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THE IMPACT OF BELIEF: PREDICTORS OF DEPRESSION STIGMA IN NIGERIANS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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This study is dedicated to those who have the courage to seek and those who need the encouragement to ask. May we all find freedom.

Acknowledgements

When I think about where this all began, I cannot decide on a starting point. One could say it began when I decided in the 6th grade to become a psychologist, or when I decided to move clear across the country to attend graduate school, but in actuality it began way before that. It began thousands of miles away, in a time several decades before today, in a beautiful village which birthed the two kindest, most intelligent, hardworking, God fearing parents this universe has known. The sacrifices my parents have made in love have been the most formative and influential acts on my life. Thank you for teaching me how to succeed, how to persevere, how to encourage, but most importantly how to love. You both also birthed the most amazing older sisters I could have ever asked for who have encouraged me….disciplined me….pushed me and wiped my tears away.

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the end of the tunnel. I have been blessed beyond measure to have friends across the globe who love and encourage me.

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A friend once told me that the way I move reminds her of long grass dancing in the wind, the epitome of freedom. The absolute source of my freedom has come from God. Thank you for freeing me from my worries and my self-doubt by instilling a sense of peace and worthiness. Above all, thank you for your display of perfect love each day in my life.

Ecclesiastes 4:9-12 reads "Two are better than one, because they have a good return for their labor if either of them falls down, one can help the other up.
But pity anyone who falls and has no one to help them up. Also, if two lie down together, they will keep warm. But how can one keep warm alone? Though one may be overpowered, two can defend themselves. A cord of three strands is not quickly broken." Thank you to everyone for being a part of the cord that keeps me together.

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Abstract

The primary purpose of this study was to understand which beliefs held by Nigerians in the United States contribute to depression stigma. The specific aims also included investigating depression literacy, determining if there are differences in depression literacy and stigma between first generation and second generation immigrants, and to determine which factors such as depression literacy, gender, beliefs on depression causation, and religiosity contribute to depression stigma. Participants completed an online survey which included a demographics measure, depression vignette, beliefs on causation scale, religiosity scale, and a personal and public depression stigma scale. It was hypothesized that gender, depression literacy, beliefs in causation, and religiosity would predict personal depression stigma. It was also hypothesized that depression literacy, beliefs in causation, and religiosity would predict public depression stigma. The majority of the sample had depression literacy, which exceeded expectations and lessened its effects on the depression stigma. A hierarchical regression analysis revealed that gender (males), higher beliefs in the spiritual causation of depression, and religiosity predicted higher personal depression stigma scores. A multiple regression analysis revealed that beliefs in biological causation predicted higher public stigma scores. There were no observed differences between first generation and second generation immigrants. The findings of this study reflected the importance of religious and spiritual beliefs in Nigerians and suggest that mental illness research, prevention, and treatment should be examined through this lens.

CHAPTER ONE: INTRODUCTION

> "There is nothing call[ed] depression in Nigeria, I only hear about depression when I came to the U.S. …A typical Nigerian-born woman is supposed to be strong not just for herself, but also for her family and uh – you just cannot be depressed. Depression is a sign of weakness to a Nigerian-born person. You are supposed to be strong, not only to yourself, but for everybody outside looking onto you and for your whole community… the woman will deny she has depression because it is so belittling to hear that language" (Ezeobele, Landrum & Symes, 2009).

For several decades, Western psychology scholars believed Africans, as a whole, were devoid of or only having extremely low incidence of mental illness (Carothers, 1951; Fabrega, 1996). However, this conclusion appeared to be the result of a lack empirically sound studies on the vastly different countries and ethnic groups within Africa pertaining to mental illness. According to the Global Burden of Disease (GBD) report 2004 update, an assessment and estimate of the health of the world's population, depression is a leading cause of burden and the leading cause of disability globally [WHO, 2010]. Researchers used prevalence, incidence, and remission rates of Major Depressive Disorder and Dysthymia data from published and unpublished studies to estimate the level of burden (Ferrari, Charlson, Norman, Patten, Freedman, Murray, et al., 2013). However, many countries were vastly underrepresented in the report. In the 2000-2002 report only three countries out of the 46 in the AFRO (Africa) region had country data available, the lowest amount of response data of all six WHO regions (Brhlikova, Pollock, & Manners, 2011). The three studies included from the AFRO region had a cumulative sample size of 1200, were based on a small village or town, and did not meet the requirement of "a probabilistic national or regional representative

sample," limiting generalizability (Brhlikova, Pollock, & Manners, 2011). There is a substantial probability that the rates of depression are significantly underreported across the globe and especially in African countries that are severely lacking in published and unpublished studies on mental and public health.

Nigeria is commonly referred to as the "Giant of Africa," due to its population size and economic viability (AFRODAD, 2007). Great Britain began its colonization of Nigeria in the late 1800s and officially amalgamated Nigeria in 1914 (Falola & Heaton, 2008). Nigeria gained its independence on October 1, 1960, and soon after, from 1967-1970, underwent a civil war. The ramifications of colonization and the civil war are still evident in the economic, political, religious, and social spheres in Nigeria. The colonial economy was created to benefit the colonial powers at the expense of the land's inhabitants, limiting economic prosperity several decades later and agitating political and social stability (Adeyeri & Adejuwon, 2012). As a result of some of the unrest, Nigerians began to emigrate to the United States of America as early as 1920, but more recently since 1980 (RAD, 2015). Nigerians constitute the largest single African immigrants in the United States, with approximately 376,000 Nigerian immigrants and children (first and second generation immigrants) total. Immigration has been shown to be associated with stress and anxiety, depression, social isolation, ethnic prejudice, and health disparities for both immigrants and their children (Bhugra, 2003; Perreira & Ornelas, 2011; Sellers, Ward, & Pate, 2006). Additionally, black immigrants have to adjust to being a racial minority and racial discrimination (Sellers et al., 2006). Many of these problems can translate into depression for immigrants and immigrants' children. Sellers et al (2006)'s qualitative study on the wellbeing of black African immigrant

women found that the women associated the emergence of depression with change, parenting responsibilities, gender role strain, difficulties with systems, financial concerns, racism, and social isolation. They identified change that resulted from emigrating from Africa to the U.S. as a primary factor associated with depression. The women highlighted that adapting to a new environment, culture, people, and language increased depression. Immigrant's adaption to their new country of residence can significantly influence their wellbeing.

Even though a few researchers have studied the presence of depression within Nigerians, lifetime and 12-month prevalence, depression is often under recognized, ignored, untreated, and stigmatized within Nigeria, and amongst Nigerians in the diaspora (Adewuya, 2006; Adewuya & Makanjuola, 2008; Adewuya, Owoeye, & Erinfolami, 2011; Gureje, 2006). Stigma has been shown to have negative impacts on the treatment of mental illness and the treatment of those suffering from a mental illness such as depression (Corrigan, Druss, & Perlick, 2014). There is a lack of literacy and ability to recognize depression which may lead to more stigmatizing beliefs and social distance from those assumed to have depression (Adewuya & Makanjuola, 2008). Also it has been debated if depression is a culture-bound syndrome (Dorwick, 2013).Some people with depression or any other type of mental illness are referred as being "mad" or suffering from "madness" in Nigeria, which can carry a connotation of being supernatural. (Sellers et. al, 2006). The belief in supernatural or spiritual origins of depression is a common belief for Nigerians, as Nigerians tend to be very religious and spiritual throughout Nigeria and within Nigerians in the Diaspora (Bankat, 2001). People vary on beliefs on the causes of depression, but some beliefs can lead to more

negative, stigmatizing attitudes, such as the belief in supernatural causes of depression. As public opinion within Nigeria and Nigerians in the diaspora shifts to becoming more inclusive of mental health and wellbeing, it is important to begin to research beliefs and attitudes surrounding depression that may prevent disclosure of suffering and promote negative beliefs and actions towards those suffering from depression. To alleviate stigma, understanding which factors such as depression literacy, belief in causation, and religiosity, have on depression stigma will help shape the future of mental health care. No study has examined predictors of depression stigma within Nigerians in the United States.

CHAPTER TWO: LITERATURE REVIEW

The following chapter outlines pertinent research related to the current research study. It begins with a brief history of Nigeria, presented to provide a context for the poor infrastructure that has impeded the growth of mental health care in Nigeria. Colonial rule reshaped the healthcare sector in Nigeria and has had lingering effects. Additionally, this chapter presents and reviews the constructs being studied. The chapter ends with the statement of purpose for the current study and proposed findings.

Brief History and Current State of Mental Health Care in Nigeria

> "Back in those days we had ikpokpa aka (the meeting of hands) to settle disagreements. It happened once a year…if you and another person had problems with each other you had to come in front of the community to solve it and after that day you could no longer argue about the issue that brought you to need ikpokpa aka. This is what we did until the white man came and told us our ways were wrong…that was our form of counseling."
>
> – Anne Ukuku

Although Nigeria was not officially created and formally named a colony of Great Britain until the amalgamation of the northern and southern regions in 1914, their presence and influence was felt several decades prior. From the very beginning expenditure on mental health care was scarce. British officials debated on the use of European methods of handling mental ill Nigerians. However, several officials argued that in order to preserve and encourage civilization, mental institutions needed to be created (Heaton, 2008). The first psychiatric asylum was established in Calabar, Rivers State, Nigeria in 1904 and the second asylum was established in 1907 in Yaba, Lagos State, Nigeria. Though these were recognized as psychiatric asylums, they were operated by general medical personnel (Ayonrinde, Gureje, & Lawal, 2004). These asylums were utilized as a means to jail "lunatics," focusing on custody rather than treatment. The

asylums were underfunded, dilapidated, and overcrowded. Oftentimes patients were chained to the walls and floors for extended periods of time (Heaton, 2013). The asylums continued the racialization of psychology and furthered the belief that Nigerians were inferior and needed to be controlled. Many Nigerian people were skeptical of utilizing these colonial created hospitals and usually only sought out help if the traditional and religious means of treating those deemed "mad" did not work (Sadowksy, 1999). The treatment of mental health began to change with the appointment of Thomas Lambo at Aro asylum. He aimed to decolonize asylums and psychology that misconstrued Nigerians as being mentally inferior.

Aro Psychiatric Asylum (later known as Aro Neuropsychiatric Hospital) was opened in 1954 in Abeokuta, Ogun State, Nigeria. Thomas Adeoye Lambo, the first Nigerian psychiatrist, was appointed t o run the hospital soon after he returned from finishing his education in Great Britain. Dr. Lambo's work would later revolutionize the mental health sector in Nigeria by combining Western and traditional methods of treatment through what he called "methodological syncretism." He employed traditional healers, commonly referred to as "witch doctors" by the Europeans, to work alongside Western therapists. Dr. Lambo likened psychotherapy to traditional healers because like the former, they explore medical histories from the patient's family members, have therapy sessions individually or in group and analyze dreams, dance or perform rituals (Omni, 1992). When patients entered the hospital they were asked if they wanted Western or traditional healing methods. For nine years he and his teamed taped sessions held by the healers outside of the hospital and found they were effective. Patients were able to function independently and did not regress into childlike tendencies which was

commonly seen in patients who were imprisoned in the hospital for several years. Adeoye also created the Aro Village System to prove psychotic patients were not more violent than non-psychotic people and were provoked to violence by the way people treated them. He placed schizophrenic patients in villages with their parents and incorporated therapy into normal village life. Therapy included talking to normal villagers, because he believed isolation only worsened their condition, planned therapy sessions, and injections of psychotropic drugs. The patients lived in the homes of normal villagers and in return, the villages received electricity, running water, and five shillings a night for each patient and family member staying in their home. The only thing different between the Western treatment at the hospital and treatment in the villages were the social dynamics, yet they discovered the village system cure yielded better, longer lasting results. Those who came to the hospital and choose to see a traditional healer outside of the hospital also fared better than those in the hospitals receiving Western counseling. He attributed this to the healers' ability to spend several hours with the patients and the families attending to their needs. The system Adeoye created helped to merge the systematic nature of Western counseling with traditional healing methods. In a 1992 interview about his methods he states:

> "I introduced into this particular form of methodological syncretism. I arranged the marriage of traditional and Western cultures. The traditional healers themselves are now using tranquilizers, thorazine, and other psychotropic drugs, combined with psychotherapy, ritual killing, and the interpretation of dreams. They're even giving antibiotics in cases where patients have pneumonia or chest infections. I've been able to persuade them that only in extreme cases should they restrain their patients. They're becoming more modernized. They realize they can syncretize both approaches. Just as there is no one religion – there are many religions – so, too, is there no one medicine. There are many medicines."

His work highlighted the complicated nature of colonization. Colonization utilized mental illness as a way to separate the European from the "indigent" African, but also provided a space for medical knowledge to be shared and produced. Decolonization led to the emergence of Nigerian doctors who modernized healthcare while reversing the structures that encouraged poor infrastructure. Dr. Lambo's influence on Nigeria's mental healthcare sectors expanded beyond Aro hospital and his village system to the creation of empirically sound psychological research on Nigerians. His work focused on highlighting the similarities of psychological disorders across cultures, while simultaneously arguing that cultural factors influenced the recognition and diagnosing of mental illness. His research aimed to dispel the notion of the inferior "African mind" that was perpetuated by European officials and scholars.

By the end of his time at Aro Hospital, Adeoye had created twelve village systems in Nigeria and had his work adopted in over 60 countries. However, as Nigeria became more industrialized and mobile, the village system stalled. The family and tribal systems became less centralized as people continued to move into more urban areas. Widespread political instability due to the civil war from 1967-1970, and the several upheavals and coups that followed, also impeded the progress of these systems as mental health care became less of a priority and received less of the country's expenditure (Bass, 1992). Even prior to independence, mental healthcare received less expenditure and began stigmatized through the treatment of the make mentally ill in psychiatric institutions. Almost simultaneously as Dr. Lambo pushed to increase awareness and services, the country began to several economic, political, and educational shifts. Alongside the lack of expenditure, was a lack of opportunity to

become educated on mental illness within the country. It was not until the 1980s that a Nigerian university provided a specialty in psychiatry. These things coupled with the lack of infrastructure impeded the growth of mental health care.

Information on current state of mental health care in Nigeria is greatly lacking. There have been few reports completed on the status of mental health care within Nigeria. The Mental Health Foundation of Nigeria reported there are an estimated 64 million people suffering from some form of mental illness within Nigeria. The World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS) collected information on mental health service in Nigeria in 2005. They found a significant lack of attention, funds, and resources on mental health issues. Nigeria's mental health policy was created in 1991, and focused on advocacy, promotion, prevention, and rehabilitation. However, it has not been updated since its creation and the majority of its aims have not be implemented. Only about 3.3% of the annual health budget is spent on mental health care, and there is currently no ministry desk for mental health within the government (WHO-AIMS, 2006). In a rapidly growing population of over 170 million, there are only 150 psychiatrists in the entire country; this yields a ratio of 1.1 million people to 1 psychiatrist. An estimated 77% of all Nigerian psychiatrists work in the United States or United Kingdom (Crabb, Adewuya, Olugbile, & Abosede, 2014). The lack of resources does not stop at the lack of mental health professionals; there is also a tremendous lack of psychiatric hospitals, and community agencies are almost non-existent. This lack of resources has a direct effect on mental health care infrastructure, stigma surrounding mental illness, and the creation of services to help people suffering from mental illness.

Brief History of Religion in Nigeria

> "Religion is a fundamental, perhaps the most important, influence in the life of most Africans; yet, it's essential principles are too often unknown to foreigners who thus make themselves constantly liable to misunderstand the African worldview and beliefs. Religion enters into every aspect of the life of the Africans and it cannot be studied in isolation. Its study has to go hand-in-hand with the study of the people who practice the religion."
>
> -Joseph Omosade Awolalu

Studying Nigerian people's beliefs about depression require an understanding of the importance and influential nature of religious and spiritual beliefs. Faith and culture are complexly interwoven and have been since before colonialism. Religious ideas and spirituality were present prior to colonialism and missionary involvement (Landau, 1999) and the divide between Christianity and traditional practices are not conflictual, but blended (Elphick, 1981; Landau, 1999). The similarities between pre-colonial faith and present day faith and religion include the acknowledgment that faith is not seen as a separate entity, consulted only briefly, but as a vessel through which life is lived.

Although the formations of these beliefs differed by ethnic group, common features included the acknowledgement of a Supreme Being, divinities or spirits, ancestral involvement, no written scriptures, but oral transmission of beliefs through myths, songs, dances, and proverbs, amongst other avenues (Gbenda, 2010). The Yoruba people of southwestern Nigeria believe in the existence of a Supreme Being (SB). They call the SB Olorun, which translates to Lord of Heaven, Olodumare, the supreme God worthy of great reverence, or Olorunolodumare, God of Heaven (Awolalu, 1975; Ogunbado, 2012). Alongside the belief in a supreme being, Yorubas believe there are many deities, also known as Orishas, which act as intermediaries

between them and God, because Olorun cannot be reached directly. There are several Orishas which each have specific duties and have festivals to celebrate them. Igbo people of southeast Nigeria also believe in the Supreme Being. The Supreme Being is referred to as Chukwu (Chi-ukwu) – Great God, Chineke – Creator God, or Osebuluwa – God who upholds the world. These names amongst others, were present before missionaries brought the concept of the Christian God, giving support to the belief that Igbo people believed in a supreme God several centuries before colonialism. Similarly to the Yoruba, Igbo people's faiths are deeply intertwined into the family system and social culture (Onunwa, 1990).

One of the first recorded contacts West Africa had with Christianity came through Portuguese traders in Benin, who built churches and had a small number of converts. However, the greatest impact came from the return of British Catholic missionaries and the addition of Methodist missionaries during the mid-1800s (Adamolekun, 2012). These missionaries began to immerse themselves into the culture, utilized translators, and began speaking the native tongues to aid in conversion. Missionaries soon began creating churches, hospitals, and schools while training Nigerian ministers. The United African Church, the first indigenous church in Nigeria was established in 1891 in protest of the discriminatory practices of white founded and led churches and the condemnation of cultural practices by Europeans (Adamolekun, 2012).

Traditional beliefs were not washed away with the introduction of Christianity, but instead Christianity was fused into preexisting religious and spiritual beliefs. The Aladura movement was created from the desire to have more indigenous Nigerian

churches beginning in the late 1910s. Aladura churches, Yoruba for “owners of prayers”, incorporated African cultural views, such as divine healing, with Christianity. During the flu epidemic of 1918 in Southern Nigeria, Western medicine failed to contain or treat the outbreak, and several churches were closed as a containment strategy. However, Ijebu-Ode, a member of the Anglican Church, reported he received visions on how to treat the epidemic through powerful prayer and divine healing. This led to the creation of the Faith Tabernacle which believed in divine healing, prayer protection, and morality. In the 1930s, members of the Faith Tabernacle requested for missionaries to be sent from the Apostolic Church in Great Britain to Nigeria to ordain Apostles and spread their teachings. This resulted in the establishment of the Apostolic Church in Nigeria. However, disagreement rose once again over the lack of Nigerian leadership in the church and disagreement on the use of western and native medicine for healing. Several worshipers left the church and founded the Christ Apostolic Church (CAC) in 1940. During this period of time, several indigenous churches were created that merged Christianity with traditional practices and the beliefs of direct contact with the Holy Spirit (Ayegboyin, 2004). People began leaving mission churches and joined Aladura churches because of their focus on explaining existential questions in life, which fell more in line with the culture (Adogame, 2004; Peel, 1968).

Christianity continued to evolve through the creation of Charismatic Evangelical and Pentecostal churches. These churches utilized crusades and revivals to gain recognition and membership and based their foundation on being very spiritual. The movement bore several churches that believed in divine healing and baptism of the Holy Spirit such as The Redeemed Christian Church of Christ, Deeper Life Bible

Church, Mission Agape Church, Christian Charismatic Ministries, amongst many others which are still active presently both in Nigeria and abroad (Gaiye, 2002). The largest denominations within Nigeria currently are Roman Catholicism, Anglican, Protestant-Presbyterian and Pentecostal. There are conflicting reports on the exact percentage of Christians in Nigeria however, according to a Pew study (2011), Christians form the majority of the nation comprising 50.8% of the nation, Muslims comprised 47.9%, and other religions, including traditional religions make up 1.4% of the population.

Landau (1994) asserts that people cannot assimilate experiences into categories they cannot express. When new information or beliefs are introduced, people incorporate it into preexisting understanding and express it in ways already utilized by them. This is what has been seen with the birth of Christianity in Nigeria. Long standing beliefs were not thrown away with the introduction of Christianity, but Christianity was developed and incorporated within the context of these beliefs. In the same way, some traditional spiritual beliefs were converted into cultural customs in an attempt to not be seen as going against this new faith. Faith, religious, and spiritual beliefs are so interwoven into the culture that it influences thought processes and actions. This makes it difficult to examine any beliefs without the understanding and acknowledgement of religion and spirituality.

Depression in Nigerians

The presence of mental disorders is universal crossing the bounds of race, culture, SES, and gender. An estimated 25% of people will face some type of mental or behavior disorder in their lifetime (World Health Organization, 2001). However, for a long time, Africans were thought to be devoid of or only having extremely low

incidence of mental illness (Carothers, 1953; Fabrega, 1996; Tooth, 1956), especially depression. Depression, for the purpose of this study, is defined as "a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness and poor concentration" (WHO, 2001). Previously, some authors suggested the low incidence of mental illness is because Africans have shown a diverse presentation of mental illness, that were not bound by Western standards of mental illness (Binitie, 1975) and because Africans have a tendency to present with unexplained medical symptoms (Patel et al., 2001). However, this belief, particularly pertaining to depression, has not been supported by sufficient empirical evidence in recent studies. Still, there has been evidence to support some somatization of depressive and other mental illness symptoms are unique to Africans (Gureje, Simon, Ustun, & Goldberg, 1997; Gureje et al., 2008), such as "brain fag syndrome." Brain fag, initially coined by RH Prince in 1960 from his observations of Nigerian university students, is described as "a tetrad of somatic complaints; cognitive impairments; sleep related complaints; and other somatic impairments" (Ola, Morakinyo, & Adewuya, 2009). Ola and colleagues also suggest this may be the equivalent of the Western perception of anxiety or depression. Within the past two decades, the literature on mental illness, and specifically depression within Nigerians has increased incrementally.

As a part of the World Health Organization's Mental Health Surveys initiative in 2001, Gureje and colleagues assessed the lifetime and 12-month presence of Major Depressive Episode (MDE), its comorbidity with other mental disorders, and physical conditions. The study was conducted in 21 of Nigeria's 36 states and surveys were

given in the four major languages of Nigeria: Yoruba, Igbo, Hausa, and Efik. The lifetime prevalence of MDE was 3.1% and 1.1% for 12-month prevalence and the mean onset age was over 29 years old (Gureje, 2010). The rates reported in this study were significantly lower than other surveys with the same methodology (Demyttenare et al., 2004). One possible reason for this that the researchers cited was the age of onset. The mean age for survey participants was 35, and with the onset age of MDE being 30, it is possible many of the respondents had not reached the age of MDE onset. A lack of acknowledgement that some symptoms are problematic may also influence the reported rates of depression. Another one of the major limitations the researchers cited was the high occurrence of stigma within the Nigerian community which could have accounted for false negative results.

Depression prevalence and socio-demographic correlates of depressive disorder were studied amongst Nigerian university students (Adewuya, Aloba, Mapayi, Oginni, & Ola, 2006). This was the first study on the prevalence and risk factors of depression in Nigerian students. The diagnostic tool used was modified to aid in the assessment of minor depressive disorder (2 week period of at least 2, but less than 5 symptoms). Over eight percent of the sample was identified as having depression (5.6% minor depressive disorder and 2.7% major depressive disorder). Gender, academic problems, housing problems, family size, and scores on an alcohol consumption measure were significantly associated with depression. The most significant associations were the relationships between depression, housing accommodation problems, large family size and large consumption of alcohol and cigarettes for students. This shed light on the state of depression in Nigerian university students and the problems they face which correlate

to depression. Both of these studies lend to the evidence that Nigerians also suffer from depression and some aspects of measures of depression are valid cross-culturally.

Over 70% of Nigerians reside in rural communities and do not have easy access to health care (Ola et al, 2014). The small number of psychiatrists and psychologists in urban and rural areas alike increase the likelihood that primary care physicians will be the first point of contact for those with depression. Because of this, Ola and colleagues studied primary care physicians in Lagos State attitudes toward depression and their role in mental health care. Physicians completed the Depression Attitude Questionnaire (DAQ) which assesses health care workers' knowledge and attitudes about the causes, manifestations, and treatment of depression (Botega, Blizard, Mann, & Wilkinson, 1992). The vast majority of the clinicians (80.5%) had difficulty distinguishing unhappiness and clinical depression. Even still, 61% of the physicians reported that they felt comfortable dealing with depression, though they felt they had little to offer depressed patients to alleviate their symptoms. Their beliefs on causation tended to place a heavier focus on recent life events and the majority of respondents (51.2%) disagreed that biological abnormality was the basis of severe depression. There was also a strong belief in 82.9% of respondents that depression is a way people with poor stamina deal with life stressors. This is a particularly stigmatizing view because it suggests depressed people are intrinsically flawed and use depression as a coping mechanism. Even though the physicians had negative views on the effectiveness of therapy they believed therapy would be more beneficial than anti-depressants and should be left to a specialist to conduct. This study highlighted a clear need for

education on depression symptoms, etiology, and treatment to be given to primary care physicians.

As Nigerians continue to spread across the globe, more studies are needed to assess depression within these immigrant populations. Ezeobele and colleagues aimed to add to the knowledge base on depression and immigrant women through a phenomenological study on depression within Nigerian-born immigrant women (Ezeobele, Malecha, Landrum, & Symes, 2009). Interview questions and probes included: "When you hear the word depression, what does that mean to you? When you were growing up in Nigeria, what attitude did you have towards depression? When Nigerian-born women in the USA seek help for depression, who do they go to for such help? When you think of depression experiences, what are the differing beliefs held in the USA, from those held in Nigeria?" Researchers found there was an overarching theme of "Depression is Not Acceptable" and three patterns that spanned six themes: Incurable and Untreatable; Stigma; and Cultural Influence. The majority of the respondents believed depression to be incurable and untreatable and all described depression as craziness or madness, and 15 of the 19 reported depression as a sign of weakness, something that goes against the social belief that a typical Nigerian woman should be strong for herself and family. The belief that depression can be a curse or evil spirit also led to a belief that it was incurable. Stigma was identified as a significant reason why a person would not admit to depression because of the adverse consequences of the disclosure, such as a lessening of social status. The researchers noted participants spoke and made it clear that none of the depressive symptoms pertained to them and suggested most people would deny having depression when

asked. The women explained depression would lead to isolation and rejection, not only for themselves but also their family and offspring. All the women identified religion as a common way to deal with depression, one stated “Depression is curable if the individual is religious” (Ezeobele et al., 2009). All women also reported a great need for education on mental health issues for the Nigerian community in the United States. This study was a reflection of many concepts studied within Nigeria and other parts of Africa. It highlights the weight of lack of education and cultural stigma which may lead to an even greater amount of stigma and a lack of disclosure and utilization of mental health services. Depression research still appears to be in its early stages within Nigeria and within Nigerians in the United States.

Mental Health Literacy

The term “mental health literacy” was coined by Jorm et al. (1997) defining it as “knowledge and beliefs about mental disorders which aid their recognition, management, or prevention.” They go on to state that mental health literacy is not only having general knowledge, but also entails knowledge on prevention, recognition of illness development, knowledge of self-help skills for milder problems, and how to support others suffering a mental health crisis (Jorm, 2012). For the purpose of this study, the focus will only be on the recognition of a disorder.

The importance of literacy is a concept that permeates all disciplines and areas of life. Literacy is not only a vessel of connection, but it is also a way to prevent and encourage treatment for physical and mental illnesses. Low health literacy is associated with adverse health outcomes (Dewatt, Berkman, Sheridan, Lohr, & Pignone, 2004). However, the vast amount of energy put towards promoting literacy is focused on

physical diseases. For example, breast cancer awareness, prevention, and treatment has become a significant part of many Americans' October. Americans are told what signs to look for to recognize abnormalities in their breasts, where to go for mammograms, how often they should check themselves, and how these keys to early intervention can save lives. This knowledge of prevention also leads to knowing the appropriate avenues for treatment. The overall understanding of breast cancer prevention and treatment in turn fuels public support to invest in dealing with cancer. However, this fervor and support to find treatments and promote prevention is not translated into mental health care, as there seems to be a general lack of understanding on mental illness as a whole.

Lack of recognition of mental disorder can have several detrimental results, one being a delay or absence in receiving professional help (Gulliver, Griffiths, & Christensen, 2010). Community studies in several countries (Canada, India, Japan, Sweden, the United Kingdom, and the United States) showed that many people are unable to recognize mental disorders (Jorm, 2012). This lack of recognition and labeling can sometimes result in people equating depression with a less heavy term (i.e. life problem), which may encourage people to not seek help (Jorm, Kelly et al., 2006). Another less researched possible result of not being able to recognize mental illness is increased stigma because instead of the depressive behaviors being medicalized, a person is viewed as being dangerous, unstable, and unfit to work.

An Australian national survey gave vignettes on depression and early schizophrenia to assess knowledge and recognition of the two disorders by asking a respondent what, if anything, would they say was wrong with the person in the vignette (Farrer, Leach, Griffiths, Christensen, & Jorm, 2008). For those who received the

depression vignette, depression was the most common response to what is wrong with the person in the vignette regardless of age. However, adults over 70 less accurately identified the symptoms of depression. This falls in line with other studies which suggest older adults have lower mental health literacy (Fisher & Goldney, 2003).

The vast majority of mental health literacy studies have occurred in Australia, the UK, and other Western countries, however, very few studies have examined mental health literacy in non-Western countries or non-western populations within Western countries. A few studies completed in Nigeria on literacy focused more on the belief that depression is a mental illness, not on the ability for persons to recognize depressive symptoms as being mental illness (Drogra, Omigbodun, Adedokun, Bella, Ronzoni, & Adesokan, 2012).

Depression Literacy & Stigma

Studies have conflicted on the best way to examine mental health literacy and literacy's effect on stigmatizing attitudes. The conflicting results may also be a function of differing methodology for studying depression literacy. Several studies use vignettes of people who have depression by DSM and/or ICD standards, however due to possible cultural differences in depression and the expression of depressive symptoms these vignettes can sometimes prove to be unreliable. Also the inconsistency of the vignettes throughout different studies, makes analysis over several studies of literacy and stigma difficult. Dietrich et al., (2006) suggested improving mental health literacy could possibly increase stigma against depression.

Understanding the possible link between depression literacy and stigma has the potential to inform anti-stigma campaigns. Kabir and colleagues found in their sample

of northern Nigerians, that literate respondents, when compared to non-literate respondents, were seven times more likely to show positive feelings towards people with mental illness (Kabir, Iliyasu, Abubakar, & Aliyu, 2004). Wang and Lai (2008) examined the relationship between depression literacy, personal contacts with depression, and personal stigma against depression. They also used a vignette to assess depression literacy and found correct case recognition of depression was negatively associated with depression stigma (Wang & Lai, 2008). Participants, regardless of gender who recognized the case vignette as depression were less likely to agree with stigma related questions. Wang and Lai were careful to say despite the differences in stigma as measured by depression literacy, one cannot assume improving literacy will definitely decrease stigma.

Wang used the same data pool from the above study to look at depression literacy and stigma in an employed population. Over 75% of the participants attributed depression to the vignette presented and women (87.4%) were more likely to correctly identify depression than men (66.9%) (Wang, 2011). Differences towards some of the personal stigma questions were found between employees at different levels. Managers were more likely to endorse views against voting for a politician, employing someone, and personal disclosure of depression than supervisors and ordinary workers (Wang, 2011). This suggests there may be other personal characteristics outside of literacy that may influence personal depression stigma.

Beliefs about Mental Illness Causation

The potential causes of mental illness have been researched and debated since the field of psychology emerged. The general idea amongst researchers and

practitioners is that mental illness can be caused by biological, psychosocial, or a mix of the two factors. Still, beliefs about the causes of mental illness are variable between and within different cultures. These beliefs tend to reflect general knowledge, or lack thereof of mental illness. It would be very reasonable to believe beliefs about mental illness causation may influence attitudes towards mental illness. Negatively centered beliefs about causation have been found to create negative attitudes about mental illness and towards those who are suffering from mental illness. However, few studies have examined beliefs about causation to general knowledge of mental illness and stigma (Gureje, Olley, Ephraim-Oluwanuga, & Kola, 2006).

A cross-cultural study on public beliefs about the causes of mental illness in Japan and Australia found a predominant belief in social causes, such as daily stressors, death of a close person, traumatic event, and problems from childhood in both the Australian and Japanese samples (Nakane, Jorm, Yoshioka, Christensen, Kakane, & Griffiths, 2005). However, Australians were more likely to believe in genetic, inherited, or infection causes, whereas the Japanese sample was more likely to endorse the belief of a weakness of character as being a cause. The authors suggest the belief in weakness of character as a cause in Japan may reduce the likelihood of a sufferer seeking professional help or social support.

In a study examining beliefs about the causes of depression and its influence on therapy preference, Khalsa (2011) and colleagues found that ethnic minorities endorsed biological and personal characteristics as causes of depression significantly lower than Caucasians within the study. This finding was consistent with other studies that have found African-Americans to be less likely to endorse genetic or biological causes for

mental illness and more accepting of spiritual explanations than Caucasians (Givens, Houston, Van Voorhees, Ford, & Cooper, 2007; Schnittker, Freese, & Powell, 2000).

A community study of the knowledge of and attitude towards mental illness among Nigerian citizens of the Yoruba tribe cited poor knowledge of causation as being prevalent. The most commonly endorsed cause of mental illness was drug use (80.8%), followed by the belief of it being the possession of evil spirits (30.2%), then trauma, stress, and genetic inheritance (29.9%, 29.2%, 26.5%, respectively) (Gureje et al., 2005). There was an overall stronger belief in supernatural causes (9.2% of the sample cited God's punishment) than biological causes. In addition to causal beliefs, they also found there was an overall negative view of mental illness adding to social distance, beliefs that they would not be able to work, are dangerous, and mentally retarded (Gureje, 2005). The beliefs that drug misuse, divine wrath or God's will, spiritual possession, and accidents or trauma are causes of mental illness (34.3%, 18.8%, 18%, and 11.7%, respectively) were also reflected in a study on the beliefs among adults in northern Nigeria, a predominantly Hausa area (Kabir et al., 2004). Gureje et al. suggest that certain views on the cause of mental illness (drug use, divine intervention) are more likely to produce condemnation instead of understanding because these views suggest a moral failing of the mentally ill person. Belief in supernatural origin may lead people to seek spiritual or traditional healers in lieu of other types of mental health providers. Negative attitudes towards people with mental illness were also reflected in terms of social distance. The majority of participants indicated they would be afraid to talk to someone with a mental illness and only 4% stated they would consider marrying someone with a mental illness. Within this sample of Yoruba Nigerians, it seems that

poor knowledge of the cause of mental illness increased negative view and attitudes towards people with mental illness.

The lay beliefs regarding causes of mental illness in Nigeria and its correlates was also studied by Adewuya and Makanjuola (2008). Their study aimed at determining a pattern of perceived cause and the correlates of the causation. In accordance with previous studies, drug misuse was the most frequently endorsed followed by witchcraft/sorcery/evil spirits, and God's divine will. All the reported causes of illness were divided into three causal groups: Psychosocial factors (substance abuse, life stressors, personal deficits), Supernatural factors (witchcraft/sorcery/evil spirits, God's will/divine punishment, destiny), and Biological factors (heredity, brain injury, contact with mentally ill). Urban-city, higher educational status, and more familiarity with mental illness were correlated with belief in biological and psychosocial causes and rural dwelling, older age, and lack of familiarity with mental illness were correlated with supernatural causation (Adewuya & Makanjuola, 2008). These findings have an impact on who people would seek out for help and on which ways anti-stigma campaigns can be utilized to reduce the negative views and reactions to people dealing with mental illness.

Another study used a modified version of a schizophrenia questionnaire from the World Psychiatric Association Program to Reduce Stigma and Discrimination to assess if causation beliefs influence attitudes (Gureje, 2006). Respondents were then split into groups over their causation beliefs, biopsychosocial (84.6%) and those with exclusively religious or magical causation beliefs (15.4%). Though there was a generally poor knowledge of mental illness and negative views, there were significant

differences between the groups on their attitudes towards people with mental illness. People holding a biopsychosocial view of causation were more tolerant and held less stigmatizing attitudes than those with a supernatural causation belief.

Ikwuka, Galbraith, and Nyatanga (2014) explored the causal attribution of schizophrenia with people a part of the Igbo tribe in southeastern Nigeria. Supernatural causes (divine sanction, evil forces, fate) had the highest attributions, followed by biological causes (hereditary, brain injury, childbirth/infection) and psychosocial causes (life stresses, misuse of substances, personal deficit). Older respondents significantly endorsed supernatural causes more than younger respondents. Even though those with a higher educational status choose biological causes and psychosocial causes more than those with less education, they still chose supernatural causes at nearly the same rates. The researchers believe this suggests that Western education may not eradicate deeply entrenched cultural beliefs.

In Nigeria, and with Nigerians abroad in the Diaspora, there has not been a sufficient amount of research on Nigerian beliefs on the causes of mental illness, especially in regards to depression. The few studies referenced above mainly focused on Nigerians and their causal beliefs of mental illness as a whole or in terms of schizophrenia. Several of the studies used questionnaires that were created to assess knowledge and attitudes towards schizophrenia and modified them to assess for "mental illness." This appears to have had an influence on results, as schizophrenia has more prominent manifestations that can be attention grabbing. Only one study was found to examine causal beliefs on depression. This suggests that this is a concept that needs to be studied within the context of depression as a single disorder. It is also important to

investigate whether these same types of beliefs in causes occurs within a sample of Nigerians who have lived or were born in the United States.

Religiosity and Mental Illness

A broad search of literature yielded no results on studies specifically assessing the impact of religion on depression stigma, though a previous study mentioned earlier did find stronger religious beliefs to be associated with higher levels of personal stigma (Einsberg, 2007). However, research has reviewed some of the effects religiosity has on mortality and depression. Religiosity can buffer the effect of some non-family stressors on depression, such as financial and health problems (Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). Though there are some exceptions, religious commitment and practice can be beneficial to psychological well-being (Abe-Kim, Gong, & Takeuchi, 2004). When rated as highly important, religion or spirituality can sometimes decrease the risk of the experience of major depression, more prominently if the person had a depressed parent (Miller, Wickramaratne, Gameroff, Sage, Tenke, & Weissman, 2012). Religious involvement can be a significantly positive coping mechanism when faced with problems. Religious coping (prayer, speaking to a religious official) is regularly used as way to mitigate depression in religious peoples, especially within minority groups in the United States (Loewenthal, Cinnirella, Evdoka, & Murphy, 2001; Maltby, Lewis, & Day, 1999; Mathews, Corrigan, Smith, & Aranda, 2006). When traumatic things occur that are unexplainable, religion can provide a rationale for the occurrence (Dull & Skokan, 1995). Many studies on religion and religiosity show there may be a strong relationship between mental health and religion/spirituality.

Religious and spiritual beliefs are perhaps some of the most important beliefs many people hold. These views shape the way people view and perceive the world, form other beliefs, and how people interact with their environment. Religious views can impact people's causation beliefs regarding mental illness, attitudes towards mental health and illness, and perception and treatment of those with a mental illness. Psychological research for the most part has largely ignored the exploration of religion and stigma. This lack of exploration of mental illness attitudes and religion has also been reflected in the church religious spaces (Wesselmann & Graziano, 2010).

In the one article found examining religious beliefs and mental illness stigma, the researchers' first study focused on the different types of religious beliefs Christians hold about persons with mental illness, and how these beliefs relate to non-religious beliefs (Wesselmann & Graziano, 2010). They found participants' beliefs about people with mental illness fell on two main dimensions, morality and sin, and spiritually-oriented causes. Religious fundamentalism and authoritarianism both predicted dimensions of religious beliefs about mental illness. The spiritually-oriented causes dimension was more commonly endorsed by Protestants and Non-denominational Christians than Roman Catholic Christians. Also people who endorsed knowing a person very well with mental illness were less likely to endorse beliefs on either dimension. However a large limitation of this study was the lack of women included in the sample. Multiple studies have found that men are more likely to have stigmatizing views towards people with mental illness which may account for the large endorsement of religious beliefs on mental illness which may lead to stigmatization. There was also a lack of diversity in ethnic make-up which limits its generalizability

Even with the limitations of Wesselmann's study, it was the first study of its kind to solely assess the religious beliefs of mental illness and how these beliefs may lead to stigmatization. More studies should empirically test social perceptions on the relationship between religion and mental illness beliefs and stigma. This is especially important in regards to cultures, such as Nigerian culture, which are largely influenced by religious beliefs.

Stigma

Stigma is broadly defined as a set of negative and often unfair beliefs that a society or group of people have about something. Stigmatized attributes also disqualify a person from full societal acceptance (Goffman, 1963). Stigma devalues a person and can create a barrier between the person and society. Mental illness is stigmatized and this stigma is present in several societies across the globe and appears to be a widely endorsed concept by the general population (Corrigan, 2000). Stigma surrounding mental illness continues to be a significant barrier to the use of mental health care services (Corrigan, 2004). Though stigma is also present in situations outside of mental illness, some research suggests there is a harsher view of those who have mental disabilities rather physical disabilities (Corrigan, 2000). The negative perception of mental illness stigma may also affect the ways in which depressive symptoms manifest and a person's willingness to express non-somatic manifestations (Raguram, Weiss, Channabasavanna, & Devins, 1996). Raguram et al. (1996) found during their study on stigma, depression, and somatization in South Indians even though their sample had substantial psychological distress, they placed an emphasis on somatic symptoms and only reported features of depression (i.e. sadness, loneliness, etc.) when specifically queried. People

who reported depression as their most troubling symptom had high stigma scores and often cited fear of decreased social status as a reason for not disclosing their depressive symptoms (Raguram, Weiss, Channabasavanna, & Devins, 1996). This perceived stigma had a significant impact on their expression and willingness to disclose distress. Stigma has an enormous influence on mental health care initiatives across the globe, because it creates a barrier to treatment. It encourages a lack of disclosure of symptoms, creates a social distance towards people with mental illness, encourages prejudice and discrimination, and affects the well-being of people suffering from mental illness.

Public & Perceived Stigma

There are different types of mental illness stigma that have been studied in mental health literature: public stigma (also known as perceived stigma in some studies), personal stigma, and self-stigma. Perceived public stigma refers to the negative beliefs, attitudes, and conception the general population has about people with mental illness (Brown, Conner, Copeland, Grote, Beach, Battista, & Reynolds, 2010; Corrigan & Watson, 2002). It can also refer to a person's beliefs about the negative attitudes of others (Griffiths, Christensen, & Jorm, 2008). Few studies have found an inverse relationship between perceived public stigma and service utilization (Cooper et al., 2003; Nadeem et al., 2007), however, findings have been mixed on whether this translates into unwillingness to seek treatment and low utilization of social services. Very few studies have examined the presence of perceived public stigma in non-Western societies, especially within African societies and the possible predictors of stigma.

Self-stigma

Self-stigma refers to the negative beliefs people with mental illness hold about mental illness. This does not always mean they agree with the stereotypes, but are aware of its existence (Hayward & Bright, 1997). Still, many people who internalize stigma experience decreased self-esteem and self-efficacy (Corrigan & Watson, 2002). This diminished self-concept appears to be related to prejudice and discrimination, perceived or legitimate, people with mental illness undergo (Adewuya, Owoeye, Erinfolami, & Ola, 2011; Corrigan & Watson, 2002). Adewuya et al. (2011) found this may also be true for Nigerian outpatients with mental illness. Their findings on self-stigma also suggest correlates of high self-stigma include level of social support, duration of illness, level of insight, and working status (unemployment was significantly correlated to high self-stigma) (Adeuwaya et al., 2011). This was one of the first studies within Nigeria that aimed to explore which characteristics have an impact on self-stigma.

Personal Stigma

Personal stigma refers to the beliefs, stereotypes, and prejudices a person holds about mental illness (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). Researching personal stigma as its own component as opposed to grouping it with public or perceived stigma, has only recently been studied within the past decade and a half. Personal stigma has been shown to be more strongly associated with help-seeking behaviors than public or perceived stigma (Eisenberg, Downs, Golberstein, & Zivin, 2009). Eisenberg et al.'s study on stigma and mental health help seeking among college students found though perceived public stigma was considerably higher than personal stigma, personal stigma was significantly, negatively associated with help seeking whereas perceived public stigma was not. This suggests that in order to increase help-

seeking behavior, personal stigma must be reduced. Still, a majority of students who indicated having high personal stigma also had high perceived public stigma. There were also personal characteristics which were associated with significantly higher personal stigma including being more religious, younger in age, being an international student, and being male. This falls in line with other research that suggest women have less negative attitudes towards mental health care across cultures (Jang, Chiriboga, & Okazaki, 2009; Mojtabai, 2007; Yamawaki, Pulsipher, Moses, Rasmuse, & Ringger, 2011), and those born in the US are more likely to utilize services (Abe-Kim et al., 2007). Studies have conflicted on whether African-Americans have less stigmatizing views of mental illness than their white counterparts (Eisenberg et al., 2009; Mojtabai, 2007). However, there appears to be more consistent findings that suggest immigrants have more stigmatizing views of mental illness and are less likely to seek help than U.S. born minorities (Nadeem et al, 2007).

Predictors of Depression Stigma

The vast majority of studies published on mental illness stigma are aimed at investigating the impact of stigma on help-seeking behavior. Fewer studies have been aimed at understanding the characteristics and possible predictors of those who have perceived or personal stigma against mental illness. However, it seems that understanding what factors influence stigma may have a greater impact on reducing stigma and consequently increasing help-seeking for mental illness.

One of the more comprehensive studies on depression stigma examined predictors associated with both perceived and personal stigma in a national, local community, and local community with distressed peoples was completed by Griffiths,

Christensen, and Jorm (2008). They purposely distinguished the two types of stigma to highlight the importance of examining these concepts separately, as certain predictors fit for one type of stigma, while others did not. Participants within the national sample were given a depression vignette to gauge their depression literacy, this vignette was also adapted into the depression stigma measure. The local community in general and the local community of distressed individuals were not given a vignette. In the national sample personal stigma predictors included failing to recognize the person in the vignette as depressed (depression literacy), lower levels of depression exposure, older, and male, which accounted for 22.9% of the variance within personal depression stigma (Griffiths et al., 2008). These findings of depression literacy, low depression exposure, older and male being predictors of personal stigma were almost opposite or non-existent within perceived stigma. Across all of the samples personal stigma was higher in men and those with lowered depression literacy. Griffiths et al.'s findings suggest personal stigma predictors have a stronger association than perceived stigma, and perhaps more studies should examine the effects and predictors of personal stigma.

Calear, Griffiths, and Christensen (2011) examined and compared the level of personal and perceived depression stigma and identified the predictors of stigma in adolescents in Australia. Age (younger), sex (male), living situation (living with both parents), first language spoken (English as a second language), depression history (no personal history of depression), mastery (lower levels of mastery), alcohol consumption (higher levels of alcohol consumption) and perceived depression stigma were significant predictors of personal depression stigma. Significant predictors of perceived depression stigma were sex (female), history of parental depression, anxiety (higher

levels of anxiety), and personal depression stigma. Consistent with other studies, adolescents rated other people's stigma as significantly higher than their own (Einsberg et al., 2009; Griffiths at al., 2004 & 2006). An explanation for this may be due to people's social desirability bias, they are hesitant to voice their true beliefs, but can readily judge the general population's views and make them more negative. Even though the study produced a good number of predictors for both personal and perceived stigma, the relationship between the predictors and perceived depression was not very strong and only explained a small amount of variance. The relationship between the predictors and personal stigma was stronger and accounted for more variance within the measure, still other factors such as literacy and religiosity were not explored.

Statement of the Problem

There is an overall lack of literature on mental illness within Nigerians. This lack of literature becomes even more prominent when narrowing down mental illness to depression. Depression, in some respects, appears to be a universal concept. Depression is a distressing disorder and can negatively influence lifetime outcomes for those experiencing it. However, there has still been a lack of resources dedicated to the prevention and care of mental illness within Nigeria.

It is important to assess whether Nigerians in the USA can correctly identify depression, and identify it as a problem. This may lend to the research on the universality of depressive symptoms and the ability for the public to recognize depression. Literacy has been observed in studies with Western populations to be a significantly associated with stigma. The studies referenced in the literature review suggest that beliefs on the causation of mental illness are strongly associated with

attitudes towards mental illness and the treatment of people with mental illness. However, few of these studies have assessed for beliefs exclusively on depression, and an even smaller number has examined causation beliefs of depression in Nigerians.

There has been a long standing perception in society that religious views have an impact on people's views of mental health and mental health stigma. However, this perception has not translated into the creation of empirical studies to test these assumptions. Religion and faith are very important concepts to Nigerians, especially in terms of worldviews and behaviors. Therefore, the impact of religiosity on depression stigma should be examined.

Purpose of the Study

The purpose of this quantitative study was to examine the predictors of depression stigma in Nigerians living in the United States. The goal was to understand how religiosity, beliefs in depression causation, and depression literacy influence personal and public depression stigma. The target population included first and second generation immigrant Nigerians in the U.S.A.

Perceived stigma and public stigma are used interchangeably throughout this study.

Hypothesis and Research Questions

Research Questions:

1. What is the depression literacy percentile of Nigerians in the present study?

2. Are there differences in the ability to identify the vignette as depression between first-generation immigrants and second-generation immigrants?
3. Does the length of time in the United States predict beliefs on causation of depression?

Hypotheses:

1. Religiosity and supernatural belief of causation will each be more strongly associated with personal stigma than perceived public stigma.
2. Depression literacy, religiosity, and beliefs on causation will predict personal depression stigma.
    a. Religiosity and Spiritual causation will account for the most significant variance
3. Depression literacy, religiosity, and beliefs on causation will predict perceived depression stigma.
4. Personal stigma will be associated with gender and immigration status.
    a. Men will have greater personal stigma than women
    b. 1st generation immigrants will have greater personal stigma.

This present study seeks to expand the knowledge base on depression stigma in Nigerians. It is hoped that the information gathered within this study may eventually help mental health officials decipher which avenues to take in trying to decrease stigma on depression, and mental health as a whole.

CHAPTER THREE: RESEARCH METHODOLOGY

The four purposes of this chapter are to (1) describe the research methodology, (2) explain participant selection, (3) describe the instrumentation used, and (4) provide an explanation of the statistical procedures used to analyze the data.

Research Design

The current study used a quantitative design to explore the relationship between the dependent variable, depression stigma, and the independent variables, beliefs on causation, religiosity, and depression literacy. In order to study this relationship a correlational research design was chosen. A correlational design is a non-experimental design for research that measures the relationship (association) between two or more variables (Creswell, 2013). The purpose of this study included exploring pre-existing knowledge of depression in Nigerians and to predict personal and perceived (public) depression stigma. Prediction designs are used when researchers want to predict a certain outcome in one variable based on another. These two types of variables are referred to as predictor variables and criterion variables. A predictor variable makes a prediction on the anticipated outcome of the criterion variable (Creswell, 2008). The following section will explain the participants, procedures, and materials used to collect data for the study.

Participants

The researcher conducted a power analysis prior to collecting data to determine the number of participants needed for the study, which yielded 107 needed subjects. Two hundred and one accepted the informed consent, however, only 166 participants completed the survey. Those who did not respond to the dependent variable items (n=2)

were excluded from analysis. One participant failed to answer any items on the religiosity measure, and therefore was excluded from analysis. The completed survey participant pool consisted of 163 Nigerians currently living in the United States. To participate in the study participants had to (a) be of Nigerian descent, either born in Nigeria or having at least one parent who was born and raised in Nigeria, (b) currently live in the U.S., and (c) be at least 18 years old.

Participants were recruited through social media sites and cultural listservs. An email invitation, which included a description of the study, informed consent, and a link to the survey, was distributed through a cultural listserv. The researcher created advertisements which were posted on the social media sites Facebook, Twitter, Instagram, and Reddit. Recruitment occurred from July 2015 to September 2015.

Measures

Demographics. Participants were asked for their age, gender, marital status, primary language, place of birth, length of time residing in the U.S., frequency of contact with other Nigerians, highest education level completed, country their education took place within, religious preference, and immigration status. For the purpose of this study, first generation immigrant was defined as personally moving to America from Nigeria. Second generation immigrant was defined as having at least one parent who was born and raised in Nigeria and moved to the U.S. The option "other" was also included to account for those who did not fit in either category (international students, expats, those temporarily living in the United States, etc.).

Religious Identity. Participants were asked their religious preference (Christian, Jewish, Muslim, Agnostic, Atheist, or Other). People who selected Christian were asked for

their denomination and if they were a member of any of the following churches, Redeemed Christian Church of God, Winners Chapel, or Mountain of Fire and Miracles Ministries.

Depression Vignette. Participants were given a vignette of a person with depressive symptoms consistent with DSM-5 and ICD-10 depression diagnoses to assess for depression literacy. The vignette character had a common Nigerian name (Chioma or Adebowale) and the genders were randomized. 80 participants received the female vignette (Chioma) and 83 received the male vignette (Adebowale). After reading the vignette, participants were asked to answer the following questions: *"Is there anything wrong with Chioma/Adebowale? What do you believe is wrong with her/him? Which of these words mostly likely reflect Chioma's/Adebowale's symptoms (anxiety, depression, schizophrenia, sadness, or none of the above)? How do you think Chioma/Adebowale could be helped? Rate the helpfulness of each possible way to help her/him"* The last question included a likert scale and the options: talk to a religious leader, prayer, medication, talk with family members, talk with community leader, and talk with a counselor. Those who correctly identified depression as the problem were coded as having depression literacy.

Beliefs about Causation scale. Following the presentation of the case vignette, participants were asked to respond to a 5-point likert scale question assessing the likelihood of 13 potential causes of depression. The general idea amongst researchers and practitioners is that mental illness can be caused by biological, psychosocial, or a mix of the two factors. However, these beliefs can vary by culture, expanding to include supernatural causes of mental illness. The scale was created by the researcher and

utilized in the current study. The items reflected similar beliefs about causation scale items utilized in schizophrenia and mental health illness beliefs research (Gureje, 2005; Khlasa, 2011; Nakane, Jorm, Christensen, H.Kakane, Griffiths, & Yoshioka, 2005). For the current survey three dimensions of causation were measured: psychosocial (4 items), biological (4 items), and spiritual/supernatural causes of depression (4 items). Scores on the psychosocial, biological, and spiritual dimensions can range from 4 – 20. The higher the score, the more likely the respondent aligns with the particular belief causation dimension. The Cronbach alpha's for the biological, psychosocial, and spirituality scales were .65, .74, and .68, respectively.

Centrality of Religiosity. The Centrality of Religiosity Scale, created by Huber and Huber (2012), is 15-item scale measuring 5 theoretical dimensions of religiosity: public practice, private practice, religious experience, ideology, and intellectual domain. In general, individuals with higher scores on the CRS have a more central religious construct system. Sample items from this measure include *"How important is personal prayer to you?"* and *"How often do you think about religious ideas?"* The questions are answered on a Likert scale with the options being either 1-*never*, 2- *rarely*, 3-*occasionally*, 4-*often*, and 5-*very often* or 1-*not at all*, 2-*not very much*, 3-*moderately*, 4- *quite a bit*, and 5-*very much so*. Each item is scored from 1-5. The total score from the CRS was used to determine the level of religiosity in each participant. In order to calculate the total CRS score, the item sum score is divided through the number of scored scale items. Scores on the CRS can range from 1-5, with those scoring 1-2 falling into the not religious category, 2.1-3.9 as religious, and 4-5 as highly religious. In three studies reliabilities of the individual dimensions ranged from 0.80 to 0.93, and

from 0.92 to 0.96 for the entire CRS-15 (Huber, 2007). The current study yielded a Cronbach's alpha of .94 for the entire CRS-15 and the individual dimensions of intellectual domain, ideology, public practice, private practice, and religious experience alpha's were ,77, .77, .92, .88, .88, respectively.

Depression Stigma Scale. The Depression Stigma Scale (DSS) was created by Griffiths, Christensen, Jorm, Evans, and Groves (2004) to assess depression stigma. There are two subscales within the DSS, DSS- Personal and DSS-Perceived. DSS-Personal is comprised of 9 items that are focused on the respondent's personal attitudes to depression. The DSS-Perceived stigma scale is comprised of 9 items assessing the respondents' beliefs about the attitudes of others to depression. Scores of each subscale range from 0 to 26 and higher scores indicate higher levels of stigma. Each of the DSS subscales have previously shown acceptable reliability. In the original study, Cronbach's alpha values for the total, personal, and perceived scales were .78, .76, .82, respectively. In the present study Cronbach's alpha values for total, personal, and perceived scales were .66, .74, .73, respectively. For the purpose of this study, only the separate scales of personal and perceived were used for analysis. Further analysis also showed the two scales were not correlated.

Procedures

Informed consent was obtained for all participants. Participants were informed of the inclusion criteria and those who met the criteria were allowed to complete the study. The online survey was conducted through the University of Oklahoma's license to use the online survey platform, Qualtrics. The online survey included a demographics questionnaire, a randomized vignette, and three survey measures. The survey took

approximately 10 – 15 minutes to complete. Participants were given the option to be entered into a drawing to win 1 of 10 Amazon.com gift cards. Those who wanted to be included were redirected to another page to enter their email information anonymously. All survey data was collected anonymously.

Data Analysis

The following section describes the methods used to deal with any missing data and the statistical procedures for analyzing the data.

Missing Data. Missing data refers to observations that were intended to be recorded but were not. There are three types of missing data, missing completely at random (MCAR), missing at random (MAR), and missing not at random (MNAR). MCAR data refers to missingness that is unrelated to any other variable, observed and unobserved. MAR missingness could be related to observed data but is independent of the unobserved (missing) data. MNAR refers to missing data that cannot be ignored because the missingness is related to the unobserved data. The missing data contains information about the response (Peng, Harwell, Liou, & Ehman, 2003). MCAR data can assume MAR, but this relationship is not interchangeable. MCAR and MAR data are also known as "ignorable" because the variable with missing data is unrelated to the variable.

For the present study, two survey instruments were given in a matrix (grid) format, Beliefs on Depression Causation and the Centrality of Religiosity Scale-15. Matrix questions utilize rows to present different items and columns to present a shared set of response options. In comparison studies of item-by-item measures versus grid measures, respondents on average took significantly less time on grid-type measures

(Couper, Traugott, & Lamias, 2001; Callegaro, Shand-Lubbers, & Dennies, 2009; Tourangeau, Couper, & Conrad, 2004). However, a few studies found significantly higher rates of missing data on grid-style item measures (Iglesias, Birk, & Torgerson, 2001; Toepoel, Das, & van Soest, 2009). Overall, grids can be associated with higher missing data rates due to people accidentally skipping items, or they may appear more complex. Missing data observed in these two scale appear to be MAR (Causation n=8 and Religiosity n=13).

There are several different approaches to handling missing data (listwise deletion, pairwise deletion, mean substitution, estimation, and imputation). For the purpose of this study, single, within-subject mean imputation was utilized. Mean imputation maintains the sample size by replacing the missing value on a variable with the mean of the available cases. However, this method can reduce variability and result in bias (Eekhout et al, 2012). The person mean imputation was obtained by averaging the observed item scores for the individual case and replacing the missing data with the average for that subscale. Both the Causation and Religiosity scales had subscales within them. For the missing data on Causation (n=8, missing one variable each) the person mean was calculated for each separate subscale and replaced the missing data for that subscale. This process was repeated for missing data on the CRS (n=13, 10 missing 1 variable, n=1 missing 2 variables, n=1 missing 4 variables, and n=1 missing 5 variables). Utilizing single person imputation allowed the researcher to maintain the sample size and limited the reduction of variability and bias.

Statistical Procedures. Reliability estimates were conducted for each of the three survey instruments. Cronbach's Alpha is a measure of internal consistency which

measures the extent to which item responses are correlated highly. An alpha value of .70 or higher is considered to be a reliable scale (Santos, 1999). Frequencies and descriptive statistics were run to obtain information on age, gender, depression literacy, immigration status, language, religious preference, place of origin, and education level.

Recodes. Depression literacy was recoded as a different variable to aid in analyses. Those who answered no to the depression vignette or who choose yes, but did not correctly identify the symptoms as depression were coded as not having depression literacy. These variables were then dummy coded as 1 = depression literacy and 0 = no depression literacy. Separate scores were calculated for each causation dimension to create total scores for Biological, Psychosocial, and Spiritual/Supernatural causes of depression. Each participant's individual score on the subscales were recorded. Depression stigma scores were separated into a Perceived (public) stigma total score and a Personal stigma total score. Individuals' religiosity scores were calculated and were given a total religiosity score. The scores were then used to place each participant in a category of not religious, religious, and highly religious. Gender was dummy coded to allow for regression analysis. Males were coded as 1 and Females were coded as 0.

Analyses. Univariate, bivariate, and multivariate analyses were utilized to analyze data. First correlational analyses were used to examine public (perceived) stigma, personal stigma, religiosity, belief in causations, and length of time in the U.S.

Research question 1 (R1) "What is the depression literacy percentile of Nigerians in the present study?" was analyzed using frequencies. R2 "Are there differences in the ability to identify the vignette as depression between first-generation immigrants and second-generation immigrants?" was answered using Pearson's Chi-

square analysis. The Chi-square test for independence is utilized to determine if there is a relationship between two categorical variables. A correlation test was run to determine R3 “Does the length of time in the United States predict beliefs on causation of depression?” The lack of correlation between the length of time and causation prevented further analysis procedures.

Hypotheses 1 (H1) “Religiosity and supernatural belief of causation will each be more strongly associated with personal stigma than perceived public stigma.” To determine if there was an association between religiosity and supernatural causation, correlation coefficients were obtained for each of the separate conditions. Steiger’s Z-test tests the differences between two dependent correlations from a single sample. The two correlation coefficients being compared (rjk and rjh) are entered along with the unshared variable (rkh) and the sample size. The addition of the unshared variable controls the level of deviation between the two correlations (Hoerger, 2013). The test generates a z-score for the correlation and values greater than 1.96 are considered statistically significant (Lee & Preacher, 2013). The software created by Lee and Preacher (2013) was used to calculate the z-score. It was used to determine if the two correlations were statistically significantly different on both religiosity and supernatural beliefs.

H2 “Depression literacy, religiosity, and beliefs on causation will predict personal depression stigma after controlling for gender. Religiosity and Spiritual causation will account for the most significant variance” was analyzed using hierarchal multiple regression. Multiple regression is used to predict the dependent variable based on two or more independent variables. Hierarchical regression uses theory to decide

how predictors are entered into the model (Petrocelli, 2003). The criterion (dependent) variable was Personal Stigma and the predictor (independent) variables were gender, depression literacy, psychosocial beliefs in causation, biological beliefs in causation, spiritual beliefs in causation, and religiosity. These variables are shown in Table 3.0. Based on the literature review which indicated males have greater mental illness stigma, gender was entered into the model first to control for its effects on depression stigma (Calear et al, 2011; Eisenberg et al, 2009; Griffiths et al, 2008). Depression literacy, psychosocial beliefs in causation, and biological beliefs in causation were entered into the second block. Religiosity and spiritual beliefs in causation were entered into the model last as the most important variables being examined.

Table 1 *Criterion and Predictor Variables*

Criterion Variables
Personal Stigma
Perceived (Public) Stigma
Predictor Variables
Gender
Depression Literacy
Biological Beliefs
Psychosocial Beliefs
Spiritual Beliefs
Religiosity

H3 “Depression literacy, religiosity, and beliefs on causation will predict perceived depression stigma” was analyzed using multiple regression. Multiple regression is used to predict the dependent variable based on two or more independent variables. The independent variables were religiosity, literacy, psychosocial, biological, and spiritual beliefs in causation and the dependent variables were perceived and personal depression stigma.

Independent samples t-tests were used to analyze H4 “Personal stigma will be associated with gender and immigration status. Men will have greater personal stigma than women. 1st generation immigrants will have greater personal stigma.”

Ethical Consideration

This study posed little to no risks to participants. Prior to beginning this study, approval was obtained by the University of Oklahoma Institutional Review Board. Participants all signed electronic consent forms prior to data collection and were informed that they may withdraw from the study at any time without penalty. Data was collected anonymously to ensure confidentiality.

CHAPTER FOUR: RESULTS

The purpose of this study was to examine the predictors of depression stigma in Nigerians living in the United States. It was also intended to explore the participants' views on depression and religiosity. The goal was to understand how religiosity, beliefs in depression causation, and depression literacy influence personal and public depression stigma. The five purposes of this chapter are to (1) report the factor analysis, (2) report descriptive statistics, (3) explore correlation statistics, (4) answer the research questions, and (5) to test the hypotheses.

Preliminary Analyses

An exploratory factor analysis was used to identify underlying relationships of the variables being measured in the Beliefs in Causation scale. The maximum likelihood method of factor extraction and Varimax rotation were used to conduct the analysis. Orthogonal rotations produce factors which are uncorrelated (Costello and Osborne, 2011) and it was assumed that the factor dimensions for the scale would be uncorrelated. Due to previous studies with similar scale items and based on the scree plot, the scale appears to have three factors. Factor 1 explained 24% of the variance, factor 2 explained 17%, and factor 3 explained an additional 11% of the variance. Factor loadings greater than .3 are considered to be significant. Five items loaded on factor 1, four factors loaded on factor 2, and 4 items loaded on factor 3. One item, "substance use/drug use," was expected to load on factor 1 loaded on factor 3 and another item, "hormones," which loaded on factor 1 was expected to load on factor 3. Gureje et al suggests that there are three broad dimensions of beliefs in mental illness causation for Nigerians, psychosocial causes (factor 1), spiritual/supernatural causes

(factor 2), and biological causes (factor 3). The argument can be made that "substance use/drug abuse" can also be a biological causation, because substance use can alter brain chemistry (Brick and Erickson, 2013). However, the argument cannot be made for "hormones" being a psychosocial cause. It was determined that the item needed to be removed from further scale analyses. The final factor loadings and items included are included in table below.

Table 2 *Factor loadings based on a maximum likelihood extraction with varimax rotation for 12 items from the Beliefs in Causation Scale*

	Psychosocial	Spiritual	Biological
Brain Chemistry			.36
Substance/Alcohol Use			.70
Brain Injury			.76
Stressful life event (i.e. death of loved one, trauma)	.33		
God's divine will		.73	
Difficulties in family or work relationships	.77		
Zodiac signs		.44	
Personal failure	.79		
Hereditary			.39
Problems from childhood	.42		
God's punishment		.79	
Evil spirits/sorcery		.42	

Note. Factor loadings < .3 are suppressed

Descriptive Statistics

The researcher conducted a power analysis prior to collecting data to determine the number of participants needed for the study, which yielded 107 needed subjects. Only166 participants completed the survey, though 201 participants began the survey. Those who did not respond to the dependent variable items (n=2) were excluded from analysis. One participant failed to answer any items on the religiosity measure, and was excluded from analysis. The completed survey participant pool consisted of 163 Nigerians currently living in the United States. The sample consisted of 49 males (30.1%) and 114 females (69.9%). The mean age of participants (N= 153, SD = 5.69, Range = 18 – 66) was 26 years old, while 10 (6.1%) participants did not report their age. The primary language spoken by participants was English (N= 141; 86.5%), other primary languages spoken included Yoruba (N= 6; 3.7%) and Igbo (N= 14; 8.6%). Over half of the sample was born in the United States (N= 97; 59.5%), 35% (N= 57) born in Nigeria, and 5.5% (N= 9) were born elsewhere. 31.9% (N= 52) identified as being first-generation immigrants, 59.5% (N= 97) second generation immigrants, and 8% (N=13) classified themselves as "other." The majority of the sample indicated that they have lived in the United States all of their lives (N= 88; 54%). The vast majority of respondents (N= 143; 87.7%) were single, never married, 11.7% (N= 19) were married, and .6% (N= 1) were separated. Participants were asked for the highest educational degree completed, 77.9% (N= 127) completed at least a bachelor's degree. Participants were educated in the United States (N= 132; 81%), U.S. and Nigeria (N= 15; 9.2%), Nigeria (N= 7; 4.3%), United Kingdom (N= 2; 1.2%), "other" (N= 5; 3.1%), and 2 respondents did not indicate where they were educated.

Table 3 *Demographics*

Variable	N	%
Gender		
Male	49	30.1
Female	114	69.9
Immigration Status		
First-Generation	52	31.9
Second Generation	97	59.5
Other	13	8
Place of Birth		
Nigeria	97	59.5
United States	57	35
Other	9	5.5
Primary Language		
English	144	86.5
Yoruba	6	3.7
Igbo	14	8.6
Marital Status		
Single	143	87.7
Married	19	11.7
Separated	1	.6
Country of Education		
United States	132	81
United States & Nigeria	15	9.2
Nigeria	7	4.3
United Kingdom	2	1.2
Other	5	3.1

Over 87% (N= 142) of the sample identified their religious preference as Christian, 4.3% (N= 7) Agnostic, 2.5% (N= 4) Muslim, .6% (N= 1) Jewish, .6% (N= 1) Atheist, and 4.9% (N= 8) other. Those who selected Christian were then asked for their denomination. The most frequent response was Non-denominational (N= 57; 35%), followed by Catholic (N= 25; 15.3%), Baptist (N= 18; 11%), other (N= 15; 9.2%), Presbyterian (N=14; 8.6%), Anglican (N= 10; 6.1%), and Methodist (N= 3; 1.8%). Only 6.7% (N= 11) of the sample attended Redeemed Christian Church of God, a popular Nigerian church.

Table 4 *Religious Demographics*

Variable	N	%
Religious Preference		
Christian	142	87
Jewish	1	.6
Muslim	4	2.5
Agnostic	7	4.3
Atheist	1	.6
Other	1	.6
Christian Denomination		
Non-Denominational	57	35
Catholic	25	15.3
Baptist	18	11
Other	15	9.2
Presbyterian	14	8.6
Anglican	10	6.1
Methodist	3	1.8

Each participant was given a vignette with a randomized gender to examine depression literacy. The vignettes were evenly distributed with 83 participants receiving the male (Adebowale) vignette and 80 receiving the female (Chioma) vignette. There were no observed differences in the ability to identify depression between vignette types. After viewing the vignettes, participants were asked if anything was wrong with the person presented, 93.9% (N= 153) indicated something was wrong. If they chose yes, they were asked to classify the symptoms as anxiety (N= 9; 5.5%), depression (N= 127; 77.9%), sadness (N= 13; 8%), schizophrenia (N= 1; .6%), or none of the above (N= 10; 6.1%). Overall, 77.9% (N= 127) of respondents correctly identified depression.

The Beliefs on Causation Scale examined respondents' beliefs on the causes of depression through likert scale responses. The scale consisted of three dimensions of beliefs, biological, spiritual, and psychosocial. The scores are summarized in Table 4.3.

Table 5 *Beliefs in Depression Causation*

Variable	*Mean*	*Median*	*Std. Deviation*	*Range*
Psychosocial Beliefs in Causation	17.94	18	2.11	8– 20
Biological Beliefs in Causation	15.71	16	2.86	4– 20
Spiritual Beliefs in Causation	7.9	8	3.20	4 – 20

Personal and Perceived (public) stigma was examined using the Depression Stigma Scale. The mean score for personal stigma was M = 20.66 (SD = 5.13; Median = 21; Range = 9 – 41) and the mean score for perceived stigma was M = 32.62 (SD = 5.07; Median = 33; Range 18 – 45).

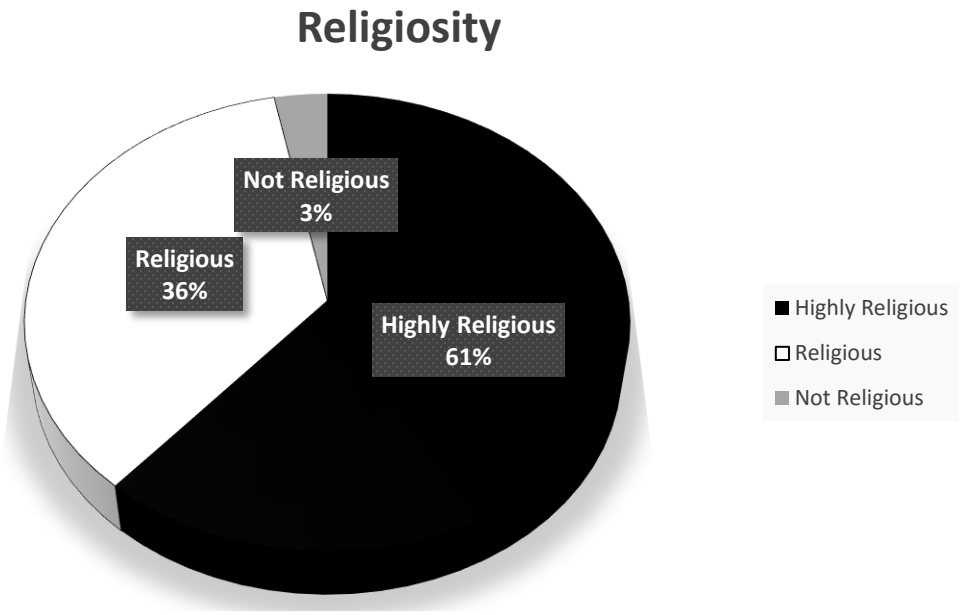
Table 6 *Depression Stigma*

Variable	*Mean*	*Median*	*Std. Deviation*	*Range*
Personal Stigma	20.66	21	5.13	9 – 41
Perceived (Public) Stigma	32.62	33	5.07	18 – 45

The Centrality of Religiosity Scale, created by Huber and Huber (2012), is 15-item scale measuring 5 theoretical dimensions of religiosity: public practice, private practice, religious experience, ideology, and intellectual domain. In general, individuals with higher scores on the CRS have a more central religious construct system. The mean score on the CRS-15 was M = 3.95 (SD = .84; Median 4.13; Range = 1.07 – 5). The respondents were placed into groups dependent on their scores. The majority of the

sample was highly religious (61.3%), followed by religious (35. 6%), and not religious (3.1%).

Figure 1 *Religiosity Levels*



Prior to exploring the research questions and testing the hypotheses, correlational statistics were run to test the presence of a relationship between the variables of beliefs in causation – biological, spiritual, and psychosocial, personal and perceived stigma, religiosity, age, and length of time living in the U.S. The relationships between these variables are presented in the Table 4.4 below.

Table 7 *Bivariate Matrix Table*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Age	-							
2. Time in U.S.	.225**	-						
3. Biological Causation	.005	-.008	-					
4. Psychosocial Causation	.003	-.006	.368**	-				
5. Spiritual Causation	-.055	-.002	.058	-.048	-			
6. Personal Stigma	-.044	-.085	-.192*	-.187*	.341**	-		
7. Perceived Stigma	.026	-.069	.253**	.242**	.022	-.077	-	
8. Religiosity	-.054	.017	.034	.089	.269**	.228**	-.002	-

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

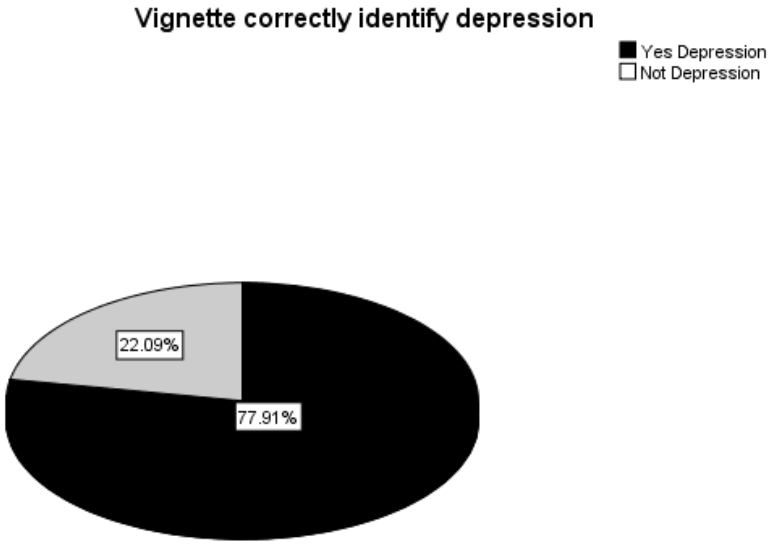
Beliefs in a Biological Causation of depression was significantly positively correlated with Psychosocial Causation [r(163) = .368, p <.001] and Perceived Stigma (r(163) = .253, p < .001). It was negatively correlated with Personal Stigma [r(163) = -.192, p <.05]. Beliefs in a Psychosocial Causation was significantly positively correlated with Perceived Stigma (r(163) = .242, p <.01) and significantly negatively correlated with Personal Stigma (r(163) = -.187, p <.05). Beliefs in Spiritual Causation of depression was significantly positively correlated with Personal Stigma (r(163) =.341, p <.001) and Religiosity (r(163) =.269, p <.01). Personal Stigma was significantly positively correlated with Religiosity (r(163) =.228, p <.01).

Inferential Analyses

(R1) *What is the depression literacy percentile of Nigerians in the present study?*

Descriptive statistics were utilized to find the frequency of depression literacy of the respondents. 77.91% (N= 127) of the respondents correctly identified the vignette as depression. This was utilized to determine if the respondent had depression literacy. Only a limited number (36) of participants were unable to correctly identify the vignette as depression. Figure 4.1 displays the depression literacy percentile of Nigerians.

Figure 2 *Depression Literacy*

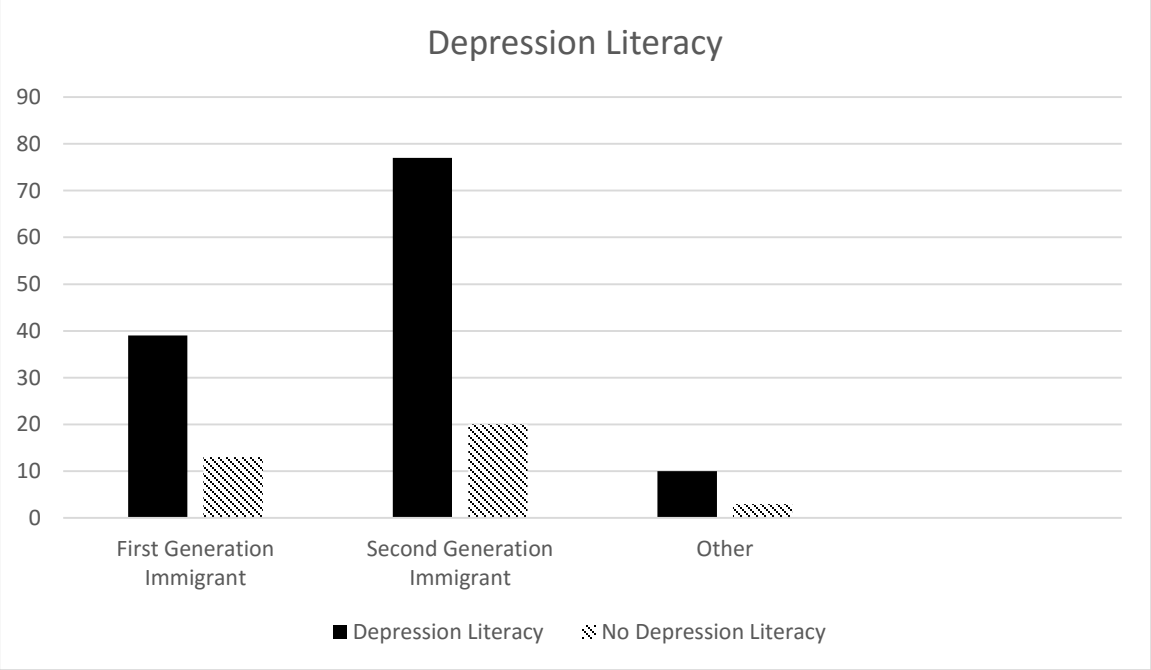


(R2) *Are there differences in the ability to identify the vignette as depression between first-generation immigrants and second-generation immigrants?*

Participants were asked their immigration status (first generation- participant immigrated to the U.S., second generation- one or both parents immigrated to the U.S., or other) on the demographic portion of the survey. Depression literacy was determined

through the correct identification of depression on the vignette. First, a Pearson's Chi-Square test was conducted to determine if there was an association between immigration status and depression literacy. There was not a statistically significant association between immigration status and depression literacy, x = .382, p = .826. The majority of first-generation immigrants and second-generation immigrants identified the vignette as depression. Figure 4.2 displays the depression literacy of the sample.

Figure 3 *Depression Literacy Frequency by Immigration Status*



(R3) *Does the length of time in the United States predict beliefs on causation of depression?*

There was a lack of correlation between the length of time and causation preventing further analysis procedures.

Hypotheses

(H1) *Religiosity and spiritual belief of causation will each be more strongly associated with personal stigma than perceived public stigma.*

Religiosity was determined by scores on the Centrality of Religiosity Scale, higher scores indicated more religiosity. Spiritual belief of depression causation was determined by scores on the Beliefs on Causation Scale, higher scores indicated more spiritual beliefs in depression causation. Steiger's Z test was utilized to calculate a z-score to determine if religiosity and supernatural belief of causation were more strongly associated with personal stigma than perceived public stigma. Z-scores greater than 1.96 are considered statistically significant. Religiosity was more strongly associated with personal stigma than perceived public stigma, $z = 2.018$, $p < .05$. Spiritual belief of causation was also more strongly associated with personal stigma than perceived public stigma, $z = 2.867$, $p < .01$.

(H2) *Depression literacy, religiosity, and beliefs on causation will predict personal depression stigma. Religiosity and Spiritual causation will account for the most significant variance*

Hierarchical multiple regression was conducted to determine if personal depression stigma is a function of gender, depression literacy, religiosity, and beliefs in causation of depression. Prior to employing the regression model, the assumptions which needed to be met were evaluated. The sample size of 163 was adequate given the six independent variables. The assumption of singularity was met as none of the independent variables were a combination of other independent variables. Though the correlation table revealed that psychosocial beliefs and biological beliefs on depression

causation were correlated, the collinearity statistics (Tolerance and VIF) were in acceptable limits and the assumption of multicollinearity was met. Mahalanobis distance scores were in acceptable limits indicating no multivariate outliers. Residual and scatterplots indicated the assumptions of homoscedasticity, linearity, and normality were met (Tabachnick & Fidell, 2007).

A three step hierarchical multiple regression was performed with personal stigma as the criterion variable and gender in the first block to control for the effect of gender. Psychosocial beliefs, biological beliefs, and depression literacy were entered in the second block and religiosity and spiritual beliefs were entered into the third block. Table 8 displays the effect size (r^2), change in r (Δr^2) and adjusted r for the model.

Table 8 *Hierarchical Regression Analysis for variables predicting Personal Stigma*

Variable	**β**	***t***	**R**	**R^2**	**Adj. R**	**ΔR^2**
Step 1			.201	.040**	.034	.040
Gender	2.238	2.600**				
Step 2			.311	.097*	.074	.045
Gender	1.644	1.893*				
Psychosocial Beliefs	-.336	-1.680				
Biological Beliefs	-.206	-1.407				
Depression Literacy	1.234	1.289				
Step 3			.509	.260***	.231	.167
Gender	2.530	3.101*				
Psychosocial Beliefs	-.298	-1.626				
Biological Beliefs	-.247	-1.849				
Depression Literacy	.786	.893				
Religiosity	1.245	2.747*				
Spiritual Beliefs	.495	4.288***				

N = 163; *p < .05, **p<.01, ***p<.001

At step one, gender contributed significantly to the model $F(1,161) = 6.758$, $p < .05$ and accounted for 4% of the variance in personal stigma. Adding psychosocial beliefs, biological beliefs, and depression literacy explained an additional 5.7% of

variation in personal stigma, however, this change was significant, F(4,158) = 4.238, p = .022. Finally, introducing religiosity and spiritual beliefs in causation to the model explained an additional 16.3% of the variation in personal stigma and this change was significant, F(6,162) = 9.112, p <.001. When all six independent variables were included in model 3, psychosocial beliefs, biological beliefs, and depression literacy were not significant predictors of personal stigma. When the predictors were examined independently, gender accounted for 4% of the variance, and religiosity and spirituality accounted for 16.5% of the variance, 7.5% and 9% respectively. The β coefficient associated with gender (2.530) is positive, indicating that males had greater scores of personal stigma. The independent variables, religiosity and spiritual beliefs produced β coefficients of 1.245 and .495, respectively. Greater religiosity and spiritual beliefs predicted greater personal stigma. Together, the six independent variables significantly accounted for 26% of the variance in personal stigma.

(H3) *Depression literacy, religiosity, and beliefs on causation will predict perceived depression stigma.*

Multiple regression was used to determine if the independent variables, depression literacy, religiosity, and psychosocial, biological, and spiritual beliefs in causation would predict the dependent variable, perceived depression stigma. The assumptions of homoscedasticity, linearity, normality, multicollinearity, and singularity were met prior to interpreting the regression model.

Only biological beliefs in causation had a significant association with perceived stigma (p <.05). The five predictor model accounted for 8.9% of the variance in perceived stigma, F(1, 157) = 3.067, p <.05. The β coefficient associated with biological

causation (.352) indicated greater beliefs in biological causes of depression predicted greater perceived stigma.

Table 9 *Summary of Multiple Regression Analyses for Variables Predicting Perceived Stigma*

Variable	β	*t*	F	R	R^2
Depression Literacy	-1.109	-1.179	3.067	.298	.089
Psychosocial Beliefs	.307	1.537			
Biological Beliefs	.352*	2.417			
Spiritual Beliefs	.033	.264			
Religiosity	-.084	-.174			

N = 163; *p <.05

(H4) *Personal stigma will be associated with gender and immigration status. Men will have greater personal stigma than women. 1st generation immigrants will have greater personal stigma.*

An Independent-Samples T-test was conducted to explore relationship between gender and personal stigma. Men had higher personal stigma than women t(161) = 2.238, SEM = .861, p <.01. There was not a significant difference between 1st generation immigrants and non-1st generation immigrants' personal stigma scores.

CHAPTER FIVE: DISCUSSION

This study aimed to add to the limited body of literature encompassing mental health in Nigerians. Depression was studied particularly because it has been less researched within Nigerians in comparison to more severe mental illness such as schizophrenia. The goal was to understand how certain beliefs in causation and religiosity impact personal and perceived depression stigma. It is known that the vast majority of Nigerians identify as religious, with the majority of people identifying either as Christian or Muslim. For Nigerians in particular, spiritual beliefs are not bound to one area of life. This fusion requires that stigma be examined through the lens of these beliefs. This study proposed that spiritual beliefs in causation and greater levels of religiosity predict higher levels of depression stigma.

Participants

Given that the survey was distributed amongst Nigerians in America, the majority of participants identifying as second generation immigrants, born in the U.S., primarily English speaking, having lived in the U.S. all of their lives, and were educated in the United States was expected. The majority of the participants were also female (69%). The vast majority of the participants had at least completed a bachelor's degree (77%). This level of educational attainment was higher than expected and higher than the overall average of educational attainment in the United States (Census Quick Facts, 2015). However, it reflected census data that displays Nigerians are the most educated immigrant group in the United States (Gambino, Trevelyan, & Fitzwater, 2014). The mean age was 26 years old which may have been a result of the distribution of the

survey through social media and snowball techniques. As noted previously, over 87% of the sample identified as Christian. Though higher, the percentage reflects the country's religious views that are estimated to be 49% Christian.

Religiosity

The religiosity seen in demographics measure was also reflected on the Centrality of Religiosity (CRS-15) measure, with the majority of the sample falling into the highly religious category. The CRS-7i, which is a shortened version of the CRS-15, was also normed on Nigerian people. For the norm sample, all of the participants fell into the religious or highly religious range, with 92% being classified as highly religious (Religion Monitor, 2007). In the present study 61% of the sample was highly religious. These high numbers reflected the earlier stated observations that religious beliefs are prevalent and important.

Beliefs in Depression Causation

Though the majority of the sample was religious, they endorsed low beliefs in spiritual causation of depression (M=8). Contrarily, the majority of the participants endorsed higher beliefs in the psychosocial and biological causes of depression. Though there was not a comparison group in this study, it still appears to not support other research which has shown that African-Americans are less likely to endorse biological causes of depression and are more likely to accept spiritual explanations than Caucasians. This also did not support Gureje's findings that there is a stronger belief in supernatural causes in mental illness than biological causes within Nigerians. In previous studies on causation beliefs, drug use and supernatural/spiritual beliefs were

the most highly endorsed causes of depression. However, the high educational attainment level of the participants may have had an impact on the endorsement of biological and psychosocial beliefs. Higher educational achievement has been correlated with having biological and psychosocial beliefs in mental illness causation (Adewuya & Makanjuola, 2008). It is possible that the beliefs in causation measure was too face-valid to pick up on other spiritual beliefs that would likely be endorsed by individuals with this education level.

Personal and Perceived Stigma

Participants endorsed more perceived stigma than personal stigma. Eisenberg's (2009) study on stigma also found that perceived stigma was considerably higher than personal stigma. Perceived stigma refers to how one believes the public will treat those with depression. It is possible that people may be more willing to endorse public stigmatizing beliefs than personal stigma because of social desirability bias. Social desirability bias refers to the tendency for respondents to answer questions inaccurately in order to present themselves in the best possible light. It may be harder for people to admit that they personally have stigmatizing beliefs than to acknowledge that others have it.

Research Question One

In order to examine beliefs about depression, depression literacy needed to be established. It would be difficult to examine beliefs if depression cannot be identified or defined. Examining this allowed for more in depth analysis of the beliefs behind the causation of depression and how religious beliefs impact stigma. Depression literacy

was determined by the correct identification of the symptoms in the vignette as depression. Over 77% of the sample had depression literacy. The percentage of depression literacy in the sample was unexpected, but in accordance with the educational attainment of the sample. Reavley et al (2012) found that higher academic achievement was associated with the ability to recognize mental illness in a vignette. It was determined that the majority of the sample had depression literacy.

Research Question Two

The second research question intended to expand on the first question and attempted to understand any potential differences in depression literacy between first and second generation immigrants. However, there was not a statistically significant association between immigration status and depression literacy. Moreover, the majority of the sample identified the vignette as depression. When examined by immigration status, 77% of first generation immigrants and 79% of second generation immigrants correctly identified depression. The lack of variability reduced the opportunity to measure a difference between the two groups. It is possible that a larger, older sample size may change this.

Research Question Three

There was a lack of correlation between the length of time and any of the specific beliefs in causation. It is possible that the majority of the sample having lived in the United States their entire lives affected this.

Hypothesis One

The first hypothesis stated that religiosity and spiritual beliefs on causation of depression would be more strongly associated with personal stigma than perceived stigma. Neither religiosity nor spiritual beliefs were correlated with perceived stigma. However, they were both correlated with personal stigma at the .01 level. Religiosity and spiritual beliefs on causation were both more strongly associated with personal stigma. This falls in line with other research which suggest that personal stigma has a stronger association with variables such as religiosity than perceived stigma (Eisenberg et al, 2009). Religiosity and spirituality are usually deeply entrenched personal beliefs that shape our thoughts and behaviors. This lends to the conclusion that they would be more associated with personal stigma than perceived stigma. Personal stigma is more reflective of personal beliefs than assumed beliefs of the public. This hypothesis was supported.

Hypothesis Two

A hierarchal multiple regression was conducted to determine if personal depression stigma was predicted by gender, depression literacy, religiosity, and beliefs on causation. The total model resulted in a significant prediction of personal stigma. Gender, religiosity, and spiritual beliefs predicted more stigma. However, depression literacy, biological beliefs, and psychosocial beliefs were not significant predictors. Though they were not significant predictors, psychosocial beliefs and biological beliefs were negatively correlated with personal stigma. The greater endorsement of psychosocial and biological beliefs the lower amount of personal stigma. The second part of the hypothesis was also supported as religiosity and spiritual beliefs accounted for the most variance in personal stigma. The model supports the idea that individuals

who hold more religious beliefs and spiritual beliefs in causation are more likely to have personal stigma against those with depression.

Hypothesis Three

It was hypothesized that depression literacy, religiosity, and psychosocial, biological, and spiritual beliefs in causation would predict perceived depression stigma. The model was significant thought it only predicted a small amount of variance (8.9%). Only biological beliefs in causation had a significant association with perceived stigma. The greater the beliefs in biological causation the more perceived stigma a respondent had. Interestingly, these results were counter to other studies on beliefs and stigma. People who held a biological view of causation were more tolerant and held less stigmatizing beliefs than those with supernatural beliefs in causation. This deviation could be explained by essentialist beliefs. Essentialism is the belief that people have underlying, unchangeable biological characteristics (Haslam & Ernst, 2000). This can be seen as an attempt to classify people into unmovable categories. Essentialist beliefs are often used when trying to understand mental illness, however, this could lead to stigmatizing views because mental illness is seen as a reflection of someone's character (Prentice & Miller, 2007). These biological beliefs can then lead to increased fear of and social distance towards those with mental illness. It would be important to determine if essentialist beliefs contributed to the stigma.

Hypothesis Four

It was hypothesized that personal stigma would be associated with gender and immigration status. Men and first generation immigrants would have more stigma. This

hypothesis was only partially supported. Men had more stigma than women. This falls in line with other research that suggest women have less stigmatizing views of mental illness than men (Griffiths et al., 2008; Wesselmann & Graziano, 2010). There were no differences between first and second generation immigrants' personal stigma.

Limitations

Although this research attempted increase the literature base of mental illness views in Nigerians, several limitations should be noted. The participant pool was largely homogenous in demographics. Most participants fell largely into the mid-twenties to early thirties age range. There were very view older participants who may have held differing beliefs. The participants were mostly female, reflecting the results of several social studies. Also participants were largely recruited through social media and snowballing techniques. The majority of the sample, as a result of the method for data collection and age of participants, were second generation immigrants. All of these factors limited the generalizability of the study and limited the variability needed to explore different research questions and hypotheses.

Another limitation involved the measure of beliefs in causation. Though it was created through compiling answer choices similar measures from other studies, this study served as the pilot study for the scale. The factor analysis loadings showed that two questions loaded on unexpected dimensions. It was determined that at least one item needed to be removed from the scale to increase its reliability. The Cronbach alpha's for the subscales range from .65 - .74. These alpha values suggest questionable – acceptable scale reliability. However, these lower alphas also appear to be a function

of the low number of items in the scale. Additionally, the measure was too face-valid, with the answer choices for spirituality being possibly too extreme.

Implications

At the most general level, the aim of this study was to expand the literature base on mental illness and Nigerians, especially for those residing in the United States. The lack of literature found was disheartening while also being inspiring. The increased rate of Nigerians in America displays the importance of researching mental illness within the Nigerian population. More specifically, this study aimed to explore how religious beliefs impact people's views on depression and those with depression. This study highlights the importance and impact of religious beliefs in Nigerians and concludes that depression beliefs and treatment should be explored through this understanding. A person's religious beliefs may have an impact on their willingness to vocalize and seek help for depression, especially if they believe depression goes against their faith. Religious beliefs tend to be connected to morality, which involves choice. It is possible that the more religious a person is, the more they may believe mental illness is attributed to a lack of faith, lack of prayer, or spiritual warfare. This may lead to a belief that you could have changed the circumstances which led to your depression, but chose not to. This places the blame upon the person for moral failings and could increase personal shame. Also these beliefs affect how they treat others with depression. However, religious beliefs can also be a protective factor for depression and can lead to other forms of treatment. It is hoped that churches and other spiritual institutions will begin to address depression and mental illness as a whole, as a way of decreasing stigma and increasing awareness and treatment.

Future Research

This research suggests that future explorations of mental illness in Nigerians should include a focus on faith. It would help to determine what types of religious practices increase or decrease stigma. It is possible that some aspects of religiosity, such as being an active member of a church or religious community may lead to less stigmatizing views.

It would be beneficial to expand the participant pool to include other races and ethnicities to create comparisons and explore if these results are unique to Nigerians. This may lend to the generalizability of the study findings. Though religious beliefs may have a greater impact within Nigerians due to its prevalence and cultural fusion, they may also impact other groups. There should also be an effort to increase the age of the participant pool to encompass more traditional beliefs which older participants may hold.

Conclusions

Religious beliefs can impact people's stigma towards depression. However, these beliefs can also enhance understanding, future research, and treatment options. It also acknowledges that faith is a vessel through which life is lived.

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