several times a week.

Most participants (*n*=47) strongly agreed that while growing up their religious beliefs were very important to them. Over half of the participants strongly agreed that during the last few years they have become more religious (*n*=40), and 76.2% (*n*=48) strongly agreed that their religious beliefs were currently very important to them. Furthermore, a majority said that their religious beliefs are strong (*n*=42), and that they are committed to the personal religious beliefs that they have chosen (*n*=41). Seventy three percent of participants strongly agreed that their religious beliefs helped them through their daily lives 73% (*n*=46), as well as 22.2% (*n*=14) who indicated that they also agreed.

Question 2: What is the self-reported level of depression among sampled Kenyans?

Participants were asked to complete a 10-item Likert scale (see Appendix C) Patient Health Questionnaire-9 (PHQ-9) developed by Spitzer, Williams, Kroenke, and colleagues (n.d) (see Appendix C). Using SPSS and the established scoring model (Not at all =0, Several days =1, More than half the days =2, Nearly every day =3) of the PHQ-9 a scale was computed. The PHQ-9 scale scores ranged from 0 to 27 (1-4= minimal depression, 5-9= mild depression, 10-14= moderate to depression, 15-19= moderately severe depression, and 20-27= severe depression) (Pfizer Inc, 1991). In this section the mean score was 4.25, with a standard deviation of 5.22 (see Table 2)

The majority of participants 66.8% (*n*=42) indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9 questionnaire. Based on the PHQ-9 scoring criteria scores indicated that 31.7% (*n*=20) participants reported minimal depression, 17.5% (*n*=11) reported mild depression, 12.8 (*n*=8) reported moderate depression, 3.2% (*n*=2) reported moderately severe depression, and 1.6% (n=1) reported severe depression. Forty four percent (n=18) indicated that the symptom(s) make it somewhat difficult for them to get work done, take care of things at home, or get along with other people, while 51.2% (*n*=21) indicated that it was not at all difficult for them to do those things.

Table 2

Mean and Standard Deviations of Scales

Scale	*n*	Mean	Standard Deviations
Religiosity	63	42.73	4.76
PHQ-9	63	4.25	5.21

Question 3: What is the correlation between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans?

A Pearson *r* correlation of the religiosity and PHQ-9 scales was conducted. No significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans (r=-.192, n=63, p>.05) (see Table 3).

Table 3

Pearson *r* Correlation

	Patient Health Questionnaire-9 (PHQ-9)		
Scale	*n*	Correlation Coefficient	p value
Religiosity	63	-.192	.131

Discussion

In this study results indicated that 90.4% (*n*=57) of participants scored 40 and above on the religiosity scale and a majority of participants indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. No significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans. This outcome may have been due to the high levels of religiosity (mean 42.73) and the low levels of depression (mean 4.25) that were reported. Results indicated that sampled Kenyans had low levels of major depression (1.6%, *n*=1) compared to the national average in the United States which affects about 6.7% adults aged 18 and older (Center for Behavioral Health Statistics and Quality, 2016).

Compared to the results discussed in the review of literature, results found in this study were not surprising. They added to the complexity of the relationship between religion and depression, as stated by Leurent et al (2013). This study found no significant collation between religiosity and depression, and therefore as Park et al (2012) stated, the relationship between religion and depression remains controversial and debatable (Park et al., 2012).

Summary

SPSS was used to analyze data collected for this study. The researcher used SPSS to conduct standard deviations, means, frequencies, and a Pearson *r* correlation in order to obtain the results of the study. Results indicated that 90.4% (*n*=57) participants scored 40 and above on the religiosity scale and 66.8% (*n*=42) participants indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. No significant correlation was found between the self-reported level of religiosity and self-reported level of depression among sampled Kenyans. Which adds to the complexity of the relationship between religion and depression.

Chapter V. Summary, Conclusions, and Recommendations

A large number of people worldwide experience depression in their lives (WHO, 2016). Immigrants often face stressors that put them at increased risk of depression (Cook, et al., 2009; Wong & Miles, 2014). Immigrants like the Kenyan population, who place a high value on religion (Pew Research Center, 2015), may turn to religion to seek spiritual support, community support, and to cope with the stress related to being an immigrant (Putman, Lea, & Eriksson, 2011). In this study, no significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area.

Summary

In this study, the self-reported level of religiosity and the self-reported level of depression were studied. Demographic information was collected to better understand the sampled population. A comment section was included for participants to leave any comments they wanted to share with the researcher.

Members and visitors of Destiny Faith Ministries and United Seventh-Day Adventist Church were surveyed. Participants who participated in the study were volunteers and were presented with a consent form informing them of the qualifications to participate in the study. Participants did not need to sign a consent form and all participants remained anonymous.

The researcher used SPSS to calculate the statistics of this study. Pearson r correlation, standard deviations, means, and frequencies were conducted in order to

analyze the data. Results indicated that 90.4% (*n*=57) participants scored 40 and above on the religiosity scale and a majority of participants 66.8% (*n*=42) indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. No significant correlation was found between the self-reported level of religiosity and self-reported level of depression among sampled Kenyans.

Conclusion

In this study, no significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area.

About ninety eight percent (*n*=60) of participants identified themselves with a specific religion, 90.4% (*n*=57) scored 40 and above on the religiosity scale, which indicated strong religiosity. The majority of participants 66.8% (*n*=42) indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. Based on the PHQ-9 scoring criteria, 31.7% (*n*=20) reported levels of minimal depression, 17.5% (*n*=11) reported levels of mild depression, 12.8 (*n*=8) reported levels of moderate depression, 3.2% (*n*=2) reported levels of moderately severe depression, and 1.6% (*n*=1) reported levels of severe depression.

As addressed in chapter 1, religious attendance and participation were equated with religiosity which was a limitation to the study. The researcher was not surprised by how high most participants scored on the religiosity scale. These findings may have been influenced by the fact that data were collected in religious settings (church), where participants had just participated in religious activities. The researcher wondered whether

if data were collected at a different time and in a different location would the results of the reported level of religiosity and depression vary or remain the same.

The researcher was also surprised that 66.8% (*n*=42) participants indicated that they had been bothered for several days by at least one symptom of depression on the PHQ-9. In countries like Kenya, mental illness is widely misunderstood and stigmatized (Users and Survivors of Psychiatry-Kenya, 2012). This leads to sensitivity and unwillingness to disclose about mental illness (Ndetei et al., 2015). Based on the sensitive nature of the study and stigma that surrounds mental illness in African nationals (Ndetei et al., 2015), it was surprising that participants (*n*=63) volunteered to participate in the study. There were only five surveys that could not be included in the study due to missing information on the PHQ-9.

Another limitation to this study was that the sample was non-random, and recruited in two Christian churches. Data collected were based on participants' self-reported information. The accuracy in the information reported may have been influenced by these procedures. The sample population was asked to report on sensitive topics, such as their religious beliefs and symptoms of depression. Participants may have exhibited social desirability and responded to questions in the survey in ways that made them seem more favorable or appealing. Transference might have also been a limiting factor and participants may have answered questions according to what they thought the researcher wanted to hear.

Recommendations for Future Researchers

This study recruited (*n*=63) participants from two churches. The researcher recommends that future recruitment of participants takes place in diverse settings, with greater participant recruitment possibilities.

The researcher recommends the use of a scale that assesses both religiosity and spirituality in order to have an instrument that measures two different aspects that play a part in religion. Which may help overcome the limitation where religious attendance and participation are equated to religiosity. It is also important to keep in mind that research on religiosity and depression touches topics that are of a sensitive nature. There may be stigma around the topic of depression and social desirability around the topic of both religion and depression. Therefore the researcher recommends that future research takes into account these issues as limitations in future studies.

Recommendations to Health Education Specialist

A great number of people worldwide experience depression in their lives (WHO, 2016). Immigrants often face stressors that put them at increased risk of depression (Cook, et al., 2009; Wong & Miles, 2014). Immigrants like the Kenyan population, who place a high value on religion (Pew Research Center, 2015), may turn to religion to seek spiritual support, community support, and to cope with the stress related to being an immigrant (Putman, Lea, & Eriksson, 2011). The results in this study indicated that no significant correlation was found between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area.

Based on the results of this study, past research, and the controversial results of the relationship between religion and depression, the researcher recommends that more

research is done on this topic. It is important to focus on immigrant populations, especially small underrepresented immigrant populations, as we learn more about effects and stresses of migration and settlement in foreign countries.

Religious attendance and participation were equated with religiosity, which was a limitation to the study. This scare was used because the researcher needed a scale that focused merely on religiosity, which proved to be a difficult task. Most scales that assessed religiosity, inter mixed both religiosity and spirituality. Which both play a role in religion but they play two different roles. As more research is done on this topic there is a need for a religiosity scale that focuses mainly on the self-reported levels of religiosity.

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APPENDIX A

Religion and Depression: Survey Study

Dear Participants,

This survey is for a research being conducted by a graduate student at the Minnesota State University, Mankato. This survey will be used to gather data, which will then be used as part of a thesis. All information gathered on this survey is confidential, private, and anonymous. *Please do not write your name. Please answer the following questions to the best of your knowledge. You have the right to withdraw or refuse to participate in the study at any time. If you choose not to participate, just keep or throw away this survey.*
Thank you for participating.

Section 1: Religiosity

1. Do you identify with any religion? **YES** **NO**
2. If YES- Which of the category best describes you religious affiliation?

   Please, only check one box

Agnostic	Atheist	Buddhist/Taoist	Christian/Catholic	Christian/Protestant	Christian/LDS
Hindu	Jewish	Muslim/Islam	Spiritual but not religious	Christian/Seventh-Day Adventist	Other _____.

3. How often do you attend religious services, activities, and events?

   1) Never 2) Less than once a month 3) Once a month

   4) A few times a month 5) Several times a week

4. How often do you observe religious practices (such as prayer, meditation, etc.)?

   1) Never 2) Less than once a month 3) Once a month

   4) A few times a month 5) Several times a week

5. How often do you read books or other materials, and/or listen to music concerning my religious beliefs?

   1) Never 2) Less than once a month 3) Once a month

   4) A few times a month 5) Several times a week

Please read the statements below and indicate to what extent you agree with each statement.

6. While growing up, my religious beliefs were very important to me.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

7. During the last few years, I have become more religious.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

8. Currently, my religious beliefs are very important to me.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

9. I would say that my religious beliefs are strong.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

10. I am committed to my personal religious beliefs I have chosen.

    1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

11. My religious beliefs help me through my daily life.

    1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

Item 3-11 Developed by Flugum, K. L. (1995).

Section 2: Patient Health Questionnaire-9 (PHQ-9)

12. Please answer the following questions to the best of your ability. Please only check one box.

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✓" to indicate your answer)*	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3
Trouble falling or staying asleep, or sleeping too much	0	1	2	3
Feeling tired or having little energy	0	1	2	3
Poor appetite or overeating	0	1	2	3
Feeling bad about yourself	0	1	2	3

Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

13. **If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?**

Not at all Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
❑	❑	❑	❑

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc.
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14. Our community has resources to help those who are experiencing depression?

    1) Strongly disagree 2) disagree 3) Neutral 4) Agree 5) Strongly agree

15. List any resources that you know are available for those who are experiencing depression:

    _____

Section 3: Demographics

16. Gender: Male Female Other_____.

17. Age: 18-27 50-60 83-93
    28-38 61-71 94-104
    39-49 72-82 105+

18. Were you born in Kenya? **YES** **NO**

19. Are you a descendant of parents born in Kenya? **YES** **NO**

20. Are you a refugee? **YES** **NO**

21. In which city do you live? _____.

22. Your highest level of education? _____.

Comment Section:

APPENDIX B

Questionnaire for Religiosity, Gender, and Parental Influence on Sexual Intercourse

Please answer each question by filling in the appropriate space on the computer sheet. Please use a #2 pencil for marking your responses. Note that the responses start with (1), therefore the first column of responses on the answer sheet (0) will not be marked in. While participation in this survey is voluntary, it is hoped that you will complete this questionnaire and contribute to the knowledge of religiosity and parental influence on sexual intercourse of Mankato State University students. When you are finished, please return your answer sheet, survey, pencil, and consent form to the front of the room. Thank you for participating.

I. Religiosity

1. The number of times I attend religious services, activities, and events is:

   1) Never 2) Less than once a month 3) Once a month
   4) A few times a month 5) Several times a week

2. The number of times I observe religious practices (such as prayer, meditation, etc.) is:

   1) Never 2) Less than once a month 3) Once a month
   4) A few times a month 5) Several times a week

3. The number of times I read books or other materials, and/or listen to music concerning my religious beliefs is:

   1) Never 2) Less than once a month 3) Once a month
   4) A few times a month 5) Several times a week

4. My parent(s)' religious beliefs and religious participation is/are strong (The parent who has had the greatest influence on your beliefs.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

5. While growing up, my religious beliefs were very important to me.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

6. During the last few years, I have become more religious.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

7. Currently, my religious beliefs are very important to me.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

8. I would say that my religious beliefs are strong.
   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

9. I am committed to my personal religious beliefs I have chosen.

   1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

10. I would not make changes in my religious practice for my marriage partner.

    1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

11. My religious beliefs help me through my daily life.

    1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

12. When initially making an important decision (such as deciding to engage in sexual intercourse) my religious beliefs are an important factor.

    1) Strongly disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree

APPENDIX C

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING 0 + _____ + _____ + _____

=Total Score: _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

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APPENDIX D

MINNESOTA STATE UNIVERSITY
MANKATO

March 2, 2017

Dear Dawn Larsen:

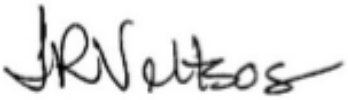
Re: IRB Proposal entitled "[1035937-2] The Relationship Between Religion and Depression Among Sampled Kenyans In The Twin Cities Metro Area"
Review Level: Level *[I]*

Your IRB Proposal has been approved as of March 2, 2017. On behalf of the Minnesota State University, Mankato IRB, we wish you success with your study. Remember that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study. Should any of the participants in your study suffer a research-related injury or other harmful outcome, you are required to report them to the Associate Vice-President of Research and Dean of Graduate Studies immediately.

The approval of your study is for five calendar years from the approval date. When you complete your data collection or should you discontinue your study, you must submit a Closure request (see http://grad.mnsu.edu/irb/continuation.html). All documents related to this research must be stored for a minimum of three years following the date on your Closure request. Please include your IRBNet ID number with any correspondence with the IRB.

Sincerely,

Mary Hadley, Ph.D.
IRB Coordinator



Jennifer Veltsos, Ph.D.
IRB Co-Chair

Julie A. Carlson

Julie Carlson, Ed.D.
IRB Co-Chair

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Minnesota State University, Mankato IRB's records.

APPENDIX E

Consent Letter to Participants in the Research

Dear Participate,

My name is Dorcas Waite, I am a graduate student in the Health Science Department at Minnesota State University, Mankato. My research is titled the relationship between religion and depression among sampled Kenyans in the Twin Cities Metro Area. This research will attempt to assess the relationship between the self-reported level of religiosity and the self-reported level of depression among sampled Kenyans in the Twin Cities Metro Area.

You are invited to participate in this research study which will be supervised by Dr. Dawn Larsen. The goal of this survey is to understand the relationship between religion and depression among sampled Kenyans in the Twin Cities, and you will be asked to answer questions about your religious beliefs and symptoms of depression. All your responses will be confidential and anonymous. None of your answers will be released and no names will be recorded. If you have any questions about the research, please contact me via email at dorcas.waite@mnsu.edu, or Dr. Dawn Larsen at m-dawn.larsen@mnsu.edu.

Participation is voluntary. This survey should take about 3 to 5 minutes to complete. You have the option not to respond to any of the questions. You have the right to stop completing the survey at any time without penalty or loss of benefits. If you choose not to participate, just keep or throw away this survey. Participation or nonparticipation will not impact your relationship with Minnesota State University, Mankato. If you have questions about the treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at 507-389-1242 or barry.ries@mnsu.edu.

There are no direct benefits for participating. Participating in this study will help the researchers better understand the relationship between religion and depression. You have the right to keep a copy of this form for your future reference. The risks you will encounter as a participant in this research are no more than those experienced in your everyday life.

When you have completed the survey, please place the survey in any of the two envelopes on the table by the exit door.

Submitting the completed survey will indicate your informed consent to participate and indicate your assurance that you are at least 18 years of age.

MSU IRBNet ID# 1035937

Date of MSU IRB approval: March 2, 2017

APPENDIX F
Religion and Depression: Survey Study

Dear Participants,

This survey is for a research being conducted by a graduate student at the Minnesota State University, Mankato. This survey will be used to gather data, which will then be used as part of a thesis. All information gathered on this survey is confidential, private, and anonymous. *Please do not write your name. Please answer the following questions to the best of your knowledge. You have the right to withdraw or refuse to participate in the study at any time. If you choose not to participate, just keep or throw away this survey.*
Thank you for participating.

Section 1: Religiosity

1. Do you identify with any religion? **YES** (n=60) **NO** (n=1) Missing (n=2)
2. If YES- Which of the category best describes you religious affiliation?

   Please, only check one box

Agnostic (n=0)	Atheist (n=0)	Buddhist/Taoist (n=0)	Christian/Catholic (n=3)	Christian/Protestant (n=19)	Christian/LDS (n=2)
Hindu (n=0)	Jewish (n=0)	Muslim/Islam (n=0)	Spiritual but not religious (n=0)	Christian/Seventh-Day Adventist (n=39)	Other (n=0)

3. How often do you attend religious services, activities, and events?

   1) Never (n=0) 2) Less than once a month (n=3) 3) Once a month (n=1)

   4) A few times a month (n=17) 5) Several times a week (n=42)

4. How often do you observe religious practices (such as prayer, meditation, etc.)?

   1) Never (n=0) 2) Less than once a month (n=0) 3) Once a month (n=0)

   4) A few times a month (n=3) 5) Several times a week (n=60)

5. How often do you read books or other materials, and/or listen to music concerning my religious beliefs?

   1) Never (n=0) 2) Less than once a month (n=1) 3) Once a month (n=0)

   4) A few times a month (n=11) 5) Several times a week (n=51)

Please read the statements below and indicate to what extent you agree with each statement.

6. While growing up, my religious beliefs were very important to me.

1) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=0)	(n=2)	(n=11)	(n=47)

7. During the last few years, I have become more religious.

1) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=0)	(n=7)	(n=14)	(n=40)

8. Currently, my religious beliefs are very important to me.

1) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=0)	(n=0)	(n=13)	(n=48)

9. I would say that my religious beliefs are strong.

2) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=0)	(n=0)	(n=19)	(n=42)

10. I am committed to my personal religious beliefs I have chosen.

2) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=0)	(n=1)	(n=11)	(n=41)

11. My religious beliefs help me through my daily life.

2) Strongly disagree	2) Disagree	3) Neutral	4) Agree	5) Strongly agree
(n=2)	(n=1)	(n=0)	(n=14)	(n=46)

Item 3-11 Developed by Flugum, K. L. (1995).

Section 2: Patient Health Questionnaire-9 (PHQ-9)

12. Please answer the following questions to the best of your ability. Please only check one box.

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✓" to indicate your answer)*	**Not at all** **%(N)**	**Several Days** **%(N)**	**More than half the days** **%(N)**	**Nearly every day** **%(N)**
Little interest or pleasure in doing things	58.1(n=36)	21.0(n=13)	16.1(n=10)	4.8(n=3)
Feeling down, depressed, or hopeless	66.1(n=41)	19.4(n=12)	9.7(n=6)	4.8(n=3)
Trouble falling or staying asleep, or sleeping too much	67.7(n=42)	19.4(n=12)	9.7(n=6)	3.2(n=2)

Feeling tired or having little energy	57.1(n=36)	30.2(n=19)	11.1(n=7)	1.6(n=1)
Poor appetite or overeating	71.4(n=45)	17.4(n=11)	7.9(n=5)	3.2(n=2)
Feeling bad about yourself	69.4(n=43)	21.0(n=13)	6.5(n=4)	3.2(n=2)
Trouble concentrating on things, such as reading the newspaper or watching television	66.1(n=41)	21.0(n=13)	11.1(n=7)	1.6(n=1)
Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	77.4(n=48)	12.9(n=8)	6.5(n=4)	3.2(n=2)
Thoughts that you would be better off dead or of hurting yourself in some way	88.9(n=56)	3.2(n=2)	4.8(n=3)	3.2(n=2)

13. **If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?**

Not at all Difficult	**Somewhat Difficult**	**Very Difficult**	**Extremely Difficult**
51.2(n=21)	**43.9(n=18)**	**4.9(n=2)**	**0(n=0)**

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14. Our community has resources to help those who are experiencing depression?

1) Strongly disagree	2) disagree	3) Neutral	4) Agree	5) Strongly agree
(n=7)	(n=11)	(n=16)	(n=20)	(n=9)

15. List any resources that you know are available for those who are experiencing depression:

None listed or None known	Religious Resources	Clinical Resources	Internet or Books	Family or Friends
(n=37)	(n=9)	(n=14)	(n=2)	(n=1)

Section 3: Demographics

16. Gender: Male (n=32) Female (n=30) Other (n=0) Missing (n=1)

17. Age: 18-27 (n=18) 50-60 (n=6) 83-93 (n=0)

28-38 (n=22) 61-71 (n=2) 94-104 (n=0)

39-49 (n=13) 72-82 (n=32) 105+ (n=0)

18. Were you born in Kenya? **YES** (n=62) **NO** (n=0) Missing (n=1)

Are you a descendant of parents born in Kenya? **YES** (n=59) **NO** (n=1) Missing (n=2)

Are you a refugee? **YES** (n=2) **NO** (n=60) Missing (n=1)

23. In which city do you live?

Anoka (n=2)	Blaine (n=2)	Brooklyn Center (n=6)	Brooklyn Park (n=13)
Burnsville (n=1)	Champlin (n=4)	Coon Rapids (n=2)	Crystal (n=1)
Fridley (n=1)	Hopkins (n=1)	Lakeville (n=1)	Maple Grove (n=5)
Maplewood (n=1)	Minneapolis (n=6)	Minnetonka (n=1)	Nairobi (n=2)
New Brighton (n=2)	New Hope (n=1)	Plymouth (n=2)	Ramsey (n=2)
Shoreview (n=1)	St. Louis Park (n=1)	Anoka (n=1)	

24. Your highest level of education?

High School	College	Post-Graduate
(n=11)	(n=44)	(n=3)