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Recognition, Classification, and Help-seeking Behavior of Nigerian Immigrants in Minnesota

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Abstract

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MHA, University of Phoenix, 2013

BS, Southeastern Oklahoma State University, 1988

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Immigrants from non-Western cultures are known to underutilize mental health services in the United States. Part of the problem is in the way how cultures recognize and classify symptoms as a mental disorder. A report from the Minnesota Ombudsman's Office for Mental Health showed that out of every 6 suicide-related deaths in Anoka Regional Treatment Center in Minnesota, 4 are of African descent. The purpose of this quantitative study was to investigate the cultural view of depressive symptoms as possible predictors of attitude toward seeking professional psychiatric help. The theory of reasoned action/ theory of planned behavior provided the framework for this study. Cultural perspectives for this purpose included the recognition and the classification of depressive symptoms as a mental disorder. Gender and educational level were investigated as potential confounding factors. Measuring instruments include the type of support used, the concept of mental disorder, gender, and educational level questionnaires. Participants include 246 Nigerian-born immigrants living in Minnesota. Multiple regression analysis showed that recognition and classification of symptoms significantly predicted the attitude toward seeking professional psychiatric help. Gender and educational levels had no significant impact on the attitude toward seeking professional psychiatric help. Understanding the cultural impact on the recognition and classification of a specific symptom as a mental disorder will inform future intervention programs. If a depressive symptom is not associated or identified as a mental disorder, there will be no intention to use professional psychiatric care. With this understanding, this study will inform future intervention programs for an effective change of attitude and improved use of licensed mental health services.

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Dedication

I dedicate this achievement to the loving memory of my late son Fumju, parents MR. & Mrs. Onyeuno and Ekwutozia (nee Oduah), and my ground mother, who could not live to witness this achievement.

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Chapter 1: Introduction to the Study

Background

The United States is a nation that has attracted immigrants from all over the world throughout its history. There are about 42.4 million foreign-born immigrants in the United States, a figure representing 13% of the total population (Center for Immigration Studies [CIS], 2016). Of the 42.4 million foreign-born immigrants in the United States, 1.78 million are from sub-Saharan Africa (CIS, 2017). According to the decennial census' chart published by CIS, after a steady drop from 14.7% (10.3 million) in 1910 to 4.7% (9.6 million) in 1970, immigration has seen a steady rise from that time to 13.5% (43.7 million) in 2016 and is projected to rise to 14.3% (47.9 million) in 2020. As depicted in Table 1, immigration from African countries is part of this trend.

Table 1

Total Immigrants from Sub-Saharan Africa Countries in the United States

Country	1990	2000	2010	2015	2016	Growth 2010-2016	%Growth
Nigeria	55,350	134,940	219,309	323,635	306,874	87,565	40%
Ethiopia	34,805	69,531	173,592	228,745	244,924	71,332	41%
Ghana	20,889	65,572	124,696	155,532	171,428	46,732	37%
Kenya	14,371	41,081	88,519	129,905	129,670	41,151	46%
Somalia	2,437	36,139	82,454	89,153	93,020	10,566	13%
Total	264,775	690,809	1,326,634	1,716,425	1,783,623	456,989	34%

Adapted from Table 2. American Community Survey 1990 to 2016 (ACS, 2017). Public use data.

While CIS presents annual, aggregated census data by nationality at the state level, there is a shortage of annual census data showing subdivisions of immigrants by nationality within the states. As a result, the source of data showing the total number of Nigerian-born immigrants (6994) in Minnesota is from the last nation-wide census collected in 2012-2016 (American Community Survey, 2016). The top countries of origin for immigrants were Mexico (13.9% of immigrants), India (7.2%), Somalia (5.7%), Laos (5.5%), and Ethiopia (4.6%) (American Immigrant Council, 2017).

Table 1

Immigration Trends in Minnesota in Recent Decades

	1990	2000	2010	2016	Growth 2010-2016	%Growth 2010-2016
Minnesota	113,039	260,463	378,483	452,436	73,953	19.5%
% of State Population	2.6%	5.3%	7.1%	8.2%	N/A	N/A

Adapted from Table 4. Immigrant Share by State American Community Survey 1990 to 2016 (ACS, 2017). Public use data.

Four basic principles guide admission of immigrants into the United States: reuniting families, admitting immigrants with skills that are valuable to the United States' economy, protecting refugees, and promoting diversity (AIC, 2016). The diversity visa lottery program, capped at 55,000 applications annually, is designed to encourage immigration from countries with low immigration to the United States (22 Code of Federal Registrar Part 42, § Sec. 42.33 Diversity Immigrants, 1990). Immigration through family reunification is capped at 170,000 applications annually (Immigration Nationality Acts Amendments, Pub. L. 89-236, H.R. 2580, October 3, 1965).

The factors driving African immigration to the United States are multifaceted. While some are escaping wars or pursuing economic opportunities, others are arriving because they have won the United States diversity visa lottery, enacted by the US Congress in 1990, or through family reunification visa, established since 1965 (Nwoye,

2009; Thomas, 2011). The flow of African immigrants into the United States has coincided with the economic downturns of the 1970s, restrictions on migration to Europe, ethnic political conflicts that displaced some number of Africans, and the diversity immigrant visa program (Nwoye, 2009).

The United States has benefited from its cultural diversity, with the immigrant-led households in Minnesota, for example, contributing "$2.2 billion in federal taxes and $1.1 billion in state and local taxes in 2014" (AII C, 2017). People generally immigrate from countries with less economic opportunities to more highly developed industrial nations (Docquier, Ozden, & Peri, 2014; Hailu, Mendoza, Lahman, & Richard, 2012). Immigrants in the United States fall into two categories: the skilled, educated, and young group (engineers and scientists), and the unskilled, uneducated immigrants found mainly in low-paying jobs (Docquier et al., 2014). Uneducated immigrants are the source of unskilled workers for industries in the United States (Docquier et al., 2014).

African immigrants to the United States leave their home countries full of aspirations of a new life, one filled with opportunities for a better life (Nwoye, 2009). Nigerian immigrants come to the United States for various reasons, with the two most significant driving forces being the economy and better education attainment (Iroegbu, 2007; Ogbuagu, 2013). When the reality on the ground contradicts the hopes, and aspirations that once inspired their immigration, sadness, and hopelessness set in (Nwoye, 2007).

It is a widespread practice for Nigerian men, who originally came to study but chose to settle in the United States, to go back to Nigeria to marry a woman, presumably to marry someone who understands them culturally and perhaps speaks the same native Nigerian language. In most instances, on arrival, the husband sponsors the wife's education, notably into the nursing profession (Kalunta-Crumpton, 2013). The woman, after obtaining the education, now makes more money than the husband and assumes the role of a breadwinner of the family. Adjustment to the new culture which accords women power traditionally not experienced in their native land, encourages family role-change (Kalunta-Crumpton, 2013). The role change brings about conflict as the wife becomes the decision maker (Kalunta-Crumpton, 2013). As a result, Nigerian immigrants experience divorce at a rate not seen in their native land. This change in traditional provider role within the family structure results in loss of self-esteem for the male head of household, and this humiliation has, at times led a few Nigerian husbands to murder their wives (Kalunta-Crumpton, 2013). Separation is one of the stress-causing events prevalent in the Nigerian immigrant population (Kalunta-Crumpton, 2013).

The growing immigrant population in the last decade has raised national interest in the mental illness of ethnic minorities. Murder cases involving Nigerian-born immigrant men killing their wives, result from the stress of divorce (Kalunta-Crumpton, 2013). The incidence of this phenomenon has been the reported from many cities around the United States of America. Below are descriptions of occurrences involving Nigerian men and their nurse-wives as narrated by Kalunta-Crumpton (2013).

1. In Virginia, a Nigerian man murdered his Nigerian wife (a Registered Nurse (RN) by stabbing her numerous times while she was preparing to go to work.

2. In Maryland, a Nigerian man stabbed his Nigerian wife (RN) to death with a kitchen knife.

3. In Tennessee, a Nigerian man shot and killed his Nigerian wife (RN) and his mother-in-law.

4. In Texas, a Nigerian man hammered his Nigerian wife (RN) to death while she was asleep.

5. In Texas, a Nigerian man shot his estranged Nigerian wife (RN) several times while she was in the driver's seat of her car.

6. In Oklahoma, a Nigerian woman (RN) was battered to death by her Nigerian husband while she was sleeping.

7. In Minnesota, a Nigerian man shot and killed his estranged Nigerian wife (a nursing assistant) at her workplace parking lot in full view of witnesses.

8. In Texas, a Nigerian man bludgeoned his Nigerian wife (RN) to death with a hammer.

9. In Los Angeles, a Nigerian man murdered his Nigerian wife (RN), tied her dead body to his truck and drove off while dragging the body until parts were dismembered.

Mental help-seeking behavior has been widely studied, and many researchers have attempted to explain and explore the factors that might influence this behavior (Marsella & White, 2012). Help-seeking behavior is interpreted to mean actively reporting and looking for a remedy for a disease or psychological problem (Gulliver, Griffiths, & Christensen, 2010; Rickwood, Deane, Wilson, & Ciarrochi, 2005). Cultures around the world, view and interpret mental disorders differently (Betancourt, Speelman, Onyango, & Bolton, 2009; Ventevogel, Jordans, & de-Jong, 2013). Africans have their cultural view of health, recognition of health disorder, the classification, and method of treatment (Omonzejele, 2008).

Culture is seen in the shared beliefs, values, attitudes, and character of a society or group of people (Bhugra & Mastrogianni, 2004). In most African countries, mental illness has a much narrower definition than applies in Western countries (Jegede, 2005). Culture thus can influence choices made regarding health care and trust in the efficacy of healthcare services (Aguilar-Gaxiola, Kramer, Resendez, & Magaña, 2008). Immigrants from non-Western cultures tend to use less mental health services for depressive symptoms (Qin et al., 2008). Showing an association between cultural perceptions of mental disorder and help-seeking behavior for depressive symptoms can inform future interventions, improve the use of psychotherapy, and bring about social change.

The culture a person identifies with, in most instances, determines the attitude and the type of help-seeking behavior (Saint Arnault, 2009). The cultural view of mental health is, therefore, an influential factor in help-seeking behavior (Ahmed & Bhugra,

2007). Bhugra and Mastrogianni (2004) viewed cultural ideas as central to predicting a population's choice of treatment for illness and disease. Health interventions have consistently failed to meet certain psychological needs of minority groups (Baruth & Manning, 2016). Whaley and Davis (2007), defined cultural intervention as a treatment method that accounts for differences in recognition and classification of health disorder. Studies have shown that ethnic minorities and western countries experience similar incidences of depression, but react to it differently (Griner & Smith, 2006; Roy & Lloyd, 2013).

It is the universalist view and assumption that mental illness exists in all cultures, but the expression and response to symptoms are dependent on culture (Eshun & Gurung, 2009). Understanding the cultural factors that influence a positive response to professional mental health services is a recipe for positive intervention outcomes (Griner & Smith, 2006). This reasoning underpins the purpose of this study. Improving the awareness, recognition, and classification of depressive symptoms could help Nigerian immigrants avert consequences of this disorder.

In this study I seek to investigate the relationship between social recognition and classification of depressive symptoms, and the help-seeking behavior of Nigerian immigrants in Minnesota. Identification and classification of depressive symptoms are attitudes, which could influence the willingness (intention) to do a behavior (use professional mental services) (Omonzejele, 2008). This chapter is structured in sections to guide the discussion of the framework of this study. The sections will address the problem

associated with low utilization of professional psychotherapy by Nigerian immigrants, explore the cultural background, identify the research question, discuss the theoretical framework, the conceptual framework, the limitation of the study, and assumptions. Other sections include the significance of the study, the implications for social change, and the summary.

Problem Statement

Mental Health seeking behavior among the Nigerian immigrant population is a research area that requires more attention. Due to the different cultural perspectives of the Nigerian immigrant population, mental health services are often underutilized, even when a need for these services exists. Depression is a state of negative mood while, the mood is an emotional reaction to life experience (Berzoff & Hayes, 2007; Yusuf & Adeoye, 2011). A depressive disorder is ranked as the fourth leading cause of disease in the world and could rank second by 2020 (Reddy, 2010; World Health Organization [WHO], 2001). Depression leads to substance abuse, a health risk behavior for HIV and other illnesses (Khan et al., 2009). The total cost of depression related illnesses stood at 52.9 billion dollars in the year 2000 (Greenberg et al., 2003).

Minnesota has some mental health services in and around the Twin Cities (Minneapolis and St Paul) including: Hennepin County Mental Health Center, Minnesota Mental Health Clinic, Fairview Southdale Hospital Adult Mental Unit Station 77, Anoka-Metro Regional Treatment Center and others. Some of these mental health centers are public, private, nonprofit, and are accessible to immigrants. African immigrants have low utilization rates of psychiatric services despite the accessibility and proximity of mental

health facilities (Jaeger, 2014). A report from the Minnesota Ombudsman's Office for Mental Health showed that out of every six suicide-related deaths in Anoka Regional Treatment Center, four are of African-descent (Schuchman & McDonald, 2008). There is limited data on the rate of suicide among Nigerian immigrants in Minnesota. Often African immigrant groups are lumped with American-born Blacks as a racial group for health interventions; however, there is a cultural difference between these groups (Schuchman & McDonald, 2008).

A study on African international students showed that reporting a sign of mental illness and willingness to seek help does not reflect the actual behavior. While the researchers found that some African students who reported mental and physical health concerns were open to seeking help, their behavior contradicted this (Chubbet, 2012). There was no relationship between social connectedness, the length of stay in the United States, acculturative stress, and help-seeking attitude and behavior (Chubbet, 2012). The findings suggested a different factor may influence the help-seeking attitude and behavior of the African international student studied. Existing studies of the immigrant use of psychiatric services have focused on stigma, economic status, gender, and acculturation; few or no studies have focused on the recognition and classification of diseases among Nigerian immigrants. Improving the recognition and classification of depressive symptoms could help Nigerian immigrants seek proper and timely care.

Purpose

The purpose of this quantitative study is to investigate how cultural classification and recognition of depression is associated with professional mental health care utilization among the Nigerian immigrant population in Minnesota. The focus of this study is on the relationship between recognition and classification of depression and the propensity to seek help and the type of help. The study will investigate the relationship between recognition and classification of depressive disorder (independent variables) and the help-seeking behavior (dependent variable). The possible confounding variable (gender, age, and socioeconomic status) will be accounted for as they tend to influence behavior. Recognition and classification of depressive symptoms are attitudes which may affect the willingness (intention) to do a behavior (use professional mental services). Help-seeking is an important step that confirms acknowledgment of a problem, and it is crucial to intervention efforts (Berger, Addis, Green, Mackowiak, & Goldberg, 2013).

Research Question/Hypothesis

The research questions will investigate how Nigerian-born immigrants in Minnesota view and classify depression and the impact it has on their help-seeking behavior of mental health services.

Research Question 1: What is the association between the labeling (classification) of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help?

$H_0$1: There is no association between the classification of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

H_a1: There is an association between the classification of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

Research Question 2: What is the association between the recognition of depressive symptoms as a mental disorder and intention to use professional psychiatric help among Nigerian immigrant community in Minnesota?

$H_0$2: There is no relationship between the recognition of depressive symptoms as a mental disorder and intention to use professional psychiatric help among Nigerian immigrant community in Minnesota.

H_a2: There is an association between the recognition of depressive symptoms as a mental disorder and intention to use professional psychiatric help among Nigerian immigrant community in Minnesota.

RQ 3: Is there an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota?

H_0*3*: There is no association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

*H*a3: There is an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

RQ 4: Is there an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota?

$H_0$4: There is no association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

H_a4: There is an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

Associations between independent and dependent variables will be measured using simple multiple regression to explore unadjusted odds ratios. Adjusted odds ratios will then be calculated using multivariate regression to explore the relationship between the independent and dependent variables, adjusting for all potential confounders. Studies have suggested that associated stigma toward mental disorder affects the willingness to seek professional mental help (Clement et al., 2015: Kim, Britt, Klocko, Riviere, & Adler, 2011). The findings in the studies of gender differences in help-seeking behaviors are mixed. Sanchez and Atkinson (1983) found Mexican American women to have a positive attitude toward help-seeking behavior. Gonzalez, Alegria, and Prihoda (2005) found no difference in attitude toward seeking help in U.S. African American, Latino men and

women. The association between these variables and the recognition and classification of depression will be investigated.

Theoretical Framework

The belief system, norms, and lived experiences form a structure of every culture (Creswell, 2013). This structure defines our view of the world, who we are, our thought process, and actions (Creswell, 2013). These ideas are central to the study of human behavior (Creswell, 2013). Theories of human behavior help the understanding of the way things are or how things work (King, 2015). The TRA/TPB models underpin this study and provide the framework to investigate the influence of cultural attitude on behavior. TRA is based on the idea that the willingness to do a behavior (intention) is influenced by three factors: attitude, intention, and subjective norm (Fishbein & Ajzen, 1975, 2010). Ajzen's (1985) TPB expanded the TRA by adding the concept of self-control (volitional control), which accounts for a situation where behavior is not entirely self-controlled. Self-control is a measure of confidence in the ability to overcome challenges.

The focus of this study is on investigating the impact of identification and classification of depressive symptoms on the intention to seek professional help for the disorders. The TRA/TPB, therefore, is the theoretical base underlying this study. Identification and classification are ways of categorizing types of illness or a phenomenon (Henshaw & Freedman-Doan, 2009). The Identification and classification (perception) inform the attitude toward illness. It is important to have a high degree of connectedness between measures of attitude, norms, perceived control, or intention and behavior in the

context of the phenomenon under study (Ajzen & Fishbein, 1980 as cited in Glanz et al., 2015; Fishbein, 2010).

Attitude represents a feeling of behavior. Attitude is determined by beliefs, while subjective norms are set by cultural referents (Montano & Kasprzyk, 2015). The intention is an important determinant of behavior and is directly influenced by behavioral attitude and subjective norms that underlie the behavior (Glanz et al., 2015, p. 96). Subjective norm is the approval of the behavior from the community, family and other referents (Montano & Kasprzyk, 2015). There are two types of subjective norms, the injunctive and descriptive norms. Injunctive norms refer to support of referents, while descriptive norms pertain to others enacting a behavior (Fishbein & Ajzen, 1975, 2010).

Nature of the Study

This study will be conducted using a cross-sectional survey approach. The cross-sectional design affords the opportunity to collect and analyze data to predict the prevalence of professional help-seeking behavior of Nigerian immigrants. In cross-sectional quantitative research methods, independent variables are not manipulated, and data collection is done at a point in time (Frankfort-Nachmias & Nachmias, 2008). In conducting this study, data will be collected one-time using a survey by mail and email.

The sampling frame will consist of Nigerian-born immigrants living in Minnesota and who are ages 18 years and over. A random sample technique will be used to select participants within this population. The random sample selection method ensures an accurate representation of the target population. The larger the sample size, the more

representative of the studied population, and the more the result could be generalized to the broader community (Frankfort-Nachmias & Nachmias, 2008). Random sampling assures that each member of a sampled population has an equal chance of being selected (Frankfort-Nachmias & Nachmias, 2008). This method of sampling gives validity to the study's results (Frankfort-Nachmias & Nachmias, 2008).

The questionnaire will be self-administered survey questions delivered through the mail and email. Mailed survey research allows for the ability to reach a broad sample of the population and provides the researcher a level of anonymity that is free from the bias associated with personal interviews (Frankfort-Nahmias & Nachmias, 2008).

Data analysis will employ both descriptive and multivariable modeling methods. Descriptive and analytical methods will be applied to investigate the mental health help-seeking behavior of Nigerian immigrants in Minnesota. The descriptive analysis will describe the target population and the sample participants. Multivariable modeling will be conducted to analyze the association between the recognition and classification of depression and the intention to seek professional help, adjusting for all other potential moderating variables. A significance value of $p < .05$will be used.

Definitions

Culture: An integrated pattern of behavior which consists of language, thoughts, customs, beliefs, values, and ethnic grouping of a society (Bhugra & Mastrogianni, 2004).

Attitude: a feeling based on the expectation of outcome of an event, the subjective norms, and the perceived behavioral control (Ajzen, 1991). The terms "perception" and "attitude" are used interchangeable in this study.

Cultural referents: Those looked-up to for approval of a behavior (Montano & Kasprzyk, 2015).

Depression: Is a state of negative mood while mood is an emotional state of life experience (Berzoff & Hayes, 2007).

Foreign-born: A cover term for all naturalized citizens or noncitizen permanent residents (Green Card holders) of the United States (Sirin, Patrice, & Taveeshi, 2013). Nigerian-born refers specifically to naturalized citizens or permanent residents that emigrated from Nigeria.

Help-seeking behavior: Is interpreted to mean actively reporting and looking for a remedy for a disease or psychological problem (Rickwood, Deane, Wilson, & Ciarrochi, 2005).

Western versus non-Western cultures: Western, as used in this study, refers to values and practices of majority group of Western Europe or, in the United States, the American majority group. Western European or American majority cultures are said to be individualistic, placing emphasis on individual independence and self-expression, while other non-Western cultures with collectivistic tendencies emphasize obedience, interdependence, and group harmony (Arnett, 2016).

Intention: The willingness to do a behavior (Fishbein & Ajzen, 1975, 2010).

Recognition and classification: Recognition refers to the ability to identify, understand, and describe a phenomenon while classification pertains to labeling and categorizing the phenomenon. "Identification" and "understanding" as attitudinal terms are often used as proxies for the term "recognition." Recognition and classification of depressive symptoms are attitudes developed from cultural knowledge and beliefs about the symptoms which, in turn, influence the willingness (intention) to use professional psychiatric services (Bhugra, 2006).

Subjective norms: are the expected and approved behavior of a group, family and other referents (Montano & Kasprzyk, 2015).

Assumptions

In this study, a fundamental assumption is that attitude is a determinant of action (professional help-seeking behavior) and that the studied population is an accurate representation of the Nigerian-born immigrants in Minnesota. Other assumptions are as follows:

1. Participants represent the real character of Nigerian immigrants in the United States.
2. The sampled population is broad enough to support the validity and reliability of the study.
3. Mental health services are accessible to Nigerian immigrant populations.

4. The number of responses to the survey questionnaire is enough to support the validity of the outcome.
5. The answers will be genuine and honest, and the survey questionnaire will induce responses that capture the accurate and real representation of participant experiences and beliefs.
6. The sampled members cover all demographics, educational levels, and socioeconomic status.

Finally, it is assumed that multivariable modeling will adequately account for intervening or confounding variables.

Scope and Delimitations

In this study I will examine the effect of recognition and classification of depressive symptoms on the decision to seek professional help among Nigerian immigrants. Recognition and classification (perceptions) of depression are influencing factors on the attitude and intention to seek professional help (Prins, Verhaak, Bensing, & Van der Meer, 2008). African immigrants in the United States, including those residing in Minnesota, have low utilization rates of psychiatric services despite the existence of intervention programs and the accessibility and proximity of mental health facilities (Derr, 2016; Falah-Hassani, 2014).

There is limited knowledge of Nigerian immigrant's cultural perspectives on depressive symptoms and the impact on the help-seeking behavior. Mental illness is viewed in the Nigerian culture as a severe disease that is better reserved for family

knowledge for fear of social isolation (Jegede, 2008). Mental disorder carries with it stigmatizing, isolation, and family shame that could act to prevent admittance and help-seeking behavior. The participants' demographics will comprise the ages of 18 years and older adults selected from the Nigerian-born population living in Minnesota.

Limitations

The study will rely on self-reported responses and is therefore dependent on the truthfulness of the answers to the survey questionnaire. The honesty of the replies is limited by the willingness of the participants to cooperate with the investigation. African immigrants are known to guard their privacy, so participants may not be willing to share their health information. The target population may be reluctant to respond to a questionnaire that amounts to revealing personal information. The participants will receive assurance of protection of any private information given. The survey will not require the sample population to provide names.

The questionnaire will be self-administered survey questions delivered through the mail and email. A self-addressed and stamped envelope will be provided to enable the return of a response. Researchers have shown the mail survey response rate to be about 16.2-75%, with an average return of 57.6% (Medway & Fulton, 2012). The mixed mode (mail and email) has a return rate of 15.2 to 73.9 and a medium rate of 53.0 (Medway & Fulton, 2012). Participants may be too busy with personal commitments and forget to send back or complete the survey questionnaire. The delivery of the questionnaires will be scheduled considering respondent's convenience and not during festive periods. A follow-

up reminder will be sent to non-respondents within two weeks of not responding to maximize response rate.

Significance

This study will provide additional insight into the factors associated with the attitude and help-seeking behavior among the foreign-born Nigerian population in Minnesota. The gap in the African immigrant's use of psychiatric services is more pronounced than in any other health services (DHHS, 2001; Pavlish, Noor, & Brandt, 2010). This study will evaluate the influence of cultural conception and classification of depression on the help-seeking behavior of Nigerian immigrants in Minnesota. The key to improving the mental health status of a population lies in understanding the cultural factors influencing the decision to seek professional or nonprofessional help (Ezeobele, Malecha, Landrum, & Symes, 2010). Predicting the cultural factors that affect a positive response to professional mental health services results in positive intervention outcome (Benish, Quintana, & Wampold, 2011; Griner & Smith, 2006). Improving the knowledge of depression, recognition, and classification of the disorder will help Nigerian immigrants to be aware of the consequences of this disorder.

The findings could add to and improve the current approach to diagnosing and caring for Nigerian immigrants' mental health care. Policy makers and health professional could benefit from the results, which could form the framework for future intervention initiatives. Previous research and studies on mental health and help-seeking behavior placed more emphasis on social and resource barriers to using professional mental health services than on the classification and recognition of symptoms (*Anderson,* Vogel, &

Awh, 2013; Pederson & Vogel, 2007). Interventions that lack a cultural component have not produced desired outcomes (American Psychological Association [APA], 2006; Thornicroft, 2008).

Summary

Depression in immigrant communities and the underutilization of mental health services has been documented around the world (Anderson et al., 2013; David & Nadal, 2013; Depression is a disorder that is viewed differently among cultures around the globe. WHO (2010) placed depression among the leading causes of illness around the world and estimated that depression might rank second by the year 2020?

Immigrants are shown to underutilize mental health services. The targeted interventions meant to increase utilization have met with limited success (Oldham, Kellett, Miles, & Sheeran, 2012; Truong, Paradies, & Priest, 2014). Existing interventions have focused on factors such as stigma, economic status, and cultural beliefs, trust, masculinity, and access to mental health facilities to formulate interventions (Anderson et al., 2013; Pederson & Vogel, 2007). Few studies have centered on the perception of depression, particularly on the Nigerian immigrants in Minnesota. African immigrants tend to underutilize professional help, and the orientation has been attributed to stigma, beliefs, masculinity, and access (Anderson et al., 2013; Jaeger, 2014; Pederson & Vogel, 2007).

The relevant past literature is reviewed in Chapter 2 to illustrate the need for this study. Chapter 3 will review the constructs (variables) for the study, which include perception (recognition and classification), beliefs, norms, intention, help-seeking behavior. The methods used to examine these variables is detailed in Chapter 3. The

detail includes sampled population, sampling procedures, the instruments used, threats to validity, and the data analysis plan.

Chapter 2: Review of the Literature

Introduction

The focus of the current research is to investigate the help-seeking behavior of the Nigerian immigrant community in Minnesota. The purpose of the study is to find out if the cultural disposition of Nigerian-immigrants impacts the recognition and classification (labeling) of symptoms of depression and the subsequent help-seeking behavior. The TRA/TPB provided the framework for this study. The constructs: recognition, classification, and the help-seeking behavior were investigated within the theoretical context of TRA/TPB.

Most previous research efforts were directed toward the influence of social and economic status, masculinity (gender), stigma, and access to mental health facilities. There was little focus on the recognition and classification of symptoms (Cooper, 2016; Fox, Eisenberg, McMorris, Pettingell, & Borowsky, 2013; Jack-Ide & Uys, 2013). The organizational outline for this chapter consists of a description of the literature search strategy, followed by sections on the theoretical framework for the research, the literature review of constructs undergirding the study, a summary of the chapter, and considerations setting the stage for the next chapter (Chapter 3).

Literature Search Strategy

The criteria for the source selection was that the keywords fit the theoretical framework. The selected article must also provide pertinent to the topic of the study. The literature search was limited to factors that directly or indirectly impact attitude (perception). Since this study was nonexperimental research, the search focus was on

empirical studies. The scope of the literature review was also limited to research published 2003-2017 with few exceptions of earlier works that serve to define constructs or variables used in this study.

The search for related literature resulted in 500 articles retrieved and reviewed among which 236 were selected and used as sources for the study. The reviewed literature and books were limited to 10 years from the date of the search where possible. The search terms focused on words and phrases to include help-seeking behavior, culture, recognition, attitude, intention, psychotherapy, classification, depression and mental illness. The critical search words include identification, classification, cultural beliefs, help-seeking behavior, and immigrants. The source of reviewed articles was from around the world and primarily the United States. The reviewed literature revealed that little attention is paid to the social recognition and classification of mental disorder in African immigrants, mainly Nigerian immigrants and help-seeking behavior.

Theoretical Framework

The need to find the relationship between attitude and behavior led Fishbein (1975) to develop the TRA. Attitude, norms, and perceived personal control act in combination to inform intention to perform a behavior (Ajzen, 1991). Ajzen's (1991) TPB provides the framework for evaluating the association between recognition/classification of illness and the intent to do a behavior. The TPB expanded the TRA to include behavioral (volitional) control. The TPB adopted the underlying TRA variables and added the construct behavioral control.

The TRA/TPB provides the floor for exploring the relationship between attitude, social norms, perceived control, intention, and behavior. Before Fishbein and Ajzen's (1975) contribution, previous studies had investigated the impact of attitude on behavior and found little or no correspondence (Glanz et al., 2015). Abelson (1972) and Wicker (1969) suggested eliminating attitude as an adequate predictor of behavior. Fishbein and Ajzen (1975) found a problem with prior attempts to predict behavior focusing on attitude, personality, religion, and race. The claims in the previous studies could not be substantiated with statistical support and method (Wicker, 1969). In the review of the past research, Fishbein and Ajzen showed that attitude alone could not accurately predict behavior and that subjective norm plays an important role. The influence of subjective norm suggests that social or referent pressure exacts undue influence as to whether an individual does a behavior or not (Fishbein & Ajzen, 1975). For example, if a person perceived that society with professional mental health service for depressive symptoms was a sign of personal weakness, that individual was less likely to seek professional mental health services even if needed.

Fishbein and Ajzen (1975) suggest that the context of a view is an essential ingredient in predicting behavior. Using the principle of compatibility, Ajzen (2012) showed that attitude toward action is a more efficient predictor of conduct than the attitude toward the object. For example, attitude toward mammography is a more useful predictor of behavior than the attitude toward the object (cancer) (Ajzen & Fishbein, 2005). In the context of this study, therefore, the attitude toward professional psychotherapy presents a more effective predictor of intention to do a behavior than the attitude toward symptoms

of depression. Fishbein and Ajzen (2010) stated the importance of correspondence in the measures of the variable and behavior concerning action, object, context, and time. TRA also suggested that social pressure (subjective norm) influences attitude. For example, if social referents or family members consider seeking professional help for depressive symptoms as an act of weakness, an individual will most likely avert the behavior. The TRA has been proven to be successful in predicting many different types of health-related behaviors such as smoking, substance abuse, use of health service, contraceptive use, and mammography (Glanz et al., 2015).

The TPB is foundational on the following constructs: attitude, subjective norms, and behavior. These variables are delineated in sections and subsections to allow for a detailed discussion and understanding. Attitude is a feeling expressed toward a phenomenon based on beliefs, knowledge, and the expected outcome (Fishbein & Ajzen, 1975, 2010; Montano & Kasprzyk, 2015). Norm is an unwritten and accepted social conduct governing a given society (Banerjee, 2016; Glanz et al., 2015). Subjective norms, both injunctive and descriptive, shape attitudes (perceptions).

Adhering to subjective norms could be a factor in molding a group's view of, and reaction to, a phenomenon. Recognition and classification of health symptom is born out of the cultural view or perception. The cultural view (the norm) shape the recognition and classification of health symptoms which in turn inspire attitude to do a behavior. To make decision to seek help for a health disorder, it must be recognized and classified as a type of disorder before a decision on the type of help. The recognition and classification of

symptoms as a mental disorder determine the attitude toward the use of psychiatrist services. In the context of this study, therefore, the attitude toward use of professional psychotherapy presents a more effective predictor of intention to do the behavior than the attitude toward symptoms of depression

In collectivist cultures, such as those that characterize most non-Western cultures, the behavior is shaped by the pressure to conform to subjective norms (Glanz et al., 2015). In a collectivist culture, norms are valued and conformed to (Lykes & Kemmelmeier, 2014). Subjective norms play a role in a person's decision to do a behavior. Such position is similar in every culture but differs in effectiveness and strength. (Glanz et al., 2015; Shteynberg, Gelfand, & Kim, 2009; Tam, Lee, Kim, Li, & Chao, 2012). For example, in a collectivist society, which characterizes much of the nonwestern society, particularly Nigeria, the subjective norm has a significant impact on decision making compared to the United States. Gerrard, Gibbons, Houlihan, Stock, and Pomery (2008) suggested that attitudes and social norms predict intention and resultant behavior. The social systems among Nigerian ethnic groups have a very close resemblance and are based on collectivism with emphasis on the community rather than self (Ezeobele et al., 2010). Individuals are expected to put family first and maintain a connection with extended family members, which includes ancestral spirits (Montano & Kasprzyk, 2015). This practice shapes the worldview of most Nigerians at home or in the diaspora. This practice is also part of the social norm. Collectivism manifests itself in the way that most Nigerian immigrants in the United States strive to support the less privileged extended family members at home by remitting money to parents for sustenance or the education of

younger siblings (Ezeobele et al., 2010). Decision-making often involves approval of family and community (Ezeobele et al., 2010).

Injunctive norm is the approval of behavior from the community, family and other referents (Montano & Kasprzyk, 2015). The other factor that affects behavior is volitional control; that social behavior is under voluntary control. Voluntary control is the perceived efficacy (ease) of personal action (Fishbein & Ajzen, 1975, 2010).

The assumption that underlies the TPB is that behavior is under voluntary control (Ajzen, 1975). Hershberger (1989) postulated three types of behavior: elicited, emitted, and controlled practices. Of the three, only the controlled behavior is intentional (Hershberger, 1989). TPB model assumes that most behaviors are under volitional control and that the intention to do a behavior is a function of attitude and cultural norms (Ajzen, 1975). Some examples would be going to church, going to a job, brushing one's teeth, and going to class. Each of these actions is not forced or coerced but performed willingly.

The constituent constructs within the TPB model provide the measuring units for analyzing intention to use professional mental health care. The added construct (volitional control) to the TRA strengthens the predictive power of TPB on a behavior. The TPB posits that behavior is reinforced by intention and that behavioral intention is predicted by beliefs, subjective norms, and behavioral control (volitional control) (Fishbein & Ajzen, 2010).

The TRA/TPB's primary focus is on the relationship that exists between attitude and behavior. For example, in a review of literature applying TPB in evaluating the role of

self-identity in predicting intention to do a behavior, the result showed a correlation (Rise, Sheeran, & Hukkelberg, 2010). An average of 40 tests with approximately 11,607 participants revealed a correlation (r =.47). The multiple regression analysis showed self-identification accounted for 6% variance in intention controlling for other variables (Rise et al., 2010). In another study, Dean, Raats, and Shepherd (2012) used the TPB model to evaluate the impact of norms, self-identity, and past behavior on the decision to buy organic tomato sauce. The participants included 118 men and 381 women, ages 15 -65 years, randomly selected and received payments for participation. They found attitudes and subjective norms to be good predictors of behavior. The behavioral control, however, showed an independent predictive power on fresh food. The TPB is also based on an expectancy-value, which is the perceived benefit of doing a behavior (Fishbein & Ajzen, 1975). For example, the perception of a favorable outcome of behavior is most likely to produce a positive attitude toward professional psychiatric help.

Studies have also successfully applied TPB in predicting attitude toward health and help-seeking behavior (Mo & Mak, 2010; ZinatMotlagh et al., 2013). TPB has been proven to be successful in predicting many different types of health-related behaviors. Intention (a product of attitude, subjective norms, and self- control) is an area the theory has been successfully applied to predicting alcohol abuse, use of mammography (Fishbein, 2010; Glanz et al., 2015).

The applicability of the TPB was tested in a study investigating the assumption that men are less likely to seek help for psychological issues. The population studied were

university students in Botswana. The objective of the study was twofold; to test if TPB could be applied to a nonwestern population and to examine factors impacting help-seeking intention of Botswana men (Kgatti & Pheko, 2014). The findings using Multi-regression analysis showed that attitude, social, and self-stigma significantly predicted intention to seek professional psychiatric help (Kgatti & Pheko, 2014). The results also revealed that male student attitude was positively correlated with intention while stigma had a negative correlation with the intention to seek help (Kgatti & Pheko, 2014). The findings also suggested that the TPB could be applied to the nonwestern population (Kgatti & Pheko, 2014).

A study of attitude toward a willingness to seek professional help for depression showed the application of TPB model questions predicted 42% to 51 % of behavior (Schomerus, Matschinger, & Angermeyer, 2002). The findings suggest that attitude is a significant predictor of help-seeking behavior for depressive symptoms. In the study of male aggression among Iranian adolescents, the four constructs of the TPB were tested as predicting factors of aggression. Three variables, subjective norms, attitude, and volitional control predicted 40% of the outcome variance of aggression intentions (ZinatMotlagh et al., 2013). The investigation of the bivariate association between the TPB variables and aggressive behavior reported significant correlation among attitude, subjective norm, intention and aggression (ZinatMotlagh et al., 2013). The application of TPB and successes, however, were limited to variables other than recognition and classification of symptoms and limited to Western, Asian, and Latinos cultures.

Literature Review

Given the dearth of studies specific to the Nigerian immigrant as a group, this segment reviews studies based on other nonwestern cultures with similar collectivistic tendencies (obedience, interdependence, and group harmony) as opposed to Western European or American majority cultures that emphasize individual independence and self-expression (Arnett, 2016). The continuous limited success of interventions aimed at the increased use of mental health services among immigrants in the United States prompted the look at the classification of mental disease as a potential predictor and the missing factor to increase usage.

The literature on the perception of mental disorder suggests that different cultures have different definitions of mental illness. Most of the literature suggests that nonwestern cultures have a different view of mental illness. Western culture explains depression as biological while nonwestern cultures such as most Asian culture see it as an outcome of lost hopes or loved one (Karasz, 2005).

Cultural identity is a predictor of a worldview of a phenomenon, belief, attitude and behavior (Saint Arnault, 2009). These cultural factors (perceived norm, feeling towards behavior and perceived control) determine the intention to do a behavior. Mental illness is a worldwide phenomenon, but the response to its symptoms differs among cultures (Eshun & Gurung, 2009).

Race and Ethnicity have been found to influence the use of psychotherapy (Conner, Kosuke, & Brown, 2009; Gonzalez et al., 2005). For Example, the western

culture explains depression as biological while nonwestern cultures see it as an outcome of lost hopes or loved ones (Benning, 2013; Karasz, 2005). Major depression in the biological term is the dysfunction of the cerebral cortex. (Mayberg, 2006). The area of the brain labeled cerebral cortex is the most substantial part responsible for processing information such as thinking and action. The cortex consists of four lobes each with a specific function (Mayberg, 2006). The prefrontal and other cortical areas of the brain are implicated in depressive and bipolar disorders. They may have reduced activities due to decreased serotonin, norepinephrine, and dopamine levels. The western concept and attribution of depression to psychological disorder are not shared or understood in nonwestern cultures (Benning, 2013).

Cultural norms consist of accepted beliefs and normal rules of conduct (behavior) that govern a way of life for a group of people (Glanz et al., 2015). These include the norms governing the health-seeking behavior for the mental disorder (Rogers-sirin, 2013). Nonwestern cultures are governed by the collective system of living as opposed to the individualistic system fostered in most Western cultures. The collective life scheme is shaped by the pressure to conform to subjective norms (Glanz et al., 2015). In a collectivist culture, norms are valued and conformed to (Lykes & Kemmelmeier, 2014). Subjective norms play a role in a person's decision to do a behavior. Culture is central to the knowledge and beliefs about mental illness (Bhui, Ascoli, & Nuamh, 2012; Lie, Lee-Rey, Gomez, Bereknyei, & Braddock, 2011; IOM, 2002).

The majority of studies on human behavior and psychology assume that findings from one culture apply to all (Henrich, Heine, & Norenzayan, 2010). The literature reviewed showed the recognition and classification of Depression are broadly based on experiences of the Western culture, mainly the United States of America and European countries. The literature also revealed a different perspective of nonwestern culture. However, Africa and Nigerian immigrants, in particular, have been understudied. The differences in perception are apparent in the literature and accounts of the attitude toward mental disorder. The reviewed literature illustrates the different cultural view surrounding depression and the effect it had on the attitude and use of Psychotherapy.

Culture

Cultural belief influences health behavior of immigrant populations (Lynam, Browne, Kirkham, & Anderson, 2007). This section consists of a review of the literature on culture concerning the recognition and classification of depressive disorders as a mental illness and the intent to seek help for treatment. Culture is a shared meaning of a life's phenomenon, cultivated by the environment and lived experiences of a group (Fisher, 2009; Leung & Van deVijver, 2008). Elements of culture include shared beliefs, values, norms, language, symbols, rituals, and material artifacts (Fisher, 2009; Leung & Van deVijver, 2008). Shared beliefs and attitudes emanating from them exert influence on a way of thinking, acting, and living in a group. Values define what is deemed as good, right, or desirable (Fisher, 2009; Leung & Van deVijver, 2008). Language and symbols are crucial to expressing ideas and transmitting the culture (Leung & Van deVijver, 2008). Rituals (ceremonies, celebrations, rites of passage,) are aspects of culture reenacted to

affirming bond, marking transitions, or promoting intergenerational cultural transmission (Fisher, 2009; Leung & Van deVijver, 2008).

Culture permeates every aspect of life and is central to the differences in the behavior and attitude across cultures and subcultures, including consumers of goods and services, nationalities and ethnic groups (Kastanakis & Voyer, 2014). Thus, while elements of cultures are socially constructed and enacted within a group, they also underlie variations seen across cultural groupings, opinions, attitudes, beliefs, values, and behaviors (Mayberg, 2006).

Researchers have studied how cultures around the world view and interpret mental disorders differently (Betancourt et al., 2009; Okello, 2006, Ventevogel et al., 2013). Conner, Koeske, and Brown (2009) report that culture plays a role in forming attitudes toward help-seeking behavior. Montano and Kasprzyk (2015) contend that a held view represents a feeling of action determined by beliefs. Cultural beliefs manifest in our view about issues, responses, and expression of emotion (Eshun & Gurung, 2009).

Mental illness has different cultural meanings, and there are different ways of coping (Liang, Goodman, Tummala-Narra, & Weintraub, 2005). The cultural context is pertinent to the understanding of the influence of culture (ethnic background) on the perception of depression and help-seeking behavior (Liang et al., 2005). The concept of mental illness is shown to have an impact on the intention to use professional psychological help (Jegede, 2005; Ward, Sellers, & Pate, 2005**).**

The cultural understanding of health provides the basis for labeling health status (Fisher, 2009). Cultural beliefs, norms, and lived experiences are factors found to influence the perception of mental disorder (Fisher, 2009). Individuals in each culture inherit the prevalent view or perception of illness, which constrains their interpretation of physical and psychological illness, and so shape the help-seeking behavior (Fisher, 2009).

The bereavement practices serve to illustrate subtle variations across three major ethnic groups of Nigeria immigrants. The Igbo are mostly Christians (Ezenwa & Igwe, 2013). In the Igbo culture, which is one of the ethnic groups in Nigeria, for example, it is a common practice to provide help and comfort to the loved ones who are in grief. (Ezenwa & Igwe, 2013). This practice includes verbally offering words of encouragement and helping with household chores. The bereavement practices within this ethnic group are forms of therapy used to reduce depression among victims who have lost close relatives (Ezenwa & Igwe, 2013). The Igbo use condolence visits, music, dance, cohabitation, and exemption from chores for a given period, and encouraging women and children to cry and wail as therapeutic instruments for bereaved persons' depressive state (Ezenwa & Igwe, 2013).

The Hausa ethnic group, predominantly Islamic, is located in Northern Nigeria (Olasinde, 2012). Like other ethnic groups in Nigeria, the traditional worldview still influences most of the attitude and behavior. Since the Hausa culture is heavily influenced by the Islamic religion, wailing as is not allowed; only limited crying is permitted (Olasinde, 2012).

The Yoruba ethnic group is found in the Western part of Nigeria. They are mostly Christians, but some are known to practice Islam, native religion, or a combination of Christianity and Islam (Williams, 2016). The Yoruba see death as transitioning to an immortal realm (Akinlabi, 2015). They focus on celebrating a life well lived by the passing and may hire a professional crier to do the wailing and praising of deceased for the bereaved (Akinlabi, 2015).

The preceding descriptions show the Igbo encourage the active expression of grief, the Hausa discourage clear expression, while the Yoruba downplay it. These subtle ethnic differences in worldview, acknowledgment, and management of grief, a sad and stressful circumstance that has the potential to cause depression in some, may reflect the attitudes toward help-seeking and coping mechanisms employed by Nigerian-immigrant abroad. For instance, Gureje, Lasikikan, Epheraim-Oluwanuga, Olley, and Kola (2005) studied individuals of Yoruba ethnic extract that meet diagnostic criteria for mood disorder and anxiety and found that as little as 1% of the participants received professional mental health services. The low utilization was blamed on stigma, limited psychiatrist facilities, and the cultural view of the disorder (Gureje et al., 2005). In the study of the Yoruba ethnic group, Jegede (2005) found that the concept of mental illness was different from the Western understanding of mental disorder. In the Yoruba culture, mental illness is labeled and classified as any behavior deviant from the set social norms and beliefs (Jedege, 2005). The idea of health and illness is centered on the lived cultural experience (beliefs, norm, and values) (White, Smith, Terry, Greenslade, & McKimmie, 2009).

Culture and recognition of mental health disorders. Mental health literacy (MHL) consists of a set of knowledge and beliefs about mental health. MHL extends the concept of health literacy which posits that the level of knowledge of mental health affects the attitude to seek appropriate help (Baker, 2006; Pleasant, 2011). MHL can influence the ability to recognize mental disorders and, ultimately the intention to seek psychiatric help (Jorm et al., 1997). Mental health literacy is a concept of western scientific representation of mental health (Jorm, 2012). The representation is not always shared in developing countries (Jorm, 2012). The disagreement is evidenced in the low usage of professional mental health care among immigrants from these countries (Jorm, 2012).

The lack of knowledge about depression and its treatability has been found to contribute to the prevalence of depression (Anderson et al., 2013). Research conducted on Southeastern Asian immigrants have shown low knowledge of mental health literacy as the main factor influencing usage of professional mental services (Collier, Munger, & Moua, 2011; Lee, Lytle, Yang, & Lum, 2010). These studies also found these communities have limited knowledge of what constitutes mental health, how to recognize it, and when to seek professional help (Collier et al., 2011; Lee et al., 2010). The question of whether individuals can recognize symptoms of depression rests on its definition or the shared cultural meanings ascribed to it (Kearney & Trull, 2015). Kearney and Trull (2015) distinguished normal mood changes from depressive and bipolar disorders. Becoming sad once in a while due to the occurrence of an unfortunate event in one's life is a normal part of life. Having a feeling of sadness (emptiness or hopelessness) sustained for two weeks or longer, be it triggered by stress, trauma, or no particular reason, with each episode

occurring at a level so intense that it affects normal daily functioning, constitutes a major depressive disorder. Kearney and Trull further described a continuum of sadness and depression which shows moodiness ranging from normal to mild, moderate, depression-less severe and depression-severe (pp. 180-181). As depicted in Table 3 below, a major depressive episode may manifest itself as the emotional, cognitive, and behavioral levels.

Table 3:

Continuum of Sadness and Depression

Depression	Emotions	Cognitions	Behaviors
Normal	Good mood	plan and organize the day.	ready for the day
Mild	Feeling down.	Concern something will go wrong.	Taking a little longer to rise from bed.
Moderate	Feeling sad.	Dwelling on the negative aspects.	Difficulty concentrating.
Less Severe	emptiness.	pessimism about the future.	withdrawing others.
More Severe	Sense of hopelessness.	Strong intent to harm oneself.	Inability to interact with others

Continuum adapted from Kearney and Trull (2015). *Abnormal psychology and life*, pp 180-181

In non-Western cultures, extreme sadness is not considered a mental disorder. For example, the Kamuli of Papa Guinea embrace expression of emotion (e.g., sadness from loss) and use it to influence, gain support and sympathy (Schieffelin, 1985). On the same note, *Pena,* a depression-like feeling (sadness or suffering), is an expression intended as therapy for a loss by the people of the Highland Ecuador (Miles, 2013; Tousignant & Maldonaldo, 1989). *Pena,* a depression-like disorder prevalent in the Highland Ecuador culture is not identified or classified as a mental disorder by the natives (Rokne, 2014; Tousignant & Maldonaldo, 1989).

Africa cultures tend to take mental illness to mean when an individual exhibits behavior that is outside of accepted social norms (Robertson, 2006). For example, Jegede (2001), suggested that some symptoms in Yoruba culture were associated with mental illness when they involve talking incoherently, laughing out and shouting for no apparent reason. According to Chavunduka (1978), in Zimbabwe, any abnormal behavior and continuous foolish act are considered a mental disorder and attributed to supernatural powers.

Culture and classification of depression. Recognition of symptoms of depression as a disorder and associating the disorder with mental illness is a predictor of the type of help-seeking behavior needed (Wright, Jorm, Harris, & McGorry, 2007). Recognition of mental disorder is an attitude developed from the cultural knowledge and beliefs about the symptoms which act to influence the willingness (intention) to use professional psychiatric

services (Bhugra, 2006). Jorm et al. (1997) showed an association between recognition of mental disorder and cultural beliefs.

The definition of clinical depression, as outlined in the Diagnostic and Statistical Manual DSM-IV is based primarily on the Western concept of depression that incorporates few nonwestern cultural concepts of symptoms of depression (Alarcón, 2009). To improve intervention programs and clinical diagnoses, DSM-V has incorporated cultural consideration in coding symptoms of depression for clinical diagnoses (Alarcón, 2009). However, as DSM-V improves clinical diagnosis, it may not change entrenched cultural perception and its influence in labeling health or mental illness (Carteret, 2011). Depressed individuals tend to live in seclusion, consume alcohol, and often appear agitated (Lehner-Adam & Dudas, 2013). The difference in the classification and recognition of depressive symptoms between Western and non-Western cultures lies in the fact that the two cultures do not share the same beliefs (Carteret, 2011).

The cultural differences in the manifestation of depression are recognized in DSM-IV diagnostic criteria. Culture-specific criteria are provided to guide the clinician on the differences (Canino & Alegría, 2008). A common practice among cross-cultural researchers is to label clinical syndromes based on their cultural experiences (Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009). Critics have observed, however, that the manifestation of symptoms is a universal experience, but their expression and labeling differ by culture (San Tse, 2015). Other critics of the DSM-IV doubt whether Western culture would provide a universal framework for diagnosing mental disorders (Alegria & McGuire, 2003). They point to the cultural differences in lived experiences, worldview,

and expression of symptoms (Alegria & McGuire, 2003). The development of the DSM-V was an attempt to produce universal classification and diagnostic criteria. The problem with the DSM-V is that the data used for the development have limited African studies (Shear et al., 2011).

The label depression has no word equivalent in non-Western culture and as such have no conceptual diagnostic term (Patel, 2001). Due to differences in culture, the universal application of DSM will lead to error in clinical diagnosis of mental illness (Alegria & McGuire, 2003). The error is evidenced in the claim reported by World bank in 2018 of the rate of depression in Nigerians. It was reported that 22% of Nigerians are chronically depressed (World Bank [WB], 2018). According to Patel (2001), most nonwestern cultures have no concept of the word depression, yet they are diagnosed using the Center for Epidemiological Studies Depression scale (CES-D) based on self-reported symptoms. Depression, as diagnosed using CES-D, is not considered a mental disorder in nonwestern cultures so that they will see no need for psychiatric help (Patel, 1996; Patel, Todd, & Winston, 1998). It is therefore, pertinent to investigate the classification of depressive symptoms from Nigerian immigrants' perspectives.

Help-Seeking Behavior

The concept of depression as a mental disorder is not shared in many cultures around the world (Wright et al., 2007). The differences in the perception of mental between Western culture and nonwestern countries lie in the classification of illness

(Wright et al., 2007). Recognition and labeling of depressive symptom are found to impact the type of help-seeking behavior (Wright et al., 2007). For example, the bereavement practices among the Igbo ethnic group of Nigerians, allows victims to mourn the loss of close relatives for over one year (Academia.edu, 2013). This cultural attitude could affect the intention to seek help and the type of help sought. In Western culture, mourning that lasted more than one year is termed a mental disorder (Nemade et al., 2007). The differences in the classification of disease could account for the low utilization of mental health services, providing the premise for my study.

The conceptualization of a disorder helps to recognize and classify the disorder. It has been shown that labeling of a disorder directs the type of help-seeking behavior (Nemade et al., 2007). For example, a study of Australian Aborigines showed a view of mental illness that is different from the general population. In the Australian Aborigine society, some individuals see depressive symptoms as a personal characteristic (such as a character flaw) and therefore not treatable (Brown et al., 2012; Isaacs, Maybery, & Gruis, 2013). Okello and Ekblad (2006), in their study of the Baganda people of Uganda, showed a relationship between the perceived cause of depression and the type of help sought. Another study conducted on Mexican women confirmed they had different conceptions of mental illness. The symptoms identified as a mental illness from the responses of the Mexican women studied include bizarre behavior, purposeful stare, memory loss, and violent outburst (Lantican, 2006). Symptoms of depression were absent in the symptoms identified and, therefore, are not recognized or classified as a mental disorder (Lantican, 2006).

Participants in a study of the perception of mental illness among Vietnamese adults often failed to identify a particular mental illness (Ham, Wright, Van, Doan, & Broerse, 2011). The few symptoms identified included incoherent utterances, talking and laughing alone, and aimless walking (Ham et al., 2011). These symptoms are associated with mental illness as opposed to depression in itself as a label (Ham et al., 2011). Participants perceived these behaviors to deviate from expected social norms and as such misclassified them as mental disorders. The result suggests a mislabeling or misclassification of behavior as a mental disorder based on cultural perceptions. The cultural perception of symptoms of mental disorders impacts reporting and the help-seeking behavior (Ham et al., 2011). The concept of depression in Ugandan cultural context was evaluated in a study by Johnson, Mayanja, Bangirana, and Kizito (2007). The study shows a cultural tendency to express depression regarding physical illness and did not attribute symptoms to biological factors (Johnson et al., 2007). The study also showed participants could identify with the symptoms but associate the condition with disorders (malaria, Pregnancy, illness) other than mental disorder (Johnson et al., 2007).

A study of the help-seeking behavior of the Korean immigrants in New York City for depressive symptoms showed that the subjects experienced depression but identify the manifestation as a somatic symptom (Shin, 2010). Most participants exhibiting symptoms failed to seek help, believing them to be normal immigration life's experiences that will go away with time **(**Shin, 2010**).** The failure to associate depressive symptoms with mental illness suggested that the participants acknowledged experiencing a symptom but failed to recognize or classify it as a mental disorder or something severe enough to treat with

professional help. The participants who sought help used the church leaders for spiritual healing or the herbal therapy, **(**Shin, 2010**).** The findings could not be generalized to the Korean population due to the small sample population. The Asian worldview differs from that of Nigerian hence the need for this study. The findings recognized the role labeling as a cultural factor that impacted the behavior.

A study conducted with Nigerian immigrant women living in Houston Texas investigated how the group viewed depression. The researcher selected a sample of 19 women; the ages ranged from 27-71years. The study was a qualitative method using interviews. The data analysis revealed that the general attitude of depression is that of non-acceptance as a mental disorder (Ezeobele et al., 2010). The results support the hypothesis that classification of symptoms impacts help-seeking behavior (Ezeobele et al., 2010). The findings were based on one gender (Female). This demonstrates the need to investigate the help-seeking behavior of Nigerian-born immigrants of both genders that will include ages 18 years and above.

A study of the relationship between the accurate labeling of depression among young people aged 12-25 and the help-seeking behavior in Australia was conducted. A random sample of 1,207 of the target population was interviewed by telephone and use of vignettes. Multiple logistic regression was applied to analyze the association between correct labeling of depression and the help-seeking type, controlling for confounding factors. The result suggests that correct labeling is a predictor of the type of help and treatment (Wright et al., 2007). This study was done on the general population of

Australian young adults ages 12 -25 without consideration for the ethnic differences and older adult population. The study focus on young adolescents suggests the outcome could not apply to the general population. The lack of consideration for the ethnic minorities calls for a study that is inclusive of this group. The absence of similar studies on Nigerian immigrant's population in the United States makes it necessary to undertake this study.

Gender Roles

Based on the TRA, Gerrard et al. (2008) suggested that attitudes and social norms predict intention and the resulting behavior. One of the social norms is the expected image or prototype of a male individual in society. Men are supposed to portray a picture of strength in adversity (Schaub & Williams, 2007). This prototype is reflected in the assertions of researchers on men's mental health help-seeking behavior that claim that men utilize mental health services less than women (McCusker, & Galupo, 2011; Trembley & Robertson, 2014; Yousaf, Popat, & Hunter, 2015). The fear of being portrayed as unmanly is central to masculine ideology and is shown to have an impact on men's intention to seek help for depression (Schaub & Williams, 2007). Men tend to hide their depressive symptoms for fear of appearing less manly (Addis, 2008; Roy, Tremblay, & Robertson, 2014; Schwartz Moravec, 2013). Researchers have shown differences in expression of depressive symptoms between gender and suggested the effect it could have on the intention to seek help, and the type of help sought (Addis, 2008). In a study of gender depression reporting tendency, Johnson, Oliffe, Kelly, Galdas, and Ogrodniczuk (2012) investigated 38 men, of which 12 had no previously diagnosed depression record

and their attitude toward professional help. Among the 12 previously undiagnosed, the results showed that they were self-reliant, did not seek professional help, and do not want to appear weak by revealing their need for help (Johnson et al., 2012). The findings align with the previous studies on masculinity and help-seeking behavior for depression (Kelly, Tyrka, Price, & Carpenter, 2008; Noone & Stephens, 2008). Cultural masculine ideology is prevalent in most cultures and is shown to drive the willingness to seek help (Schwartz Moravec, 2013; Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011).

Help-seeking for depressive symptoms varies among women along-side cultural variations (O'Mahoney, Donnelly, Bouchal, & Este, 2013). In a study of female Black Western-Indians, O'Mahoney et al. (2013) found that Black Western-Indians do not associate depression with mental illness and cope better with the symptoms compared to the White women. The Black Western-Indian women tended to resign to acceptance of depression as a normal phenomenon associated with their gender and not a mental illness (O'Mahoney et al., 2013). A study of Nigerian-born immigrant women in the U.S. and depression was conducted to draw attention to the perception of depression among Nigerian-born women immigrants (Ezeobele et al., 2010). Data were collected from 19 Nigerian-born immigrant women in Houston Texas. The study was a qualitative method, and limit to one gender, could not apply to the entire population. The findings suggest that participants have no concept of depression as viewed in the Western cultures. They associate depression with craziness and madness and as such the work of the evil spirit and incurable (Ezeobele et al., 2010). A study conducted on Mexican women confirmed the differed opinion (conceptualization) of mental illness. The symptoms identified as a

mental illness from the responses of Mexican women considered include bizarre behavior, purposeful stare, memory loss, and violent outburst (Lantican, 2006). Symptoms of depression are absent in the symptoms identified and therefore are not recognized or classified as mental disorder.

Depression is present in all cultures but manifests differently (Bromet et al., 2011). Merinda, Siddique, Belin, and Kohn-Wood (2004) studied the prevalence of depression among disadvantaged young Black American women. They sought to show the difference in the prevalence rate among U.S.-born Blacks, African-born, and Caribbean-born women. Participants were chosen and interviewed from a population of child-bearing age who use WIC programs, family planning, and pediatric clinics. A total of 9,151 Black women interviewed, 7,965 were U.S.-born, 913 were African-born, and 273 were Caribbean-born. The result suggests that US-born women are 2.94 times more likely to develop depression than the African-born and 2.49 more than the Caribbean-born women. These differences could be linked to the recognition and classification of the disorder and therefore the reporting of the disorder which could affect the recorded prevalence rate (Merinda, Siddique Belin, & Kohn-Wood, 2004).

Researchers studying help-seeking behaviors for mental disorders have used other influencing factors to explain the attitude. Amarsuriya, Jorm, and Reavlly (2015) investigated the disparity between the rate of depression and the little use of professional help among Sri Lankan students. The study employed a quantitative approach, obtaining responses from 4671 participants in a survey questionnaire with112 responses. The results

suggest that the number of years in college, gender and treatment options significantly influence help-seeking behavior (Amarsuriya et al., 2015). Participants in higher years of schooling are more likely than to those with lower years to recognize depression as a mental disorder. Those in the medical field are more likely to associate depression with mental illness than individuals working in non-medical fields. Male participants were less likely to associate depression with a mental disorder and had a lower propensity to use professional psychological help (Amarsuriya et al., 2015). The findings indicate that level of education and gender correlate with the recognition and classification of depression and the use of professional mental health services.

Summary

The reviewed literature in this chapter focused on cultural recognition and classification of depression and how it can affect help-seeking behavior. The theoretical framework is founded on the TRA/TPB. The conceptual model represents a suitable platform for discussing and examining the constructs at the center of this investigation. The constructs include recognition, classification, and the help-seeking behavior. The chapter points out the gap in the literature on research focused on Nigerian immigrants' recognition and classification of depression and mental health help-seeking behavior. Previous research focuses primarily on Asian, Hispanic and Somali immigrants. Prior research with African immigrants primarily focused on topics of stigma, gender, access, and causal factors as determinants of intention to seek help. The research design for this study, the data collection, and analysis methods will be discussed in Chapter 3. This will include the measurement instruments, the sample selection method, the sample size, validity, and provide measures to protect participant's privacy.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study is to investigate the association between recognition and classification (proxies of attitude and beliefs) of symptoms of depression and seeking professional mental services among Nigerian immigrants in Minnesota. A sizeable number of people fail to utilize professional psychotherapy for their mental health issues. The underutilization of psychotherapy has been blamed on the associated stigma (Gulliver, Griffiths & Christensen, 2010). The underutilization of professional help also results from the thinking that the problem will go away, and an, 'I can cope' attitude (Gulliver et al., 2010; Rughani et al., 2011; Sareen et al., 2007; Wilson & Deane, 2012). Fischer and Turner (1970) have suggested that one's attitude toward a help-seeking behavior is a predictor of the actual help-seeking behavior. Central to this investigation is the recognition and classification of depressive symptoms and how such formed attitudes influence the use of professional help. The variables recognition and classification are further subdivided into beliefs, knowledge, and categorization respectively. The layout for this Chapter will include a description of the research design, participant selection approach, the instrumentation, data collection, and analysis. Also, in this Chapter is a discussion of the reliability of the survey instrument, threats to the validity of data and data assumptions, sample size, and measures for protecting participants' rights.

Research Design and Rationale

A quantitative survey research method will guide this study. The purpose is to allow for numerical analysis of the relationship between the recognition and classification

of depressive symptoms and the use of professional mental health help. A quantitative method allows for a larger sample size which is not possible with a qualitative approach (Creswell, 2009).

Table 4

Independent and dependent Variable Types, Instruments, Categorical, and Description

Variables	Type	Instrument	Categorical	Description
Help-seeking	Dependent	Questionnaire	Categorical	Use of mental health service
Age	Independent	Questionnaire	Categorical	Age (18 +)
Gender	Independent	Questionnaire	Categorical	Male or Female
Educational Level	Independent	Questionnaire	Categorical	(Less than High School, to Doctorate).
Knowledge	Independent	Questionnaire	Continuous	(Strongly Disagree to Strongly Agree
Classification	Independent	Questionnaire	Continuous	Very unlikely to Very likely.
Recognition	Independent	Questionnaire	Continuous	Very unlikely to Very likely.

A cross-sectional multivariate-regression design was chosen for this study. The multiple regression will be assessed using independent variables, belief, knowledge, and classification. The multivariate-regression analysis will also be employed in evaluating the

relationship between each of the moderating variables and the dependent variable. The multivariate analysis is suited for analyzing relationships involving two or more variables. The moderating variables in this study are age, gender, and education. Age (18-24years, 25-34, 35-44, 45-54, 55- 64, 65-74, 75 +), Gender (Male, Female), Educational level (less than High school, High school, some college, college, Graduate, and doctorate) represent the discrete categories respectively. The table below outlines the variables that underlie the theoretical framework and concept and moderating factors.

Methodology

Population

The sample population comprises of Nigerian immigrant groups living in Minnesota. The Nigerian immigrant population in Minnesota is dispersed throughout the metropolitan Twin Cities of Minneapolis and St Paul metropolitan and their surrounding suburban areas. They have formed several associations by ethnic groups, state and city of origin, and academic professions (nursing, engineering, etc.). An umbrella organization, known as MIND (Minnesota Institute for Nigerian Development) represents all Nigerians of cultural and professional types. These cultural and social associations provide the sampling frame for this study. Nigeria is a country with over 250 ethnic groups; more than 300 different languages and cultures; and the Hausa, Igbo, and Yoruba as the three largest ethnic groups (Ciment & Radzilowski, 2015). Nigerian-born immigrants have a high percentage of educational attainment among African-born populations second only to Egypt (64 and 61percent respectively) (ACS, 2014). Most Asian and Mexican immigrants congregate in certain areas of the city to form a community. This behavior is absent with

the Nigerian immigrants. The Nigerian immigrant population in Minnesota number around 6,500 (ACS, 2014).

Sampling procedure

The sample population is to be drawn from Nigerian cultural and social groups in Minnesota. These groups include Umunnem, WAWA (A word denoting a part of Ibo ethnic group), Imo, Anioma, Edo, Zumunta, MIND, Akwaibom, Urhobo, and Ijaw Cultural Group. Other social groups include Women of Grace, Elegant women, and Eko Club.

Nigerian cultural groups maintain a list of family members and addresses. The President and social secretary of each association and organization will be contacted and presented with a request for their member's names, mail post and email addresses. The address lists are accessible through the group's presidents by request. It will be stated in the request that the information will enable academic survey of the community's mental health-seeking behavior with the purpose of effecting positive change

The study will also look at the Nigerian religious organizations for the source of participants. The pastors will be presented with a request for member's mailing lists including email addresses for this study. I will seek the endorsement from the Institutional Review Board (IRB) for this approach and before the collection of data

In each family, each qualified individual is a potential candidate and will be randomly selected. Some of the Nigerian Churches include Deeper Life and Winner's church in the Twin Cities with a request as stated above and the stated purpose of my study. The sampled population will comprise of age-range 18 and older, male, female, and

all education levels. Participation will be voluntary, and no remuneration would be offered.

The sample size was calculated using G*Power software for the estimated population of 6,500 Nigerian immigrants in Minnesota. Selecting an adequate sample size allows for the generalization of the outcome to the entire community of Nigerian immigrants in Minnesota. The number of required participants was determined using G*Power 3.1.7 software (Faul, Erdfelder, Lang, & Buchner, 2013). The sample size was calculated with .80 power and an alpha level of.05, the acceptable standards in social science research. The sample size calculation was done using a.80 power, z-score of 1.96, and.05 p-value (Margin of error), and the effective size of .2. A sample size of 246 was realized.

$((1.96)^2$ x.2(.8)) / $(.05)^2$

(3.8416 x.16) /.0025

.614656 /.0025

245.8624.

Survey procedure

The low response rate among immigrant groups is the result of wary of the intention, a feeling of the unimportance of the research, the attitude that their participation will change their lives and privacy (Elam, McMunn, & Nazroo, 2002). Steps I will take to address the issue include soliciting the assistance of the leaders of each group in explaining the importance of the research to the community, express the value of their

participation, instilling trust in the process, the need for the study, and the benefit to the community.

Survey questionnaires numbering 2,460 will be delivered through a combination of the SurveyMonkey questionnaire application to potential participants and mailed questionnaire to guarantee a return response of 246 (10-15%). I have contacted the leaders in the Nigerian immigrant communities with a request to make contact information on their members available for this study. The response has been positive. The 246-sample size is based on the 10-15% anticipated return rate for the post mailed and the application of services of the SurveyMonkey questionnaire delivery. Researchers have shown the mail survey response rate to be about 16.2-75%, with an average return of 57.6% (Medway & Fulton, 2012).

The issue with the online survey is wary of spam which could affect the response rate. This problem could be minimized by requesting the organization's leaders to inform participants to expect the online questionnaire. The mixed mode (mail and online) has a return rate of 15.2 - 73.9 and an average rate of 53.0 (Medway & Fulton, 2012).

Sample size determines the validity of a study's result. External validity is factored in by adopting simple random sampling in selecting the sample size. External validity means the extent to which a study outcome could be generalized to the population parameter (Frankfort-Nachmias & Nachmias, 2008). The internal validity is assured by ruling out other influencing factors that could invalidate the inferences as causal factors

(Frankfort-Nachmias & Nachmias, 2008). In this study, internal validity will be achieved by controlling for other influencing factors such as age gender, and education parameter.

Instrumentation

Patient Health Questionnaire (PHQ-9).

Establishing the prevalence of depressive symptoms in the Nigerian immigrant group for this study is necessary to determine the group's recognition (belief), classification (Mental or Physical) of symptoms, and the effect on the type help sought. A questionnaire will be administered to assess the prevalence of depression and symptoms among the sampled population. The Patient Health Questionnaire (PHQ-9) is a self-administered depression assessment scale used to establish the presence and the severity of symptoms. It operationalized the DSM-IV criteria for diagnosing depression. The four-point response scale ranges from "Not at all" (0), "several days" (1), "more than half the days" (2) to "nearly every day" (3). All nine questions assume symptoms have persisted for two weeks. For example, the overarching of the PHQ-9 reads "Over the past two weeks, how often have you been bothered by any of the following problems. Little interest or pleasure in doing things? 2) Feeling down, depressed, or hopeless? Etc" (Cameron, 2008) A 10th question on the PHQ-9 is used to determine the effects of symptoms on daily function: "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?" Again, the four-point Likert scale ranges from "Not difficult at all" to "Somewhat difficult," "Very difficult," or "Extremely difficult" (see Appendix B for the full PHQ-9). The prevalence of depression will be determined using Zung self-rating depression scale

(SDS). SDS has been found to be a valid and reliable instrument (Kroenke, Spitzer, Williams, & Löwe, 2010; Wittkampf, 2007). SDS has been translated into many languages and used in a primary care setting. The applicability of the PHQ-9 to nonwestern cultures was affirmed with the Chinese version (Chen et al., 2010; Wang et al., 2014). Wang et al. (2014) study showed internal consistency reliability of Chinese version of PHQ-9 of 0.86 Cronbach alpha (α); a retest shows a correlation coefficient of 0.86.

Mental Health Knowledge (MHL).

MHL, is an instrument designed to measure the knowledge and beliefs about the mental disorder (Jorm et al., 1997). Recognition of mental disorder is poor among individuals with no medical training (Angermeyer & Dietrich, 2006; Dahlberg, Waern, & Runeson, 2008). For example, some individuals attribute depressive symptom to physical illnesses (Jorm et al., 1997). Jorm (2012) found that well-informed knowledge tends to favor positive attitude toward professional help. Jorm (2012) further linked recognition of symptoms to the awareness of the availability of professional help. Knowledge and belief served as subscales of MHL used for measuring recognition. For example, a question asked, "to what extent do you think it is likely that personality disorders are a category of mental illness?" The question was scored on the level of likeliness (Very unlikely, unlikely, likely, and very likely). Classification of depressive symptoms as a mental disorder has been found to be linked to knowledge about the disease (Wright et al., 2007). Smith and Shochet (2011) found scores on the MHLS to significantly correlate with help-seeking behavior. The MHLS showed good internal and test-retest reliability and good

validity. The MHL scale is applied in this study to measure the belief and knowledge of depressive symptoms and evaluate the impact on the professional mental help-seeking behavior. The constructs, recognition will be measured with the subscales of belief and knowledge.

The first measurement of MHL was developed by Jorm et al. (1997). Different scoring scales have been elaborated since Jorm et al., 1997 (Evans-Lacko et al., 2010; Wood & Wahl, 2006). O'Connor et al. (2014) saw the need to develop a scale-based measure that comprised every attribute of MHL following the definition by Jorm et al. (1997). The effort resulted in a 35-item questionnaire that measures knowledge and attitude of mental health. The instrument has been found useful in detecting a low level of MHL (O'Connor et al., 2014). The O'Connor and Casey (2015) measuring scale is the most comprehensive and was chosen for this study. World Health Organization (2013) defined MHL as a concept addressing knowledge of mental illness, attitude, and knowledge of professional help. MHL is suggested to significantly determine professional psychiatric care use (*Kutcher, Bagnell, & Wei,* 2015; *Reavley & Jorm, 2011*).

Attitude Toward Professional Psychological Help Scale (ATSPPHS).

ATSPPHS is an instrument constituting 29 items designed to measure attitude toward psychological help for mental illness (Fisher & Turner, 1970). Fisher and Turner (1970) developed the scale used by most researchers to measure the ATSPPHS. For example, if a person does not recognize or associate depressive symptom with a mental disorder the less likely, he or she is to have a positive attitude toward professional mental

care (Fisher & Turner, 1970). ATSPPHS was formulated on the assumption that attitude toward seeking help is a predictor of eventual decision to seek help (Fisher & Turner, 1970). The items designed to score the responses to the ATSPPHS questionnaire used a four-point Likert scale that is rated zero for strongly disagree and three for strongly agree. The items selected were intended to associate agreement as a positive attitude and disagreement represent negative attitude.

ATSPPH reliability and validity as established by Fisher and Turner (1970) was conducted with 212 participants. The reliability of that study was estimated at r 0.86 alpha. A follow-up application of ATSPPH with 406 produce an outcome of 0.83 (Fisher & Turner, 1970). The test and retest of ATSPPH suggest a fairly good consistency (Fisher & Turner, 1970). The validity and reliability of ATSPPH for decades after Fisher and Turner (1970) was based on the standardized population of Western culture. The short form of ATSPPH (ATSPPH-SF) a 10-item measurement scale was developed to improve the applicability of the IASMHS.

ATSPPH-SF primarily focused on assessing attitude toward professional mental help- seeking behavior. The short form of ATSPPHS (ATSPPH-SF) will be applied to evaluate cultural beliefs as it affects the recognition of depressive symptoms as mental disorders. Several researchers have validated ATSPPH-SF (Fischer & Farina, 1995; Vogel et al., 2005). ATSPPH-SF applies a four-point Likert scale (0= “Disagree” to 3= “Agree,”) (Fischer & Farina, 1995). The scores were total with the higher scores indicating positive

attitudes. ATSPPH has shown internal consistency between 0.82 and 0.84 (Fischer & Farina, 1995).

The objective of this study is to investigate the impact that recognition and classification of the depressive symptom have on the Nigerian immigrant use of mental health care. The independent variables measured will include recognition and classification and the dependent variable is help-seeking behavior. The other moderating variables include education, gender, demographic, subjective norm, and Volitional control. For example, the intention is an important determinant of behavior and is directly influenced by the subjective norms that underlie the behavior (Glanz et al., 2015, p. 96). Subjective norm is the approval of the behavior from the community, family and other referents (Montano & Kasprzyk, 2015).

Subjective norm is an influencing factor in recognition and classification and a predictor of attitude moderated by intention (Glanz et al., 2015; Kim et al., 2012). The measure of the subjective norm would be measured with items such as suggested by Ajzen (2002) and scored using a seven-point Likert scale ranging from one for" strongly disagree" to seven for "strongly agree." For example, if a loved one suggests not to see a -Psychiatrist for the depressive symptom is the expectation that you comply. The score will be totaled with a higher score indicating a High effect of subjective norm and a lower score indicating minimal effect.

There are two factors in the volitional control construct; the perceived capability to do and the controllability of behavior (Ajzen, 2002). The questionnaire items will be

designed to seek answers regarding perceived self-efficacy and controllability of actions. The responses will be scored on a 7-point Likert scale (ordinal measurement) ranging from "strongly disagree" (1) to "strongly agree" (7) accounting for internal consistency. The higher scores represent a positive attitude. The study is framed in the assumption that recognition and classification of a symptom of depression would significantly predict attitude and the professional help-seeking behavior. The independent variables for this purpose include recognition and classification. The dependent variable is the help-seeking behavior (use of professional psychiatric services).

Demographic survey.

The covariates include demographics (age), gender (Male, Female), educational level (less than high school, high school, some college, college, graduate, and doctorate). These covariates indirectly influence attitude and behavior (Ajzen & Fishbein, 2005). Research has shown differences in these factors regarding help-seeking behavior (Anglin, Alberti, Link, & Phelan, 2008; Martin, Pescosolido, Alasdair, & McLeod, 2007).

Data Collection

An invitation will be sent to randomly selected individuals from a list of addresses of Nigerian immigrants in Minnesota to participate in the study. There will be a cover letter with the survey explaining the purpose of the research and how it could benefit the community. In the cover letter, there will be a provision that guarantees privacy protection for participants. The study questionnaire will be delivered to the selected participants by post mail and email. There will be a statement in the cover letter informing respondents

that participation is an indication of consent to the condition for involvement and that there will be no financial reward for participation. I will obtain Walden Institutional Review Board approval (IRB) before collection of data.

The data collection will be a one-time process. The one-time process is because of the limited time, and the potential for respondent's attitude to change with time. A sample of 246 individuals will be chosen from the address lists provided by the Nigerian immigrant groups in the State of Minnesota to represent this population. The address list identifies the household units from which a random selection of participants will be chosen. The age range will be 18 and above. The survey questionnaire writing in paper form would be post mailed, and an online Survey-monkey application will also be used to reach the potential participants. This type of self-administered survey question gives participant time and space to fill out the questionnaire without pressure. The completed questionnaire would be returned to a post of office address box for the mailed questionnaires using a prepaid envelope provided to the participants. Each returning response will be identified by a number assigned to each questionnaire. The numbering enables a follow-up request and a reminder to all participants after two weeks. A postcard, written letter, and a follow-up through survey monkey are the instruments to use to remind the non-responders of the importance of a response to the survey. A copy of the research results will be provided if requested.

Research Question/Hypothesis

The study hypothesizes that recognition and classification of depressive symptom impact professional mental health help-seeking behavior. The research questions are therefore articulated to confirm or reject the hypothesis.

RQ1: What is the association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help?

$H_0$1: There is no association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

H_a1: There is an association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

RQ 2: What is the association between the classification of the Nigerian immigrant community in Minnesota and their willingness to use professional psychiatric help?

$H_0$2: There is no relationship between the classification of the Nigerian immigrant population in Minnesota and their commitment to using the professional psychiatric help.

H_a2: There is an association between the classification of the Nigerian immigrant community in Minnesota and their commitment to using the professional psychiatric help.

RQ 3: Is there an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota?

*H*o3: There is no association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

*H*a 3: There is an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

RQ 4: Is there an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota?

H_0 4: There is no association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

*H*a 4: There is an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

The factors of interest in this study are the recognition and the classification of depressive symptoms and mental health help-seeking behavior. Recognition and classification influence attitude which is a predictor of behavior. Recognition and classification of depressive symptoms are beliefs which may affect the willingness (intention) to do a behavior (use professional mental services). The responses from the

research participants will be evaluated to answer the research questions and confirm or reject the hypotheses. The research questions and hypotheses are formulated to assess the influence of recognition and classification of depressive symptoms on mental health help-seeking behavior.

The Study Questionnaire

The questionnaire will seek a response to questions about demographic, responses to the line items from ATSPPH, and the MHL questions. The answers to the questions framed in the ATSPPHS will be scored using the Likert scale. The structure for the Likert scale will range from strongly disagree to strongly agree with the number assignment of 1 to 7 for the scale. Those who score high in these items are likely to seek professional psychological help because of their confidence in mental health professionals, those with low scores are not likely to seek psychological help because of their lack of trust in mental health practitioners.

Data Analysis

It is the aim of this study to assess the relationship between the independent variable attitude (recognition and classification) and the dependent variable (help-seeking behavior). The data will be analyzed using IBM SPSS 25. A Univariate, Bivariate and Multivariate descriptive analysis of the participant's characteristics will be evaluated. Univariate is a term used to describe the characteristics of a single variable (Frank-Nachmias & Nachmias, 2008). The features comprise the frequency of occurrence, types, and distribution (Frank-Nachmias & Nachmias, 2008). Univariate statistics account for the character of the sample population and the internal consistency (Frank-Nachmias &

Nachmias, 2008). The demographic characteristics: age, gender, and educational level are examples of a univariate construct. The bivariate analysis involves two variables (Frank-Nachmias & Nachmias, 2008). The analysis of a bivariate data reveals the differences between two variables and how they relate to each other. Bivariate analysis is useful in testing a hypothesis and helps to predict the value of one (independent) to another (dependent) (Frank-Nachmias & Nachmias, 2008). A bivariate analysis will be used to examine the relationship between each of the independent variables and the dependent variable. Unadjusted odds ratios will be explored to look at the relationship between each independent variable and the dependent variable. The statistical significance of the bivariate analysis will be determined using Wald chi-square analysis.

Multiple regression will be used to assess the relationship between recognition and classification and professional help-seeking behavior while controlling for the confounding factors. The two independent and one dependent variable will form the basis for formulating the data collection questionnaires. Information collected will reflect the characteristics of the moderating factors. An alpha of 0.05 is the cut-off value for testing the hypothesis with a confidence interval is 0.95. A p-value lower than 0.05 supports the call to reject the null hypothesis. Odds Ratios will be examined to better understand the relationship between the independent variables and the dependent variable.

Threats to Validity

It is necessary to take steps to guarantee the instruments measure what they are intended to measure. Such steps include ensuring internal and external validity, reliability,

and ethical considerations. To achieve validity, participants must be an accurate representation of the study population. The sample size should be adequate to apply the outcome to the general population that the responses from the questionnaire are truthful, and that future test using similar conditions will produce a similar result.

Internal validity

Steps will be taken to validate the study result which includes the following measures:

1. Select Participants from among Nigerian-born immigrants.

2. Avoid making erroneous inferences from misleading statistical evidence.

3. Control for confounding variables.

4 Establish a relationship between independent variable and the dependent variable.

5. Encourage sincere and unbiased responses.

6. Ensure that responses were accurate and complete; and

7. Minimize the effect of outliers minimized with a large sample size. Sample size could have a significant impact on the validity of study outcome (Rothman, 2010).

Reliability of Instruments

Accuracy and consistency displayed in a construct are confirmation of its reliability and validity (Nardi, 2006). ATSPPH reliability and validity as established by

Fisher and Turner (1970) was conducted with 212 participants. The reliability of that study was estimated at r 0.86 alpha. A follow-up application of ATSPPH with 406 produce an outcome of.83 (Fisher & Turner, 1970). The test-retest of ATSPPH suggest a good consistency (Fisher & Turner, 1970). The validity and reliability of ATSPPH for decades after Fisher and Turner (1970) has been based on the standardized population of Western culture. A test of ATSPPH reliability using Jamaican population shows similar consistency with Fisher and Turner (1970) findings. The applicability of the PHQ-9 to non-Western cultures was affirmed with the Chinese version (Wang et al., 2014; Chen et al., 2010). Wang et al. (2014) study showed internal consistency reliability of Chinese version of PHQ-9 of 0.86 Cronbach alpha; a retest indicated a correlation coefficient of 0.86 (2014).

The MHL measured the depression literacy rate. Kiropoulos, Griffiths, and Blashki (2011). Depression literacy scale (D-Lit) showed internal consistency of 0.88 with a Cronbach α of 0.92, test-retest of 0.80 and Pearson correlation coefficient r- 0.78. Kronmüller et al. (2008), Knowledge about Depression and Mania Inventory showed internal consistency of 0.76 and Cronbach α of 0.89 Hart et al. (2014). ADKQ showed internal consistency of 0.89 and α of 0.89.

External validity

External validity is the applicability of the study results to the general population (Rothwell, 2005). The threat to External validity is addressed by ensuring participants are selected from the target population. External validity allows for generalization of results

(Rothwell, 2005). I will also avoid bias toward gender, age, and educational level in the selection of participants each of which could affect the validity of results.

Ethical considerations

Participation in the survey is voluntary. The letter that accompanied the questionnaire will inform the potential participant of the nature of their involvement. The letter will state that participation is voluntary, no remuneration will be offered, and that all information will be protected. The completed questionnaire would be returned to a post office address box using a prepaid envelope provided to the participants. Each returning response will be identified by a number assigned to each questionnaire. The numbering enables a follow-up request and a reminder to all participants after two weeks. A postcard, and written letter are the instruments to use to remind the non-responders of the importance of a response to the survey. There will also be a follow-up reminder on the online survey questionnaire. A copy of the research results will be provided if requested.

Summary

This Chapter discussed the various sections pertinent to the collection and analysis of data in the quest to understand the impact of recognition and classification of depressive symptoms of the intention to seek professional mental help. The simple random selection of participants is a measure to ensure that every individual in the population had an equal chance of being chosen. The sample size was calculated at 246 participants using a G*power analysis, which can be considered generalizable to the population of Nigerian immigrants living in Minnesota. The quantitative questionnaire will be delivered to the

participants via postal mail and the use of SurveyMonkey Questionnaire delivery. The membership lists and addresses of Nigeria cultural organizations will be the sources of potential study participants. The factors measured in this study are the recognition and the classification of depressive symptoms. Other confounding factors will be controlled to provide reliability of the result of the survey.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to investigate the proportion of the ATSPPH explained by the cultural recognition and classification of depressive symptoms. The study also examined the moderating effect of age and educational level on the ATSPPH. I tested the four research questions in this study using multiple regression analysis. This chapter was organized in sections to include data collection, data preparation, descriptive analysis of the variables, and summary of the results.

Research Questions and Hypotheses

RQ1: What is the association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help? The recognition was measured by the Type of Help used for the reported symptoms. The participants were asked to choose from the potential list of sources listed in the General Help-Seeking Questionnaire (GHSQ). The GHSQ requires participants to select the source of help used for the reported symptoms experienced within the previous three weeks. The AHSQ was modified for this study.

H_0 1: There is no association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

H_a 1: There is an association between the recognition of depressive symptoms among the Nigerian immigrant population in Minnesota and their intention to seek professional psychiatric help.

RQ 2: What is the association between the classification of depressive symptoms as a mental disorder and intention to use professional psychiatric help among the Nigerian immigrant community in Minnesota? Classification is measured by the type of help used for the depressive symptom reported.

H_0 2: There is no relationship between the classification of depressive symptoms as a mental disorder and the intention to use professional psychiatric help among the Nigerian immigrant community in Minnesota.

H_a 2: There is an association between the classification of depressive symptoms as a mental disorder and the intention to use professional psychiatric help among the Nigerian immigrant community in Minnesota.

RQ 3: Is there an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota?

H_0 3: There is no association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

Ha 3: There is an association between gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota.

RQ 4: Is there an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota?

H_0 4: There is no association between educational attainment and the utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

H_a 4: There is an association between educational attainment and utilization of professional mental health services among the Nigerian immigrant population in Minnesota.

Data Collection

Data collection took eight weeks, May through July 2019. The target population was the Nigerian-born Immigrant population living in Minnesota. The requirement for participation was that participants be 18 years or older and born in Nigeria. The terms and conditions for participation also include the; Participant is Nigerian-born immigrant, voluntary participation, no benefits, assurance of confidentiality, privacy, anonymity, and no risk of the participation. The study's emphasis was on Nigeria-born and not the tribal or sectional categorization of the population. The completion of the survey was an indication of consent to the terms and conditions for participation.

The participants answered the survey questions provided through SurveyMonkey. The dependent variable (ATSPPH) was measured and scored with the 16-item questionnaire of the original 30-item in the Attitudes Toward Seeking Professional Psychological Help (ATSPPH); Fischer &Turner, 1970. The independent variable Recognition was measured with the 7-item question on the Concept of Mental Disorder (CMD). The classification was measured with the 7-item type of help (TOH) on the use of symptoms reported. The constructs CMD, ASTPPH, and TOH, were each totaled before analysis of the data. The variables item scores were each labeled to arrive at the new

variables Total_ CMD, Total_ TOH, Total_ ATSPPH. The variables that required multiple answers to the line item questions were grouped into variable sets using the value 1 for the dichotomized group (Yes or NO) to assess the frequencies and distributions. The new transformed variables were used to conduct a descriptive analysis. The sample size of 246 participants (Ages 18 and above) came from the population of Nigerian-born Immigrants who answered Yes to the question, "Are you a Nigerian-born Immigrant living in Minnesota?"

In evaluating the data, 10 participants were removed for missing or incomplete data. A sample of 244 participants of the 256 who filled out the questionnaire was then used. The sample of 244 participants consists of Nigerian-born immigrants over 18years of age living in Minnesota. The required age for participation was 18 years and above. The sample size was calculated with .80 power and an alpha level of .05, the acceptable standards in social science research.

Table 5 shows the demographic distributions of the demographics (age, gender, and educational levels). The majority of the participants were between the ages of 35 and above. The gender was of an equal number of both sexes, male (50.4%) and female (49.6%). The sample population's educational levels showed that at least 35% of the population has a college degree. Most of the population were in the age group 35 and above 94.6%. Half of the participants (51.2 %) reported having a graduate-level education.

Table 5

Descriptive Statistics of the Demographic Factors (n=246)

Characteristics	n	%
Gender		
Male	122	49.6
Female	124	50.4
Age		
18-34	11	4.5
35-54	127	51.7
55-above	108	42.9
Educational Level		
High school/two-year College	32	13.0
Four-Year College	87	35.5
Graduate School	126	51.2

Results

Table 6 shows the descriptive distributions of the variables TOH and CMD. Descriptive statistics of the variables involved in the study are provided in tables six below. A total of 246 participants who responded to the survey, lived in Minnesota at the time of this study. The responses to the type of help (TOH) utilized for the symptoms experienced or reported showed that respondents (n = 111, 47.2%) used medical help, (n =

104, 44.3%) reported using Minister/Iman/clergy, only (*n* = 1, 0.4%) reported using a psychiatrist. The concept of mental disorder (CMD) response showed these characteristics: The majority of the respondents chose psychosis (*N* = 221, 33.3%) as a mental disorder, followed by crazy (*n* = 207, 31.2%), and bipolar (*n* = 104, 15.7%).

Table 6

Descriptive Statistics of the Independent Variables

Self-reported help-seeking I		
TOH (Type of help)	**n**	
Counselor	8	3.4
Minister/Iman/clergy	104	44.3
Spiritual healer	8	3.4
medical doctor/nurse	112	47.6
Cultural classification of Symptoms		
CMD (Concept of mental disorder frequency)	**n**	**%**
Crazy	207	31.2
Grief/Bereavement	10	1.5
Psychosis	221	33.3
Anxiety	42	6.3
Strong Phobia	45	6.8
Bipolar	104	15.7
Autism	34	5.1

Table 7 details the frequencies and percentages for the line-item questions of the dependent variable ATSPPH. For the line-item questionnaire (Do not have much faith in

clinics), (*n* = 72, 29.3%) of the respondents checked agreed, (*n* = 84, 34.1%) partly agreed, (*n* = 45, 18.3%) partly disagreed, and (*n* = 44, 17.9%) disagreed. The line-item question (Have little need for a counselor), (*n* = 67, 27.2%) of the respondents checked agreed, (*n* = 85, 34.6%) partly agreed, (*n* = 49, 19.8%) partly disagreed, and (*n* = 45, 18.3%) disagreed. The line-item question (Psychotherapy has no value for me), *(n* = 67, 27.2%) of the respondents checked agreed, (*n* = 85, 34.6%) partly agreed, (*n* = 49, 19.8%) partly disagreed, and (*n* = 45, 18.3%) disagreed. The line-item question (I rather live with mental conflicts), (*n* = 67, 27.2%) of the respondents checked agreed, (*n* = 85, 34.6%) partly agreed, (*n* = 49, 19.8%) partly disagreed, and *(n* = 45, 18.3%) disagreed. The line-item question (I resent a person, who wants to know about my personal difficulties), (*n* = 30, 12.2%) of the respondents checked agreed, (*n* = 75, 30.5%) partly agreed, (*n* = 55, 22.4%) partly disagreed, and (*n* = 55, 22.4%) disagreed. The line-item question (Talking to a psychologist is a poor way to get rid of emotional conflicts), (*n* = 75, 31.7%) of the respondents checked agreed, (*n* = 83, 33.7%) partly agreed, (*n* = 44, 17.9%) partly disagreed, and (*n* = 41, 16.7%) disagreed. The line-item question (There are experiences in my life I would not discuss with anyone), (*n* = 75, 30.5%) of the respondents checked agreed, (*n* =107, 43.5%) partly agreed, (*n* = 36, 14.6%) partly disagreed, and (*n* = 28, 11.4%) disagreed. The line-item question (It is probably best not to know everything about oneself), (*n*= 43, 17.5%) of the respondents checked agreed, (*n*= 66, 26.8%) partly agreed, (*n*=45, 18.3%) partly disagreed, and (*n* = 92, 37.1%) disagreed.

Table 7

Descriptive Statistics of the Dependent Variable ATSPPH Frequencies and Percentages

Characteristics		**%**
Do not have much faith in clinics		
Agree	72	29.3
Partly agree	84	34.1
Partly disagree	45	18.3
Disagree	44	17.9
Have little need for a counselor		
Agree	67	27.2
Partly Agree	85	34.6
Partly disagree	49	19.8
Disagree	45	18.3
Psychotherapy have no value for me		
Agree	71	28.9
Partly agree	86	35.0
Partly disagree	49	19.9
Disagree	39	15.9
I rather live with mental conflicts		
Agree	40	16.3
Partly agree	66	26.8
Partly disagree	42	17.1
Disagree	98	39.8

Table 7 continued

Characteristics	n	%
I resent a person, who wants to know about my personal difficulties		
Agree	30	12.2
Partly agree	75	30.5
Partly disagree	55	22.4
Disagree	85	34.6
Talking to psychologist is a poor way to get rid of emotional conflicts		
Agree	75	31.7
Partly agree	83	33.7
Partly disagree	44	17.9
Disagree	41	16.7
There are experiences in my life I would not discuss with anyone		
Agree	75	30.5
Partly agree	107	43.5
Partly disagree	36	14.6
Disagree	28	11.4
It is probably best not to know everything about oneself.		
Agree	43	17.5
Partly agree	66	26.8
Partly disagree	45	18.3
Disagree	92	37.1

Preliminary Analysis: Statistical Assumptions

Before the analysis, variables were assessed for the following assumptions: correlation, normality of variance, skewness, homoscedasticity, linearity, and multi-collinearity, and absence of multi-collinearity. These assumptions act to prevent Type I or Type II errors (Cohen et al., 2003). A variable is used to measure outcome if it shows a

significant relationship with the dependent variable in the correlational statistical evaluation. (Tabachnick & Fidell, 2012). The generalization of findings of a study to a population was only made if the continuous variables met these assumptions.

Correlation

A bivariate relationship between the dependent variable (ATSPPH) and the predicting variables was examined. The variables that showed no significant relationship with the ATSPPH were removed from the model. The tests of the relationship were conducted using these independent variables, MHL, TOH, CMD, SE, education, gender, age, and LSE. The results recorded the following associations.

The ATSPPH positively correlated with MHL at .182** sig of 0.004: The ATSPPH negatively correlated with TOH at -.207** sig. of 0.001: The ATSPPH positively correlated with the CMD at .250** sig. of 0.001. The relationship and is attached to Appendix E

Normality Test for ATSPPH

The scores recorded for these tests met the requirement for the assumption of a normal distribution of variance. The scores shown were significantly below 1.0 for both skewness and kurtosis. The normal distribution is therefore assumed for ATSPPH, MHL, and TOH. The dependent and independent variables were tested for skewness and kurtosis. The factors test for this analysis were the Norm ATSPPH, MHL, and TOH. The ATSPPH was transformed using fractional ranking with mean a mean of 0 and a standard deviation of 1 to achieve normal distribution. The outcome is shown in table 8

The Kolmogorov-Smirnov showed that the Norm_ATSPPH is normally distributed with the lower bound of a true significance of 200* The Shapiro Wilk score suggests that ATSPPH is not normally distributed with a score of .889. The result is shown in *table* 9. However, the test of skewness (.085) and Kurtosis (-.051) suggest normal distribution.

Table 8

The Dependent Variable's Skewness and Kurtosis

Variables	Skewness	Kurtosis
Norn ATSPPH	0.085	0.051

Table 9

Normality Test for the Dependent Variable (Kolmogorov-Smirnov)

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Norm ATSPPH	0.037		200*	0.997	246	0.889

Lilliefors Significance Correction

Descriptive Statistics for ATSPPH, TOH, and CMD.

The means and standard deviations of the variables ATSPPH, TOH, and CMD were examined and shown in the table? ATSPPH total scare had a mean of .0130 (SD= .998). TOH total score had a mean of .922 (SD= .752), and CMD total score had a mean of 2.70 (SD= 1.21). These outcomes were shown in Table 10.

Table 10

Descriptive Statistic for ATSPPH, TOH, and CMD

Variables	N	MIN	Max	M	STD	Skewness	Kurtosis
ATSPPH	246	-2.65	2.87	.0130	.99810	.085	
TOH	246	-.98	1.17	.0153	.80861	.118	-1223
CMD	246	0	7	2.70	1.212	1.338	2.233

Multi-collinearity Test

The independent variables were checked for the absence of multi-collinearity. Lack of multi-collinearity indicates that the independent variables were not closely related (Pallant, 2013). The VIF values were >2 and < 10 supporting the assumption no multi-collinearity. No multi-collinearity showed that the predictor variables were not closely related (Pallant, 2013). No multi-collinearity was found within this dataset. The VIF values were assessed and presented in table 11.

Table 11

Collinearity Diagnosis: TOH, CMD, MHL, AGE, Gender, and Education

Variables	**95%**	**CL**	**Tolerance**	**VIF**
TOH	-0.395	-0.070	0.977	1.023
CMD	0.061	0.267	0.933	1.071
Total MHL	0.000	0.060	0.922	1.085
Age	-0.130	0.158	0.842	1.187
Gender	-0.018	0.378	0.982	1.018
Education level	-0.070	0.297	0.846	1.182

Linearity and Homoscedasticity

To further test the normal distribution, a linearity test was conducted using the P P Plot. There were no significant deviations along the regression line. The result from the homoscedasticity test showed an evenly scattered dots above and below the 0-line confirming assumption of the normal distribution of error. These *figures* (1 and 2) were presented in Appendix D.

The reliability of the instruments was assessed, and Cronbach's alpha coefficient of the instruments was measured for reliability. ATSPPH reliability and validity, as established by Fisher and Turner (1970) was conducted with 212 participants. The reliability of that study was estimated at r 0.86 alpha. A follow-up application of ATSPPH

with 406 produces an outcome of.83 (Fisher & Turner, 1970). The MHL measured the depression literacy rate. Kiropoulos, Griffiths, and Blashki (2011). Depression literacy scale (D-Lit) showed an internal consistency of 0.88 with a Cronbach α of 0.92, test-retest of 0.80, and the Pearson correlation coefficient r- 0.78. Kronmüller et al. (2008), Knowledge about Depression and Mania Inventory showed an internal consistency of 0.76 and Cronbach α of 0.89 Hart et al. (2014).

Multiple Linear Regression Analysis

A multiple regression analysis was conducted to determine the predictive power of each predictor variable, CMD, TOH, MHL, Gender most predict attitude toward, and Education, and most predict attitude toward professional psychiatric help. The multiple regression results, as shown in the model summary tables, 12 and 13, shows that the model predicted the ATSPH at the value R= .348, R square= .121, and adjusted R square = .099, $F (6, 242) = 5408$, $p < .001$. The R square of .10 is considered a small effect, and less than .3 is considered a medium effect.

Table 12

Model Summary of ATSPPH and the predictor Variables TOH, CMD, MHL, Gender, and Education level

Model	R	RS	Adjusted R Square	SE
	.348[a]	0.121	0.099	0.95265

ANOVA Results for the Regression Model

Table 13

ANOVA; Model Summary of the regression results

Model		SS	df	MS	F	P
	Regression	29.449	6	4.908	5.408	.000[b]
	Residual	214.181	236	0.908		
	Total	243.630	242			

Table 14 illustrates the varying coefficients of the predicting variables. The coefficient of the independent variables, TOH, CMD, Age, &Education from the multiple regression analysis showed these results:

The type of help used was found to have a significant association with ATSPPH. TOH with a Beta = -.174 and sig .005 significantly predicted ATSPPH.

The concept of mental disorder was found to have a significant association with ATSPPH. CMD Beta = .197 and sig .002, significantly predicted ATSPPH.

Age was not a factor in predicting the attitude toward seeking professional psychiatric help. Age Beta = .013 and sig .847 was not a significant predictor of ATSPPH.

Gender was found to have little or no significant role in predicting ATSPPH. Gender Beta = .067 and sig .276 was not a significant predictor of ATSPPH.

Education was not a factor in predicting the ATSPPH. Education Beta = .081 sig .228 was not significant predictor of ATSPPH.

Table 14

Coefficients for the independent variables

		B	SE	Beta	t	P	Tolerance	VIF
1	(Constant)	-1.864	0.655		-2.844	0.005		
	Total_conceptofMD	0.164	0.052	0.197	3.125	0.002	0.933	1.071
	Total_TOH	-0.233	0.083	-0.174	-2.821	0.005	0.977	1.023
	Total_MHLs	0.030	0.015	0.126	1.988	0.048	0.922	1.085
	What is your age?	0.014	0.073	0.013	0.193	0.847	0.842	1.187
	Your gender?	0.135	0.123	0.067	1.091	0.276	0.982	1.018
	What is your education level	0.114	0.093	0.081	1.222	0.223	0.846	1.182

Research Question 1

The research question 1 asked if there is an association with the recognition of depressive symptoms as measured by the type of help used in predicting ATSPPH. The multiple regression analysis results with a BETA coefficient score of -.174, t = -2.821, and P-value of .005 suggest that recognition of symptom as a mental disorder significantly

predicted the ATSPPH negatively. The Null hypothesis was, therefore, rejected. Table 10 displayed the results.

Research Question 2

The research question 2 asked if there is an association between the classification of mental disorder as measured by the concept of mental disorder and the use of psychiatric service. The multiple linear regression analysis results with a BETA coefficient score of .19, t = 3.125, and P-value of .002 showed that CMD significantly predicted the ATSPPH. The Null hypothesis was, therefore, rejected.

Research Question 3

The research question asked is there an association between Gender and help-seeking behavior for depressive symptoms among the Nigerian immigrant population in Minnesota as measured by the attitude toward seeking professional psychiatric help test. The association was measured for differences between male and female. The multiple regression analysis result with the Beta coefficient = 0.067, t = 1.091, and P-value of .276 suggest that Gender did not significantly predict ATSPPH. The null hypothesis was, therefore, accepted.

An independent t-test was conducted to determine if a difference existed between the mean attitude toward seeking professional psychiatric help (ATSPPH) of males and females in the Nigerian immigrant community. There was no numerically significant difference between the mean ATSPPH test scores of t =-.854, df = 244, P .394 (two tail). The research failed to reject the null hypothesis.

Research Question 4

This research question asked if there is an association between the educational attainment as measured by the level education acquired and the attitude toward the use of professional help as measured by the attitude toward seeking professional psychiatric help test. The multiple regression analysis results with Beta score of Beta = 0.081, t = 1.222, p = 0.223., suggest that the level of educational attainment did not significantly predict ATSPPH. The research failed to reject the null hypothesis.

Summary

The purpose of this quantitative study was to investigate the relationship between recognition and classification of depression and the use of professional mental health services. The study also examined the moderating effect of gender and education on the help-seeking behavior for the symptoms experienced and reported. The multiple regression analysis was used to assess the power of the four predictor variables to predict ATSPPH. The results were mixed. The Recognition and Classification of depression symptoms as a mental disorder significantly predicted the Attitude towards seeking professional psychiatric help. There was no significant relationship found between Gender, Education, and the ATSPPH. A more detailed interpretation and discussion of the results are detailed in Chapter 5. The implication for social change and the recommendation for further research was also discussed.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

The purpose of this quantitative study was to investigate the association between the recognition and classification of depressive symptoms as a mental disorder on the attitude toward seeking professional psychiatric help among the Nigerian immigrant population in Minnesota. The study also examined gender and education as confounding factors. The study was designed to examine the predictive power of recognition and classification on the ATSPPH. The first step was to assess the impact of recognition and classification of symptoms in predicting ATSPPH of Nigerian-born immigrants in Minnesota. Second, was to examine the influence of gender and education as confounding factors. Recognition was measured by the type of help used (TOH), and classification was measured by the concept of mental disorder (CMD). Gender was measured by male or female. Education was measured by three levels, high school/two-year college, four-year college, and graduate school.

A multiple regression analysis was used to investigate the relationship between recognition, classification, gender, education, and ATSPPH. The result of the multiple regression analysis showed that Recognition, the measure by TOH, significantly predicted the ATSPPH. The result also found that Classification of symptoms as a mental disorder, measured by the CMD, significantly predicted the ATSPPH. However, the analysis did not find any significant associations between gender, education, and ATSPPH.

Interpretation of Findings

Help-seeking is an important step that confirms the acknowledgment of a problem, and it is crucial to intervention efforts (Berger, Addis, Green, Mackowiak, & Goldberg, 2013). Help-seeking behavior is defined as actively reporting and looking for a remedy for a disease or psychological problem (Berger et al., 2013). This study examined the role of recognition, classification, gender, and education in the attitude toward seeking professional psychiatric help.

Predictors of Attitude Toward Professional Psychiatric Help.

For Research Question 1, the strength of recognition of depressive symptoms as a mental disorder as measured by the type of help, used was examined. A multiple regression analysis was used to test the relative strength of the recognition in predicting ATSPPH. The result suggests that recognition of symptom as a mental disorder is a significant predictor ATSPPH. Recognition of a depressive symptom as a mental disorder was measured by the answers to the Type of help (TOH) used questionnaire. The finding is consistent with previous studies on nonwestern cultures. A study of the help-seeking behavior of the Korean immigrants in New York City for depressive symptoms showed that the subjects experienced depression but identify the manifestation as a somatic symptom (Shin, 2010). Most participants exhibiting symptoms failed to seek help, believing them to be healthy immigration life experiences that will go away with time (Shin, 2010). Recognition of symptoms of depression as a disorder and associating the disease with mental illness is a predictor of the type of help-seeking behavior needed (Jorm, 2012; Fernando, 2015; Biswas, et al., 2016). Recognition of mental disorder is an

attitude developed from the cultural knowledge and beliefs about the symptoms which act to influence the willingness (intention) to use professional psychiatric services (Fernando, 2015; Biswas, et al., 2016). Pena, a depression-like feeling (sadness or suffering), is an expression intended as therapy for a loss by the people of Highland Ecuador (Miles, 2013; Rokne, 2014). *Pena,* a depression-like disorder prevalent in the Highland Ecuador culture, is not identified or classified as a mental disorder by the natives (Rokne, 2014).

The finding is also consistent with the theoretical framework for this study. Ajzen's (1991) TPB provides the framework for evaluating the association between recognition/classification of illness and the intent to do a behavior. Fishbein and Ajzen (1975) suggest that the context of a view is an essential ingredient in predicting behavior. Using the principle of compatibility, Ajzen (2012) showed that attitude toward action is a more efficient predictor of conduct than the attitude toward the object. For example, attitude toward mammography is a more useful predictor of behavior than the attitude toward the object (cancer) (Ajzen & Fishbein, 2005). This study is limited to Nigerian immigrants living in Minnesota. Future studies should expand to include Nigerian immigrants living in other areas of the United States.

Classification and Attitude Toward Professional Psychiatric Help.

For Research Question 2, the strength of Classification of symptoms in predicting ATSPPH was examined. A multiple regression analysis was used to test the relative strength of the classification of depressive symptoms in predicting ATSPPH. The result suggested that the classification of depressive symptoms as a mental disorder significantly

predicted ATSPPH. Classification of a depressive symptom as a mental disorder was measured by the answers to the concept of mental disorder CMD questionnaire.

The findings were consistent with previous studies on nonwestern cultures. A study of Australian Aborigines showed a view of mental illness that is different from the general population. In the Australian Aborigine society, some individuals see depressive symptoms as a personal characteristic (such as a character flaw) and, therefore, not treatable (Brown et al., 2012; Isaacs, Maybery, & Gruis, 2013). The finding is also consistent with the theoretical framework for this study. Attitude is a feeling expressed toward a phenomenon based on beliefs, knowledge, and the expected outcome (Fishbein & Ajzen, 1975, 2010; Montano & Kasprzyk, 2015). The cultural classification of depressive symptoms was found to predict attitudes toward seeking professional psychiatric help. This study is limited to Nigerian immigrants living in Minnesota.

Gender and ATSPPH

For Research Question 3, the association between gender and the intention to seek professional psychiatric help was examined. The association was measured for differences between males and females. The result of the independent *t* test found no significant difference between male and female, in the attitude to seek professional services.

Other researchers have found differences in the expression of depressive symptoms between gender and suggested the effect it could have on the intention to seek help, and the type of help sought (Addis, 2008). In a study of gender depression reporting tendency, Johnson, Oliffe, Kelly, Galdas, and Ogrodniczuk (2012) investigated 38 men, of which 12 had no previously diagnosed depression record and their attitude toward

professional help. Among the 12 previously undiagnosed, the results showed that they were self-reliant, did not seek professional help, and do not want to appear weak by revealing their need for help (Johnson et al., 2012). Cultural masculine ideology is prevalent in most cultures and is shown to drive the willingness to seek help (Schwartz Moravec, 2013; Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011).

Educational level and ATSPPH

For research question 4, the study examined the association between the educational attainment and the intention to seek professional psychiatric help. The findings from the statistical analysis found no significant difference in the attitude of Nigerian immigrants regardless of educational level.

Amarsuriya, Jorm, and Reavlly (2015) investigated the disparity between the rate of depression and the little use of professional psychiatric help among Sri Lankan students. The results suggest that the number of years in college significantly influence help-seeking behavior (Amarsuriya et al., 2015). Participants in higher years of schooling are more likely than those with lower years to recognize depression as a mental disorder. Those in the medical field are more likely to associate depression with mental illness than individuals working in nonmedical fields. The findings indicate that the level of education correlates with the recognition and classification of depression and the use of professional mental health services (Amarsuriya et al., 2015). This study could not confirm the findings of the previous study, which found an association between Educational level and the intention to use professional mental health service.

Limitations of the Study

This study contributes to the knowledge of the Nigerian-Immigrants' attitude toward seeking professional psychiatric help. However, there are some limitations to this study. The study is limited to the Nigerian immigrant population living in Minnesota; therefore, it could not be generalized to the entire Nigerian immigrant population in the United States. The research relied on self-reported responses and was, therefore, dependent on the truthfulness of the answers to the survey questionnaire. The target population may be reluctant to respond to an inquiry that amounts to revealing personal information. African immigrants are known to guard their privacy, so participants may not be willing to share their health information.

The instruments were adjusted to achieve normal distribution. The transformation employed may have contributed to the outcome. The study was based on correlational design; therefore, causal relationship between the independent variables and the intention to used professional psychiatric help was not examined.

Recommendations for Further Study

This study was conducted on the Nigerian Immigrant population living in Minnesota. A study of the Nigerian Immigrant population in the entire United States would be needed to generalize the findings to the entire population. This research showed that cultural norms influence the labeling and identification of depressive symptoms as a mental disorder (Glanz et al., 2015; Lykes & Kermmelmier, 2014). The findings of this study suggest that recognition and classification of depressive symptoms have a significant impact on the

ATSPPH. I recommend that this study be replicated in future research on African immigrant attitude toward seeking professional psychiatric help.

This study found that educational level and gender did not significantly affect the attitude toward the use of mental health help, or the type of service used for the reported symptoms. The finding was inconsistent with earlier studies, and so I recommend further study using other methods. The recommendation was that future studies of this population investigate the influence of communal living on the ability to sustain native cultures, norms, and their cultural view of mental disorder.

Implications for Social Change

Immigrants leave their native homeland to the new home with the cultural concept of health and treatments. The collectivist cultures have their views of health and how to identify and classify a health disorder. Healthcare professionals should be aware of differences in cultural recognition and classification of health disorders and the attitude between the effect on ATSPPH. The key to improving the mental health status of a population lies in understanding the cultural factors influencing the decision to seek professional or nonprofessional help (Ezeobele, Malecha, Landrum, & Symes, 2010). The target community may have unconsciously retained the cultural understanding of mental disorder. This study assessed the influence of cultural recognition and classification of depression on the help-seeking behavior of Nigerian immigrants in Minnesota. The findings could add to and improve the current approach to diagnosing and caring for Nigerian immigrants' mental health care. The outreach to the Nigerian community based on knowledge from this study has the potential to bring about social change. The findings

may encourage stakeholders to implement community education programs aimed at changing help-seeking behavior for depressive symptoms. Educational programs were found the most effective in changing behavior (Brown-Rice, Furr, & Jorgensen, 2015).

Proper identification, and knowledge of the mental disorder is the central part of mental health literacy (Suka, 2016). Bringing awareness of symptoms as part of the mental health literacy is crucial in promoting, identification and proper use of mental health services. The existing research on the barriers to help-seeking behavior for the mental disorder has previously focused on other variables but recognition and classification of mental disorder. The findings in this study may narrow these gaps. The result of this study may inform policymakers and other stakeholders in designing educational programs that inform community members about mental illness. Understanding the attitudes of Nigerian Immigrants about mental health provides the opportunity for health professionals to develop and implement interventions targeting this group. The result of this study may add to the knowledge of the Nigerian Immigrant population and their attitude toward seeking professional psychiatric help.

Conclusion

The purpose of this quantitative study was to investigate the relative strength of the cultural recognition and classification of depressive symptoms in predicting ATSPPH. The findings suggest there is a relationship between recognition of depressive symptoms as a mental disorder, classification of the symptoms as mental illness, and the attitude toward seeking professional psychiatric help. The differences in the attitude toward seeking professional psychiatric help between males and females were examined. The result found

no difference in the ATSPPH. The study also found no difference in the level of education and ATSPPH. The knowledge of this finding could inform healthcare professionals in directing the patient to proper treatment. The key to improving the mental health status of a population lies in understanding the cultural factors influencing the decision to seek professional or nonprofessional help (Ezeobele, Malecha, Landrum, & Symes, 2010). Predicting the cultural factors that affect a positive response to professional mental health services can result in positive intervention outcomes (Benish, Quintana, & Wampold, 2011; Griner & Smith, 2006). Improving the knowledge of depression, recognition, and classification of the symptoms could help Nigerian immigrants seek proper help in the future.

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Appendix A

Consent Form

My name is Fred Nnabuchionye. I am a doctoral student at Walden University. I am conducting a research study on the attitude of Nigerian immigrants toward the use of professional mental services for the depressive symptom. The study will examine the influence of recognition and classification of the depressive symptom as factors drive the use of professional mental health care. I am completing this research as part of my doctoral degree in healthcare administration. This study is not meant to serve as a diagnosis for depression.

Your President or organization is not associated in any way to this research or previewed to your responses or information. Your president is serving as a link to your access to this survey and will not know your information or answers.

Activities:

If you participate in this research, you will be asked to take about 15 to 20 minutes to:

• Complete an online survey questionnaire about your knowledge of depressive symptom.

• Complete post mail questionnaire about your perception of depressive symptom.

Eligibility:

You are eligible to participate in this research if you:

1. If you are a Nigerian-born immigrant, living in Minnesota.

2. If you are 18 years of age or older.

You are not eligible to participate in this research if you:

1. If you are not a Nigerian-born immigrant, living in Minnesota.

2. If you are younger than age 18 years.

Appendix B

Questionnaires

Demographic

Directions: no personal information required

1. Age: _____18-24 years old

_____25-34 years old

_____35-44 years old

_____45-64 years old

_____65+ years old

2. Gender:

_____ Male

_____Female

3. Nationality:

_____ Nigeria-born

4. Education Level:

What is the highest education level you have obtained? (Please check one):

_____ Elementary school

_____ High School

_____ college

_____ Bachelors or four-year degree

_____ graduate/professional school

Appendix C: ATSPPH Questionnaire

Although there are clinics for people with emotional/ personal problems, I would not have much faith in them. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

I would feel uneasy going to see a counselor because of what some people would think. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

A person with a strong character can get over mental conflicts by himself orherself, and would have little need of a counselor. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

Considering the time and expense involved in psychotherapy, it would havedoubtful value for a person like me. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

I would rather live with certain mental conflicts than go through the ordeal ofgetting psychological help. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

Personal and emotional troubles, like many things, tend to work out bythemselves. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

Having been a counseling client is a blot on a person‘s life. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

would rather be advised by a close friend than by a psychologist, even for anemotional problem. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

I resent a person, professionally trained or not, who wants to know about mypersonal difficulties. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

There are experiences in my life I would not discuss with anyone. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

It is probably best not to know everything about oneself. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

A person should work out his or her own problems; getting psychological counseling would be a last resort. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

It is difficult to talk about personal affairs with highly educated people such as doctors, teachers, and clergymen. (Choose one)

( ) 1 Agree ( ) 2 Partly Agree ( ) 3 Partly Disagree ( ) 4 Disagree

Appendix D: Scatterplot of ATSPH With and CMD

Figure D1

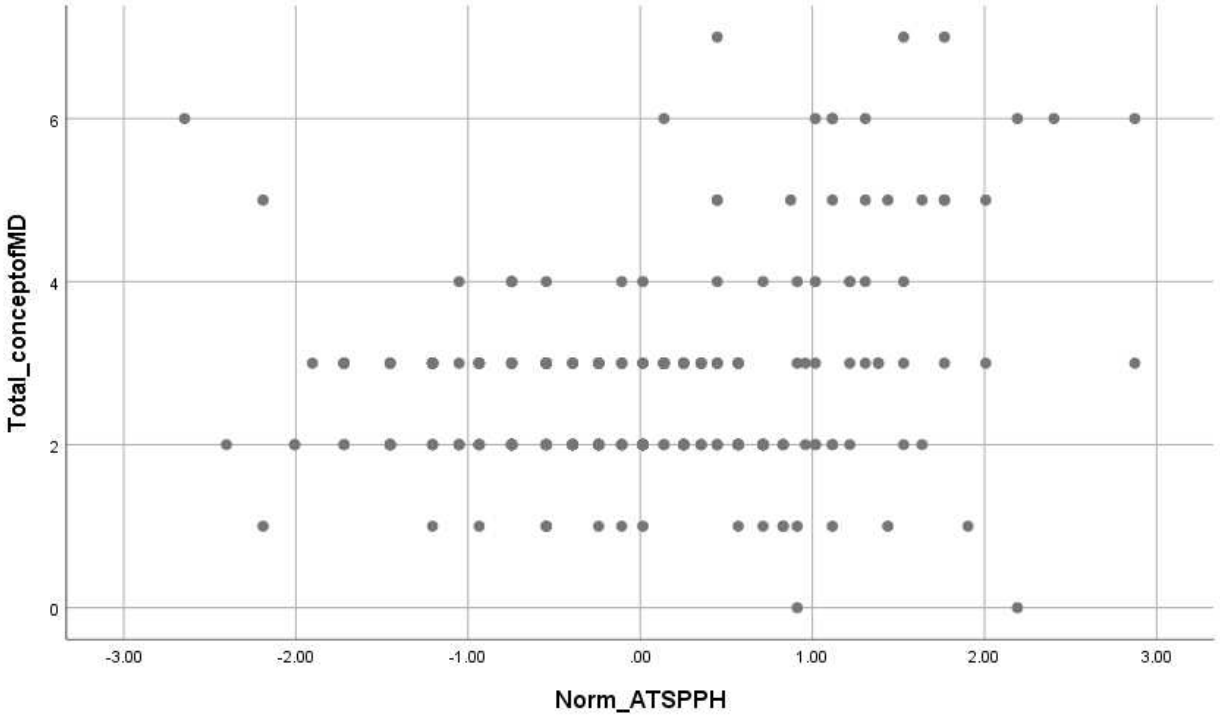


Figure D 2. Scatterplot of ATSPH With and TOH

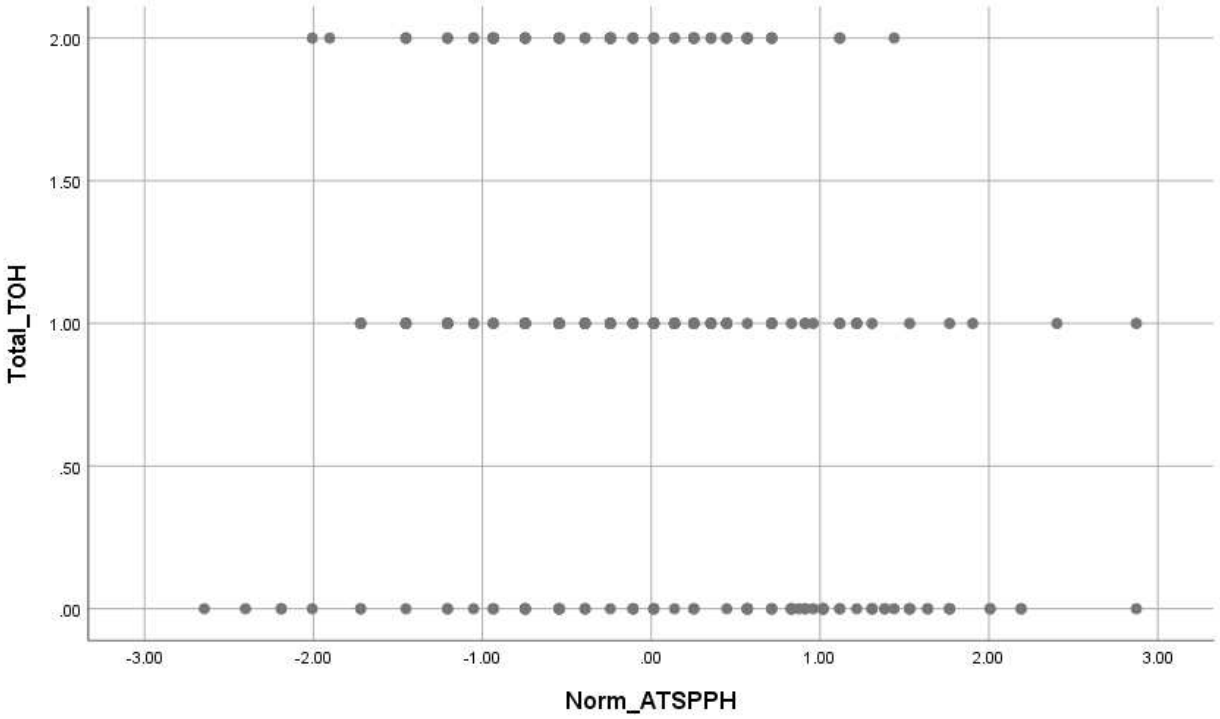
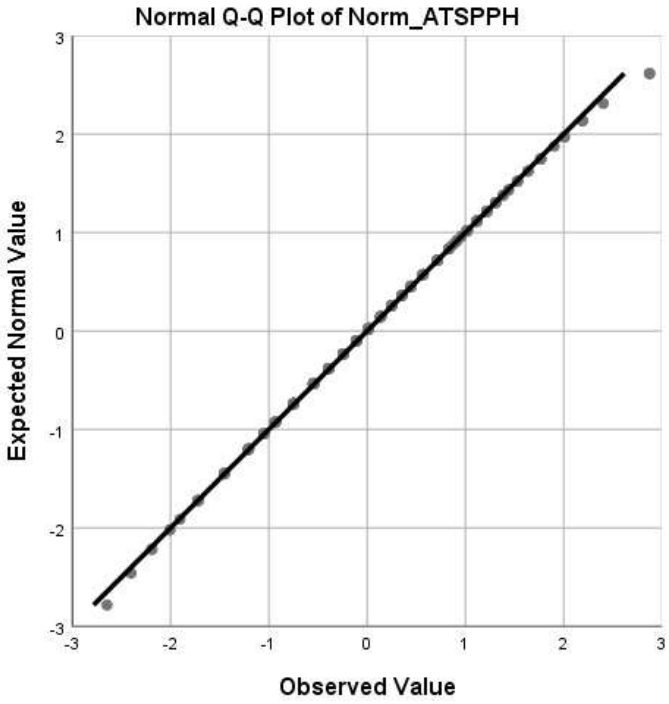


Figure D2. Scatterplot of ATSPH With and CMD

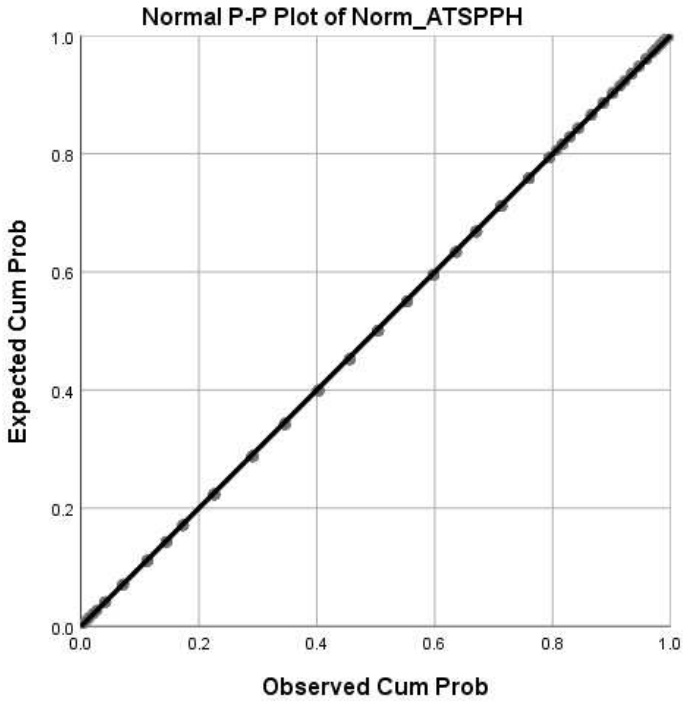
Appendix E

Figure E1



Q-Q plot of ATSPPH, demonstrating normality

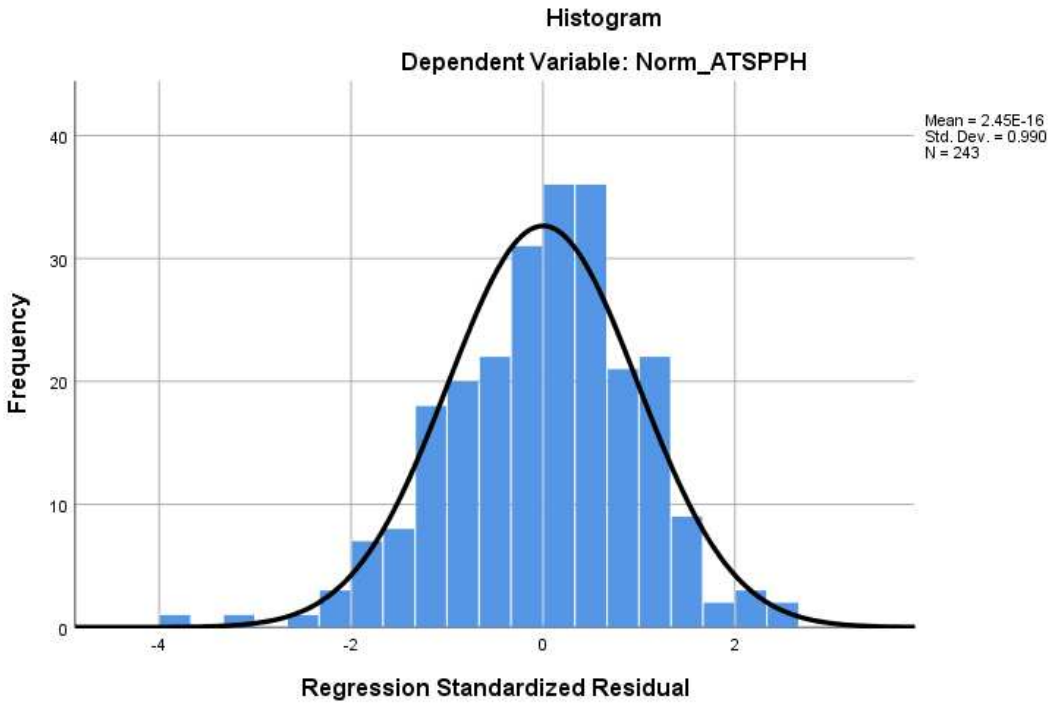
Figure E2



Q-Q plot of ATSPPH, demonstrating normality

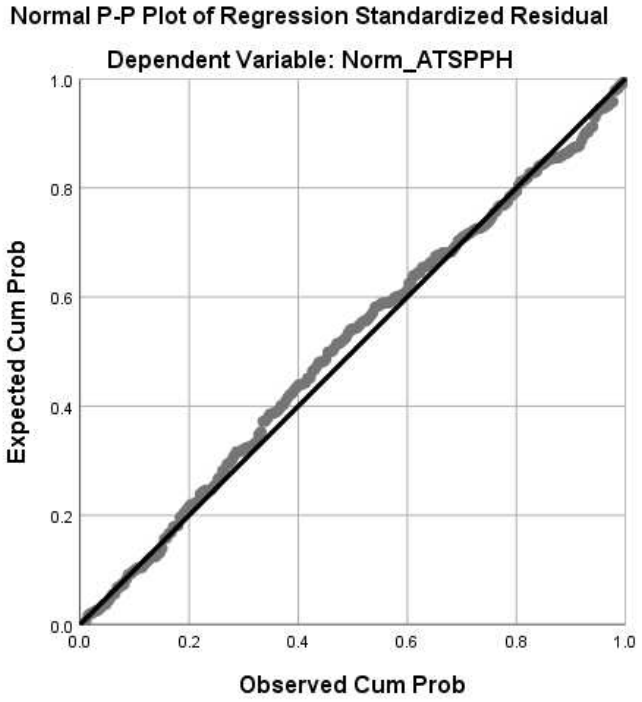
Appendix F: Histogram and P-Plot of Regression Standardized Residual

Figure F1



Histogram of residual

Figure F 2



Normal P-P plot of residual.

Assumption of Heteroscedasticity: Scatterplot of Standardized Residual and Standardized Predicted Value

Figure F3