EFFICACY OF MINDFULNESS-BASED COGNITIVE THERAPY SELF-HELP (MBCT-SH) AS AN INTERVENTION FOR ANXIETY AND DEPRESSION FOR OLDER CLERGY: A STUDY OF CLERGY FROM SELECTED CHRISTIAN DENOMINATIONS IN NAIROBI COUNTY, KENYA

by

Ruth Mumo Omungo

A dissertation submitted to the School of Human and Social Sciences

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APPROVAL

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In accordance with Daystar University Policies, this dissertation is accepted in partial fulfilment of the requirements for the Doctor of Philosophy degree.

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EFFICACY OF MINDFULNESS-BASED COGNITIVE THERAPY SELF-HELP (MBCT-SH) AS INTERVENTION FOR ANXIETY AND DEPRESSION FOR OLDER CLERGY FROM SELECTED CHRISTIAN DENOMINATIONS IN NAIROBI COUNTY, KENYA

I declare that this dissertation is my original work and has not been submitted to any other college or university for academic credit.

Signed: __________________________  Date: ______________
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There are many people than I can name who knowingly or unknowingly contributed towards the completion of this dissertation. My two supervisors: Prof. Michael Kihara and Prof. Timothy Wachira; and Dr. Alice Munene, the coordinator of the Ph.D. in Clinical Psychology at Daystar University. Thank you for your generosity with time and advice in guiding me towards accomplishing the objectives of this study.

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Copies of the Mindfulness guidebook Mindfulness, a practical guide to finding peace in a frantic world were donated by Rev. Dr. Mark Williams, one of the book’s authors, in memory of his great grandfather, Canon Harry Kerr Binns (a Church Mission Society (CMS) missionary in 1878-1923). Dr. Williams, I will be forever grateful for the divine connection that allowed us to network. Thank you for being a missionary in Kenya (through this contribution) in the 21st century, and for following the 19th-century steps of your great grandfather.
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My attempt to give acknowledgement for the successful completion of this study is within the limits of memory. The omission of any person from recognition is therefore by coincidence, and not by design.
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## LIST OF ABBREVIATIONS AND ACRONYMS

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACK</td>
<td>Anglican Church of Kenya</td>
</tr>
<tr>
<td>AIC</td>
<td>Africa Inland Church</td>
</tr>
<tr>
<td>APA</td>
<td>American Psychological Association</td>
</tr>
<tr>
<td>BAI</td>
<td>Becks’ Anxiety Inventory</td>
</tr>
<tr>
<td>BP</td>
<td>Bipolar Disorder</td>
</tr>
<tr>
<td>BT</td>
<td>Behavioural Therapy</td>
</tr>
<tr>
<td>BDI</td>
<td>Becks’ Depression Inventory</td>
</tr>
<tr>
<td>CBT</td>
<td>Cognitive Behaviour Therapy</td>
</tr>
<tr>
<td>CMS</td>
<td>Church Mission Society</td>
</tr>
<tr>
<td>CT</td>
<td>Cognitive Therapy</td>
</tr>
<tr>
<td>MBCT</td>
<td>Mindfulness-Based Cognitive Therapy</td>
</tr>
<tr>
<td>MBCT-SH</td>
<td>Mindfulness-Based Cognitive Therapy Self Help</td>
</tr>
<tr>
<td>MCK</td>
<td>Methodist Church of Kenya</td>
</tr>
<tr>
<td>MISA</td>
<td>Mindfulness Institute of South Africa</td>
</tr>
<tr>
<td>PCEA</td>
<td>Presbyterian Church of East Africa</td>
</tr>
<tr>
<td>REBT</td>
<td>Rational Emotive Behaviour Therapy</td>
</tr>
<tr>
<td>MBIs</td>
<td>Self-help mindfulness-based interventions</td>
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<td>UK</td>
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<td>US</td>
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ABSTRACT

Anxiety and depression are common problems facing older people. They become intensified among older clergy, whose mental problems are framed not just by their age, but also by their vocational experiences. This study assessed the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) as an intervention for depression and anxiety symptoms for older clergy, and focused on selected mainline Christian denominations in Nairobi, Kenya. The study used a convenient sample of n=132 participants aged 60 years and above. A quasi-experimental research design was used, with an experimental group being exposed to MBCT-SH therapy for twelve weeks and followed up for eight weeks. Data was collected via a socio-demographic questionnaire, Beck Anxiety Inventory (BAI), and Beck Depression Index (BDI). At the baseline about 90% of participants had either mild or moderate anxiety. For the control group, anxiety estimates grew by 9%, while for the treatment group they fell by 42%, hence the intervention was effective in this regard. For depression, about 52% of participants had mild or moderate depression. A significant effect was observed in relation to the interaction of the intervention and time whereby for the control group, depression estimates grew by 80% between the baseline and midline, while for the treatment group, they reduced by 40%, hence the intervention had a significant effect on depression levels. The participants found the MBCT convenient to use, informative on the contextualised causes, triggers, and manifestations of both anxiety and depression, and effective in reducing their symptoms. They however expressed reservations about the philosophical basis of MBCT, which they felt lacked biblical backing up. The findings give incipient evidence for the effectiveness of MBCT in reducing both the levels of anxiety and depression among older clergy and
can help practitioners to develop integrative strategies to prevent and treat anxiety and depression.

DEDICATION

I dedicate this thesis to all clergy in the vineyard of God: Through mindful meditation techniques, you can quieten your mind and thoughts daily and become consciously aware of yourself and your environment. Doing so will enable you to enhance connectedness with the Holy Spirit, with the self, and with those God entrusts to your care.
CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

The population of elderly persons in society, aged at least 65 years, is growing fast. By 2050, the proportion of older people worldwide will outnumber that of children below five years (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; World Health Organization [WHO], 2018). In 2015, there were 901 million older people worldwide, and the figure is projected to reach 1.4 billion by 2030 (United Nations [UN] Department of Economic and Social Affairs, 2015). In 1980, the proportion of older people in Africa was 3.1% of the entire continent’s population, and this is expected to grow to 4.5% by 2030 and 10% by 2050 (UN, Department of Economic and Social Affairs, 2011). By 2050, the proportion of older people in Kenya is likely to double from about 3% to 7%. The growing number of older people calls for the need to understand the physical and mental needs of this vulnerable social category, so as to put mechanisms to respond to these needs. This is essential because mental health needs can take a huge toll on older people, making it hard for them to lead their lives with autonomy and dignity.

Anxiety and depression are common psychiatric problems facing adults. For instance, depression is the leading source of disability worldwide, and as such, it is a significant driver of suicide globally (WHO, 2017). Existing studies have shown that “more than 70% of individuals with depressive disorders also have anxiety symptoms, and 40 to 70% of such people simultaneously meet the criteria for at least one type of anxiety disorder” (Wu & Fang, 2014, p. 227). Anxiety and depression are known to affect older people often since this category of people usually are experiencing major life changes (Lenze et al., 2001; Ritchie & Roser, 2018; WHO, 2012b). Given the
prevalence of anxiety and depression among older people, this researcher perceived it fitting to explore a therapeutic intervention that might help the ageing deal with these common psychiatric problems.

While older age per se is not inevitably associated with increased stressors, the physical and cognitive decline, and associated functional disability, that often occur with ageing have been reported as risk factors for late-life depression and/or anxiety (Hybels & Blazer, 2003; Lenze et al., 2001). Many older people with these two conditions mentioned above are not even aware that they have the conditions. They consider symptoms associated with these conditions as part of growing old and only get to learn about their mental symptoms when seeking medical attention for physiological ailments (Hybels & Blazer, 2003). Besides, older people are known to avoid seeking help for psychological conditions, and, additionally, health systems are poorly prepared to respond to the psychological needs of this category of people.

The mental needs of this social category have received little scholarly attention, even though older clergy are a sizeable population in church leadership and an extremely useful occupational group (Proeschold-Bell et al., 2013; Walther, 2012). The occupation of the clergy is unique in that, the strains associated with its role occur within a context in which they can be seen as part of a high calling from God: this elevates the risks to the clergy’s mental health. God’s calling is an inner conviction that makes a person feel called by God to serve his or her congregation and community diligently and wholeheartedly.

Some examples from the Bible of people who had God’s calling in their lives include Abraham and the Prophet Jeremiah. Abraham left his land without knowing where he was going because he was following God’s call (Genesis 12 and 15 (Zondervan NIV Study Bible)). Jeremiah, on his part, described God’s call as
irresistible; makes the affected feel as if fire is shut up in their bones, to the point that they grow weary of trying to hold it in; and that the persons are driven by a strong motive to follow God’s calling their lives (Jeremiah 20:9 (Zondervan NIV Study Bible)). For Proeschold-Bell et al. (2013), the belief that the occupation of the clergy is a divine calling encourages many pastors to undertake their tasks with a zeal, resolve, and determination, which can see many of them accept onerous functions that make them vulnerable to depression.

The clergy feel that they have been called to their work by God. As such, they perceive their commitment to this calling as higher than other occupations. This sense of calling makes them wonder if they have done their work to the satisfaction of the one who has called them. They can have high expectations of themselves; as a result, pushing themselves to work even when they are sick or feeling down (Proeschold-Bell et al., 2013). This “excessive weekly working time has been shown to have negative effects on workers’ health, including heightened risk of hypertension, cardiovascular disease, chronic infection, diabetes, metabolic syndrome, sleep disturbance, anxiety, and depression” (Afonso, Fonseca, & Pires, 2017, p. 377).

For clergy, occupation stress can be overwhelming, considering that they are often called upon to handle pleasant as well as sombre emotional events all at once. For example, a cleric could be joining a couple at a wedding immediately after conducting a funeral. In the observation of Payne (2009), regulating these two emotions can be stressful. The sharp shift from an emotional high to an emotional low predisposes clergy to depression. Based on the preceding, the researcher considered the health and wellbeing of clergy an essential subject of research given the unique role the clergy play in society and the intricacy of their job - clergy fulfil vital societal functions as meaning makers and community builders (Proeschold-Bell et al., 2015).
Often, the clergy are portrayed as the first responders to any crisis in society. They are, thus, frontline mental health workers, who handle funeral arrangements, marital conflicts, and personal crises in the lives of parishioners and community members (Oppenheimer, Flannelly, & Weaver, 2004). Additionally, the clergy are reportedly contacted for help more than any other helping professionals (Wang, Berglund, & Kessler, 2003). For example, according to a study conducted in the United States (US) soon after the September 11, 2001 twin towers bombing, “approximately 60% of all the respondents…would likely seek help from a spiritual counsellor, compared to 45%…who would likely seek help from their physician and 40% who would seek help from a mental health care professional” (American Red Cross as cited in Milstein, 2003, p. [36]).

Chalfant et al. maintained that the reason behind people’s choice for this kind of help-seeking is not the lack of knowledge regarding mental health care resources, but rather the fact they are more familiar with the clergy, the clergy do not charge fees, and that the former find it easier discussing their personal problems with the clergy (as cited in Milstein, 2003). With such statistics about countries with better knowledge and appreciation of mental health and with resources for mental health consultancy; it can only be inferred that in Kenya, where the contrary is true, there would be a higher percentage of people seeking help from clergy. Therefore, it was this researcher’s view that once the clergy understand how to manage depression and anxiety, they would be encouraged to seek help for the two conditions. Consequently, they would be in a strong position to minister to the needs of people in the community.

Payne (2009) argued that clergy can be the resourceful persons in the community who would get to know about people living with these psychological
conditions and hence give them care and support. They would also be well placed to refer patients to mental health professionals (Payne, 2009). Studies done in both the US and the United Kingdom (UK) have indicated that clergy will not usually talk about their depression because they feel that doing so violates their understanding of their faith (Morrison & Borgen, 2010; Walther, 2012). What is more, society still stigmatizes mental illness, and the Christian society can over-spiritualize depression and other disorders, dismissing them as a lack of faith or a sign of weakness. This is so despite studies showing that clergy are susceptible to depression. Clergy often report having worked for long hours (between 55 and 75 hours per week) out of which they get stress and fatigue. Results of a study done in the US in 2004 revealed that male ministers scored higher on an anxiety index than males in the general population (Taylor, Strauss, Cavanagh, & Jones, 2014). Yet another study recorded that 70% of pastors constantly fight depression (Kraft, 2016).

Based on this researcher’s review of literature, the topic of clergy health in Kenya, and indeed in Africa, has been understudied. In what might be considered a pioneer study regarding clergy’s mental health in Kenya, Walther, Proeschold-Bell, Benjamin-Neelon, Adipo, and Kamaara (2014) reported that clergy from the United Methodist Church in Kenya, just like their counterparts in the West, do not seek healthcare. The clergy expressed that they do this so that their congregants would believe that their faith keeps them healthy (Walther et al., 2015). Additionally, most of the clergy reported that they believed health comes from God, and as such, they tended to avoid seeking medical health (Walther et al., 2015).

This study explored how mindfulness-based cognitive therapy self-help (MBCT-SH) might mediate in depression and anxiety experienced by older clergy. This therapy was originally developed by Zindel Segal, Mark Williams, and John
Teasdale as prevention for depression relapse among people who had experienced attacks of depression (Segal, Williams, & Teasdale, 2002). MBCT has however been found to be effective in treating many other conditions. People at risk for depression usually are dealing with a lot of negative thoughts, feelings, and beliefs about themselves. Hence, MBCT helps them to be aware of their present thoughts and feelings, engage with them (the thoughts and feelings), and respond with calmness and compassion (Lu, 2015). The current study explored whether the practice of mindfulness, when applied daily, was useful in reducing depression and anxiety among older clergy.

To increase the external validity of the intervention, the participating clergy were recruited, and the study carried out in typical life/work settings. As already mentioned, the clergy rarely seek help for psychological problems, and they tend to have busy schedules. To overcome the time challenge for the participants as well as make the study as practical as possible (given the clergy’s schedules and lifestyle), the self-help version of MBCT was used. This version requires the participants to do their therapy sessions on their own, and even at places of their convenience. The researcher assumed that the use of self-help therapy for the target group had the potential benefit of the participants holding on to the practice of MBCT over time, with the result being that they would end up becoming their own therapists whenever they experience symptoms of anxiety and depression. Further, since as noted earlier clergy have a challenge regarding seeking help due to the fear of others’ opinion, the self-help therapy has the benefit of enabling them to get treatment without making it known to anyone that they are experiencing emotional challenges.
In this chapter, the subject of this study is introduced, and the background brought out. The study’s problem statement, purpose, research questions, and objectives are also captured.

1.2 Background to the Study

Depression and anxiety disorders are among the most common illnesses experienced by people living in a community, with the lifetime prevalence of any anxiety disorder being 1 in 4 and of major depressive disorder 1 in 6 (Kessler, Chiu, Demler, & Walters, 2005). Anxiety, as a symptom, is a feeling of apprehension caused by anticipation of danger, which may be internal or external. Depression symptoms may be defined as psychopathological feelings of sadness (Fainman, 2004). The two disorders almost always co-exist. Not only can anxiety disorder occur as a symptom of clinical depression, but it can also lead to depression.

Everyone, at one time or another, goes through periods of anxiety and/or depression. To a large extent, this can be considered normal in life because of day-to-day events that can put pressure on anyone. Such events include bereavement, illness, and tension before an interview, among others. These symptoms are not necessarily bad, as research has shown that moderate levels of anxiety can facilitate and drive personal performance (Cheng & McCarthy, 2018). Ordinarily, it is expected that after the pressure inducing event is over, the levels of anxiety should reduce. However, when the symptoms are prolonged and severe, they become pathological, thereby affecting a person’s life. This then can no longer be considered a normal reaction to the pressures of life. Such a situation will call for a psychological evaluation and intervention based on prognosis.

In the US, depression is the most common geriatric disorder, and it affects more than 6.5 million of the 35 million Americans aged 65 years or older (National
As reported by a Canadian study, “diagnosis of depression in seniors varies according to care setting, with the lowest levels reported among people living in the community (1% to 5%), and the highest levels, (14% to 42%)”, among those in long-term care facilities (Blazer; Djernes; Fiske et al.; Hybels & Blazer as cited in Canadian Institute for Health Information, 2010, p. 2). In UK, depression affects around 22% of men and 28% of women aged 65 years and over (Health and Social Care Information Centre, 2007).

Across Europe, a 2018 study with a sample of 28,796 persons (53% women with a mean age of 74 years) found the prevalence of late-life depression to be 29% (Horackova et al., 2019). In Pakistan, a study with 284 respondents (74% males and 26% females) with a mean age of 68.44 years found that 16.5% of the respondents were depressed, while 23.6% of had symptoms suggestive of depression (Mubeen, Henry, & Qureshi, 2012). Another study undertaken in rural India, with 103 respondents aged 60 years and above revealed that 44(42.7%) - comprising 17 males and 27 females were depressed; 23(22.3%) had mild depression, 14(13.6%) had moderate depression; and 7(6.8%) had severe depression (Sinha, Shrivastava, & Ramasamy, 2013). Female gender and widowhood were found to be significantly associated with depression (Sinha et al., 2013). Other risks or predisposing factors for depression include illness, loss of family, friends, social support, or independence (Turvey, Wallace, & Herzog, 1999).

Kinyanda et al. (2011), in a study carried out in 14 districts in Uganda, found the general prevalence of probable major depressive disorder to be 29.3%. They found that “factors independently associated with depression included ecological factors, district, age (increase with each age category after 35 years), indices of poverty and deprivation (no formal education, having no employment, broken family, and
socioeconomic classes)" (p. 35, ). Some adverse life events, notably those suggestive of disrupted family background (such as the death of a father in females and death of a mother in males), were associated with increased risk (Kinyanda et al., 2011). The conclusions drawn from Kinyanda et al.’s study were that socioeconomic and sociodemographic factors, operating at both ecological and individual levels, are the strongest determinants of depression.

However, there is a scarcity regarding documented studies that focus on how anxiety and depression affect clergy. This could partly be because many people imagine that clergy are immune to psychological problems (Figley, 2002). Also, the clergy population is small, as several studies have noted. Available studies on depression among clergy suffer from small sample sizes and possible response biases (Figley, 2002; Knox, Virginia, & Smith, 2007; Proulx, 2008). The current study faced a similar problem. Still, existing studies show that clergy are prone to depression, with some of the studies indicating that depression among clergy is higher, in comparison to other professionals.

A 2014 study by LifeWay research on clergy mental health reported that the number of pastors diagnosed with clinical depression was double the national average (Smietana, 2014). Similarly, the Clergy Health Initiative, at Duke Divinity School, observed that protestant clergy are at least 1.5 times more likely to experience depression than members of the general population (Proeschold-Bell et al., 2015). One study reported depression rates ranging from 17% for 30%, in a study involving Church of Nazarene pastors in New Mexico (Proulx, 2008). According to Knox et al. (as cited in Proeschold-Bell et al., 2013), “researchers using the Symptom Checklist-90-R found that 41% out of 44% Roman Catholic clergy exhibited depressive symptomatology” (p. 5).
As far as this researcher was aware, in Kenya, there is a deficiency in terms of studies on the predisposing factors of depression among older clergy. The researcher further observed that studies that assess the effectiveness of interventions are poorly developed.

1.3 Statement of the Problem

There is an assumption in society that the pulpit ministry is a calling from God. This leads many people, even within the church, to the erroneous perception that God automatically intervenes on behalf of the clergy or that clergy command spiritual resources that make them cope with or resilient to life challenges (Figley, 2002). Nevertheless, several studies have shown that pulpit ministry is stressful, and that many clergy struggle to cope with both their vocational and life challenges. Indeed, the pulpit ministry could be seen as one that predisposes clergy to anxiety and depression (Charlton, Rolph, Francis, Rolph, & Robbins, 2009; Hindley 2014; Masinde, 2014; Proeschold-Bell et al., 2013). While it could be true that the profession of the clergy is more of a calling than a job, it is worth noting that the clergy are human beings who are susceptible to the stresses of life. They are, therefore, not exempt from the social, economic, physical, and even spiritual challenges that stress brings on people - leading to anxiety or depression.

The Bible has accounts of leaders who experienced symptoms related to depression. These include prophets Elijah and Jonah, who both, at different times in their lives, exhibited symptoms akin to those of anxiety, stress, and suicidal depression (1 Kings 17, 18, 19 (Zondervan NIV Study Bible); Abercrombie, 2013; Jonah 4 (Zondervan NIV Study Bible); Mendes, 2003). Also, David, described as a man after God’s own 13:22 (Zondervan NIV Study Bible)), expressed painful emotions that mimic depression symptoms (Acts (Abercrombie, 2013; Psalms 31:9-10
Job, even though he was considered ‘blameless and upright’ before God, exhibited probable depressive symptoms (Job 1:1 (Zondervan NIV Study Bible)). Based on the preceding, we conclude that even people with a calling for God’s work are prone to anxiety and depression, by virtue of their living in this world which exposes them, in the same manner as all other people, to difficulties.

Ageing is known to increase the risk of a person developing symptoms of anxiety and depression (Lenze et al., 2001). It is associated with profound physical, physiological, social, and psychological changes. Older people go through the bereavement of their age mates, and this often leads to loneliness and social isolation. Furthermore, many of them are increasingly anxious about their own mortality. Also, a high number of them experience old age with the risk of drop in socioeconomic status, resulting in either loss or diminished financial independence. Ageing is thus associated with psychological distress: a phase in development that does not exempt older clergy.

Older clergy tend to occupy leadership positions, implying that they are accustomed to being needed throughout their active working years. Resultantly, their adjusting to retirement becomes a difficult task for them emotionally, financially, and socially (Knapp & Pruett, 2017). Usually, a pastor is the person a Christian will first think of when facing adversity, bereavement, or when planning a celebration, such as a wedding. For many clergy, the thought of not being needed following retirement can cause considerable psychological distress, thereby increasing their chances of experiencing anxiety and depression. Unlike many other professionals, clergy also see their “calling” as their vocation, the ministry, a lifetime commitment; thus making ageing, and/or relinquishing their duties difficult (Knapp & Pruett, 2017).
In the Kenyan context, psychotherapy is still a young profession, and many people consider it unnecessary and unduly expensive. For this reason, most people needing counselling will go to spiritual leaders. Furthermore, due to fear of stigmatization, many people are unwilling to admit that they are depressed. For older clergy, it is a double dilemma in dealing not just with societal stigma but also with younger clergy, who look to them for guidance and even counselling support.

Accordingly, clergy have a heavy workload, which is a causative factor for stress and anxiety, both of which can predispose clergy to depression. Older clergy face extra challenges of life in retirement, with the feeling of loss of importance, doubts about self-worth, and likelihood of financial stress. Moreover, since clergy are unlikely to seek therapeutic help, they often suffer alone from the effects of stress and anxiety; which can be managed through interventions such as the MBCT. Hence, challenges of older clergy regarding seeking therapeutic assistance generated the need to conduct a study that can enable them to deal effectively with anxiety and depression via a strategy that would allow them to obtain help in private. Through this, they can deal with their anxiety and depression in privacy. This researcher consequently considered it important to establish whether the MBCT is effective in helping clergy to deal with anxiety and depression. It is for these reasons that this study examined the efficacy of MBCT-SH as an intervention for anxiety and depression for older clergy.

1.4 Purpose of the Study

The purpose of this study was to determine the efficacy of the MBCT as an intervention for mild and moderate depression and anxiety symptoms for older clergy, with a focus on selected mainline Christian denominations in Nairobi, Kenya. The
researcher hypothesized that clergy exposed to the MBCT would see their scores for anxiety and depression drop, unlike their counterparts not exposed to the intervention.

1.5 Objectives of the Study

1.5.1 Broad objective

The main objective of this study was to determine the efficacy of MBCT-SH as a public mental health intervention for mild and moderate depression and anxiety symptoms exhibited by older clergy in Nairobi, Kenya.

1.5.2 Specific objectives

The specific objectives of the study were as follows:

1. To determine the prevalence of anxiety among older clergy from selected mainline denominations in Nairobi County.
2. To determine the prevalence of depression among older clergy from selected mainline denominations in Nairobi County.
3. To evaluate the effectiveness of MBCT-SH on anxiety among older clergy from selected mainline denominations in Nairobi County.
4. To evaluate the effectiveness of MBCT-SH on depression among older clergy from selected mainline denominations in Nairobi County.
5. To analyse the subjective experiences of older clergy who practised mindfulness skills.

1.6 Research Questions

The study sought to answer the following questions:

1. How prevalent is anxiety among older clergy from mainline denominations in Nairobi County?
2. How prevalent is depression among older clergy from mainline denominations in Nairobi County?

3. How effective is the MBCT-SH in helping older clergy from mainline denominations in Nairobi County deal with anxiety?

4. How effective is the MBCT-SH in helping older clergy from mainline denominations in managing depression?

5. What are the experiences of older clergy concerning practising mindfulness skills?

1.7 Justification for the Study

The problem of mental health among older people and clergy has not received much research attention (Knapp & Pruett, 2017; Proeschold-Bell et al., 2015). This has been the case even though clergy have heavy responsibilities in society, considering that many people will usually consult a pastor before they seek the assistance of any other professional - both in times of joy and pain. The vocational responsibilities of the clergy are often burdensome; thus, predisposing them to anxiety and depression. The poor mental health of clergy affects not just them and their families, but also the society that looks up to them.

Clergy may not have people to turn to when facing mental health challenges, mainly because of the perception, on their part or by other people, that clergy who experience mental health difficulties are spiritually weak (Proeschold-Bell et al., 2015). In the counselling profession, for example, part of the ethical code of the practice encourages professionals to have a supervisor who helps these professionals deal with personal and professional challenges (American Psychological Association, 2015). This is not the case in the pastorate, for it is up to individual clergy to get mechanisms of dealing with difficult personal issues that affect their personal and
professional lives. Yet, clergy need to address their own mental health challenges to enable them to effectively help those that come to them for help without experiencing transference and counter-transference issues (Fuertes, Gelso, Owen, & Cheng, 2013; Noorani & Dyer, 2017).

Several factors informed the choice of older clergy as the target population for this study. First, in the traditional African culture, older people are considered as custodians of wisdom who promote societal solidarity among the culture’s generations (Ralston, 2018). Information from an older person is likely to be taken with more weight compared to when a younger person speaks the same information. In many churches, clergy practice seniority priory, meaning that younger clergy are supposed to defer to their older counterparts in church matters. Also, by virtue of having been in the ministry longer, older clergy will most likely have faced diverse challenges such as several transitions from one parish to another, leadership conflicts, and financial issues - all of which leave them susceptible to stress and anxiety.

Further, this study was deemed necessary due to the scarcity of empirically-based treatment models among psychologists, counsellors, and other stakeholders that meet therapy needs for anxiety and depression among older persons in society. As said, clergy are often unwilling to seek therapy; as such, treatment models that allow them to administer therapeutic interventions on themselves are needed. In this vein, it was considered fitting to assess MBCT’s efficacy in helping older clergy to deal with anxiety and depression. The researcher, therefore, hoped that the study results would contribute significantly to this knowledge base perceived as essential for the practice of psychology.
1.8 Significance of the Study

The researcher expected that the findings of this study would be beneficial to the participating clergy, namely clergy aged 65 years and above, in terms of providing them with assessment and treatment for anxiety and depression. The study results would provide evidence for the efficacy of MBCT in treating older clergy and hence give ground for further studies with larger probability samples. With evidence obtained from such studies, the use of MBCT could be generalized to help older people in general in society.

The researcher also hoped that the study would bring to light facts about anxiety and depression, among the clergy, that require attention. The findings would additionally create awareness to the church leadership concerning giving the mental health of clergy the needed focus. There publication of the research findings in journals can help deepen knowledge on the prevalence of anxiety and depression among older clergy.

The findings of the study would be useful to counsellors, caregivers of older people, and other people helpers towards understanding the therapeutic advantage of MBCT-SH as a public health intervention for anxiety and depression. The intervention can allow persons to deal with anxiety and depression privately, thus avoiding possible stigma older clergy might face when seeking help for these conditions. Besides, the use of this intervention does not necessarily require a highly trained clinician or a medical facility.

The findings would be informative to policymakers with regard to MBCT as an effective intervention in the management of anxiety and depression among clergy in a Kenyan context.
The Constitution of Kenya, 2010, has envisioned that all Kenyan citizens should have a right to the highest attainable standards of health (National Council for Law Reporting, 2010). The Kenya Health Policy 2014-2030, in part four, raises the need for research that would improve interventions in the health sector (Government of Kenya, Ministry of Health, 2014). The findings of this study would hence be useful to the health sector towards understanding and managing anxiety and depression in older persons using modern therapies.

As some studies (Bjorklof, Engedal, Selbaek, Kouwenhoven, & Helvik, 2013; Gerino, Rollè, Sechi, & Brustia, 2017; Nezu, Ronan, Meadows, & McClure, 2000) have noted, regarding depression among older persons, there is limited knowledge on concepts and instruments of coping. For this reason, systematic ways of expanding knowledge on these domains is imperative, thus, calling for more research to validate the tools and strategies of dealing with these disorders in older populations. In light of this, the findings of this study would be useful in terms of validation of instruments that inform strategies of managing depression in older persons.

1.9 Assumptions of the Study

This study had several assumptions. One assumption was that the baseline survey would draw out participants with anxiety and depression among the study sample. Another assumption was that the participants in the study for the intervention group would read through the 276-page therapy book: Mindfulness: A practical guide to finding peace in a frantic world and would do the designated therapeutic exercises for each lesson.

Further, the study assumed that MBCT-SH would be able to intervene in reducing the symptoms of anxiety and depression among older clergy from the Daystar University.
selected mainline denominations in Nairobi. There was also the assumption that the participants would be honest in providing information on their anxiety and depression.

1.10 Scope of the Study

The study restricted itself to older clergy aged 60 years and above from four purposively selected denominations: Anglican Church of Kenya (ACK), Africa Inland Church (AIC), Methodist Church of Kenya (MCK), and the Presbyterian Church of East Africa (PCEA). The study population was drawn from clergy who were at the time of the study working within Nairobi County or had been working within the county but were already retired. Additionally, the intervention was restricted to MBCT for anxiety and depression.

1.11 Limitations and Delimitations of the Study

Limitations

This study anticipated possible limitations as highlighted here. The sample represented an urban population of clergy within the church context. Accordingly, its findings may not be generalisable to older people in general, no less clergy living in rural areas.

There was also a possible limitation regarding gender since the total population of females in the sample was small compared to males; with a likely result of bias in statistical conclusions and inferences based on gender as an analytical unit.

Additionally, the study used a convenience sample of older clergy; a sampling process that poses difficulties regarding generalisation of findings to the general population.

Delimitations
The study design only compared the effectiveness of the MBCT using a treatment group (exposed to the MBCT) and a control group, which though exposed to an intervention did not have symptoms. Even so, the study was significant because it is among the first studies done in Kenya to test the effectiveness of the MBCT among older clergy. There are endless populations where the study can be replicated to find out if similar results would be recorded.

Also, the choice of the sample and design for the study were done to find out MBCT-SH’s efficacy as a mental health intervention for anxiety and depression for older clergy, with a focus on selected denominations in Nairobi, Kenya.

1.12 Definition of Terms

Anxiety: The *diagnostic and statistical manual for mental disorders*, Fifth edition (*DSM-5*) in 300.02 (F41.1) has defined generalised anxiety disorder as excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least six months, about a number of events or activities, such as work or school performance (American Psychiatric Association, 2013). Anxiety is usually experienced as “a normal, emotional, reasonable, and expected response to real or potential danger” (Shri, 2010, p. 100). However, the symptoms are termed as anxiety disorders if they are “prolonged, irrational, disproportionate and/or severe, occur in the absence of stressful events or stimuli, or interfere with everyday activities” (*DSM IV-TR* as cited in Shri, 2010). Participants in this study had anxiety symptoms as assessed by BAI score ≥8 but ≤(cut-off score indicating the presence of mild symptom of anxiety).

Clergy: Refers to a group of people ordained to perform pastoral or priestly functions in a Christian church (Jejunum, 2003). The process of being designated as a clergy (pastor or minister as used in different denominations) as well as being
assigned to a clergy office varies across different denominations or faith groups. In this study, the terms clergy, minister, and pastor were used interchangeably in reference to a religious official who is authorized by one of the four denominations under this study to perform pastoral duties. Such duties include teaching doctrine and its application; performing services, for example, weddings, baptisms, and funerals; and providing spiritual guidance to the community, among other duties.

Depression: according to WHO (2012a), “depression is common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration” (p. 6). Depression will frequently present with anxiety symptoms, which could likely end up being chronic or persistent, resulting in significant damage regarding individuals’ capability to manage their own daily obligations (WHO, 2012a). Depression can occur as a temporary response to a traumatic event or it can be a chronic long-lasting condition. Participants in this study exhibited depressive symptoms as assessed by the BDI score ≥ 10 (cut-off score indicating the presence of mild symptoms of depression).

Mainline denominations: Refers to orthodox churches that began in Kenya around 16th and 17th centuries and which came to Africa by way of these four major mission organizations: Africa Inland Mission (AIM), Church Mission Society (CMS), Church of the Torch, Wesleyan Missionary Society (WMS), and Methodist Mission. The four denominations sampled for this study share some practices such as tenure of office of pastors, retirement packages, and the fact that their clergy can marry.

Mindfulness based cognitive therapy (MBCT) enables individuals to be aware of their own physical and mental states as well as document their mental and physical activities (Zelazo & Lyons, 2012). People who employ mindfulness in day-to-day
situations are more likely to recognise when they are experiencing anxiety and depression. In this study, participants were assessed for mindfulness using self-reported adherence to the MBCT intervention of not less than 50%.

Older clergy: For the purposes of this study, the term ‘older clergy’ was used in reference to clergy who are 60 years old and above. This is in following the United Nations’ categorisation cut-off for older population (WHO, 2002).

1.13 Summary

This chapter has presented the following aspects of the study: introduction, background, problem statement, objectives, research questions, justification, significance, limitations and delimitations, as well as contextualized definitions of key terms that were used in the study. The next chapter contains the review of literature and research related to the study topic.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, the researcher takes an in-depth look at general and empirical studies on anxiety, depression, and MBCT - to survey the literature relevant to the study topic. At the beginning is a discussion of the theoretical framework that provided an overall picture for evaluating the efficacy of MBCT-SH as a therapeutic intervention for older clergy exhibiting symptoms of anxiety and/or depression. Subsequently, an overview of the causes, diagnosis, and interventions available for depression and anxiety among older people is provided. The chapter ends with a presentation of the conceptual framework that guided the study.

2.2 Theoretical Framework

An understanding of the theories of stress was deemed necessary in underscoring how anxiety and depression affect individuals, considering that there is an inseparable connection between stress, anxiety, and depression. Stress can broadly be defined as pressure or strain. It encompasses responses to circumstances that an individual interprets as threatening. These responses can be physical (for example, disease), emotional (such as grief), or psychological (for instance, fear). The capacity to cope with stress varies from one individual to another. An individual’s perception of a situation, as well as his or her general physical health, are among the major factors that determine how his or her response to a stressful event, or to repeated stressful events (McEwen & Sapolsky, 2006).

The connection between stress, anxiety, and depression can be summarised in this manner: stress and anxiety are mutually causative (Kalin, 2020). If one is not able to deal or cope with stressful situations, the underlying stress is likely to be ingrained.
as anxiety. Constantly worried people may end up feeling drained and hopeless, thereby slipping into depression. Likewise, depressed persons could be very afraid and concerned about the circumstances they are facing. They might keep imagining how their situation might worsen, and this would cause them to slip into anxiety as they constantly wonder what next should they fail.

One study on clergy and stress found out that clergy who scored the highest in stress also scored the highest in depression scores (Eagle, Hybels, & Proeschold-Bell, 2019). This presents stress as an underlying factor in people experiencing anxiety and depression. Given that stress is a part of every persons’ experience, the main factor regarding experiencing anxiety and depression is, therefore, not the stress itself, but rather, the individuals’ perception of stressful contexts.

Several theories have been advanced to express how individuals perceive and respond to stress. These theories represent a biological, interactionist, and psychological approach to understanding stress.

2.2.1 Fight or flight response/acute stress response

The fight or flight response to stress, also known as acute stress response, is attributed to Walter Bradford Cannon (Goldstein as cited in Cherry, 2019). It is a biological approach of explaining stress. Cannon hypothesized that an emotionally arousing stimulus would activate an individual’s sympathetic nervous system. The fight or flight response is basic to the mechanism of stress (McCarty, 2016). Such a person would experience heart palpitations, increased blood pressure, and rapid breathing (Fink, 2016). Producing these responses is the body’s way of preparing the individual for the potential vigorous physical activity, namely to fight the situation or flee away from it, hence the term fight or flight response.
These automatic body responses increase the individual’s levels of anxiety. Soon after the threat is gone, the body’s responses return to a pre-arousal level. It is significant to note that both real and imaginary threats can trigger this physical response. In cases where the threat is real and life-threatening, the fight or flight response plays a critical role in survival, by preparing one to fight or flee; thus, increasing the chances of surviving the danger. Afterwards, the body’s reaction to stress would stabilize.

People with clinical anxiety disorders are more likely to perceive a threat where there is none. They overestimate the prospect of future negative events and occupy themselves in elaborate effective but not efficient coping strategies. They have diminished ability to stand up to difficult situations (Azab, 2018). Since the fight-flight arousal comes from non-specific imaginary situations, the symptoms can come any time and there is nothing to stop them. In a real threatening situation, normal body functioning resumes once the threatening situation transpires.

2.2.2 General adaptation syndrome (GAS)

This response model to stress advanced by Hans Selye approaches stress from the body’s physiological reaction to a stress-causing stimulant - real or imagined. The model has three major stages: 1) alarm, 2) resistance, and (3) exhaustion (Burgess, 2017). It recognises stress to be non-specifically induced, which can be caused by diverse stimuli. This implies that if an individual perceives an event as stressful, no matter its magnitude, the person would react the same. These reactions fall into three successive stages, namely “alarm stage”, “resistance stage”, and “exhaustion stage” (Burgess, 2017).

At the alarm stage, the body is mobilised for action upon sensing a stress-provoking situation. The body releases adrenaline, and other psychological
mechanisms, to combat the stress and to stay in control. Muscles tense, the heart beats faster, breathing and perspiration increases, eyes dilate, and the stomach may clench (Harvard Medical School, 2011). This is an automatic process, naturally induced to protect one in case something bad happens. Once the cause of the stress is removed, the body will go back to normal.

If a person cannot remove the source of stress, he or she would either adapt to or resist the stress’ manifestation. The general adaptation syndrome refers to response as either ‘resistance’ or ‘adaptation’, which is the body’s response to long-term stress. In such situations, the body produces hormones that raise blood sugar levels to sustain energy, as well as hormones that increase blood pressure (Harvard Medical School, 2011). The duration of this stage determines the impact of the stress-inducing stimuli on the individual, increasingly making one vulnerable to stress-related problems which could include fatigue, headaches, hypertension, and cardiovascular diseases (Bianchi et al., 2018).

Extended stress periods make the body run out of its energy reserves and immunity as it continually tries but fails to recoup from the initial alarm stage. The body hence reaches an exhaustion stage where it is no longer able to fight the stressful stimuli. By this time, the persons physical, mental, and emotional resources are highly depleted (Burgess, 2017). If one finds no way to manage the stressful situation, the risk of developing psychological and physical stress-related health conditions arises. Sustained or chronic stress leads to elevated hormones such as the stress hormone cortisol, reduced serotonin, and other neurotransmitters in the brain, including dopamine, the neurotransmitter associated with depression (Fink, 2016).
Figure 2.1 illustrates Selye’s general adaptation syndrome.

![Selye’s General Adaptation Syndrome](image)

2.2.3 Lazarus and Folkman’s theory of cognitive appraisal

In the present study, the researcher applied Lazarus and Folkman’s theory of cognitive appraisal, which is a transactional model of stress (Lazarus & Folkman, 1984).

Life is never without stressful moments. Stress is seen from the psychological world as a natural protective response of the body to a perceived threat, loss, or challenge - directed towards preparing the body to meet the situation at hand. It is a normal response, designed to be followed by a period of recovery, where depleted energies are replenished (Cooper & Quick, 2017). However, when faced with a stressful situation, individuals determine whether the situation they are facing is stressful or not, based on whether they perceive themselves as having or not having the needed resources to meet the challenges posed by the situation. Put differently, a stressed individual is one who not only feels threatened by a situation but also feels incapable of meeting the threat posed by the situation.
The cognitive appraisal theory of stress focuses on individuals’ cognition of a stressor, which informs their emotional response (Cooper & Quick, 2017). It presents stress as a product of a transaction, interactions, and adjustments between an individual and the environment. It further articulates how stress affects individuals, causing them to react by getting anxious and/or depressed. The transactional theory suggests that stress emanates from psychological processing (Cooper & Quick, 2017). This theory emphasizes that how individuals perceive a stressor is more crucial in how the stressor affects them, than the presence of the stressor itself. Lazarus (1966) stated that “stress is not a property of the person or of the environment; rather, it arises when there is a conjunction between a kind of environment and a kind of person that leads to a threat” appraisal (p. 3). According to Perrewé and Zellars (1999), Lazarus argued that there are two important processes involved in the dynamics of stress: a psychological appraisal or a cognitive evaluation of a stressful situation, and a psychological appraisal or behavioural evaluation of one’s resources to cope with perceived stress.

Following Lazarus and Folkman (1984), Sincero (2012) divided cognitive appraisal into two, that is, primary and secondary appraisal. During a primary cognitive appraisal, the individual categorises events as irrelevant, benign-positive, and stressful. An event that is felt not to require any action is categorised as irrelevant; events that may enhance an individual’s wellbeing are categorised as benign-positive; while events viewed as harmful, threatening, or challenging are categorized as stressful (Sincero, 2012).

Events categorized as stressful are experienced as thoughts, feelings, emotions, and behaviours (Lazarus & Folkman, 1984; Sincero, 2012). Effective management of situations perceived as stressful, therefore, involves dealing with the
situations primarily at the level of perception. This makes cognitive behaviour therapy (CBT), developed by Aaron Beck, appropriate in dealing with stressful situations.

Lazarus and Folkman (1984) viewed stress as a scenario where the demands of a situation threaten to exceed the perceived resources that an individual requires for minimising, tolerating, or eradicating the stressor and the pressure the stress produces. When persons are exposed to a perceived stressful situation, they cognitively appraise their human resources - biological, psychological, and social - to assess whether the demands of the stressor threaten their wellbeing or whether they consider their resources as adequate in meeting the requirements of the stressor (Lazarus and Folkman, 1984). This informs the resulting body reactions. In addition to the stimulus and response, the cognitive appraisal model brings out the aspect of differences among people in interpreting stress as a stimulus or as a response (Cooper & Quick, 2017 & Laurent, 2018). How people react to stress varies from person to person since stress is an individual appraisal of a situation.

The process of stimulus appraisal in a person undergoing stress has three stages. First, the person would determine whether a stressor poses a threat to him or her. An individual’s mind rates the event as irrelevant and whether it is positive or negative to his or her wellbeing (Fink, 2016). The decisive aspect of determining the stimuli as stressful is the individual’s appraisal of the situation, and not the situation itself.

If a person appraises a stimulus negatively, the result is the subsequent phase in which the person would evaluate whether he or she has the resources or coping strategies to stand up to the perceived threat. These resources could be environmental factors, social support, knowledge, and skills. Lastly, the reappraisal stage involves the individual re-evaluating the stressful potential of a situation based on access to
new thoughts and information (Fink, 2016). This can lead to an increase or decrease in stress.

The cognitive appraisal theory is demonstrated in Figure 2.2.

![Figure 2.2: Cognitive Appraisal Theory](image)


The cognitive appraisal theory represents a psychological understanding of stress, including the harmful variety (Campell, Johnson, & Zernicke, 2013). According to this theory, an individual’s perception of an event is understood to be more crucial, in relation to the event-arousing the stress, than the event itself. The judgement relates to the person’s perceptions of the potential danger of such an event and the person’s ability to cope with it. Harmful stress will occur when people perceive that they lack the ability or resources needed to cope with a situation facing them. Michie (2002) described this gap in coping ability as follows:

“the basis of the transactional model of stress, whereby the ability of individuals to prevent or reduce stress is determined by their appraisal of the threat within a situation (primary appraisal and the appraisal of one’s coping skills to deal with that threat (secondary appraisal). (p. 68)
Although the evaluative and iterative process of stress appraisals are grounded in a person’s history, they, in turn, influence future behaviour and appraisals (Michie, 2002). Subsequently, the process of evaluation of behaviour and stress is continuous, and management of stress can result from alteration of the way the situation is evaluated (cognitive techniques), or responded to (behavioural or cognitive techniques).

2.2.4 Theory application

Following the cognitive appraisal theory, it emerges that situational and personal factors frame the context in which older clergy experience stressful events. These factors can aggravate or temper the experiences of both anxiety and depression. Personal factors could include age, education level, and marital status; while situational factors include stressors that are related to the vocational lives and experiences of the clergy. These include vocational challenges, tenure of employment, frequency of receipt of financial support, among others.

How older clergy perceive these events determines whether they can stand up to the events or be overwhelmed by them. For example, some clergy might receive low pay or infrequent income. They derive joy in seeing God prove Himself faithful concerning their financial situation (by meeting their needs). This could be in using sources other than their income or being content with the little they have. While many pastors may be poorly-paid, their perception of their financial situations will determine whether they experience financial stress or not. At the same time, some clergy join the ministry later in life when they already have made enough financial investments to get by on.

While one would imagine that such clergy would have less financial stress, it can be argued that the loss of higher financial income and the perceived inability to
live the same standard of life might be the reason for stress (Omungo, Kihara, & Wachira, 2020). There can be scenarios where clergy who earn a low salary cope better with life than their colleagues who earn the same, or even higher. The level of stress individuals experience depends on how much damage they think the stressor can inflict on them. Factors that contribute to how one perceives stressors and one’s ability to cope include self-concept, the body’s stress tolerance, age, psychosocial resources, and learned patterns of coping (Sincero, 2012).

In the present study, the MCBT was used to challenge the attitudes and perceptions of participating clergy about the situations they perceive and appraise as stressful. MBCT is a psychotherapeutic approach that uses CBT methods including understanding maladaptive assumptions and beliefs; together with meditative practices, such as acknowledging dysfunctional thoughts - without producing an emotional response (Pots, Meulenbeek, Veehof, Klungers, Bohlmeijer et al., 2014). The goal here was to enable the participants to learn to categorise situations, that repeatedly stress them - as irrelevant (category one) or benign positive (category two), thereby reducing their stress levels and consequently their anxiety and depression.

The MBCT teaches individuals to mindfully step back from their stressful thoughts, emotions, and feelings and re-evaluate their perceived stressful situations. The expected outcome is for them to positively reappraise their potentially damaging thoughts, replacing negative thinking and actions with more realistic problem-solving thoughts and strategies. Habitual practicing of mindfulness would decrease negative obsessive thoughts, which would impede anxiety and depression. The participants were assessed for anxiety and depression at three stages - at baseline to check the initial levels; after twelve weeks of intervention (midline) to check if MBCT was
effective in reducing the levels of anxiety and depression; and one month later (endline) to ascertain the long-term impact of the intervention.

2.3 Cognitive Behaviour Therapy

Cognitive behaviour therapy “is an evidence-based talking therapy that attempts cognitive and behavioural change, based on an individualized formulation of a client's personal history, problems, and world views” (Tai & Turkington, 2009, p. 865). The approach refers to a class of interventions that share the basic principle - that mental disorders and psychological distress are maintained by cognitive factors (Pots et al., 2014).

Cognitive behaviour therapy views individuals with depression as exhibiting a negative view of themselves, a negative view of their environment, and a negative view of their future (Ryff, Friedman, Morozink, & Tsenkova, 2012). The principles of CBT involve educating the client; teaching them basic relaxation skills; and developing their skills to identify, challenge, and change maladaptive thoughts, feelings, perceptions, and behaviour (Ryff et al., 2012).

The history of CBT dates to the 1950s after World War II. The cognitive therapies were developed to get a short-term therapy to help fight depression and anxiety, especially among veterans of World War II (Gaudiano, 2006). The popular therapy that was practiced before then was based on Freud’s psychoanalytic therapy. Psychoanalysis, which falls into what has come to be referred to as the first wave of CBT. Hoffman et al. (2010) explained the cause of peoples’ stress as their unconscious thoughts and motivations. Psychoanalysis recommends psychoanalytic therapy for guiding clients to gain insight into their unconscious world by releasing repressed emotions and experiences. This is done by free association, dream interpretation, and analysis of resistance and transference (Odokuma, 2010).
Albert Ellis, a student of Freud, was the founder of the rational emotive behaviour therapy, which he designed to help people tackle unhelpful beliefs that sustain mental health problems. In other words, he posited that mental changes would arise based on how a person views events that made one feel depressed or anxious, and not the experiences a person faced (Dryden, 2014). Unlike psychoanalysis, which puts more emphasis on the unconscious past of the client, relative emotional therapy put the emphasis on a client’s present mental state, hence the notion of rational emotive behaviour therapy (REBT) (Ellis, 1962).

Hoffman et al. (2010) noted that emotional and behavioural distress occurs to individuals when they keep distorted thoughts about the events. Emphasising the present, REBT directs clients to learn how to examine and challenge their unhelpful thinking, since such kind of thinking creates unhealthy emotions, as well as self-defeating and self-sabotaging behaviours. This therapy guides clients to identify, evaluate, dispute, and act against their irrational self-defeating beliefs, thereby enabling them to feel and get better (Dryden, 2014). Aaron Beck, a psychiatrist of the 1970s, developed CT, also called CBT. CT “a short-term, goal-oriented psychotherapy treatment that takes a hands-on, practical approach to problem-solving. Its goal is to change patterns of thinking or behavior that are behind people’s difficulties, and so change the way they feel” (Martins, 2016, p. 1).

Beck (1996) used the term CT because of the importance it places on thinking. He observed “that his clients had streams of unreported thoughts that frequently preceded an unpleasant emotional state” (Evans, 2007, p. 111). In his conclusion, Beck observed that as people confront situations in life, their brains register both comforting and upsetting thoughts, which he described as automatic, emotion-filled thoughts that might pop up in the mind that the individual is not fully aware of.
(Hyland & Boduszek, 2012). When individuals’ flow of automatic thoughts is very negative, such thoughts can cause the individuals to become depressed. Beck saw the identification of these automatic thoughts as the key to the clients’ understanding and overcoming of their difficulties.

Cognitive behaviour therapy, therefore, “is based on the idea that how we think (cognition), how we feel (emotion) and how we act (behaviour) all interact together. Specifically, our thoughts determine our feelings and our behaviour” (McLeod, 2019, para. 1). By implication, if individuals change their thoughts, they will change how they feel about themselves, as well as their behaviour. Beck in 1967 came up with the cognitive triad, a cognitive model to describe the cause of depression, in which he proposed that three types of negative thoughts lead to depression: thoughts about the self, thoughts about the world/environment, and thoughts about the future (Beck, Rush, & Emery, 1987).

Figure 2.3 is a diagrammatic representation of Beck’s cognitive triad. The diagram shows how the dimensions of a person’s life that entail cognitive operations are associated with both anxiety and depression. These dimensions include negative view about the world, about the future, and about oneself.
While the two schools of thought, REBT and CBT, appear similar, a significant difference between them is that CT hypothesizes that negative representational beliefs are of central importance, whereas REBT hypothesizes that negative evaluative demands lie at the core of psychological disturbance (Hyland & Boduszek, 2012). The goal of REBT is to modify the underlying core belief of the client, while CT aims at modifying a client’s behaviour. For example, if a pastor is finding it difficult to attend a social function because some church members from a previous church who he did not get along well with will be in attendance, an REBT therapist may want to help the pastor see that his or her self-esteem should not be based on what other people think about him or her. A CBT therapist might want to help the pastor see that the fact that the people did not like him then does not mean they will still not like him currently. Furthermore, it may not necessarily be true that some people did not like him, but it could simply be a faulty personal perception.
The present study followed the cognitive behavioural model. The model holds that cognitive activity affects behaviour, that cognitive activity can be monitored and changed, and that cognitive changes can lead to desired behavioural changes (Bridges & Harnish, 2010). The cognitive appraisal of a situation as being difficult to handle makes individuals have distorted thoughts of themselves as unable to handle the situation facing them; hence they appraise themselves as worthless regarding facing the situation. They consequently interpret the environment that produced the difficult situation as unfair and feel hopeless in as far as handling the situation is concerned, thus concluding that they may not be able to handle other situations in the future.

As a result, the individual ends up getting depressed and seeing no meaning in life, and this may lead to suicidal thoughts. How people feel and behave is shaped by their thoughts, and the most efficient way to change disordered feelings and behaviours is to change how people structure their cognitive experiences (Beck, 1996). The corrective measure is to disconfirm maladaptive beliefs and to correct cognitive distortions.

As earlier explained, CT is “a short-term, goal-oriented psychotherapy treatment that takes a hands-on, practical approach to problem-solving. Its goal is to change patterns of thinking or behaviour that are behind people’s difficulties and thereby change the way people feel” (Martins, 2016, p. 1). This thinking ties well with Lazarus’ transactional theory of stress that emphasizes cognition as a major part of understanding stress.

According to Lazarus's transactional theory of stress, when people are faced with stressful situations, they go through a process of primary appraisal of the situation to determine whether it (the situation) presents a threat to self or not. The
result is three possible outcomes, regarding the event, namely irrelevant; positive to the individual’s wellbeing; or as negative to the individual’s wellbeing (Hoffman et al., 2010). The situation considered as being negative to the wellbeing of the individual would go through a secondary appraisal where the individual assesses their coping resources, which include personal knowledge and skills to reduce the threat, social support, and environmental factors.

In this study, MBCT was the corrective measure that was employed for participants to disconfirm maladaptive beliefs and to correct cognitive distortions.

2.4 Mindfulness-Based Cognitive Therapy (MBCT)

2.4.1 Background of mindfulness

Modern theories advanced about the assessment, treatment, and prevention technologies have highlighted acceptance and mindfulness as key in psychological treatment (Gaudiano, Herbert, & Hayes, 2010). The therapies include acceptance and commitment theory (ACT), MBCT, dialectical behaviour therapy (DBT), behavioural activation (BA), functional analytic psychotherapy (FAP), cognitive behavioural analysis system of psychotherapy (CBASP), and integrative couple therapy (ICT) (Hunot et al., 2010).

Unlike traditional CBT, these therapies, known as the third wave of behavioural therapies, focus on changing the function of psychological events that people experience, rather than on changing or modifying the events themselves (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). This change in functionality is achieved through a variety of approaches, including acceptance, cognitive diffusion, and mindfulness (Hayes et al., 2006). They are characterized by themes new to behavioural psychotherapies, namely metacognition, cognitive fusion, emotions,
acceptance, mindfulness, dialectics, spirituality, and the therapeutic relationship (Segal et al., 2002).

2.4.2 Mindfulness?

Mindfulness is a concept from Buddhist beliefs on meditation. It espouses the notion that thinking, the fundamental state of the mind, should be one of clarity and stillness. This pure state of mind gets jumbled through life experience, humanistic desires, learned feelings, and learned habits (Kahl, Winter, & Schweiger, 2012).

The goal of a Buddhist believer is to continually return the mind to its original state of clarity. This is achieved by following the Buddhist teaching of the noble eightfold path, that is, right or appropriate view, intention, speech, conduct, livelihood, effort, concentration, and mindfulness (Ekman, Davidson, Ricard, & Wallace, 2005). The core of the path lies in the cultivation of mindfulness, both within and externally, in daily living (Shea, 2018).

Mindfulness was introduced as a useful aspect in the practice of mental health by Kabat-Zinn, who founded the Stress Reduction Clinic and the Centre for Mindfulness in Medicine. Kabat-Zinn (2003) defined mindfulness “as the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145). In day-to-day busy lives, mindfulness can be contrasted with mindlessness, where persons perform daily duties without being aware of what they are doing. For example, people eat food while doing or thinking about many other things, such that they never pay attention to eating such that they can enjoy the food they are eating. Likewise, one can drive for a long distance without being consciously aware of his or her driving. This is because the individuals may be processing too much information on different things at
the same time such that their driving does not register in the brain and receive appropriate processing.

Mindfulness calls for the training of one’s mind as a daily deliberate practice that enables one to find ways to bring oneself to the present moment. In addition, it lays emphasis on persons not judging themselves for thoughts they may consider negative. MBCT’s practice calls for stepping back from mental experience to the realization that thoughts are not facts (Creswell, 2017). It combines mindfulness and CBT practices to make use of the two therapies’ separate but interconnected benefits.

The CBT techniques are most useful for counteracting distorted or unhelpful thoughts. Similarly, the mindfulness technique can help its users to be at peace with the world and rid themselves of thoughts or emotions that threaten this peace. When coupled, the CBT and mindfulness techniques provide a framework for safeguarding one’s emotions and to stem mental illness (Bowers, 2013). They emphasize the need for a person to realize that thoughts come and go; hence one has a choice to not be defined by them.

2.4.3 The practice of mindfulness

Gunaratana (2002), a PhD scientist, as well as Buddhists priest, described the role of mindfulness as that of accomplishing three fundamental activities: to focus attention on our tasks; to encourage us to have an impartial and fair view of events and situations; and to cultivate a thought life that is free worries, fears, and fantasies. As a result of the undistorted consciousness, one is enabled to see the true nature of all phenomena. Therefore, it is possible to think through the phenomena without distractions (meditate on it), and plan a way forward.

In 2013, Kabat-Zinn introduced mindfulness to mental health, describing it as the psychological process of bringing one’s attention to the internal and external
experiences occurring in the present moment, which can be developed through the practice of meditation and other training (Kabat-Zinn as cited in Shea, 2018). Moreover, Kabat-Zinn described three related skills necessary in bringing about the awareness of mindfulness: focussing on events as they unfold in the external and internal world; noticing one’s habitual reacting to events, often characterized by aversions or attachment which often leads to overthinking; and cultivating the ability to respond to events with an attitude of open curiosity and compassion (Shea, 2018).

Mindfulness-based cognitive therapy encourages individuals to change their thoughts. Doing so would help them recognise that thoughts are fleeting, and hence they can choose to engage with them or to ignore them (Williams & Kuyken, 2012). The MBCT therapy blends CT with mindful meditation to bring the clients to self-awareness through helping them reflect on their thoughts without passing judgment on themselves. In the practice of MBCT, one pays close attention to feelings to reach an objective outlook with which to view life’s unpleasant occurrences. While CBT trains clients to challenge the content of their distorted thoughts, mindfulness emphasizes challenging one’s perspective towards the thoughts. Its “focus is not to change dysfunctional thoughts but to learn to experience them as internal events separated from the self” (von Devivere, 2018, p. 271).

Some techniques recommended for enhancing mindfulness include sitting and counting breaths, attending to a repeated thought, or focusing on virtually any simple external or internal stimulus to be fully mindful of the present moment. Recommended meditative states include visualizations, devotionals, muscle relaxation, release, guided imagery, and focusing on one specific word. The idea behind mindful meditation is for the individual to attempt to block out all distractions and surrender all control to the here and now (Creswell, 2017).
Ultimately, individuals learn to focus on the sensory and physical aspects of the present moment. They recognize thought patterns, feelings, and physical sensations that are occurring; and learn to tell the difference between sensations, thoughts, and feelings. This trains them to learn to make decisions based on the choices they really want and that feel right (Kabat-Zinn, 2005). After one has been utilizing automatic thoughts in decision making (which is what people mostly do), the skill of making mindful decisions takes time and effort to learn. This is what the MBCT training is concerned with: training people to switch from living mechanical automated to living mindfully.

A typical MBCT therapy takes eight weeks of therapy with meetings held for two and a half hours once a week. There is usually a follow-up one month after treatment and another one six months after treatment (Creswell, 2017). The MBCT-Self Help (MBCT-SH) version of this therapy is self-administered using a self-explained manual. This study utilized MBCT-SH. The aim was to assess the MBCT-SH’s usefulness as a mental health intervention for clergy who were exhibiting above normal levels of anxiety and depression as measured using Becks Anxiety Inventory (BAI) and Becks Depression Index (BDI).

2.4.4 Benefits of mindfulness

Scientific research over time has confirmed mindfulness to be an effective practice in guiding clients towards finding their inner peace. MBCT was originally developed by Teasdale et al. (1995) as a psychological approach for people at risk for depressive relapse who wish to learn how to stay well in the long-term (Williams & Kuyken, 2012). Subsequent studies found the MBCT to be effective in the treatment of other numerous conditions including cancer, generalized anxiety disorder, depression, and other psychiatric and medical conditions (Hofmann et al., 2010;
Kuyken et al., 2016). Subsequently, Kabat-Zinn, a trained molecular biologist, led the way to bring mindfulness into mainstream medicine. This was backed by his own experience in the practice of mindfulness, as well as in research he had been involved in. Kabat-Zinn concluded that mindfulness was effective in treating cardiovascular disease, depression, addictions, chronic pain, among many other health conditions (Kabat-Zinn, 2005).

Further empirical research into the usefulness of MBCT showed that MBCT was more effective than maintenance pharmacotherapy in reducing residual depressive symptoms and in improving quality of life (Turner, 2012). In an open-label pilot study of MBCT’s efficacy in reducing depressive symptoms in patients with treatment-resistant depression, and ≥3 depressive episodes, 61% of patients achieved a post-MBCT BDI-II score<14, which represents normal or near-normal mood. The mean BDI-II scores decreased from 24.3 to 13.9, and the effect size was 1.04, which was a large one (Kenny & Williams, 2007)

Findings of another UK study documented that after two years, relapse rates were at 44% in an MBCT treatment group, versus 47% in the anti-depressant drug group (Kuyken et al., 2015). They maintained that the MBCT treatment brings added advantages, including avoiding long-term use of anti-depressants, which can have unpleasant side effects, such as insomnia, constipation, and sexual problems (Kuyken et al., 2015). Additionally, MBCT has been found to be effective towards the reduction of excessive worry and anxiety symptoms as recorded by another UK study (Roemer & Orsillo, 2007). MBCT has been used in several other researches in the UK with highly positive results (Kaviani, Javaheri, & Hatami, 2011; Tai & Turkington, 2009; Williams & Kuyken, 2012). Consequently, it is currently included in the UK’s
National Institute for Clinical Excellence (NICE) for clinical treatment of depression and the prevention of recurrent depression (Turner, 2012).

Results of a Spanish-based study involving randomly selected 40 HIV positive participants showed that about 80% of the participants had symptoms of depression at the start of the study (Gonzalez-Garcia et al., 2014). As it happened, for the participants to whom MBCT was administered, depression rates significantly dropped such that by week 20, only 20% among the said participants were still exhibiting depression symptoms (Gonzalez-Garcia et al., 2014). On the other hand, rates and intensity of depression remained relatively high among the control group participants, who did not receive MBCT (Gonzalez-Garcia et al., 2014). Other variables that were monitored and found to have decreased among the study group, and not in the control group, included anxiety levels, perceived stress and quality of life and viral load and CB4+ count (Gonzalez-Garcia et al., 2014).

Similarly, results of a study in India demonstrated that MBCT was effective in treating clinical depression among people infected with HIV (Baijesh, 2015). Further, a study done in Korea documented MBCT’s helpfulness in relieving insomnia symptoms by reducing worry associated sleep problems in patients with an anxiety disorder (Yook et al., 2008).

Mindfulness-based cognitive therapy is slowly taking root in Africa with South Africa being in the lead. In 2007, South Africa established the Mindfulness Institute of South Africa (MISA). The country took this step to expand teaching, research, and the practice of mindfulness meditation. Among the studies on MBCT done within the South African population, was one whose goal was to determine the effectiveness of MBCT in the treatment of bipolar disorder (BD). The findings showed that MBCT improves attentional readiness, and attenuated activation of non-
relevant information processing during attentional processes, therefore, improving symptoms of BD (Howells, Rauch, Ives-Deliperi, Horn, & Stein, 2014).

Another study found that MBCT improves mindfulness and emotion regulation and reduces anxiety in BD (Ives-Deliperi, Howells, Stein, Meintjes, & Horn, 2013). Kenya lags in authenticating the use of MBCT in its context. A mindfulness centre was started in 2013 with the aim of introducing mindfulness and its benefits to the country (http://mindfullivingkenya.com/). To date, the researcher is not aware of scientific studies that have been done to quantify the effectiveness of MBCT in Kenya. This study was thus considered ground-breaking in that it could serve to lay a foundation for other studies, enabling relevant entities to embrace this intervention that is evidently benefiting people in other parts of the world.

2.4.5 Mindfulness-based cognitive therapy self-help (MBCT-SH)

The principles, content, and practice of MBCT and MBCT-SH are similar. Nonetheless, the former is a group therapy while the latter is individualized, allowing for self-administration. In MBCT-SH, participants study a guidebook individually, with instructions and exercises on mindfulness. Self-help mindfulness-based interventions (MBIs) are cost-effective; readily available; and highly acceptable interventions that could reduce stress, anxiety, and depression among affected people (Taylor et al., 2014). For example, while in a group intervention model the participants must agree on a time and venue for meetings as well as incur travel costs, MBCT-SH is practiced by the individual at a time and venue of their convenience. Group sessions are planned for two hours per session while one can extend the time of working with the self-help version.

The current study narrowed itself to MBCT-SH. The researcher assumed that this self-help version of MBCT would be most relevant and easy to adopt as a
lifestyle for clergy who may not get time for group therapy sessions and who may fear or face stigma as they seek therapy. The researcher is not aware of studies done to find out the potential benefits of self-help MBCT for clergy. The current study sampled clergy from selected denominations in Nairobi to find out if MBCT-SH would help reduce their levels of stress and anxiety. Since the main aspect of this study was MBCT, with the self-help version containing the exact content of MBCT, except for the mode of delivery, the literature review discussed above includes studies done on both MBCT and MBCT-SH.

2.5 Anxiety and Depression

Anxiety and depression are two commonly co-existing disorders. Cooper and Quick (2017) singled out the presence of anxiety disorder as the strongest risk factor for developing depression. In one Australian study, almost 50% of older adults with a 12-month history of generalised anxiety disorder (GAD) met the criteria for lifetime major depressive disorder (MDD), while only 7.4% of those without GAD met the criteria (Gonçalves, Pachana, & Byrne, 2011). A US study established that “between 10-20% of adults in any given 12-month period will visit a physician during an anxiety or depressive disorder episode, with more than 50% of them experiencing comorbid second depressive or anxiety disorder” (Hirschfeld, 2001, p. 244.).

These studies point to the fact that anxious people will often be depressed, and depressed people will often be anxious. This is echoed by Middeldorp, Cath, Van Dyck, and Boomsma (2005) who associated comorbidity of anxiety and depression mainly to collective genetic susceptibility to the two disorders, or to either of the disorders being a secondary effect of the other. Diagnosis of depression, therefore, necessitates that the health worker tests for anxiety, and vice versa. Informed by the
foregoing, this study sought to understand how anxiety and depression are experienced in the lives of older clergy: aged 60 years and above.

2.6 Depression

The term depression is ordinarily used to describe a general feeling of sadness. It becomes a disorder when it affects the daily functioning of an individual, at which time it is referred to as MDD. MDD is a mood disorder in which feelings of sadness, loss, anger, or frustration interfere with daily life and functioning for a length of time. Depressive disorders are divided into seven separate diagnostic categories, namely “MDD, disruptive mood dysregulation disorder, persistent depressive disorder (Dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder due to another medical condition, and unspecified depressive disorder” (American Psychiatric Association as cited in Conover, 2013, para. 3).

2.6.1 Causes of depression

Depressive feelings are non-discriminative and can affect people of any age. Children might get depressed upon losing a toy or as a result of crashed emotions when their needs are not immediately attended to. Failure in a school examination and broken relationships are among the reasons for which young people experience signs of depression. Studies have attributed depression in older adults to several factors, including loneliness. In older persons, loneliness may be as a result of living alone or lacking close family ties, as well as reduced connections with one’s culture of origin (Gerino et al., 2017). Older age is associated with major life changes that predispose older people to depression. For example, as people age, they lose connection to their friendship networks and find it difficult to initiate new friendships or to even belong
to new social networks (Singh & Misra, 2009). Physical illnesses and grief, following the death of loved ones, are other common triggers of depression among older people.

A 2008 Duke University study among clergy outlined common causes of depression among clergy to include heavy workloads of pastors, and financial pressures due to low pay (Proeschold-Bell et al., 2015). Elements of heavy and demanding workload for clergy include role ambiguity, lack of control over the environment, conflicts associated with the job role, stress associated with the job role, stressful events, excessive workload, and work pressure (Bakker, Demerouti, Sanz-Vergel, 2014; Travis, Lizano, & Mor Barak, 2016). Other factors include lack of firm roots, with pastors often required to move from place to place; and interpersonal conflicts that the pastors have to resolve almost daily and in very unstructured ways. For example, a pastor can be called upon to resolve conflicts anywhere and anytime. In such cases, pastors would have little choice but to go; otherwise, they would be thought of as uncaring.

The inevitable stress engendered by these situations of conflict can lead to depression. Moreover, clergy are likely to suffer from intense, significant responsibilities and decision-making powers. This would occur in a culture that has unrealistic expectations of nurturing and self-sacrifice from helpers (Neal, 2015; Salwen, Underwood, Dy-Liaco, & Arveson, 2017).

2.6.2 Symptoms and diagnosis of depression

Depressive symptoms range from mild, temporary episodes to severe persistent feelings of worthlessness, helplessness, and uselessness. Examples of such symptoms include depressed mood, loss of interest and enjoyment, reduced energy leading to fatigue, and diminished activity (WHO, 2012a). Other associated

Most depressive symptoms heal with time, enabling the person to go back to normal operational levels without necessarily requiring treatment. This does not mean that mild levels of depression can be easily ignored, neither can it be assumed that they will clear on their own with time. When a person experiences mild depression, they still experience the symptoms of depression and could have a reduced rate of accomplishing tasks (Haber, Safadi, & Milad, 2013). Furthermore, it has been suggested that depressive symptoms represent a continuum of depressive symptoms severity in unipolar major depressive disorder, each level of which is associated with a significant stepwise increment in psychosocial disability (Judd et al., 2000).

According to the DSM-5 (American Psychiatric Association, 2013), a person would be diagnosed with MDD if they experience five or more of the following 10 symptoms during the same two-week period for most of the day or nearly every day:

1. Feelings of sadness, emptiness, or hopelessness (in children, this may be irritability).
2. Having no interest or feeling no pleasure in all or almost all activities.
3. Weight loss or weight gain by greater than 5% when not trying to lose or gain weight OR a change in appetite nearly every day.
4. Sleeping too little or too much.
5. Physical agitation or restlessness that is observed by others.
6. Being tired and having a lack of energy.
7. Feelings of worthlessness, self-hate, and guilt.
8. Not being able to concentrate, think clearly, or make decisions.
10. Ongoing thoughts of death or suicide - either thinking about suicide without a plan for how it would happen, having a specific plan, or attempting to commit suicide.

Participants in this study were assessed for depressive symptoms using the BDI, with scores \( \geq 10 \), indicating the presence of mild symptoms of depression. This was the cut-off point of eligibility for intervention in the study.

2.7 Anxiety

Anxiety is a broad term that brings together individual disorders, for example, panic disorder or phobias (excessive, persistent and impairing worry or fear) and generalized anxiety disorder (American Psychiatric Association, 2000). It expresses a normal emotional response to perceived threatening situations. Since threatening situations are individually perceived, anxiety can best be considered as a complex subjective experience. For better understanding, anxiety can be contrasted with fear. While fear is a response to an immediate actual danger in the present, anxiety is associated with a threat that is anticipated in the future (Stewart & Chambless, 2009). An anxious person is getting ready to cope with an imaginary future problem that they envision will cause harm, even though there is no certainty that the problem will come their way.

Generally, everyone experiences a level of anxiety in day-to-day life experiences. For instance, when anticipating an interview, or in the case of clergy going to preach in a big gathering, minimal level of anxiety might set in and be beneficial in keeping one more alert and focused. The main criteria used to distinguish normal anxiety from an anxiety disorder is the anxiety’s cause and intensity.

Anxiety feelings become abnormal when they are not associated with specific threatening situations, and when the feelings are exaggerated or prolonged and
interfere with daily life (American Psychiatric Association, 2013). As an illustration, a clergy may be anxious about an upcoming preaching event but may still have the energy to continue preparing for it even when experiencing sleepless nights during the preparation. On the day of the event, the person (clergy) will wake up, attend the event, and play the expected role. Afterwards, the person will feel relieved that the event is over, and the anxiety levels will stabilize to normal. This is normal anxiety. Abnormal anxiety would be observed in a scenario where the clergy would be unable to prepare for the event or would find an excuse not to attend the event.

Anxiety disorders are classified into seven main types, namely separation anxiety disorder, selective mutism, phobias, social anxiety disorder, panic disorder, agoraphobia, and GAD (American Psychiatric Association, 2013; Beesdo, Pine, Lieb, & Wittchen, 2010). This study focused more on GAD, which is categorized as the most common anxiety disorder in late life. It is characterized by “more than six months of worry about a number of life domains (such as relationships, finances, and health); difficulty in controlling the worry; and associated physical symptoms, such as restlessness, fatigue, muscle tension, and insomnia - that interfere with social or occupational functioning” (Cassidy & Rector, 2008, p. 152).

2.7.1 Causes of anxiety

Bourne (2000) submitted that the causes of anxiety are presented in a biopsychosocial model which categorizes them into three possible categories: biological, psychological, and social causes (Bourne, 2000). Biological aspects of the causes of anxiety include genetic predisposition, which is related to the body’s way of responding to environmental stresses (Remes et al., 2018). Psychological aspects could have an origin in early upbringing and associated learning experiences from which one creates dysfunctional beliefs that develop over time and become part of the
normal way one reacts to situations (Remes et al., 2018). Further, Remes et al. (2018) noted that social factors are related to the learning one acquires from observing others, especially significant others.

Risk factors for late-life anxiety disorders include “increasing frailty, medical illness, and losses can contribute to feelings of vulnerability, and fear” (Yoo et al., 2002, p. 150). As stated by DeBours et al. (2001), other risk factors for late-life anxiety disorders include a lack of social supports, a recent traumatic event, medical illnesses and medications, poor self-rated health, the presence of another psychiatric illness (particularly another anxiety disorder or depression), an early-onset anxiety disorder, and the female gender.

2.7.2 Symptoms and diagnosis of anxiety

As earlier mentioned, anxiety is, for the most part, a very subjective experience. Consequently, its symptoms can also be subjective. The symptoms are experienced as thoughts (cognitive), feelings (emotions), and portrayed in behaviour and physical sensations. The thoughts that people experience when anxious are commonly referred to as worry (Remes et al., 2018). According to the DSM-5 (American Psychiatric Association, 2013), the criteria for anxiety disorder perimeters include the following:

1. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least six months, about a number of events or activities (such as work or school performance).

2. The individual finds it difficult to control the worry.

3. The anxiety and worry are associated with three (or more) of the following six symptoms:
   a. Restlessness or feeling keyed up or on edge.
b. Being easily fatigued.

c. Difficulty concentrating or mind going blank.

d. Irritability.

e. Muscle tension.

f. Sleep disturbance (trouble falling or staying asleep, or restless, unsatisfying sleep),

2.8 Anxiety and Depression and Demographics

Various demographics, including gender, socioeconomic status, education, religion, personality, and cultural bias, may impact a person’s anxiety and depression levels. These variables, deemed relevant to this study, are discussed below.

2.8.1 Anxiety/depression and gender

The prevalence of major depression has been found to be higher in women than in men (Ford & Erlinger, 2004). Research has indicated that at ages older than 65 years, both men and women show a decline in depression rates. However, some studies show that the prevalence levels are by gender are similar (Bebbington et al., 2003; Patten et al., 2006). Other studies show that depression levels among women rates are still higher than for men even at the older age, with the risk of depression increasing during the perimenopausal transition (Forlani et al., 2014).

The differential risk for men to women's depression rates is largely linked to several factors, mostly hormonal, biological, and cultural (Ford & Erlinger, 2004). There are kinds of depression that are exclusively female due to their genetic predisposition and hormonal fluctuations. Examples include premenstrual dysphoric disorder, postpartum depression, and postmenopausal depression and anxiety, all of which might contribute to the increased prevalence in women (Freeman, 2002).
Research findings have also associated women with internalizing symptoms, while men have been found to present more with externalizing symptoms (Bartels, Cacioppo, van Beijsterveldt, & Boomsma, 2013).

Women invest in relationships more than men, and this is likely to increase their chances of getting depressed over discontinued relationships. As an illustration, findings of a study of dizygotic twins demonstrated that women displayed more sensitivity to interpersonal relationships. In contrast, men displayed more sensitivity to external career and goal-oriented factors (Kendler & Gardner, 2014).

Women are also believed to be exposed to more stress-inducing circumstances than men. Also, besides having to pursue a professional career just in the same way as men, women bear a societal expectation to maintain a home, bring up children, and care for older relatives, among other roles (Bebbington et al., 2003). As well, women are socialized by society to be more nurturing and sensitive to the opinions of others, while men are encouraged to develop a greater sense of mastery and independence in their lives. This type of socialization is theorized to lead to greater depression in women, who must look outside themselves for validation (Wilhelm, Roy, Mitchell, Brownhill, & Parker, 2003).

Gender demographics was not part of the current study, and as such, the study did not compute the ratio of male to female clergy who exhibited symptoms of anxiety and/or depression. Further, the total population of females was quite small to form a valid statistical conclusion.

2.8.2 Anxiety/depression and culture

Culture includes people’s beliefs and practices about material objects, interpersonal relationships, and the use of time. However, it is in the ideal realm, the cognitive level - where there exists the core of an individual's ultimate values, destiny
and explanations of life that is the most fundamental (Dowrick, 2013). These beliefs are learned from infancy and are mostly in the unconscious. They form a person’s worldview, that is - beliefs that underlie and shape all of one’s thoughts and actions. People know these beliefs from their culture but may not be able to explain them. Such beliefs are taken for granted because they are largely unexamined. Simply put, it is “just the way things are done”.

Culture is an important aspect of health and illness. Specifically, the perception of anxiety and depression disorders is strongly influenced by cultural factors. This is so partly because of culturally dependent variations in the beliefs about the underlying physiology of illness syndromes (Hinton, 2012), and partly because of the social context and norms to which a person is exposed (Hoffman et al., 2010). Ethnomedical research (Ethnomedicine) focuses on the role of culture, perception, and context in shaping someone's physical and mental health and proposes that the prevalence of depression is linked to cultural differences in the sense of individualism and collectivism (Nemade, 2007).

African traditional beliefs often blame superstition for acute mental health diseases. They attribute mental health diseases to supernatural afflictions that can be cured only through spiritual or traditional medicinal interventions. This leads to people seeking for mental health intervention from religious leaders and/or traditional healers. While there could be some healing value in this, there is a danger since such a practice contradicts empirical theories of therapy, in turn, likely causing the patient unnecessary dilemma and suffering.

2.8.3 Mental health policy and practices

Historically, mental health “has been neglected on Africa’s health and development policy agenda. Faced with many challenges, including intractable
poverty, infectious diseases, maternal and child mortality, and conflict, African political leaders and international development agencies frequently overlook the importance of mental health” (Lund, 2018, para. 1). This tendency is frequently heightened by an unawareness regarding mental health challenges’ scope, the stigma that victims of mental health experience, plus misguided views that mental illnesses is untreatable (Lund, 2018).

One example of expressing ignorance about the extent of mental health stigma is portrayed by a Kenyan humour writer Ted Malanda, “…I can’t wrap my mind around the fact that depression is an illness…In fact, it is such a non-issue that African languages never bothered to create a word for it” (Malanda, 2015, para. 6). The statement by Malanda (2015) can be viewed against the context of mental health treatment preparedness in Kenya. The WHO reported that Kenya has only about 80 psychiatrists, 30 clinical psychologists, and 500 psychiatric nurses, of which only 250 work in mental health (WHO as cited in Gberie, 2017). Further, Gberie (2017) noted that “…African countries dedicate on average less than 1% of their health budgets (themselves minuscule) to mental health, compared with 6-12% in Europe and North America” (para. 25).

2.8.4 Anxiety/depression and religion

Scrutton (2015) observed that one common discussion in Christian circles is whether depression is a sin or a disease. If depression is treated as a sin, then it becomes a moral and spiritual problem, attributed possibly to demonic possession as a result of moral or spiritual failure. On the other hand, if it is viewed as an illness, it becomes like physical illnesses that require medicine to treat (Scrutton, 2015). The traditional Jewish thought was that depression was caused by sin. This could easily be explained based on the Old Testament teaching. For example, when a man born blind
was brought to Jesus for healing, Jesus’ disciples asked Him (Jesus) to tell them whose sin had led to the man being born blind (John 9:2 (Zondervan NIV Study Bible)). The general Christian perception is that sicknesses emanate from Adam’s original sin (Genesis 3 (Zondervan NIV Study Bible)). This, however, does not directly imply that when one is sick, the individual has sinned. It just means that suffering, which sickness is a part of, is because of living in a fallen world (against the Genesis chapter three background).

Some researchers have determined that religion and faith play a significant role in health and response to illness (Koenig, King, & Carson, 2012). Accordingly, modern treatments of mental illnesses are recognizing that a blend of religious and physical approaches to treatment is to be preferred. The DSM-5 recognizes the complex relationship of religion, spirituality, and psychiatric illnesses in the realm of diagnosis, and the important role that spirituality and religion play for many people in the experiences of coping with health and illness (American Psychiatric Association, 2013).

Spirituality, with its associated practices of prayer, meditation, scripture reading, and worship, can indeed help depressed persons feel that God cares for and loves them. It can make people feel that they are not alone, that they are worthy of love, and that they can depend on God. Mindfulness-based cognitive therapy has its philosophical origins in Buddhism. The therapy is designed to induce a direct experience of the divine and to develop spiritual skills, such as strengthening the will, controlling ego, and developing mastery (Creswell, 2017). “Today, mystical practices (e.g., yoga, meditation) are increasingly being taught by practitioners outside a religious context, and many of the original cautions about their use have been abandoned” (Blanch, 2007, p. 12).
2.8.5 Anxiety/depression and age

Both depression and anxiety are attributed to a combination of genetic, biological, environmental, and psychological factors. Significant life changes and a failure to cope with life stresses that accompany these changes are often primary underlying triggers of depression (Auerbach, Abela, Zhu, & Yao, 2010). Older people are faced with various physical, psychological, and social role changes that often challenge their identity and ability to remain active and productive (Goll, Charlesworth, Scior, & Stott, 2015; Singh & Misra, 2009; Victor & Bowling, 2012). Common risk factors of depression in later life include having a disability, being diagnosed with a new medical illness, sleep difficulties, and bereavement (Cole & Dendukuri, 2003; Goll et al., 2015).

Lack of social support and loneliness add to the main factors in older persons’ depression and anxiety (Kok & Reynolds, 2017; Victor & Bowling, 2012; Yoo et al., 2002). Certain factors could contribute to loneliness and lack of social support. These include the passing on of a spouse; empty nest as children start their families and move away from home; deaths of agemates or poor health; and retiring outside one’s cultural setting, thus lacking the opportunity to connect with people and activities one has known over the years. In addition, older age comes with reduced mobility which makes developing new friendships a big challenge. Further, retirement from employment is likely to lead to lower economic standards and lower income, leading to a change in the standard of living; hence triggering depression (Wilson, Mottram, & Sixsmith, 2007).

2.8.6 Diagnosing depression and anxiety in older persons

Studies have suggested that mood and anxiety disorders become less common as people age (Kessler et al., 2005; Wells et al., 2006). Several hypotheses have been
proposed for this phenomenon, among them age-related changes in brain neurotransmitter function, age-related psychological and/or social changes, disorder-associated mortality, and a cohort effect (Remes et al., 2018). These, however, have not gone without being challenged, with some schools of thought arguing that epidemiologic surveys may underestimate the prevalence of affective disorders in older persons (O’Connor, 2006).

Depression among the elderly can be difficult to diagnose owing to communication difficulties. Such difficulties include hearing or cognitive impairment, other comorbidities with physical symptoms similar to those of depression, and the stigma associated with mental illness that can limit the self-reporting of depressive symptoms (Cassidy & Rector, 2008; Mubeen et al., 2012). Many conditions may coexist with depression and depression may increase the risk for other illnesses.

Anxiety and dementia are some of the comorbid conditions easily confused with depression, as they have overlapping clinical presentations. The side effects of certain medications used for medical conditions in older people can also mimic symptoms of depression and anxiety or trigger the same conditions (Wiese, 2011). Moreover, on many occasions, depression is not given attention among elderly people because many of the symptoms it presents with are akin to symptoms that society generally considers normal for aging. Typical problems include insomnia, fatigue, difficulty concentrating, among others. These symptoms in older persons are, therefore, often dismissed as related to aging.

2.8.7 Intervention for anxiety and depression in older persons

Clinical depression usually responds well to treatment. If treated successfully, it can improve quality of life and reduce depression-related deaths (Evans & Mottram, 2000). Effective treatments for anxiety and depression in older adults are grouped
under three categories: medical treatments, psychological treatments, and lifestyle changes/alternative treatments (Frazer, Christensen, & Griffiths, 2005). One downside of medication for the treatment of any disease is the possibility of possible side effects, which could trigger other health conditions. Furthermore, medical treatment comes with financial obligations.

In the Kenyan context where many insurance companies may not cover mental health, it can be excessively expensive to follow up medical treatment for depression. Mostly when one can carry on with their daily activities, albeit with difficulties, they give up on medical follow-up due to the financial costs involved. In the context of this study, some clergy are entitled to medical coverage paid for by the churches they serve in, but the cover ceases upon retirement. A clergy’s retirement money may not be adequate to pay for continued medical insurance. Consequently, impending and actual retirement means that clergy will either lack or soon lose medical insurance. This scenario puts them in a position where they must choose between paying for daily survival needs, such as food, electricity bills, water bills; or paying for medical insurance. This could be complicated further by the extended family expectations in African societies. No wonder one South African study established that many old people in Africa are financially, physically, and emotionally ill-prepared for the challenge of independent survival in old age (Czerniewicz & Nicholson, 2004).

Contrasted with medical treatments, MBCT is a form of psychological treatment that embraces lifestyle changes; and requires one-time training after which an individual has the skills to apply for a lifetime, making it accessible and affordable. In addition, MBCT has no known side effects - yet it has been known to improve people’s quality of life, increase concentration and awareness, and empower one with skills to respond to negative thoughts positively.
Research has concluded that people who practice mindfulness are less likely to engage in worries about the future or regrets over the past (Harvard Medical School, 2013). Worry about the future is a strong predictor for anxiety symptoms, while regrets over the past can largely be associated with depression. As earlier discussed, both symptoms are commonly experienced by elderly persons. This study, therefore, with a focus on selected denominations in Nairobi, Kenya, aimed to find out if MBCT could reduce anxiety and depression symptoms in a population of older clergy.
2.9 Conceptual Framework

Figure 2.4 represents the conceptual framework as used in this study.

**Effect Modifiers**
- Age
- Gender
- Marital status
- Education levels
- Pension arrangements

**Independent Variable**
Mindfulness Based Cognitive Therapy Self Help (MBCT-SH)

**Confounding Factors**
- Taking medication for mental health

**Dependent Variables**
- Reduced
  - anxiety symptoms
- depression symptoms
- Improved mindfulness

*Figure 2.4: Conceptual Framework*
Source: Author (2020)
2.10 Discussion

The intervention, MBCT, was posited as having a negative effect on mild and moderate anxiety and depression levels. Participants belonging to the treatment groups would experience diminished anxiety and depression, and the levels of anxiety and depression would be lower than the average estimate for participants in the control group. Age, gender, marital status, education levels, and pension arrangement were treated as moderating variables. As people age, they face challenges that make them susceptible to anxiety (Hybels & Blazer, 2003; Ritchie & Roser, 2018; WHO, 2012b). Gender and marital status have been found to be positively associated with depression (Patten et al., 2006; Sinha et al., 2013). Pension arrangements have been associated with an elevated risk of anxiety due to their association with real or perceived losses (Yoo et al., 2002). Taking of medication for mental health problems was treated as a covariate or confounding variable. It was important to establish the effectiveness of the intervention whilst controlling for mental health medication.

The intervention would be deemed effective if there was a statistically significant reduction in depression level in the treatment group over time. The anxiety and depression levels of people in the control group would be on an upward trend, and the comparable levels of people in the treatment group would be on a downward trend.

The exposure variable in this study was MBCT. The exposed variables were depression and anxiety. Modifying variables used were age, marital status, educational level, and the number of years a participant had served in ministry. The study sought to find out if there was any relationship between these variables and symptoms of depression and anxiety among the participants. Confounder variables
included educational level, the reason for retirement, social support, commitments after retirement, and physical health.

The sampled population received twelve sessions of MBCT, self-help version. The expected outcome was a reduction in levels of anxiety and a reduction in levels of depression among the participants. Further, it was expected that the participants would develop better skills in coping with day-to-day activities and challenges as a result of improved mindfulness.

2.11 Summary

In this chapter, the researcher has developed the research problem for this study by discussing the theoretical framework that guided the study. Further, the researcher has discussed literature relevant to the study and concluded by giving the conceptual framework that was used for the study. In the next chapter, the methodology that was employed in this study is discussed.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a description of how data was collected and processed. It includes a description of the research design, as well as an outline of the procedures used for data collection and analysis. It also provides the data verification stages that were followed and the ethical considerations of the study.

3.2 Research Design

The study applied an experimental research design in testing the effectiveness of MBCT-SH towards reducing the symptoms of anxiety and depression among older clergy. This design is useful when a researcher attempts to establish causal relationship/between variables. Quasi-experiments are used to test an intervention by comparing respondents in an experimental and a control group. However, unlike experimental design, quasi-experiments lack proper randomization in allocating respondents to the intervention group (Aussem, Boomsma, & Snijders, 2011). This made it impractical to get two workable samples and to guard against the probability of contamination of the study sample. The participants knew each well due to the nature and geographical location of their work (they all work or worked and are retired in Nairobi County).

The quasi-experimental design employed a pre-test and post-test approach, starting with the participants being assessed to assess their level of anxiety and level of depression at the baseline. The baseline gave their depression and anxiety scores at the start point: estimates that would be used for comparative analysis. Assessments were completed at baseline, eight weeks later, and at 10-week follow-up, as is
customary under MBCT interventions (Hinterman, Burns, Hopwood, & Rogers, 2012).

At the baseline, the Beck Anxiety Inventory (BAI) and Beck’s Depression Index (BDI) were administered to all the participants to estimate the level of anxiety and depression. The participants who exhibited symptoms of anxiety and/or depression were invited to participate in the study taking part in the MBCT intervention for depression and anxiety. The inclusion criteria were a BDI score $\geq 10$ but $\leq 30$, a cut-off score that indicated the presence of either mild or moderate depression), and anxiety symptoms as assessed by BAI score $\geq 8$ but $\leq 36$, a cut-off score indicating the presence of mild or moderate symptoms of anxiety. The rest of the participants participated in the study as a waitlist control group.

The MBCT intervention has both a group model and an individual self-help model. The self-help model was purposively chosen for this study. In this model, participants studied a guidebook with instructions and exercises on mindfulness for eight weeks as stipulated by MBCT interventions (Hinterman et al., 2012). After the eight weeks of self-help administered intervention, the researcher re-administered BAI and BDI to all those who had done the same tests at baseline. The aim was to ascertain if there was a difference in the baseline and post-test scores for those who had participated in the intervention through reading the mindfulness book and practicing the mindfulness exercises. This would help determine if MBCT-SH had been effective in reducing symptoms of depression and anxiety in the intervention participants.

The research design was as demonstrated in Figure 3.1.
Quantitative and qualitative methods of data collection were used to get the required data for this study. Quantitative instruments, namely BAI and BDI, were used to get relevant data for objectives one, two, three, and four. The goal of these objects was to determine the prevalence of anxiety and depression among older clergy from mainstream denominations in Nairobi County, evaluate the effectiveness of MBCT-SH on depression among older clergy, and evaluate the effectiveness of MBCT-SH on anxiety among older clergy.

Qualitative interviews were used to get the biographical information of the participants and to answer objective five, which was to analyse the participating older clergy’s subjective experience of implementing mindfulness skills in their daily lives. A follow-up assessment, using the screening tools: BAI and BDI, was done after week twenty to find out if the effectiveness of MBCT on the participants’ levels of anxiety and depression were sustainable over time.

3.3 Study Site

This study was conducted in Nairobi County in Kenya. Nairobi County was purposively chosen for the study because it was considered to comprise enough dynamics to achieve the study objectives. Nairobi is the capital and the largest city of Kenya, and together with its surrounding areas, it forms Nairobi County. It is a cosmopolitan and multicultural city, with a 2018 total estimated population of four million. Its size is 694.9 Km² (Kabeyi, 2017). Nairobi’s history dates to the colonial days and specifically to 1899 when the city was chosen as the site for the Kenya-Uganda Railway headquarters. It was named a municipality and the capital city by the British, Kenya’s colonial masters, in 1919. The city was established as a county by
the Independent Electoral and Boundaries Commission (IEBC) as envisioned by the
devolved government system in the Constitution of Kenya.

Kenyans enjoy the freedom of worship, with the Christian population
estimated at 83% (Muraguri, Ortiz, Soler, 2018). The country has more than 4,000
registered churches, belonging to various denominations, ranging from very
mainstream churches to lesser known evangelical and gospel offshoots. Most of these
denominations have branches in Nairobi, the country’s capital city.

3.4 Target Population

The population for this study was older clergy aged 60 years and above from
four purposely selected mainline Christian denominations: the Africa Inland Church
(AIC), the Anglican Church of Kenya (ACK), the Presbyterian Church of East Africa
(PCEA), and the Methodist Church of Kenya (MCK). The four denominations
purposively selected because it was expected that they would have a high number of
clerics aged 60 years and above. This is because the four denominations have a long
history in Kenya (of over 100 years), thus are well established, and their operations
are guided by formal rules and procedures. The total targeted population was 158
older clergy, and the distribution of the target population is shown in Table 3.1.

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa Inland Church</td>
<td>20</td>
</tr>
<tr>
<td>Anglican Church of Kenya</td>
<td>55</td>
</tr>
<tr>
<td>Methodist Church of Kenya</td>
<td>32</td>
</tr>
<tr>
<td>Presbyterian Church of East Africa</td>
<td>51</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
</tr>
</tbody>
</table>

*Source: Respective Denominations’ Leadership (2018)*

Due to differences in the retirement age of clergy in the selected
denominations, the study population included some clergy who were retired, as well
as others who were approaching retirement. The AIC does not have clear guidelines
on what the retirement age is, and clergy retire when they feel that their physical strength does not allow them to continue serving. Clergy serving with the ACK retire at 65 years. The PCEA requires its clergy to retire at 60 years of age, but it allows them to continue serving until 65 years under one-year renewable contracts. In the MCK, clergy retire at 65 years of age. Even with the historical factor, the total population of the clergy within the selected age group is small. On this account, the researcher opted to screen all subjects who met the age criteria of 60 years and above. The screening was done using the BAI and BDI.

3.5 Sample Size

The sample for this study was drawn from 160 clergy aged 60 years and above and who were living in Nairobi, and are serving, or retired after serving within Nairobi Country in one of the four selected denominations, namely, ACK, AIC, MCK, and PCEA. Below is the formula that was used to calculate the sample size.

\[
n = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})^2 \times [P_0(1-P_0) + P_1(1-P_1)]}{(P_0 - P_1)^2}
\]

where:

- \( n \) Desired sample size
- \( D \) \( Z_{1-\alpha/2} \) Z-score corresponding to the probability with which it is desired to be able to conclude that the observed change did not occur by chance (two-tailed: \( Z_{1-\alpha/2} \) is 1.96 at 95% confidence level)
- \( Z_{1-\beta} \) Z-score corresponding to the degree of confidence (power) with which it is desired to be certain that the difference between the groups actually occurred (at 80% power, \( Z_{1-\beta} \) is 0.84)
Estimated proportion of older clergy with anxiety and depression at pre-intervention assessment (assumed to be like study at 29.3% based on Kinyanda et al.’s (2011) study done in in Uganda.

Estimated proportion of older clergy with anxiety and depression at post-intervention assessment 4.30% (assuming a 25% percentage point drop)

The minimum sample size was n=114. After factoring in 20% possible loss, the minimum sample size became 137.

3.6 Sampling Techniques

A total of 132 older clergy from the selected denominations who were sixty years and above and were able and willing to participate in the study were screened and included in the study. The subjects were each contacted through a telephone call and the researcher booked an appointment with each one of them. The meetings were held at a place that was convenient for each subject. Data from all those who participated were included in the study.

3.7 Data Collection Instruments

The study used four main instruments: a researcher-developed socio-demographic questionnaire (SDQ), used at baseline level; BAI and BDI, both used at level one (baseline), level two (midline), and level three (end line); and a researcher-developed assessment of MBCT content and adherence used at the midline assessment.

3.7.1 Socio demographic data

The social demographic data collection tool was used at baseline to get the respondents’ biographical information. It included information, such as the
participant's age, gender, level of education, retirement age, reasons for retirement, joys of ministry, and causes of anxiety in ministry. This information was key in capturing the mediating and confounding variables, which would be critical in analysing the results in case the variables were found to be statistically significant between the groups.

The SDQ had both closed- and open-ended questions. This instrument (plus all the others that were administered) was written in English. The researcher’s assumption was that since the target clergy population was serving or had retired after serving in congregations in Nairobi where most church services are conducted in English, it would not be expected that any of them would be unable to follow the study material in the English language.

3.7.2 Beck anxiety inventory (BAI)

The BAI is a self-report instrument consisting of 21 items which are rated on a 4-point scale ranging from 0 (“not at all”) to 3 (“severely, I could barely stand it”). The total score of all items on the BAI (ranging from 0-63) indicate the severity of anxiety symptoms: 0-7 indicates a minimal level of anxiety, 8-15 indicates mild anxiety, 16-25 shows moderate anxiety, and 26-63 indicates severe depression (Beck & Steer, 1990).

The BAI has been widely used in studies and treatment in Africa in countries including South Africa, Zambia, Nigeria, and Kenya. In this study, BAI was administered at baseline, mid-line, and end line assessments to check the anxiety levels of both the treatment and wait-list control group.
3.7.3 Beck depression index (BDI)

The BDI contains a series of questions developed to measure the intensity, severity, and depth of depression in persons aged 13 years and above. It comprises 21 questions, each designed to assess a specific symptom common among people with depression. Individual questions on the BDI assess mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image, work difficulties, insomnia, fatigue, appetite, weight loss, bodily preoccupation, and loss of libido (Thackery & Harris, 2003).

According to the BDI, the severity of depression is rated as follows: scores from 0 to 9 represent minimal depressive symptoms, 10 to 16 indicate mild depression, 17 to 29 indicate moderate depression, and 30 to 63 indicate severe depression (Azulai & Walsh, 2015). The BDI’s psychometric properties, including its test-retest reliability and internal consistency, have been supported by research (Beck, Steer, Ball, & Ranieri, 1996; Wang & Gorenstein, 2013). The BDI has been adopted for use in Kenya and has been translated into Kiswahili.

3.7.4 Intervention adherence

Intervention adherence: The MBCT intervention authors have described sufficient completion of the intervention to at least 50% (Williams & Penman, 2011) and engagement with at least four mindfulness practices for a minimum of 2-5 hours per week. In this study, 50% adherence for participants in the MBCT self-help intervention was defined as reading at least 50% of the MBCT-SH book and spending a minimum of 2-5 hours per week in mindfulness exercises. This follows criteria applied in an earlier study (Taylor et al., 2014). The adherence rate was determined by answering a self-reported question on the post-intervention questionnaire.
3.8 Data Collection Procedures

The researcher visited the head offices of the four selected denominations: ACK, AIC, PCEA, and MCK to discuss the study with the denominations’ leadership. The aim of doing this was to create awareness of the study within the denominations and obtain the leadership’s goodwill to carry out the research. The researcher also considered this step as important to the dissemination of the results and possible future generalization of the study among a representative sample of older clergy.

The researcher obtained the names and contacts of all the clergy who fitted the selection criteria for this study, that is, clergy aged 60 years and above who had worked; or were working during the duration of the study in one of the four selected denominations. The researcher then contacted, by phone calls, each of the eligible participants and explained to them the objectives of the study and their time involvement.

The research team consisting of the researcher and one research assistant booked individual appointments with all those who consented to participate in the study. Each of the participants was personally visited by either the researcher or the research assistant, at his or her (the participant) place of convenience. During the visits, the research team answered questions from the individual participants in relation to the study.

Once the study objectives were clear to the participants, each of them was asked to sign the informed consent form and the SDQ. Each participant also took the initial BAI and BDI tests. The intention of these tests was to find out the levels of depression and anxiety in the participants in order to determine whether MBCT would intervene in bringing down the levels of these conditions after the participants had gone through the intervention. Those who met the scores for inclusion into the study:
BDI score \( \geq 20 \) (cut-off score indicating the presence of mild symptoms of depression), and/or anxiety symptoms as assessed by BAI score \( \geq 21 \) (cut-off score indicating the presence of mild symptom of anxiety), were issued a copy of the MBCT-SH which was the treatment manual for this therapy.

The MBCT-SH book is based on the equivalent sessions in the therapist-led MBCT course. Readers are asked to read one intervention chapter a week and to practice a series of 20-30-minute meditations. The research team explained to the participants the need for adherence to the therapy and that at the end they would report on their adherence to the therapy structure and the challenges faced in adhering to the recommended structure. As recommended by the authors of this intervention, the research team had no contact with the participants during the 12-week treatment period to reduce the possibility of bias from researcher involvement (Taylor et al., 2014). This is necessary since the therapy is meant to be self-guided.

At the end of the 12 weeks of the MBCT-SH, the research assistants administered the post-test screening tests using the BAI and BDI individually to each participant to find out if MBCT-SH had been effective in reducing the levels of anxiety and depression in the experimental group. The participants in the intervention group, in addition to the screening instruments, filled in a questionnaire to find out their rate of adherence to the program, their subjective experience of implementing mindfulness skills in their daily lives, and their suggestion for improving program content and delivery. The study’s data collection procedure is depicted in Figure 3.2.
Clergy express interest to participate

Baseline screening of participants:
- BAI
- BDI-II

- Started 8 weeks MBCT-SH intervention

- Complete screening tests
  - Intervention

- Data analysis
  - Draw conclusions

- Evaluation at week 20
  - Data analysis

*Figure 3.2: Data Collection Procedure, Coding, and Analysis*

Source: Author (2020)
According to Kabat-Zinn (2011), the following is the suggested order for MBCT-SH sessions content:

Session 1: Automatic pilot

According to Kabat-Zinn (2011), this session would introduce the participants to the diary and to the course. This included introduction to recognizing automatic pilot modes of thinking and acting and how the same can cause difficulties for people with depression, leading them to slip into the well-known mode of negative thinking automatically. The participants were introduced to the first mindfulness meditation step, which is the body scan.

Session 2: Automatic judgments

For session two, Kabat-Zinn (2011) held that participants explored the idea of automatic judgments in a number of ways. The first was the tendency to judge experiences as not quite right in some way and to compare them to how one feels they should be. This, in turn, led to blame and thoughts about what could or should be different. Participants were also led to exploring the relationship between thoughts and feelings as understood in CBT: a key point made was that a person who has been depressed in the past is more likely to have negative feelings about an event. The session also explored the concept of recording pleasant events as they happened.

Session 3: Mindfulness of the breath

This session begun by looking at the distinctions between thoughts, feelings, and bodily sensations; and how hard it can sometimes be to put these apart (Kabat-Zinn, 2011). It went on to explore the problems that arise when one tries to use thoughts to solve feelings, and how doing this can lead to a vicious spiral of rumination into depression. Part of this involved becoming aware of how much
people compare their actual experiences to how they feel their experiences should be and making negative judgments about themselves when they do not match up. Participants were given an example of a short breathing space meditation which helps them to step out of the stream of their thoughts and emotions and stand on the bank, thus gaining some perspective.

Session 4: Staying present

Kabat-Zinn (2011) stated that the concept of staying present is about separating the experience itself from personal judgments and reactions to it, which can lead to the negative spiral and relapse into negative thinking. Participants were given some more information about depression, thus helping them to understand the territory and recognize difficult thoughts as symptoms and not reality.

Session 5: Allowing and letting be

This session explored the nature of gentle and curious acceptance and how one can develop a new relationship with personal experiences (Kabat-Zinn, 2011). The participants were led to do an experiment which suggests that people whose minds went into avoidance (fight or flight) mode when faced with a difficult experience tended to be less creative and flexible when trying to deal with a negative experience. The breathing space was applied in the session to try to practically approach and explore difficult feelings and their corresponding bodily sensations (Kabat-Zinn, 2011).

Session 6: Thoughts are not facts

In this session, the participants were trained to understand how thoughts usually behave and how people often react to them. The session looked at what participants can do to encourage themselves to see their thoughts as thoughts and not
as facts. Furthermore, Kabat-Zinn (2011) maintained that this included ways of identifying the thoughts and questions the participants can ask themselves when they come across a negative thought.

Session 7: How can I best take care of myself?

According to Kabat-Zinn (2011), this session would help participants to ask themselves how they could use what they will have learned to help them identify things that actively make them feel good as well as things that bring them down. The participants learnt how to create their own personal early warning system to help them deal with the potential onset of low moods. They also explored how the demotivation of depression could be a barrier to taking these steps and what one can do to prevent this.

Session 8: Dealing with future moods

Here the focus was on the main things to take away from the course. This includes the main responses: awareness, acceptance, and mindfully responding. The session ended by exploring how it can be helpful to think of mindfulness as a process of deciding how to implement some of the practices learned in daily lives. The participants share their own experiences of practicing mindfulness.

3.9 Pretesting

The pretesting of the instruments for this study was done in Machakos County, specifically in churches within the Athi River area. Four older clergy (10% of the sample) were conveniently selected, one from each of the four sampled denominations, namely, ACK, AIC, PCEA, and MCK. This population was close in resemblance to the study population due to Athi River’s proximity to Nairobi. The pretesting enabled the researcher to make important observations about the research
instruments and the interview procedure. The instruments and the interview procedure were adjusted accordingly prior to the actual data collection. In the present study, the reliability of the BAI was Cronbach alpha=0.78, 19 items, and the reliability coefficient for the BDI scale was Cronbach alpha=0.85, 21 items.

3.10 Data Analysis Plan

The researcher stored the data from the initial pretest analysis in a locked cabinet in the researcher’s home office to limit access from unauthorized individuals as well as safeguard it against loss or damage. The raw data from the baseline assessment was analysed, coded, and entered a computerized database, while the intervention period was going on. This was done with the assistance of a data clerk. The researcher cleaned up the data by counterchecking what was entered against the raw data. The computerized data was protected with passwords to restrict access by unauthorized individuals.

The analysis was done using several statistical tools, per objective as follows:

Objectives one and two: Determine the prevalence of depression and anxiety among older clergy from mainline churches in Nairobi County. This was done using exploratory and confirmatory analysis, namely descriptive and inferential statistics. Used were frequency distributions, cross tabulations, and logistic regression.

Objectives three and four: Evaluate the effectiveness of MBCT on depression and anxiety among older clergy from mainline churches in Nairobi County. Descriptive statistics with ratios, frequencies, and percentages were used to aid in summarizing information. Effect sizes were calculated at midline assessment and end line assessment. Sample paired T-tests, and one-way ANOVA were used to compute mean differences at baseline, midline, and end line. The Morris and DeShon (2002)
Objective 5: Analyse the participating older clergy’s subjective experience of implementing mindfulness skills in their daily lives and their suggestions for improvement of the program content and delivery. Thematic analysis was used to capture the subjective experiences of participants about implementing mindfulness skills amongst older clergy. The data was arranged in themes and patterns and presented in narratives, complete with personal testimonies.

3.11 Ethical Considerations

Ethical clearance for conducting this study was obtained from Daystar University Ethics Review Board (DU-ERB). A government permit to enable data collection was granted by the National Commission for Science, Technology and Innovation (NACOSTI) and a written informed consent was obtained from each of the respondents.

Participation in this research was purely voluntary. The researcher explained the research aims and the process of this study to the target population, that is - older clergy from AIC, ACK, PCEA, and MCK. The potential participants could ask questions to ensure that they had a proper understanding of the study and what was expected of them before they gave their consent to participate. Those who freely consented to participate signed an informed consent as evidence that they had willingly and with understanding accepted to participate.

The researcher explained to the intervention group participants the need for consistency in reading and doing the assignments for each week, as well as the need to complete their readings and practice their mindfulness as required by the MBCT-SH. This was meant to ensure that the participants gain the maximum benefit of
taking part in the study, and it was done individually at the point each participant’s recruitment into the study. This did not, however, mean that the participants could not withdraw from the study, if they wished to. The researcher explained to all participants that should one experience any discomfort or trauma related to the study (though none was foreseen), they would be attended to for free by the researchers.

The researcher took several measures to ensure the confidentiality and privacy of the participants. Numbers were assigned to the participants such that their names did not appear anywhere in the study records. All the records of the participants, including the intake form, the informed consent, and the instrument answer sheets were strictly kept under lock, and the key was kept safely in the researcher’s home office. Only the researcher had access to the data. Data from the participants was stored in a computer and was secured using a password.

Upon completion of the study and presentation of the findings before the Daystar University academic and ethics boards who would pass the findings, the researcher proposes to hold a meeting with the participants to debrief them and present to them the findings of the research. The participants would be given time to ask any questions they may have in relation to the study. The researcher will also explain to the participants that they are free to contact her for any further information about the study. Further, the researcher proposes to share the findings with the heads of the selected denominations, owing to their having consented for the study to be done in their denominations.

3.12 Summary

This chapter has presented a discussion on the methodology that the researcher employed in carrying out this study. The researcher used a quasi-experimental design for the study. Data was collected using structured psychological assessment
instruments, namely BAI, BDI, as well as a structured questionnaire for sociodemographic information. The target population comprised older clergy from AIC, ACK, PCEA, and MCK, who are working or have worked and retired within those denominations in Nairobi county. The collected data were analysed using various methods as outlined above. The researcher applied ethical considerations throughout the study.

In the next chapter, the collected data is presented, and its analysis and interpretation discussed.
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND PRESENTATION

4.1 Introduction

The purpose of this study was to determine the efficacy of MBCT-SH as a public mental health intervention for depression and anxiety symptoms among older clergy from selected mainline Christian denominations in Nairobi, Kenya. This chapter covers the results and findings of the study based on the data collected. Three data sets: pretest, midline, and post-test, were collected from selected Christian denominations in Nairobi. The study used pretest and post-test analysis without control. The findings were presented based on the research objectives.

4.2 Analysis and Interpretation

4.2.1 Response Rate

The study targeted 158 clergy. Out of this, eight could not be reached during the recruitment process, seven were out of the country, and four were not available on phone for an appointment. Those who were reached and recruited for the study were, therefore, 139. Out of the 139, four dropped out, while three declined to participate. Unfortunately, three died during the period of the study. The total number of participants who completed the study were 132. This represented 83.5% of the total population, which was adequate for the study.

4.2.2 Prevalence and determinants of anxiety among older clergy

The first objective of this study was to determine the prevalence of anxiety among the respondents. In this connection, descriptive statistics were used to examine differences in relation to age, gender, marital status, and control and treatment groups.
General prevalence of anxiety based on Age

The becker anxiety inventory (BAI) categorises anxiety as follows: 0-21, minimal anxiety, 22-35, moderate anxiety, and 35 and above, severe anxiety. In the present study, the following applied: 0-7, minimal, 8-15, mild, 16-35 moderate, and 36 and above severe.

On the general distribution of the respondents based on the BAI category, the largest category of the participants had moderate anxiety at 74.0%. And this was followed by those who had mild anxiety at 18% and those with minimal anxiety at 7%. Only 1% of the participants had severe anxiety. This shows that about 92% of respondents had either mild or moderate anxiety and were thus eligible for the study in relation to assessing the effectiveness of the MBCT.

Figure 4.1 shows the general prevalence of anxiety among the participants.

![Pie chart showing anxiety levels](image)

Figure 4.1: General Prevalence of Anxiety among Participants

The distribution of anxiety scores among respondents, based on the level of severity, was conducted concerning the age cohorts. The results were as follows:
participants in the 50-62 years age cohort had 22.4% mild anxiety and 73.5% moderate anxiety. They had the highest proportion of severe anxiety, and about 96% of them were eligible to participate in the study, the largest ratio among all age cohorts.

In the 63-66 years age cohort, 16% of the participants had mild anxiety, and 81.3% had moderate anxiety. About 97% of them were eligible to participate in the study.

The proportion of mild anxiety among participants in the 67-81 years age cohort was 14% and moderate anxiety was at 78%. About 92% of them were eligible to participate in the study. The distribution of demographic information based on the control, treatment, and total of the group is presented in Table 4.1.

<table>
<thead>
<tr>
<th>Age Cohort</th>
<th>Count</th>
<th>Minimal</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-62</td>
<td>1</td>
<td>2.0%</td>
<td>11%</td>
<td>36%</td>
<td>2.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>63-66</td>
<td>5</td>
<td>22.4%</td>
<td>73.5%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>67-81</td>
<td>26</td>
<td>81.3%</td>
<td>0.0%</td>
<td>77.8%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>4.3%</td>
<td>17.9%</td>
<td>76.9%</td>
<td>0.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

A contingency test was done to establish whether the differences in baseline anxiety levels could be differentiated based on age. The results suggest that the effect of gender and baseline anxiety was not statistically significant anxiety, \( \chi^2 (6) = 4.5, p = 0.598 \). This suggests that the process of ageing does not increase the anxiety levels of older clergy. The section below examines anxiety among participants in relation to gender.
General prevalence of anxiety based on Gender

Figure 4.2 captures the distribution of anxiety based on gender. The proportion of males was 83% and that of females, 17%. This created a problem in relation to gender balance and the usefulness of statistical operations done that were grounded on gender. About 20% of males had mild or moderate anxiety, with 76% of them having moderate anxiety. Together, about 96% of males were eligible for the study. The proportion of females with mild anxiety was 13.6%, and those with moderate anxiety was 68.2%.

The prevalence of anxiety in relation to gender is displayed in Table 4.2.
Table 4.2: Prevalence of Anxiety Based on Respondents’ Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing</td>
<td>Valid</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>2</td>
<td>40.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>60.0</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>100.0</td>
</tr>
<tr>
<td>Male</td>
<td>Valid</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>5</td>
<td>4.8</td>
</tr>
<tr>
<td>Mild</td>
<td>19</td>
<td>18.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>80</td>
<td>76.2</td>
</tr>
<tr>
<td>Severe</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>100.0</td>
</tr>
<tr>
<td>Female</td>
<td>Valid</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>Mild</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>15</td>
<td>68.2</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A contingency test was done to establish whether the differences in baseline anxiety levels could be differentiated based on age. The results suggest that the effect of gender and baseline anxiety was not statistically significant anxiety, \( \chi^2 (3)=5.197, p=0.158 \).

General prevalence of anxiety based on marital status

The distribution of respondents’ anxiety levels in connection with their marital status was as illustrated in Figure 4.3.

Figure 4.3: Distribution of Anxiety Levels Based on Marital Status

Most participants were married (83.2%). Those who were widowed were about 10% and those who were single about 6%. A small proportion of the
participants were divorced. Participants who were single had 75% of members suffering from moderate anxiety and 25% from mild depression. Participants in this cohort had the highest proportion of members suffering from moderate anxiety.

For married participants, the proportion with mild anxiety was 16.3% and those with moderate depression were at 76%. Among the participants who were widowed, 17% had mild anxiety and 67% had moderate anxiety. Among the divorced ones, only one (1) case was recorded, and it was of a participant suffering from moderate depression. The number of participants who were not married was low, which made marital status of little usefulness in statistical comparisons.

Table 4.3 presents the anxiety prevalence among the participants in connection with their age.

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Single</th>
<th>Married</th>
<th>Widowed</th>
<th>Divorced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
</tr>
<tr>
<td></td>
<td>Minimal</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Total</td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Marital status</td>
<td>0.0%</td>
<td>25.0%</td>
<td>75.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>0.0%</td>
<td>9.5%</td>
<td>6.4%</td>
<td>0.0%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td>7</td>
<td>17</td>
<td>79</td>
<td>104</td>
</tr>
<tr>
<td>% within Marital status</td>
<td>6.7%</td>
<td>16.3%</td>
<td>76.0%</td>
<td>1.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>77.8%</td>
<td>81.0%</td>
<td>84.0%</td>
<td>100.0%</td>
<td>83.2%</td>
</tr>
<tr>
<td>Widowed</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>% within Marital status</td>
<td>16.7%</td>
<td>16.7%</td>
<td>66.7%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>22.2%</td>
<td>9.5%</td>
<td>8.5%</td>
<td>0.0%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Divorced</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>% within Marital status</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.1%</td>
<td>0.0%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>21</td>
<td>94</td>
<td>1</td>
<td>125</td>
</tr>
<tr>
<td>% within Marital status</td>
<td>7.2%</td>
<td>16.8%</td>
<td>75.2%</td>
<td>0.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
A contingency test was done to establish whether the marital status had a significant effect on anxiety levels, and the results demonstrated that the relationship between the two variables was not significant, $\chi^2(9)=3, p=.96$.

General prevalence of anxiety based on education level

The distribution of participants based on their education level, was as captured in Figure 4.4.

![Figure 4.4: Distribution of Anxiety Scores Based on Education Level](image)

Participants with the highest education attainments were those with a college degree (47%). Those with a college diploma were 44%. Hence, about 80% of the participants had at least a college-level education. About 25% had postgraduate education, and 10% had attained secondary level education.

Among the participants who had up to a secondary level education, 20% had mild depression, and 60% had moderate depression. None of these participants had severe depression.
For participants who had a college diploma, 82% had moderate anxiety, and 14% had mild anxiety. About 63% of participants in this cohort were eligible for the study.

For participants with a college degree, 83% of them had moderate anxiety, and 17% had mild anxiety. From the participants with postgraduate education, 56% had moderate anxiety and with 20% had mild anxiety.

The anxiety levels of the participants in connection with their level of education is depicted in Table 4.4.

<table>
<thead>
<tr>
<th>Education</th>
<th>Baseline</th>
<th>Minim.</th>
<th>Mild.</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secondary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>% within Education</td>
<td>20.0%</td>
<td>20.0%</td>
<td>60.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>22.2%</td>
<td>9.5%</td>
<td>6.3%</td>
<td>0.0%</td>
<td>7.9%</td>
<td></td>
</tr>
<tr>
<td><strong>College diploma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>2</td>
<td>6</td>
<td>36</td>
<td>0</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>% within Education</td>
<td>4.5%</td>
<td>13.6%</td>
<td>81.8%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>22.2%</td>
<td>28.6%</td>
<td>37.9%</td>
<td>0.0%</td>
<td>34.9%</td>
<td></td>
</tr>
<tr>
<td><strong>College degree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>0</td>
<td>8</td>
<td>39</td>
<td>0</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>% within Education</td>
<td>0.0%</td>
<td>17.0%</td>
<td>83.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>0.0%</td>
<td>38.1%</td>
<td>41.1%</td>
<td>0.0%</td>
<td>37.3%</td>
<td></td>
</tr>
<tr>
<td><strong>Post graduate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>5</td>
<td>5</td>
<td>14</td>
<td>1</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>% within Education</td>
<td>20.0%</td>
<td>20.0%</td>
<td>56.0%</td>
<td>4.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>55.6%</td>
<td>23.8%</td>
<td>14.7%</td>
<td>100.0%</td>
<td>19.8%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>9</td>
<td>21</td>
<td>95</td>
<td>1</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>% within Education</td>
<td>7.1%</td>
<td>16.7%</td>
<td>75.4%</td>
<td>0.8%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
A contingency test was done to establish whether the level of education had a significant effect on anxiety levels. The results demonstrated a significant relationship between education level and anxiety levels, $\chi^2(9)=18.5$, $p=.029$. The phi score was .329, and this suggests the strength of the relationship was moderate. Education levels can play a useful role then as a moderating variable in the relationship between the intervention and the outcome variable.

General prevalence of anxiety based on retirement

Issues connected to the retirement of participants were posited as probable factors in shaping the anxiety levels of respondents. On the effect of dimensions of retirement on anxiety, the participants who indicated that they had retired on reaching the statutory age were the majority (at 88.9%). Those who had retired on medical grounds were 5.6%, while the rest were equally at 1.9% each as follows: reasons beyond my control, personal choice, and other reasons. The distribution of respondents based on retirement duration are depicted in Table 4.5.
Table 4.5: Cross Tabulation of Duration to Retirement against Levels of Baseline Anxiety

<table>
<thead>
<tr>
<th>Baseline Anxiety</th>
<th>1-2 years</th>
<th>3-4 years</th>
<th>5 years</th>
<th>over 5 years</th>
<th>I don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
</tr>
<tr>
<td>Minimal</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Mild</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Moderate</td>
<td>16</td>
<td>20</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>55</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

About 76% of participants who expected to retire within two years had moderate anxiety, with about 20% of them having mild anxiety. Among those who were due to retire in three to four years, 69% had moderate anxiety, and 31% had mild anxiety. The participants whose retirement date was over five years had higher levels of anxiety, with those due to retire in five years, having moderate anxiety at 50% and mild anxiety of 50%. Those expecting to retire in over five years had 43% moderate anxiety and 14.3% mild anxiety.
A contingency test was done to establish whether how far a participant was from retirement affected the person’s anxiety levels. The results revealed a significant relationship between education levels and anxiety levels, \( \chi^2(12) = 23.2, p = .026 \). The phi score was .55, and this suggests that the strength of the relationship was strong.

Table 4.6 gives a cross-tabulation of grounds for retirement and anxiety levels.

<table>
<thead>
<tr>
<th>Why retire</th>
<th>Baseline Anxiety</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimal</td>
<td>Mild</td>
<td>Moderate</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Reached statutory age</td>
<td>Count</td>
<td>2</td>
<td>5</td>
<td>36</td>
<td>43</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>4.7%</td>
<td>11.6%</td>
<td>83.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>50.0%</td>
<td>83.3%</td>
<td>92.3%</td>
<td>87.8%</td>
</tr>
<tr>
<td>On medical ground</td>
<td>Count</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>33.3%</td>
<td>0.0%</td>
<td>66.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>25.0%</td>
<td>0.0%</td>
<td>5.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Reasons beyond my control</td>
<td>Count</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>25.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Personal choice</td>
<td>Count</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>0.0%</td>
<td>16.7%</td>
<td>0.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Others</td>
<td>Count</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.6%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>4</td>
<td>6</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td>% within Why retire</td>
<td></td>
<td>8.2%</td>
<td>12.2%</td>
<td>79.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

On the question on how far ahead the participants were aware of their retirement, those who had years advance knowledge had moderate (62.6%) prevalence in anxiety, with 15.6% of them having mild anxiety. Those who had months advance knowledge had moderate anxiety. About 84% of the respondents who retired because they attained the statutory age had mild anxiety, and about 12% had mild anxiety. For those who retired on medical grounds, 67% had moderate anxiety. All the respondents who retired for personal reasons had mild anxiety.
A contingency test was done to establish if the reason for retirement affected the person’s anxiety levels. The results showed that the relationship between education levels and anxiety levels was significant, $\chi^2(8)=22$, $p=.005$. The phi score was .63, suggesting that the strength of the relationship was strong.

About 80% of the participants who had years to retire had moderate anxiety, with about 12% of them having mild depression. For those whose retirement was months ahead, 71% had moderate anxiety, and 14.3% had mild anxiety. All participants whose retirement was less than a week away had moderate anxiety. This is displayed in Table 4.7.

**Table 4.7: Cross Tabulation of Anxiety Levels Based on Tenure of Retirement**

<table>
<thead>
<tr>
<th>How far ahead did you know you would retire?</th>
<th>Baseline Anxiety</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Minimal</td>
<td>Mild</td>
<td>Moderate</td>
</tr>
<tr>
<td>0 months ahead</td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within How far ahead did you know you would retire?</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Years ahead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>3</td>
<td>5</td>
<td>34</td>
<td>42</td>
</tr>
<tr>
<td>% within How far ahead did you know you would retire?</td>
<td>7.1%</td>
<td>11.9%</td>
<td>81.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>75.0%</td>
<td>83.3%</td>
<td>79.1%</td>
<td>79.2%</td>
</tr>
<tr>
<td>Months ahead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>% within How far ahead did you know you would retire?</td>
<td>14.3%</td>
<td>14.3%</td>
<td>71.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>25.0%</td>
<td>16.7%</td>
<td>11.6%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Less than a week ahead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>% within How far ahead did you know you would retire?</td>
<td>0.0%</td>
<td>0.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>0.0%</td>
<td>0.0%</td>
<td>7.0%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>6</td>
<td>43</td>
<td>53</td>
</tr>
<tr>
<td>% within How far ahead did you know you would retire?</td>
<td>7.5%</td>
<td>11.3%</td>
<td>81.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within baseline anxiety</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
A contingency test was done to establish if how far retirement was affected the person’s anxiety levels. The results indicated that the relationship between education levels and anxiety levels was significant, $\chi(6)=1.5$, $p=.96$.

Prevalence based on respondents’ retirement benefits

Examined too was the source and frequency by which respondents received retirement benefits. The results are shown in Table 4.8.

<table>
<thead>
<tr>
<th>Received any retirement benefits</th>
<th>Church</th>
<th>Count</th>
<th>Minimal</th>
<th>Mild</th>
<th>Moderate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Insurance</td>
<td>Count</td>
<td>2</td>
<td>1</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within received any retirement benefits</td>
<td>10.5%</td>
<td>5.3%</td>
<td>84.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within baseline anxiety</td>
<td>50.0%</td>
<td>33.3%</td>
<td>55.2%</td>
<td>52.8%</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>Count</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within received any retirement benefits</td>
<td>16.7%</td>
<td>16.7%</td>
<td>66.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within baseline anxiety</td>
<td>50.0%</td>
<td>66.7%</td>
<td>27.6%</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Count</td>
<td>4</td>
<td>3</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within received any retirement benefits</td>
<td>11.1%</td>
<td>8.3%</td>
<td>80.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within baseline anxiety</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The respondents who received retirement benefits from the church had the highest prevalence of moderate anxiety (100%), with those receiving such benefits from insurance having moderate levels of anxiety at 84.2%, and 5% having mild anxiety.

Among the respondents who received financial benefits from other sources, 67% had moderate anxiety and 17% mild anxiety. This suggests that source of benefits determined anxiety levels, with those who received benefits from the churches they served seemingly having the highest levels of moderate anxiety. It is
likely that the amount or frequency of benefits paid shaped the anxiety levels of participants.

A contingency test was done to establish if the source of financial benefits had an effect on levels of anxiety. The results revealed that the relationship between the source of benefits and anxiety levels was not significant, $\chi^2(3)=4, p=.45$.

It was posited that there was a link between the frequency of retirement benefits and levels of moderate and severe anxiety. For instance, participants who received benefits after several regular and irregular months, or those who received benefits only annually had 100% of members with moderate anxiety. By contrast, participants who received benefits monthly had moderate anxiety of 47%. See Table 4.9.

### Table 4.9: Prevalence of Anxiety Based on Frequency of Retirement Benefits

<table>
<thead>
<tr>
<th>How often do you receive benefits</th>
<th>Monthly</th>
<th>Annual</th>
<th>After several regular months</th>
<th>After several irregular months</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>% within How often do you receive benefits</td>
<td>% within baseline anxiety</td>
<td>Count</td>
<td>% within How often do you receive benefits</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>33.3%</td>
<td>100.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>25.0%</td>
<td>100.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>41.7%</td>
<td>16.7%</td>
<td>7</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>40.0%</td>
<td>100.0%</td>
<td>7</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
A contingency test was done to establish if the frequency of financial benefits had a significant effect on levels of anxiety. The results indicated that relationship between the source of benefits and anxiety levels was not significant, $\chi^2 (6)=17.9$, $p=.006$. The phi-score was .69, and this suggests the strength of the relationship was strong. Given this phi score, the frequency of payment of retirement benefits stood out as the dominant variable in explaining the anxiety levels of participants.

Assessing differences of anxiety levels between control and treatment groups

Examined was the prevalence of anxiety based on control and treatment groups. For mild anxiety, the control group had the highest percentage at 33%, and the treatment group had the highest 18.2%. While for treatment, none had minimal anxiety, and only 0.8% had mild anxiety. For the moderate anxiety, there was a near level of similarity with control at 26.50% and treatment at 20.5%. Finally, on severe anxiety, most of the respondents were under treatment at 25.80%, and only 1.5% were in the control group. Table 4.10 depicts this output based on control and treatment.

<table>
<thead>
<tr>
<th>Control or treatment</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimal</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>70</td>
</tr>
<tr>
<td>treatment</td>
<td>Minimal</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>62</td>
</tr>
</tbody>
</table>

Table 4.10: Prevalence of Anxiety Based on Control and Intervention Groups
Further analysis was done to determine if there was a significant difference in prevalence of anxiety about the control and treatment groups. The trends in average anxiety levels between the control and treatment groups are captured in Figure 4.5.

![Graph showing average BAI estimates for control and treatment groups over time](image)

**Figure 4.5: Average BAI Estimates for Control and Treatment Groups over Time**

The baseline BAI score for the control group was M=14.6, and this grew by 9% to M=16 at the endline. Looking at the trend line in the control group, the anxiety levels of respondents on the control group was on an upward trend. The baseline score for the treatment group was M=25.8, and this fell by 42% at the endline. The trendline for the treatment group was on a downward path suggesting that the intervention was effective in reducing anxiety.

**Table 4.11: Mauchly’s Test of Sphericity**

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Approx. Mauchly’s W</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
<th>Epsilon_a</th>
<th>Greenhouse-Geisser</th>
<th>Huynh-Feldt</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>.989</td>
<td>1.442</td>
<td>2</td>
<td>.486</td>
<td>.989</td>
<td>1.000</td>
<td>.500</td>
<td></td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + control_treat
Within Subjects Design: time
Maulchy’s test of sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2)=1.442$, $p=.486$. The output of the tests ‘within-subject effects’ of BAI was as portrayed in Table 4.12.

Table 4.12: Tests of Within-Subjects Effects about the Average BAI Estimates over Time

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Sphericity Assumed</td>
<td>1436.465</td>
<td>2</td>
<td>718.233</td>
<td>62.139</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1436.465</td>
<td>1.978</td>
<td>726.280</td>
<td>62.139</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1436.465</td>
<td>2.000</td>
<td>718.233</td>
<td>62.139</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1436.465</td>
<td>1.000</td>
<td>1436.465</td>
<td>62.139</td>
<td>.000</td>
</tr>
<tr>
<td>Time * control_treat</td>
<td>Sphericity Assumed</td>
<td>2657.534</td>
<td>2</td>
<td>1328.767</td>
<td>114.960</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>2657.534</td>
<td>1.978</td>
<td>1343.654</td>
<td>114.960</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>2657.534</td>
<td>2.000</td>
<td>1328.767</td>
<td>114.960</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>2657.534</td>
<td>1.000</td>
<td>2657.534</td>
<td>114.960</td>
<td>.000</td>
</tr>
<tr>
<td>Error(time)</td>
<td>Sphericity Assumed</td>
<td>2982.110</td>
<td>258</td>
<td>11.559</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>2982.110</td>
<td>255.141</td>
<td>11.688</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>2982.110</td>
<td>258.000</td>
<td>11.559</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>2982.110</td>
<td>129.000</td>
<td>23.117</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant effect of time on participants’ anxiety estimates, ($F(2, 258)=0.00$, $p<0.01$, $\omega^2 =0.325$. This signifies a significant difference in anxiety level across the three levels of assessment, namely baseline, midline, and end line - regardless of the group where the assessment was conducted. However, there was also a significant interaction between time and the intervention, ($F(2, 258)=0.00$, $p<0.01$, $\omega^2 =0.47$, implying that the observations made on the three levels of assessment on anxiety were different based on whether the participants belonged to the treatment or the control group.
There was a significant difference in anxiety levels between the baseline and endline (p=0.00), between the midline and endline (.047), and between the baseline and endline (0.000). Post hoc tests using the Bonferroni correction revealed that exposure to treatment between the baseline (M=17.79±4.59) and midline (M=17.01±5.5) elicited a small reduction in BAI estimates. However, this difference was not statistically significant, p=0.54, but the difference in BAI estimates between the baseline (M=17.79±4.59) and endline was significant statistically (M=16.3±5.2), p=0.04. Accordingly, exposure to the treatment elicits a statistically significant reduction in BAI estimates, but only at the endline stage.

Impact of moderating variables on the effect of the intervention on anxiety levels

The following variables were assessed for their effect on the relationship between the intervention and anxiety levels: how far one’s retirement was, reasons for retirement, and frequency of retirement benefits.

The outcome is outlined in tables 4.14, 4.15, and 4.16.
There was no significant main effect of the intervention on anxiety levels (F (1, 29) = .185, p > .05. Also, there was no significant interaction between the intervention and frequency of retirement benefits (F (2, 29) = .22, p > .8.)
Table 4.15: Between Subject Effect for Moderated Effect of Education Level on Level of Anxiety

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>73086.789</td>
<td>1</td>
<td>73086.789</td>
<td>1123.01</td>
<td>.000</td>
<td>.906</td>
</tr>
<tr>
<td>control_treat</td>
<td>1047.171</td>
<td>1</td>
<td>1047.171</td>
<td>16.090</td>
<td>.000</td>
<td>.121</td>
</tr>
<tr>
<td>Education</td>
<td>194.709</td>
<td>3</td>
<td>64.903</td>
<td>.997</td>
<td>.397</td>
<td>.025</td>
</tr>
<tr>
<td>control_treat * Education</td>
<td>192.870</td>
<td>3</td>
<td>64.290</td>
<td>.988</td>
<td>.401</td>
<td>.025</td>
</tr>
<tr>
<td>Error</td>
<td>7614.442</td>
<td>117</td>
<td>65.081</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant main effect of the intervention on anxiety levels \((F(1, 117) = 16, p<0.00)\). There was no significant interaction between the intervention and education levels and retirement benefits \((F(3, 117) = .98, p>0.05)\.

Table 4.16: Between Subject Effect for Moderated Effect of Reasons for Retirement on Level of Anxiety

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>7685.997</td>
<td>1</td>
<td>7685.997</td>
<td>192.857</td>
<td>.000</td>
<td>.825</td>
</tr>
<tr>
<td>control_treat</td>
<td>230.148</td>
<td>1</td>
<td>230.148</td>
<td>5.775</td>
<td>.021</td>
<td>.123</td>
</tr>
<tr>
<td>Whyretire</td>
<td>906.107</td>
<td>4</td>
<td>226.527</td>
<td>5.684</td>
<td>.001</td>
<td>.357</td>
</tr>
<tr>
<td>control_treat * Whyretire</td>
<td>58.844</td>
<td>1</td>
<td>58.844</td>
<td>1.477</td>
<td>.231</td>
<td>.035</td>
</tr>
<tr>
<td>Error</td>
<td>1633.986</td>
<td>41</td>
<td>39.853</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant main effect for the intervention \((F(1, 41) = 5.77, p<.02, \eta^2 =0.21)\). There was no significant interaction between the intervention and the reason for retirement \((F(1, 41) =. 98, p>0.05)\.

In summary, the prevalence of anxiety among participants seemed high. About 70% of the respondents suffered from either mild or moderate anxiety. On the probable factors contributing to this, the results suggested age and marital status were not significant factors. However, gender and levels of education were. Gender could partly explain why males had higher mild and moderate levels of anxiety relative to females. Gender could also explain why females had higher severe forms of anxiety compared to male participants.
Questions connected to the retirement of participants also contributed to explaining the high prevalence of anxiety among participants. In this connection, of note was when and why retirement would occur. Participants who were due to retire in about five years had higher mild and moderate anxiety compared to those who were due to retire within three years.

On retirement arrangements, the frequency of payment of retirement benefits was a significant factor in explaining the anxiety of participants, with those who receive payments annually or irregularly having higher mild and moderate anxiety compared to participants who received payments monthly. Regarding the moderating effects of education and retirement context and situation on anxiety levels, no significant effects were observed.

4.2.3 Prevalence and determinants of depression among older clergy

The second objective of the study was to determine the prevalence of depression among the respondents. This meant establishing determinants of depression. To do this, the age, gender, marital status, and education levels of participants were of focus. Also considered were the retirement duration and justification, and retirement benefits.

General prevalence of depression

On the general distribution of the respondents based on the BDI category, most of the older clergy had minimal depression at 43.2%. This was followed by those who had moderate depression at 27.3%, mild depression at 24.2%, and finally those with severe depression at 5.3%. This demonstrates that more than half of the participants had minimal levels of depression, as illustrated in Figure 4.6.
Prevalence of depression based on demographic variables

By gender, female participants had a higher level of moderate depression (45.5%) compared to males (24%). On marital status, differences in scores about moderate depression were small, with 27.5% of the participants having moderate depression and a comparable proportion having mild depression. Regarding education, participants with a college diploma had the highest levels of moderate depression (40.4%), with participants who were postgraduates having the lowest levels of moderate depression (15.4%). This is displayed in Table 4.17.
Table 4.17: Prevalence of Depression Based on Respondents’ Demographic Information

<table>
<thead>
<tr>
<th>Gender</th>
<th>Minimal depression</th>
<th>Mild depression</th>
<th>Moderate depression</th>
<th>Severe depression</th>
<th>chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>44.5%</td>
<td>26.4%</td>
<td>23.6%</td>
<td>5.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Female</td>
<td>36.4%</td>
<td>13.6%</td>
<td>45.5%</td>
<td>4.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>43.2%</td>
<td>24.2%</td>
<td>27.3%</td>
<td>5.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>75.0%</td>
<td></td>
<td>25.0%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Married</td>
<td>39.4%</td>
<td>27.5%</td>
<td>27.5%</td>
<td>5.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Widowed</td>
<td>50.0%</td>
<td>16.7%</td>
<td>25.0%</td>
<td>8.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Divorced</td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>42.3%</td>
<td>24.6%</td>
<td>27.7%</td>
<td>5.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Secondary</td>
<td>55.6%</td>
<td>11.1%</td>
<td>22.2%</td>
<td>11.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>College Diploma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Graduate Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>43.1%</td>
<td>23.8%</td>
<td>27.7%</td>
<td>5.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The cross-tabulation test on the prevalence based on the respondents’ demographic information showed no significant association between gender ($\chi^2 (3)=3.8, p=.28$), marital status ($\chi^2 (6)=5.4, p=0.500$), or education level ($\chi^2 (3)=/992, p=0.83$). This is an indicator that there was no significant association between respondents’ demographic information and the prevalence of depression. The results are captured in Table 4.17.

Prevalence based on retirement duration

Participants who were expecting to retire in five years had the highest levels of depression at the mild (25%) and moderate phases (62.5%), no less of severe depression (12.5%). Cumulatively, about 88% of the participants who expected to retire in five years were eligible to participate in the study. Participants who expected to retire within two years had mild depression (38.1%) and moderate depression...
(28.6%). Cumulatively, about two-thirds of the participants who expected to retire within two years were eligible to participate in the present study. For participants who expected to retire in 3-4 years, 28.6% had moderate depression, and 21.4 had mild depression. This is tabulated in Table 4.18.

<table>
<thead>
<tr>
<th>When do you expect to retire</th>
<th>Count</th>
<th>Count</th>
<th>Count</th>
<th>Count</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>28.6%</td>
<td>28.6%</td>
<td>38.1%</td>
<td>4.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>3-4 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>12</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>42.9%</td>
<td>21.4%</td>
<td>28.6%</td>
<td>7.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>0.0%</td>
<td>25.0%</td>
<td>62.5%</td>
<td>12.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>over 5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>57.1%</td>
<td>28.6%</td>
<td>14.3%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>I don’t know</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>40.0%</td>
<td>20.0%</td>
<td>40.0%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within When do you expect to retire</td>
<td>28</td>
<td>19</td>
<td>25</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>% within Baseline depression</td>
<td>7.1%</td>
<td>5.3%</td>
<td>8.0%</td>
<td>0.0%</td>
<td>6.6%</td>
</tr>
</tbody>
</table>

The relationship between tenure of service and baseline depression was not significant - association between gender ($\chi^2 (12) = 11.5, p=0.48$). Regarding the
relationship between when the participant retired and the levels of depression at the baseline, a non-significant effect was observed, ($\chi^2(9)=10.28$, $p=.328$). A similar non-significant result was observed for the relationship between “why did you retire” and levels of depression at the baseline, ($\chi^2(12)=6.2$, $p=.9$). However, the relationship between “how far ahead you knew you would retire” and levels of depression was significant, ($\chi^2(9)=21.28$, $p=0.011$).

Prevalence based on respondents’ retirement benefits

This is displayed in Table 4.19.

Table 4.19: Prevalence of Depression Based on Retirement Benefit

<table>
<thead>
<tr>
<th>How often do you receive benefits</th>
<th>Monthly</th>
<th>Count</th>
<th>% within How often do you receive benefits</th>
<th>Baseline depression</th>
<th>Minimal depression</th>
<th>Mild depression</th>
<th>Moderate depression</th>
<th>Severe depression</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>78.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>21.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual</td>
<td></td>
<td>1</td>
<td>14.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>28.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>57.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After several regular months</td>
<td></td>
<td>6</td>
<td>40.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>40.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>20.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After several irregular months</td>
<td></td>
<td>2</td>
<td>50.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>25.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>25.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>20</td>
<td>50.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>15.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>27.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>7.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 4.19, the participants who received benefits each month had the highest levels of minimal depression (77%). About 57% of participants
who received benefits annually suffered from moderate depression, with 40% of those who received benefits after several regular months had moderate depression.

The relationship between how frequently a participant received retirement benefit/s and level of baseline depression was significant, \( \chi^2 (9)=20, p=0.017 \). The cross-tabulation test on the prevalence of depression based on the respondents’ retirement benefit revealed a significant association between how often one received benefits and prevalence of depression. There was no significant association on the prevalence of depression, and the source of (how one obtained) the retirement benefits, \( \chi^2 (6)=4.4, p=0.61 \).

Prevalence of depression based on control and treatment

Further analysis to determine if there was a significant difference in prevalence on the control and treatment group was performed using the t-test, and the results were as depicted Table 4.20.

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal depression</td>
<td>40.90%</td>
<td>2.30%</td>
<td>43.20%</td>
</tr>
<tr>
<td>Mild depression</td>
<td>12.10%</td>
<td>12.10%</td>
<td>24.20%</td>
</tr>
<tr>
<td>Moderate depression</td>
<td>27.30%</td>
<td>27.30%</td>
<td>27.30%</td>
</tr>
<tr>
<td>Severe depression</td>
<td>5.30%</td>
<td>5.30%</td>
<td>5.30%</td>
</tr>
<tr>
<td>Total</td>
<td>53.00%</td>
<td>47.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Regarding minimal depression, the control group had the highest percentage at 40.90% compared to the treatment group at 2.30%. Both the control and treatment groups had a score of 12.1%. Those with moderate depression (27.3%) and severe depression (5.30%) were only included in the treatment group and no control group.

The mean estimates of anxiety based on control and treatment groups are demonstrated in Figure 4.7.
The baseline BAI score for the control group was M=7.6, and this grew by 80% by the endline. The trendline for the control group was on an upward trend, an indication that depression levels would increase over time without an intervention. For the treatment group, the baseline estimate was M=19.8, and this reduced by 40% by the endline. The trend line for the treatment group was on a downward trend, suggesting the intervention was effective in reducing depression levels.

Tested also was a null hypothesis on whether BDI estimates would vary significantly over the trial period.

**Table 4.21: Mauchly's Test of Sphericity**

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Approx. Mauchly's W</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
<th>Greenhouse-Geisser Epsilon</th>
<th>Huynh-Feldt Epsilon</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>0.830</td>
<td>23.851</td>
<td>2</td>
<td>.000</td>
<td>0.855</td>
<td>0.872</td>
<td>.500</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + control_treat
Within Subjects Design: time
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Mauclhy’s test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2 (2)=23$, $p=.000$. Since the Greenhouse-Geisser epsilon score was
greater than 0.75, a Huynh-feldt correction was used. The output of the tests ‘within-subject effects’ of BAI was as portrayed in Table 4.21.

Table 4.22: Tests of Within-Subjects Effects for Factors of Depression Levels

<table>
<thead>
<tr>
<th>Source</th>
<th>Type Iii Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>time</td>
<td>142.773</td>
<td>71.386</td>
<td>4.388</td>
<td>.013</td>
<td>.033</td>
</tr>
<tr>
<td>time</td>
<td>142.773</td>
<td>83.522</td>
<td>4.388</td>
<td>.018</td>
<td>.033</td>
</tr>
<tr>
<td>time</td>
<td>142.773</td>
<td>81.889</td>
<td>4.388</td>
<td>.017</td>
<td>.033</td>
</tr>
<tr>
<td>time</td>
<td>142.773</td>
<td>142.773</td>
<td>4.388</td>
<td>.038</td>
<td>.033</td>
</tr>
<tr>
<td>time</td>
<td>4243.108</td>
<td>2121.554</td>
<td>130.41</td>
<td>.000</td>
<td>.503</td>
</tr>
<tr>
<td>time</td>
<td>4243.108</td>
<td>2482.227</td>
<td>130.41</td>
<td>.000</td>
<td>.503</td>
</tr>
<tr>
<td>time</td>
<td>4243.108</td>
<td>2433.677</td>
<td>130.41</td>
<td>.000</td>
<td>.503</td>
</tr>
<tr>
<td>time</td>
<td>4243.108</td>
<td>4243.108</td>
<td>130.41</td>
<td>.000</td>
<td>.503</td>
</tr>
<tr>
<td>Error(time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error(time)</td>
<td>4197.110</td>
<td>16.268</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error(time)</td>
<td>4197.110</td>
<td>19.033</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error(time)</td>
<td>4197.110</td>
<td>18.661</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error(time)</td>
<td>4197.110</td>
<td>32.536</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A repeated measures ANOVA with a Huynh-Feldt correction determined that average BDI estimates differed significantly at least between two-time points (F (1.7, 224) = 4.38, p=0.017. This signifies a significant difference in depression level across the three levels of assessment. Post hoc tests using the Bonferroni correction did not reveal significant differences in BDI estimates.

There was a significant main effect of time on participants’ depression estimates, (F (2, 224)=0.00, p<0.01, $\omega^2 =0.5$. However, there was also a significant interaction between time and the intervention, (F (2, 258) =0.00, p<0.01, $\omega^2 =0.47$. This infers that the observations made on the three levels of assessment on anxiety were different based on whether the participants belonged to the treatment or the control group.
Table 4.23: Pairwise Comparisons for Estimates of Depression over Time

<table>
<thead>
<tr>
<th>(I) time</th>
<th>(J) time</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval for Difference</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>1.299</td>
<td>.550</td>
<td>.059</td>
<td>-.035</td>
<td>2.634</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>1.261</td>
<td>.546</td>
<td>.068</td>
<td>-.064</td>
<td>2.585</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-1.299</td>
<td>.550</td>
<td>.059</td>
<td>-2.634</td>
<td>.035</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>-.039</td>
<td>.383</td>
<td>1.000</td>
<td>-.967</td>
<td>.889</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>-1.261</td>
<td>.546</td>
<td>.068</td>
<td>-2.585</td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>.039</td>
<td>.383</td>
<td>1.000</td>
<td>-.889</td>
<td>.967</td>
<td></td>
</tr>
</tbody>
</table>

Based on estimated marginal means
a. Adjustment for multiple comparisons: Bonferroni.

The difference in depression levels between the baseline and midline (p=0.059) between the midline and endline (1), and between the baseline and endline (0.068) were not significant.

Table 4.24: Between-Subjects Effects between the Intervention and Frequency of Benefits

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>12826.406</td>
<td>1</td>
<td>12826.406</td>
<td>227.732</td>
<td>.000</td>
<td>.884</td>
</tr>
<tr>
<td>control_treat</td>
<td>493.677</td>
<td>1</td>
<td>493.677</td>
<td>8.765</td>
<td>.006</td>
<td>.226</td>
</tr>
<tr>
<td>Frequency of benefits</td>
<td>246.353</td>
<td>3</td>
<td>82.118</td>
<td>1.458</td>
<td>.246</td>
<td>.127</td>
</tr>
<tr>
<td>control_treat *frequency of benefits</td>
<td>48.841</td>
<td>2</td>
<td>24.420</td>
<td>.434</td>
<td>.652</td>
<td>.028</td>
</tr>
<tr>
<td>Error</td>
<td>1689.674</td>
<td>30</td>
<td>56.322</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant main effect for the intervention (F (1, 30)=8.76, p<.05, \( \eta^2 =0.21 \). There was no significant interaction between the intervention and the reason for retirement (F (1, 41) =. 98, p>0.05.

Table 4.25: Between-Subjects Effects between the Intervention and Education levels

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>40887.575</td>
<td>1</td>
<td>40887.575</td>
<td>621.993</td>
<td>.000</td>
<td>.842</td>
</tr>
<tr>
<td>control_treat</td>
<td>963.388</td>
<td>1</td>
<td>963.388</td>
<td>14.655</td>
<td>.000</td>
<td>.111</td>
</tr>
<tr>
<td>Education</td>
<td>237.931</td>
<td>3</td>
<td>79.310</td>
<td>1.206</td>
<td>.311</td>
<td>.030</td>
</tr>
<tr>
<td>control_treat *Education</td>
<td>106.790</td>
<td>3</td>
<td>35.597</td>
<td>.542</td>
<td>.655</td>
<td>.014</td>
</tr>
<tr>
<td>Error</td>
<td>7691.158</td>
<td>117</td>
<td>65.736</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There was a significant main effect for the intervention (F (1, 117)=14.65, p<.002, ηρ²=11. There was no significant interaction between the intervention and the reason for retirement (F (1, 41)=.98, p>0.05.

The role of regular use of medication for mental health on effect of intervention on depression

There was a significant effect of the intervention after controlling for medication taken by participants for mental health, F (1, 118)=21.36, p=0.00,

Table 4.26: Between-Subject Effects for Effect of the Intervention while Controlling for Regular Drug Medication for Mental Health

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Noncent. Parameter</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>62.107</td>
<td>1</td>
<td>62.107</td>
<td>.976</td>
<td>.325</td>
<td>.008</td>
<td>.976</td>
<td>.165</td>
</tr>
<tr>
<td>taking medications</td>
<td>493.327</td>
<td>1</td>
<td>493.327</td>
<td>7.753</td>
<td>.006</td>
<td>.062</td>
<td>7.753</td>
<td>.789</td>
</tr>
<tr>
<td>control_treat</td>
<td>1359.491</td>
<td>1</td>
<td>1359.49</td>
<td>21.36</td>
<td>.000</td>
<td>.153</td>
<td>21.366</td>
<td>.996</td>
</tr>
<tr>
<td>Error</td>
<td>7508.062</td>
<td>118</td>
<td>63.628</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed using alpha= .05

In summary, about half the participants (52%) suffered from either mild or moderate depression. These people were eligible for the MBCT intervention. The factors that seem to determine depression levels were not demographic variables, such as age, marital status, or education. Rather, the factors causing differences in depression levels were associated with dimensions of the participant’s retirement, such as the tenure of their work and how frequently they received benefits. In moderator analysis, there were no significant effects observed regarding the moderator variables, such as education and frequency of payment of retirement benefits. The intervention had a significant effect on depression levels, even after controlling for regular drug use for mental health.
4.2.4 Effectiveness of MBCT-SH on anxiety among the participants

The third objective of the study was to determine the effectiveness of MBCT-SH in treating anxiety. The following key tests were conducted using general linear modelling, repeated measures of control and treatment, repeated measure on books read on BAI; and repeated measure of mindfulness on BAI. The results for each of these three tests are presented as follows.

Repeated measure of control and treatment on BAI

Using the general linear model of the repeated measures, the ‘Mauchly’s test of sphericity’ was not statistically significant (p=.284), hence the assumption of sphericity was not violated. The test of ‘within-subjects’ effects’ was used to determine the effectiveness of the treatment methods used by comparing the treatment and control groups on each of the three-level of data collected, that is, baseline, midline, and end line. Table 4.27 depicts the results from the ‘Mauchly’s test of sphericity’.

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Approx. Mauchly's Chi-Square</th>
<th>df</th>
<th>Sig. Greenhouse-Geisser</th>
<th>Huynh-Feldt</th>
<th>Epsilon^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>.994</td>
<td>.463</td>
<td>2</td>
<td>.793</td>
<td>.994</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

- a. Design: Intercept + control_treat
- b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Maultchy’s test of sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2) = .463$, p = .783. The output of the tests ‘within-subject effects’ of BAI was as portrayed in Table 4.28.
Table 4.28: Tests of Within-Subjects Effects of BAI

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Observed Power^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Sphericity Assumed</td>
<td>354.729</td>
<td>2</td>
<td>177.365</td>
<td>18.334</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>354.729</td>
<td>1.989</td>
<td>178.352</td>
<td>18.334</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>354.729</td>
<td>2.000</td>
<td>177.365</td>
<td>18.334</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>354.729</td>
<td>1.000</td>
<td>354.729</td>
<td>18.334</td>
<td>.000</td>
<td>.988</td>
</tr>
<tr>
<td>Time * control_treat</td>
<td>Sphericity Assumed</td>
<td>833.520</td>
<td>2</td>
<td>416.760</td>
<td>43.079</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>833.520</td>
<td>1.989</td>
<td>419.081</td>
<td>43.079</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>833.520</td>
<td>2.000</td>
<td>416.760</td>
<td>43.079</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>833.520</td>
<td>1.000</td>
<td>833.520</td>
<td>43.079</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Error (Time)</td>
<td>Sphericity Assumed</td>
<td>1625.278</td>
<td>168</td>
<td>9.674</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1625.278</td>
<td>167.070</td>
<td>9.728</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1625.278</td>
<td>168.000</td>
<td>9.674</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1625.278</td>
<td>84.000</td>
<td>19.349</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a significant main effect of time on participants’ anxiety estimates, \( F(2, 168) = 0.00, p<0.01, \omega^2 = 0.05 \). This signifies a significant difference in anxiety level across the three levels of assessment, namely baseline, midline, and end line - regardless of the group where the assessment was conducted. However, there was also a significant interaction between time and the intervention, \( F(2, 168) = 0.00, p<0.01, \omega^2 = 0.12 \). It can hence, be inferred that the observations made on the three levels of assessment on anxiety were different based on the treatment and control groups.

Mean estimates of BAI

The difference in the anxiety level estimated on the tests of within-subject effects of BAI can be supported by the decrease in mean scores across the three levels of assessment: baseline =22.2, mid-line =16.3 and end line =14.8. This shows that there was a decrease in the level of anxiety: at baseline assessment, the mean of anxiety was higher at 22.2, and it decreased at midline assessment to 16.39. On the end line assessment, the mean estimate was the least at M=14.89. Table 4.29 presents
the results of the mean estimates anxiety. For the treatment groups, the baseline estimate for BAI was 15.6, the midline was 17.3, and the endline 17.

Table 4.29: Mean Estimates of BAI

<table>
<thead>
<tr>
<th>control_treat</th>
<th>time</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>15.655</td>
<td>.449</td>
<td>14.762</td>
</tr>
<tr>
<td>group</td>
<td>2</td>
<td>17.310</td>
<td>.728</td>
<td>15.863</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>17.000</td>
<td>.676</td>
<td>15.656</td>
</tr>
<tr>
<td>Control group</td>
<td>1</td>
<td>22.214</td>
<td>.647</td>
<td>20.928</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>16.393</td>
<td>1.048</td>
<td>14.310</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>14.893</td>
<td>.973</td>
<td>12.958</td>
</tr>
</tbody>
</table>

Further analysis to determine the difference in the mean value of the treatment and control was done through the test of ‘within-subject contrast’ of the BAI. The output is displayed in Table 4.30.

Table 4.30: Tests of Within-Subjects Contrasts of BAI

<table>
<thead>
<tr>
<th>(I) time</th>
<th>(J) time</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval for Difference</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2.083*</td>
<td>.523</td>
<td>.000</td>
<td>.806</td>
<td>3.360</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2.988*</td>
<td>.505</td>
<td>.000</td>
<td>1.754</td>
<td>4.222</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-2.083*</td>
<td>.523</td>
<td>.000</td>
<td>-3.360</td>
<td>-.806</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-.905</td>
<td>.490</td>
<td>.205</td>
<td>-.292</td>
<td>2.102</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>-2.988*</td>
<td>.505</td>
<td>.000</td>
<td>-4.222</td>
<td>-1.754</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-.905</td>
<td>.490</td>
<td>.205</td>
<td>-2.102</td>
<td>.292</td>
<td></td>
</tr>
</tbody>
</table>

Based on estimated marginal means
* The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

As tabulated in Table 4.30, the BAI variable, the contrast of the baseline assessment and midline assessment, compared the anxiety level obtained at the level 1 (baseline) where M=15.65, with the level of anxiety obtained at level 2 (midline) where M=17.3 average across the two-level of anxiety. This was significant F (1, 84) =73.57, p=0.001. Similarly, the contrast of the midline and end line compared the anxiety level obtained at level 2 (midline), where M=17.3 with the level of anxiety obtained at level 3 (end line) where M=17 average across the two-level of anxiety. The difference was not significant F (1, 84) =7.100, p=0.2. However, the
assessments*control-treat contrast tested the difference in the mean value based on the contrast of level 1 (baseline) and level 3 (endline) was significant \( F (1, 84) = 143.171, p=0.001 \), denoting that the anxiety level differed significantly between the treatment and control group across the two levels of anxiety (level 1 vs level 2).

Control or treatment * assessment of BAI

On the significant difference of the anxiety level, the output (the exact value of anxiety level) was as captured in Table 4.31.

<table>
<thead>
<tr>
<th>Control or treatment</th>
<th>Assessment</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Midline</td>
<td>16.058</td>
<td>.695</td>
<td>14.683 - 17.433</td>
</tr>
<tr>
<td></td>
<td>Endline</td>
<td>16.145</td>
<td>.640</td>
<td>14.879 - 17.410</td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>25.790</td>
<td>.640</td>
<td>24.524 - 27.057</td>
</tr>
<tr>
<td>Treatment</td>
<td>Midline</td>
<td>17.516</td>
<td>.733</td>
<td>16.065 - 18.967</td>
</tr>
<tr>
<td></td>
<td>Endline</td>
<td>15.290</td>
<td>.675</td>
<td>13.955 - 16.625</td>
</tr>
</tbody>
</table>

On the contrast between the baseline and midline in the control group, the average BAI estimate increased by 16.058-14.536=1.522). Regarding BAI estimates at the endline and baseline, a slight difference was observed (16.06-16.14). This represented a 10% increase. For the treatment group, the anxiety level decreased (17.516-25.790=8.274), that is, by 43%. Correspondingly, regarding the contrast between the midline assessment and end line (post-test) assessment, for the control group, the anxiety level increased (16.145-16.058=0.087), which represented a 0.5% increase. Together, the mean BAI estimates for the control group increased by 10%.

For the treatment group, the anxiety level decreased (15.290-17.516= 2.226). From these contrasts, it is evident that the level of anxiety on the control group was increasing during the period of study; while on the treatment group, the level of anxiety was reducing. Further, the greater change was on the treatment from level baseline to midline assessment (see Table 4.31).
The difference between the control and the treatment group was as demonstrated in Figure 4.8. As shown, it is apparent that there was a greater chance of anxiety level on the treatment group compared to the control group.

![Estimated Marginal Means of BAI](chart.png)

**Figure 4.8: Contrast of Treatment and Control on Level of BAI**

Repeated Measure on Book Read on BAI

Mauchly’s test of sphericity of BAI on mindfulness book read

Using the general linear model of the repeated measures, the “Mauchly’s test of sphericity” was not statistically significant (p=0.052), hence the assumption of sphericity was not violated. The test of ‘within-subjects effects’ was used to determine the effectiveness of the book read as a treatment mechanism by comparing the level of anxiety of the treatment group on each of the three-level of data collected.
The category of books read was less than 144 pages (less than 50%), until page 144 (50%), until page 216 (75%), and group 4, 288 pages (100%). Table 4.32 shows the Mauchly’s Test of Sphericity.

Table 4.32: Mauchly’s Test of Sphericity of BAI on Mindfulness Book Read

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Mauchly’s W Approx. Chi-Square</th>
<th>df</th>
<th>Sig.</th>
<th>Epsilon Greenhouse-Geisser</th>
<th>Huynh-Feldt</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>.902</td>
<td>5.898</td>
<td>2</td>
<td>.052*</td>
<td>.911</td>
<td>.987</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + bookread
Within Subjects Design: BAI
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of within-subjects’ effects of BAI on mindfulness book read

On the BAI effects based on the book read, the result indicated that the ‘within-subject effect’ on the treatment group was highly significant F (2, 116)=56.078, p=0.001. This denotes a significant difference in the book read across the three levels of treatment. However, on the interaction of the treatment group, based on the book read, the result was not statistically significant F (6, 116)=0.803, p=0.069, implying that there was no difference in anxiety level across the three-level of treatment based on the book read. See Table 4.33.

Table 4.33: Tests of Within-Subjects Effects of BAI on Mindfulness Book Read

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Type III df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>Sphericity Assumed</td>
<td>1296.105</td>
<td>2</td>
<td>648.052</td>
<td>56.078</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1296.105</td>
<td>1.821</td>
<td>711.752</td>
<td>56.078</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1296.105</td>
<td>1.974</td>
<td>656.558</td>
<td>56.078</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1296.105</td>
<td>1.000</td>
<td>1296.105</td>
<td>56.078</td>
</tr>
<tr>
<td>BAI * book read</td>
<td>Sphericity Assumed</td>
<td>55.698</td>
<td>6</td>
<td>9.283</td>
<td>.803</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>55.698</td>
<td>5.463</td>
<td>10.195</td>
<td>.803</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>55.698</td>
<td>5.922</td>
<td>9.405</td>
<td>.803</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>55.698</td>
<td>3.000</td>
<td>18.566</td>
<td>.803</td>
</tr>
<tr>
<td>Error (BAI)</td>
<td>Sphericity Assumed</td>
<td>1340.528</td>
<td>116</td>
<td>11.556</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1340.528</td>
<td>105.618</td>
<td>12.692</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1340.528</td>
<td>114.497</td>
<td>11.708</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1340.528</td>
<td>58.000</td>
<td>23.113</td>
<td></td>
</tr>
</tbody>
</table>
Assessments’ mean estimates of BAI

The difference on the book read estimated on the tests of ‘within-subject effects’ of BAI can be supported by the difference in the mean value across the four levels of book read: group 1, less than 144 pages (less than 50%) = 20.633; group 2, until page 144 (50%) = 17.667; group 3, until page 216 (75%) = 20.513; and group 4, 288 pages (100%) = 18.167. The implication here is that there was a significant difference in the mean value based on the percentage of book read on BAI. Table 4.34 gives the results of the mean estimates for anxiety.

Table 4.34: Assessments’ Mean Estimates of BAI

<table>
<thead>
<tr>
<th>Book read</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20.633</td>
<td>1.108</td>
<td>18.415</td>
<td>22.852</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>17.667</td>
<td>2.479</td>
<td>12.705</td>
<td>22.628</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>20.513</td>
<td>.687</td>
<td>19.137</td>
<td>21.889</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>18.167</td>
<td>.715</td>
<td>16.734</td>
<td>19.599</td>
<td></td>
</tr>
</tbody>
</table>

Tests of ‘within-subjects’ contrasts’ of BAI

Further analysis to determine the differences in the mean values of BAI based on the book read was done using the test of ‘within-subject contrast’ of the BAI. The output was as displayed in Table 4.35.

Table 4.35: Tests of Within-Subjects Contrasts of BAI

<table>
<thead>
<tr>
<th>Source</th>
<th>BAI</th>
<th>Type III Sum of Df Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BAI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 1 vs. Level 2</td>
<td>1364.309</td>
<td>1</td>
<td>1364.309</td>
<td>56.082</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>141.098</td>
<td>1</td>
<td>141.098</td>
<td>8.646</td>
</tr>
<tr>
<td></td>
<td>BAI *</td>
<td>Level 1 vs. Level 2</td>
<td>101.377</td>
<td>3</td>
<td>33.792</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>16.354</td>
<td>3</td>
<td>5.451</td>
<td>.334</td>
</tr>
<tr>
<td></td>
<td>bookread</td>
<td>Level 1 vs. Level 2</td>
<td>1410.962</td>
<td>58</td>
<td>24.327</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>946.485</td>
<td>58</td>
<td>16.319</td>
<td></td>
</tr>
</tbody>
</table>

As outlined in Table 4.35, The contrast of the level 1 and level 2, compares the anxiety level obtained at the assessment level 1 (baseline) where M=25.138 with the level of anxiety obtained at assessment 2 (midlevel) where M=17.523 average across the two-level of anxiety. This was significant F (1, 58)=56.082, p=0.001. Likewise,
the contrast of the assessment at midline and assessment and end line compares the anxiety level obtained at the assessment at midline where \( M=17.523 \), with the level of anxiety obtained at end line assessment where \( M=15.074 \) average across the two-level of anxiety. This was also significant \( F(1, 58) = 8.646, p=0.005 \).

The BAI*Book read contrast tested the difference in the mean value of the treatment group based on the percentage of the book read. The first contrast of level 1 (baseline) and level 2 (midline), was not significant \( F(3, 58)=1.389, p=0.255 \), indicating that there was no significant difference in the anxiety level at level 1 and level 2 of data collection based on the percentage of the book read. Similarly, the contrast of the level 2 (midline), and level 3 (endline) was not significant \( F(1, 58) =0.334, p=0.801 \), an implication that there was no significant difference in the anxiety level at level 2 and level 3 of data collection based on the percentage of book read.

This leads to the conclusion that there was a significant difference in the anxiety level of the treatment group based on the book read, but there was no statistical difference on the anxiety level based on the percentage of books read. In other words, though the anxiety level decreased on the three-level of data collection, the decrease could not be attributed to the percentage of the book that a person read.

Level of BAI based on the percentage of books read

The difference in the anxiety level based on the percentage of books read was as illustrated in Figure 4.9.
There was a similarity on the decrease of anxiety level at each of the three treatment levels based on reading the book; but there was no significant difference based on the percentage of the book that one read (see Figure 4.9).

Repeted Measure ANOVA on Effect on Mindfulness on BAI

Mauchly’s test of sphericity

The output of the Mauchly’s test of sphericity is shown in Table 4.36.

Table 4.36: Mauchly’s Test of Sphericity of BAI on Mindfulness Book Read

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Mauchly’s W</th>
<th>Approx. Chi-Square</th>
<th>Sig.</th>
<th>Epsilon Greenhouse-Geisser</th>
<th>Epsilon Huynh-Feldt</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>.874</td>
<td>7.787</td>
<td>2</td>
<td>.020</td>
<td>.888</td>
<td>.945</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + mindfulness
   Within Subjects Design: BAI
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
Using the general linear model of the repeated measures, the ‘Mauchly’s test of sphericity’ was statistically significant (p=0.020); hence the assumption of sphericity was violated (see Table 4.36).

Multivariate testing was used to determine the effectiveness of mindfulness as a treatment mechanism by comparing the level of anxiety of the treatment group on each of the three-level of data collected. The categories of mindfulness were 10 hours and above, 5-10 hours, 2-5 hours, and less than two (2) times.

Multivariate tests of BAI on mindfulness

On the BAI effects based on the mindfulness, the results (see Table 4.37) demonstrate that the multivariate tests were highly significant $F (2, 58)=109.159$, $p=0.001$. This points to a significant difference in mindfulness across the three levels of treatment. On the other hand, on the interaction of the treatment group based on mindfulness, the multivariate tests (Pillai’s Trace) showed no statistical significance $F (4, 118)=1.494$, $p=0.208$, signifying the absence of a difference in anxiety level across the three-level of treatment based on the mindfulness practice. Table 4.37 captures the output of the multivariate tests of BAI.

| Table 4.37: Multivariate Tests of BAI on Mindfulness |
|---|---|---|---|---|
| Effect | Value | F | Hypothesis df | Error df |
| **BAI** | | | | |
| Pillai’s Trace | .790 | 109.159$^b$ | 2.000 | 58.000 | .000 |
| Wilks’ Lambda | .210 | 109.159$^b$ | 2.000 | 58.000 | .000 |
| Hotelling’s Trace | 3.764 | 109.159$^b$ | 2.000 | 58.000 | .000 |
| Roy’s Largest Root | 3.764 | 109.159$^b$ | 2.000 | 58.000 | .000 |
| Pillai’s Trace | .096 | 1.494 | 4.000 | 118.000 | .208 |

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BAI * mindfulness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.904</td>
<td>1.508$^b$</td>
<td>4.000</td>
<td>116.000</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.107</td>
<td>1.520</td>
<td>4.000</td>
<td>114.000</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>.107</td>
<td>3.147$^c$</td>
<td>2.000</td>
<td>59.000</td>
</tr>
</tbody>
</table>

a. Design: Intercept + mindfulness
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.
Mean estimates of BAI based on mindfulness

The difference on the mindfulness practice outlined on the multivariate tests can be supported by the difference in the mean value across the four levels of mindfulness practice as follows: group 1, 10 hours and above M=19.745; group 2, 5-10 hours M=19.031; group 3, 2-5 hours M=20.487; and none of the treatment group practiced less than two(2) times. These mean values show that there was a significant difference in the mean value based on the mindfulness practice of the treatment group on BAI. Table 4.38 presents the results of the mean estimates of BAI based on the practice of mindfulness.

Table 4.38: Assessments’ Mean Estimates of BAI based on Mindfulness

<table>
<thead>
<tr>
<th>Mindfulness</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19.745</td>
<td>.882</td>
<td>17.980</td>
<td>21.511</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>19.031</td>
<td>.643</td>
<td>17.744</td>
<td>20.318</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>20.487</td>
<td>1.009</td>
<td>18.468</td>
<td>22.506</td>
<td></td>
</tr>
</tbody>
</table>

Tests of ‘within-subjects’ contrasts’ of BAI based on mindfulness

Further analysis to determine the difference in the mean value of BAI based on the mindfulness practices was determined by the test of ‘within-subject contrast’ of the BAI. The results were as displayed in Table 4.39.

Table 4.39: Tests of Within-Subjects Contrasts of BAI Based on Mindfulness

<table>
<thead>
<tr>
<th>Source</th>
<th>BAI</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>Level 1 vs. Level 2</td>
<td>3668.658</td>
<td>1</td>
<td>3668.658</td>
<td>143.278</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>308.959</td>
<td>1</td>
<td>308.959</td>
<td>20.851</td>
<td>.000***</td>
</tr>
<tr>
<td>BAI * mindfulness</td>
<td>Level 1 vs. Level 2</td>
<td>1.635</td>
<td>2</td>
<td>.817</td>
<td>.969</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>88.597</td>
<td>2</td>
<td>44.299</td>
<td>2.990</td>
<td>.058</td>
</tr>
<tr>
<td>Error (BAI)</td>
<td>Level 1 vs. Level 2</td>
<td>1510.704</td>
<td>59</td>
<td>25.605</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>874.242</td>
<td>59</td>
<td>14.818</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 4.39, the contrast of the level 1 and level 2 compares the anxiety level obtained at the assessment level 1 (baseline) where M=26.053; with the level of anxiety obtained at assessment level 2 (midlevel) where M=17.802 was the average across the two-level of anxiety. This was significant F (1, 58)=56.082,
Correspondingly, the contrast of the level 2 and level 3 compares the anxiety level obtained at the assessment level 2 (midline) where \( M=17.802 \); with the level of anxiety obtained at assessment level 3 (end line) where \( M=15.408 \) average across the two-level of anxiety. This was also significant \( F (1, 58)=8.646, p=0.001 \).

The BAI*Mindfulness contrast tests the difference in the mean value of the treatment group based on the mindfulness practiced. The first contrast of the assessment 1 (baseline) and assessment 2 (midline), was not significant \( F (2, 59)=0.032, p=0.969 \), denoting that there was no significant difference in the anxiety level at level 1 and level 2 based on the mindfulness practiced. Similarly, the contrast of level 2 (midline) and level 3 (end line) was not significant \( F (2, 59)=2.990, p=0.058 \), implying no significant difference in the anxiety level at level 2 and level 3 based on the mindfulness practiced.

The conclusion drawn here is that there was a significant difference in the anxiety level of the treatment group based on mindfulness; but there was no statistical difference on the anxiety level based on the time allocated for mindfulness practice by the respondents. This is to say that the anxiety level decreased on the three levels, though the decrease could not be attributed to the level of mindfulness practiced by the respondents.

**Level of BAI based on the mindfulness practiced**

Figure 4.10 depicts the difference in the anxiety level based on the level of mindfulness practiced. There was a decrease in anxiety level at each of the three treatment levels based on the mindfulness practiced, but there was no significant difference based on the level of mindfulness that one practiced.
4.2.5 Effectiveness of MBCT-SH on depression among participants

The fourth objective of this study sought to evaluate the effectiveness of MBCT-SH on depression. These three key tests were conducted using the general linear model: repeated measure of control and treatment; repeated measure on books read on BDI; and repeated measure of mindfulness on BDI. The results for each of the tests are presented in the ensuing section.

Figure 4.10: Level of BAI Based on the Mindfulness Practiced
Repeated Measure ANOVA in relation to BDI Estimates for the Control and Treatment Groups

Table 4.40: Mauchly’s Test of Sphericity of BDI

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Mauchly’s W</th>
<th>Approx. Chi-Square</th>
<th>Df</th>
<th>Sig.</th>
<th>Epsilon Greenhouse-Geisser</th>
<th>Epsilon Huynh-Feldt</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>.830</td>
<td>23.851</td>
<td>2</td>
<td>.000</td>
<td>.855</td>
<td>.872</td>
<td>.500</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + control_treat
Within Subjects Design: BDI
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

As seen in Table 4.40, the ‘Mauchly’s test of sphericity’ was found to be statistically significant (p=0.001); hence the assumption of sphericity was violated.

The multivariate test was used to determine the effectiveness of the treatment methods used by comparing the treatment and control groups on each of the three levels of data collected. The three-level of data sets are the ‘assessments’, and the control and treatment are the ‘groups’.

Tests of ‘within-subjects’ effects’ of BDI

Table 4.41: Tests of Within-Subjects Effects of BDI

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>Pillai’s Trace</td>
<td>.046</td>
<td>3.084b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.954</td>
<td>3.084b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>.048</td>
<td>3.084b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Roy’s Largest Root</td>
<td>.048</td>
<td>3.084b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Pillai’s Trace</td>
<td>.592</td>
<td>92.914b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.408</td>
<td>92.914b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>1.452</td>
<td>92.914b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
<tr>
<td></td>
<td>Roy’s Largest Root</td>
<td>1.452</td>
<td>92.914b</td>
<td>2.000</td>
<td>128.000</td>
</tr>
</tbody>
</table>

a. Design: Intercept + control_treat
Within Subjects Design: BDI
b. Exact statistic

On assessing the main effects of the assessment, the results (see Table 4.41) showed that the multivariate tests) were highly significant F (2, 128) = 3.084, p=0.049, indicating a significant difference in depression across the three levels of assessment regardless of the group where the assessment was conducted. Also, multivariate
testing produced a significant effect in the interaction difference between the treatment and control group $F(2, 128)=92.914$, $p=0.001$, demonstrating that the observations made on the three levels of assessment of depression were different based on the treatment and control group.

**Mean estimates of BDI**

The difference in the depression level estimated on the multivariate test of BDI can be supported by the decrease in mean across the three levels of assessment: baseline (assessment 1)=$M=14.337$; midline (assessment 2)=$M=13.037$; and endline (assessment 3)=$M=13.076$. This shows that there was a decrease in the level of depression in assessment 1. The average score for depression was higher at $M=14.337$, and it decreased at assessment two to $M=13.037$.

However, on the last assessment, the mean was nearly the same as assessment two at $M=13.076$. This clearly indicates that there was no difference in the mean value of the depression at assessment 2 (mid-line) and assessment 3 (end line), though more analysis was done in the next section on this. Table 4.42 presents the results of the mean estimates for depression.

<table>
<thead>
<tr>
<th>BDI</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14.337</td>
<td>.471</td>
<td>13.405 15.268</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13.037</td>
<td>.534</td>
<td>11.980 14.095</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>13.076</td>
<td>.497</td>
<td>12.092 14.060</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tests of ‘within-subjects contrasts’ of BDI

Further analysis to determine the difference in the mean values of the treatment and control groups was done by use of the test of ‘within-subject contrast’ of the BDI. These results are captured in Table 4.43.
As indicated in Table 4.43, the BDI variable, the contrast of the level 1 assessment, and level 2 assessment compared the depression level obtained at the baseline where M=14.337; with the level of depression obtained at level 2 (midline) where M=13.037 at level two of depression. This was significant F (1, 129)=5.577, p=0.020. On the other hand, the contrast of the level 2 and level 3, compared the depression level obtained at the midline where M=13.037; with the level of depression obtained at end line where M=13.076 average across the two levels of depression. This was not significant F (1,129) =0.010, p=0.919, clearly signifying that there was no difference in the mean value of the depression at level 2 and level 3.

The BDI*control-treat contrast tests the difference in the mean value based on the two groups: the treatment and control. The first contrast of the level 1 assessment (baseline), and level 2 assessment (midline), was significant F (1, 129)=144.033, p=0.000: an indication that the depression level differed significantly between the treatment and control group across the two levels of depression (level 1 vs level 2). However, the contrast of the level 2 (midline) and level 3 (end line) was not significant F (1, 129)=3.349, p=.070; inferring that there was no significant difference in the depression level between the treatment and control groups across the two levels of depression (level 2 versus level 3).
Table 4.44 presents the results showing the exact value on the depression level.

<table>
<thead>
<tr>
<th>Control or treatment</th>
<th>BDI</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Control</td>
<td>1</td>
<td>7.609</td>
<td>.648</td>
<td>6.327</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12.913</td>
<td>.735</td>
<td>11.458</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>13.652</td>
<td>.684</td>
<td>12.298</td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>21.065</td>
<td>.684</td>
<td>19.712</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>12.500</td>
<td>.722</td>
<td>11.072</td>
</tr>
</tbody>
</table>

The results given in Table 4.44 indicate as follows: On the contrast between the level 1 assessment (baseline), and level 2 assessment (midline) - for the control group, the depression level increased (12.913-7.609=5.305); while for the treatment group, the depression level decreased (13.161-21.065=-7.904). However, for the contrast between level 2 and level 3 - for the control group, the depression level increased (13.652-12.913 = 0.739); while for the treatment group, the depression level decreased (12.500-13.161 =-0.661). Accordingly, the level of depression in the control group was increasing during the period of study while on the treatment group, it was reducing. Even so, the difference was not statistically significant for level 2 and level 3.

Contrast of treatment and control on level of BDI

The difference between the control and the treatment group is illustrated in Figure 4.11. There was a greater change in depression level on the treatment group compared to the control group on levels 1 and 2; but there was no difference in level 2 and level 3.
Repeated Measure ANOVA on Effect of Book Read on BAI

Mauchly’s test of sphericity BDI on mindfulness book read.

The output was as captured in Table 4.45.

**Table 4.45: Mauchly’s Test of Sphericity of BDI on Mindfulness Book Read**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Mauchly’s W</th>
<th>Approx. Chi-Square</th>
<th>Df</th>
<th>Sig.</th>
<th>Epsilon&lt;sup&gt;b&lt;/sup&gt; Greenhouse-Geisser</th>
<th>Huynh-Feldt</th>
<th>Lower-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>.814</td>
<td>11.757</td>
<td>2</td>
<td>.003</td>
<td>.843</td>
<td>.910</td>
<td>.500</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + bookread
Within Subjects Design: BDI
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Using the general linear model of the repeated measures, the Mauchly’s test of sphericity was statistically significant (p=.003); hence the assumption of sphericity was violated (see Table 4.45). The multivariate test was used to determine the
effectiveness of the book read as a treatment mechanism by comparing the level of
depression of the treatment group on each of the three levels of data collected. The
category of books read was less than 144 pages (less than 50%); until page 144
(50%); until page 216 (75%); and group 4, 288 pages (100%).

The main effects in multivariate tests were significant F (2, 128)=3.084,
p=0.049. This shows that there was a significant difference in depression across the
three levels of assessment (baseline, midline, and end-line) regardless of the group
where the assessment was conducted. Similarly, on the interaction between BDI and
book read, a significant effect was, likewise, observed, F (2, 128)=92.914, p=0.001.
This denotes that the observations made on the three levels of assessment of
depression were different based on the treatment and control group.

Within-subjects’ effects of BDI on mindfulness book read

Table 4.46 shows the output of the tests within-subject effects of BDI.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>Pillai's Trace</td>
<td>.318</td>
<td>13.295&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>57.000</td>
</tr>
<tr>
<td></td>
<td>Wilks' Lambda</td>
<td>.682</td>
<td>13.295&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>57.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling's Trace</td>
<td>.466</td>
<td>13.295&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>57.000</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
<td>.466</td>
<td>13.295&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>57.000</td>
</tr>
<tr>
<td></td>
<td>Pillai's Trace</td>
<td>.021</td>
<td>.204&lt;sup&gt;c&lt;/sup&gt;</td>
<td>6.000</td>
<td>116.000</td>
</tr>
<tr>
<td>BDI * book read</td>
<td>Wilks' Lambda</td>
<td>.979</td>
<td>.204&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.000</td>
<td>114.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling's Trace</td>
<td>.022</td>
<td>.201&lt;sup&gt;c&lt;/sup&gt;</td>
<td>6.000</td>
<td>112.000</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
<td>.021</td>
<td>.401&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.000</td>
<td>58.000</td>
</tr>
</tbody>
</table>

a. Design: Intercept + bookread
Within Subjects Design: BDI
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Regarding the BDI effects based on the book read, the results (see Table 4.46)
revealed that the multivariate tests were highly significant F (2, 57)=13.295, p=0.001,
showing a significant difference in the book read across the three levels of treatment.

On the interaction of the treatment group based on the book read, a significant effect
was observed, $F(6, 116) = 0.206, p=0.974$, implying that there was no difference in depression level across the three-level of treatment based on the book read.

**Table 4.47: Assessments’ Mean Estimates of BDI**

<table>
<thead>
<tr>
<th>Book read</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15.400</td>
<td>1.539</td>
<td>12.319</td>
</tr>
<tr>
<td>2</td>
<td>13.667</td>
<td>3.441</td>
<td>6.778</td>
</tr>
<tr>
<td>3</td>
<td>16.372</td>
<td>.954</td>
<td>14.461</td>
</tr>
<tr>
<td>4</td>
<td>14.944</td>
<td>.993</td>
<td>12.956</td>
</tr>
</tbody>
</table>

The difference on the book read estimated on the tests of within-subject effects of BDI can be supported by the difference in the mean value across the four levels of book read: group 1, less than 144 pages (less than 50%)=15.400; group 2, until page 144 (50%)=13.667; group 3, until page 216 (75%)=16.372; and group 4, 288 pages (100%)=14.944. This is an indicator that there was a significant difference in the mean value based on the percentage of book read on BDI (see Table 4.47).

**Within-subjects contrasts of BDI**

Further analysis to determine the difference in the mean value of BDI based on the book read was done by use of the test of ‘within-subject contrast’ of the BDI. The outcome is displayed in Table 4.48.

**Table 4.48: Tests of Within-Subjects Contrasts of BDI**

<table>
<thead>
<tr>
<th>Source</th>
<th>BDI</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 1 vs. Level 2</td>
<td>1147.031</td>
<td>1</td>
<td>1147.031</td>
<td>20.481</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>23.995</td>
<td>1</td>
<td>23.995</td>
<td>.904</td>
<td>.346</td>
</tr>
<tr>
<td>BDI * book read</td>
<td>Level 1 vs. Level 2</td>
<td>57.204</td>
<td>3</td>
<td>19.068</td>
<td>.340</td>
<td>.796</td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>15.108</td>
<td>3</td>
<td>5.036</td>
<td>.190</td>
<td>.903</td>
</tr>
<tr>
<td>Error (BDI)</td>
<td>Level 1 vs. Level 2</td>
<td>3248.215</td>
<td>58</td>
<td>56.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 2 vs. Level 3</td>
<td>1538.779</td>
<td>58</td>
<td>26.531</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The contrast of the level 1 and level 2 compared the depression level obtained at the level 1 assessment (baseline), where $M=20.088$; with the level of depression obtained at level 2 assessment (midlevel) where $M=13.105$ average across the two levels of depression. This was significant $F(1, 58)=20.481, p=0.001$ (See Table 4.48).
However, the contrast of the level 2 assessment and level 3 assessment (end line), compared the depression level obtained at midline assessment where M=13.105; with the level of depression obtained at end line assessment where M=12.095 was average across the two levels of depression. This was not significant F (1, 58)=0.904, p=0.346 (see Table 4.48).

The BDI*Book read contrast tested the difference in the mean value of the treatment group based on the percentage of the book read. The first contrast of the baseline and midline was not significant F (3, 58)=0.340, p=0.796, signifying that there was no significant difference in the depression level at baseline and midline of data collection based on the percentage of the book read. Equally, the contrast of the midline and level end line was not significant F (1, 58)=0.190, p=0.903 (see Table 4.48). This shows that there was no significant difference in the depression level at the midline and end line of data collection based on the percentage of mindfulness book read.

Thus, there was a significant difference in the depression level of the treatment group based on the book read-only at baseline and midline but not at the end line. Also, there was no statistical difference in the depression level based on the percentage of books read by the respondents. To be specific, the depression level decreased on the baseline and midline levels of data collection; however, the decrease could not be attributed to the percentage of the mindfulness book that a person read.

This finding conforms with that of Hoffman et al.’s (2010) analysis of ‘effect of MBCT for anxiety and mood symptoms in clinical samples’ focusing on 39 studies with 1,140 participants, who were receiving mindfulness-based therapy for a range of conditions (including cancer, generalized anxiety disorder, depression, and other psychiatric or medical conditions). Hoffman et al. established that mindfulness-based
therapy was moderately effective for improving anxiety (Hedges’ $g=0.63$), and mood symptoms (Hedges’ $g=0.59$) from pre to post-treatment in the overall sample.

Of comparison with the present study is the finding that the effect sizes were robust, and unrelated to the number of MBCT therapy sessions, and were maintained over follow-up (Hofmann et al., 2010). Similarly, Wu, Shi, Xia, and Lu (2013) conducted a study to find a simple and effective mindfulness training method for intervening depression. The study participants comprised 95 university students with moderate or severe depression, who were divided into three mindfulness training groups: 8-week complete formal group, 8-week informal group, and 4-week group (Wu et al., 2013). The results of Wu et al.’s study showed that the depression scores of all the participants improved even though at different intervals.

Level of BDI based on the percentage of mindfulness books read

Figure 4.12 illustrates the difference in the depression levels based on the percentage of mindfulness book read. There was a similarity in the decrease of depression level at level 1 and level 2 of the treatment group based on reading the book. Nonetheless, there was no significant difference based on the percentage of the book read.
Figure 4.12: Level of BDI Based on the Percentage of Mindfulness Books Read

Repeated Measure on Mindfulness on BAI

The Mauchly’s test of sphericity of BDI on mindfulness book read

Using the general linear model of the repeated measures, the outcome of the ‘Mauchly’s test of sphericity’ was as given in Table 4.49.

Table 4.49: Mauchly’s Test of Sphericity of BDI on Mindfulness Book Read

<table>
<thead>
<tr>
<th>Within Subjects Effect</th>
<th>Mauchly’s Approx Chi-Square</th>
<th>df</th>
<th>Sig.</th>
<th>Epsilon^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>.816</td>
<td>11.819</td>
<td>2</td>
<td>.003</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + mindfulness
Within Subjects Design: BDI

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
The Mauchly’s test of sphericity was found to be statistically significant (p=0.003) (see Table 4.49); hence the assumption of sphericity was violated. The test of multivariate tests was used to determine the effectiveness of the mindfulness as a treatment mechanism by comparing the level of depression of the treatment group on each of the three levels of data collected. The categories of mindfulness practice were 10 hours and above, 5-10 hours, 2-5 hours, and less than two (2) times.

Multivariate tests of BDI on mindfulness

Table 4.50 provides the result of the multivariate tests of BDI.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillai’s Trace</td>
<td>.541</td>
<td>34.158&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>58.000</td>
<td>.000***</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.459</td>
<td>34.158&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>58.000</td>
<td>.000</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>1.178</td>
<td>34.158&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>58.000</td>
<td>.000</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>1.178</td>
<td>34.158&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>58.000</td>
<td>.000</td>
</tr>
<tr>
<td>Pillai’s Trace</td>
<td>.035</td>
<td>.520</td>
<td>4.000</td>
<td>118.000</td>
<td>.721</td>
</tr>
<tr>
<td>BDI * mindfulness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.966</td>
<td>.511&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.000</td>
<td>116.000</td>
<td>.728</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.035</td>
<td>.503</td>
<td>4.000</td>
<td>114.000</td>
<td>.734</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>.022</td>
<td>.637&lt;sup&gt;c&lt;/sup&gt;</td>
<td>2.000</td>
<td>59.000</td>
<td>.533</td>
</tr>
</tbody>
</table>

a. Design: Intercept + mindfulness
Within Subjects Design: BDI
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

As indicated in Table 4.50, the outcome of the multivariate tests of BDI on mindfulness points to a significant difference in mindfulness across the three levels of treatment, F (2, 58)=34.158, p=0.0001. In contrast, on the interaction of the treatment group based on the mindfulness, the effect was not significant, based on Pillai’s Trace, F (4, 118)=0.520, p=0.721, suggesting that there was no difference in depression levels across the three-level of treatment based on the mindfulness practice.

Mean estimates of BDI based on mindfulness practices

The difference on the practice of mindfulness outlined on the multivariate tests can be supported by the difference in the mean value across the four levels of
mindfulness practice: group 1, 10 hours and above=16.510; group 2, 5-10 hours=194.792; group 3, 2-5 hours=16.282; and none of the treatment group practiced less than two (2) times. Table 4.51 presents the mean estimates of BDI based on the practice of mindfulness.

Table 4.51: Assessment’ Mean Estimates of BDI based on Mindfulness Practices

<table>
<thead>
<tr>
<th>Mindfulness</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>14.792</td>
<td>.851</td>
<td>13.089-16.494</td>
</tr>
<tr>
<td>3</td>
<td>16.282</td>
<td>1.335</td>
<td>13.611-18.953</td>
</tr>
</tbody>
</table>

The mean values across the four levels of mindfulness practice imply that there was a significant difference in the mean value based on the mindfulness practice of the treatment group on BDI (see Table 4.51).

Within-subjects contrasts of BDI based on mindfulness

Additional analysis to determine the difference in the mean value of BDI based on the mindfulness practices was done using the test of ‘within-subject contrast’ of the BDI. The results are captured in Table 4.52.

Table 4.52: Tests of Within-Subjects Contrasts of BDI Based on Mindfulness

<table>
<thead>
<tr>
<th>Source</th>
<th>BDI</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI Level 1 vs. Level 2</td>
<td>3148.750</td>
<td>1</td>
<td></td>
<td>3148.750</td>
<td>57.260</td>
<td>.000***</td>
</tr>
<tr>
<td>BDI Level 2 vs. Level 3</td>
<td>14.548</td>
<td>1</td>
<td></td>
<td>14.548</td>
<td>.560</td>
<td>.457</td>
</tr>
<tr>
<td>BDI * mindfulness Level 1 vs. Level 2</td>
<td>60.994</td>
<td>2</td>
<td></td>
<td>30.497</td>
<td>.423</td>
<td>.657</td>
</tr>
<tr>
<td>BDI * mindfulness Level 2 vs. Level 3</td>
<td>21.967</td>
<td>2</td>
<td></td>
<td>10.983</td>
<td>.555</td>
<td>.577</td>
</tr>
<tr>
<td>Error (BDI) Level 1 vs. Level 2</td>
<td>3244.425</td>
<td>59</td>
<td></td>
<td>54.990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error (BDI) Level 2 vs. Level 3</td>
<td>1531.920</td>
<td>59</td>
<td></td>
<td>25.965</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As observed in Table 4.52, the contrast of the level 1 and level 2 compared the depression level obtained at the assessment level 1 (baseline) where M=21.130; with the level of depression obtained at assessment level 2 (midlevel) where M=13.486 average across the two-level of depression. This was significant F (1, 59)=57.260, p=0.001. Equivalently, the contrast of the level 2 and level 3, compares the depression level obtained at the assessment level 2 (midline) where M=13.486; with the level of
depression obtained at assessment level 3 (end line) where \( \text{M}=12.967 \) average across the two-levels of depression. This was not also significant \( F(1, 59)=0.560, p=0.457 \).

The BDI*Mindfulness contrast tested the difference in the mean value of the treatment group based on the mindfulness practiced. The first contrast of level 1 (baseline) and level 2 (midline) was not significant, \( F(2, 59)=0.555, p=0.577 \). This shows that there was no significant difference in the depression levels at level 1 and level 2 of data collection based on the mindfulness practiced. Also, the contrast of the level 2 (midline) and level 3 (end line) was not significant \( F(2, 59)=0.423, p=0.657 \), denoting that there was no significant difference in the depression level at level 2 and level 3 of data collection based on the mindfulness practiced (see Table 4.52).

It was consequently deduced that there was a significant difference in the depression level of the treatment group based on mindfulness on level 1 and level 2; but not on level 3; while there was no statistical difference in the depression level based on the time allocated for mindfulness practice by the respondents. Particularly, even though the depression level decreased on level 1 and level 2 of data collection, this decrease could not be attributed to the level of mindfulness practiced by the respondents.

**Level of BDI based on the mindfulness practiced**

Figure 4.13 demonstrates the difference in the depression level based on the level of mindfulness practiced. There was a decrease in depression level at each of level 1 and level 2 based on the mindfulness practiced; but there was no significant difference based on the level of mindfulness that one practiced.
4.2.6 Causes of depression and anxiety among clergy

In this section of the study, the participants were asked to write down three things they consider to be mainly contributing to depression and anxiety among the clergy. The three that were mentioned by most of the participants were financial constraints, excess workload, and leadership challenges. Below are some of the narratives:

1. Financial constraints:
   
   ...low salary remuneration
   
   ...financial expectations from the congregation...
   
   very little or low payment
2. Excess workload:

...too much work and tight schedule of work

no timetable you work for 24 hours

3. Leadership challenges:

...disagreements amongst church leaders and between the

congregation and church leadership...”

...leadership wrangles amongst church leaders...

4.2.8 Participants’ experience of implementing mindfulness skills

The respondents gave a positive verdict on MBCT personal experiences in their daily lives. Their personal experiences were positive and helped them get relief from stresses of depression and anxiety and brought a calming effect. Here are some of the responses:

1. Deeper understanding of depression

2. Gained knowledge

I now understand depression in a way I have never understood before

...a very good content

...understood the great benefit there is in breathing as a way of relieving stress...

3. Diminished stress and depression

my body has relaxed and not tensed as before...

I definitely feel less stressed....

...it worked on my anxiety .... brought some calmness into my life....

...It helped me to reduce stress and depression by rediscovering happiness...

...generally, I feel more relaxed than in the past...the exercises are also very helpful...

...I definitely feel less stressed. I understood the great benefit there is in breathing as a way of relieving stress...
4. They feel healthier than before as they reported:

...for me the most obvious change is that my blood pressure reading went down...

...after reading this book and practicing I feel light and very healthy.

...my doctor said I have been able to maintain my blood pressure than any other time since I began treatment for blood pressure...

.... It helped me to shake off some of my toxic thinking habits...

... The best thing is that now I can sleep better...

5. The exercises were beneficial and helped relieve their stress

...the exercises are very good for relieving stress...

.... exercises were simple and very helpful....

...I was challenged by the exercises...

...Implementing MBCT in my daily life has been a key benefit to me practicing the given exercise...

4.3 Summary of Key Findings

1. Anxiety is a common emotional problem among older clergy. About 74% of participants had moderate anxiety, and 18% had mild depression.

2. Likewise, the prevalence of depression was high among participants. About 52% of participants suffered from either mild or moderate depression, with about 5.3% having severe depression.

3. The MBCT-SH is efficacious in reducing anxiety for older clergy: the mean dropped from 20.162 to 16.787 to 15.718. It also reduced symptoms of depression among older clergy: the mean dropped from 14.337 to 13.037 to 13.076. The change noted as a result of MBCT was consistent over two evaluation times.
4. However, the MBCT content read, and practice of mindfulness engaged in is not directly related to the reduction in the level of anxiety. The MBCT content read, and practice of mindfulness engaged in is not directly related to the reduction in the level of depression.

5. At the individual level, all the participants had something positive to say about the MBCT readings and exercises. Several participants wished for a Christian (religious) version of the MBCT.

4.4 Summary

In this chapter, the results of the study have been presented. The results have been presented in three sections as follows: the first section - the general information of the respondents; the second section - the descriptive statistics; and the third section - the qualitative feedback from the participants. The chapter ends with a summary of the key findings.

The next chapter addresses the following: a discussion on the findings of the study; the study conclusions; the recommendations made by the study; and finally, suggestions for further research.
CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a discussion on the findings of the current study. The findings were interpreted in relation to the existing literature. Subsequently, a conclusion and recommendations are offered, and areas of further research are proposed.

5.2 Discussions

This section presents a discussion of the findings of the current study visa a vis the stated objectives. The findings are interpreted and compared to previous scientific knowledge related to the study.

5.2.1 Determinants of prevalence of anxiety among older clergy

The first objective of this study was to determine the determinants of anxiety among older clergy from selected mainline Christian denominations in Nairobi County. The prevalence of anxiety was established using BAI. Based on the BAI category, about 74% of the respondents had moderate anxiety, and 18% had mild anxiety. Only 1% of participants had severe anxiety. These participants were eligible for the MBCT intervention. Existing studies have associated old age with an increased likelihood of anxiety (Hybels & Blazer, 2003). High anxiety in old age has been associated with challenges facing older people (Ritchie & Roser, 2018; WHO, 2012b).

Through cross tabulation, the following variables were identified as predisposing older clergy to anxiety: level of education, how far one’s retirement was, the reason for retirement, and frequency of receiving retirement benefits. The results chime with existing studies, that the other risk factor for late-life anxiety is ‘perceived
or actual losses’, in this case, the fear by participants of losing financial security, a prospect or reality that made them anxious (Yoo et al., 2002). The fear of financial insecurity, in the wake of retirement or while contemplating retirement, was a major risk factor for anxiety. A study on common causes of anxiety among clergy found that financial pressure was a significant factor in anxiety (Proeschold-Bell et al., 2015). Effectively, then, the predisposing or risk factors for anxiety among older clergy were identified. None of the moderating variables, namely reasons for retirement, duration of employment, education, reasons for leaving the pulpit, and frequency of payment was found to be a predisposing factor.

Significantly, the intervention had a significant effect on anxiety levels, (F (2, 258)=0.00, p<0.01, ω²=0.47. Observed were significant differences between the BAI estimates of participants at the endline and midline. For the control group, there was a 9% growth in anxiety levels between the baseline and endline. However, for the treatment group, there was a 42% reduction in anxiety levels between the baseline and endline. The trend for anxiety in the control group was on an upward trend. If left unattended, anxiety would grow in severity. At the same time, the intervention seems effective in reducing anxiety levels. The results support the core claims of the effectiveness of self-help mindfulness-based interventions (MBIs) in reducing stress and anxiety among affected people (Taylor et al., 2014). This reinforces the claim that there is a need to look beyond medication in treating mild and more moderate anxiety. The MBCT is a cost-effective intervention, which makes use of attitudinal changes.

5.2.2 Prevalence and determinants of depression among older clergy

The second objective of the study was to establish the prevalence and determinants of mild and moderate depression among older clergy. About 52% of the respondents had either mild (24%) or moderate depression (28%). Five per cent of the
respondents had severe depression. Recent studies done in Europe have found depression prevalence of about 30% (Horackova et al., 2019). Likewise, Kinyanda et al. (2011) found a comparable prevalence in Uganda. The results seem to run parallel to a considerable body of literature that has held that older people helpers will report abnormal stress (Canel-Çınarbaş, Cui, & Lauridsen, 2011; Figley, 2002), which manifests as symptoms of depression. A study done in South Africa revealed that the prevalence of depression in older adults attending a primary health care clinic in the Ethekwini District in Kwa-Zulu Natal was 40% (Padayachey, Ramlall, & Chipps, 2017). Another study conducted in Inanda, Ntuzuma and KwaMashu (INK) among older adults living in a low resource, peri-urban area in South Africa reported a 50% prevalence of depressive symptoms (Narainsamy, Chips, & Cassim, 2015). Moreover, a South African study of common mental health disorders provided data on a 12-month and lifetime prevalence of depression cases as follows: 26% were classified as severe, 31% as moderate, and 43% as mild (Herman et al., 2009).

The researcher found no studies in the Kenya context investigating mental health of clergy or older persons. Nonetheless, in a cross-sectional study by Ndetei et al. (2009) focusing on adults in different levels of general medical facilities in Kenya, depression was detected in patients in all the sites, and the rates ranged from 7.2% to 66.2%. Though the study population in Ndetei et al.’s study was different from the one for the current study, the depression levels observed were not very different from those found in the present study. In both cases, an average of 32.6% of participants exhibited either moderate or severe levels of depression.

Researchers in the US, using the Symptom Checklist-90-Revised, found that 41% of 44 Roman Catholic clergy exhibited depressive symptoms (Knox et al., 2007). Statistics provided by the Fuller Institute on American pastors revealed that 35% of
pastors battle depression or fear of inadequacy, and that 57% of them feel discouraged, stressed, and fatigued (Gaultiere, 2016). Yet another study of 1050 pastors who were surveyed from two pastors’ conferences held in Orange County and Pasadena, California (USA) in 2005, and 634 in 2006, revealed that 70% of pastors constantly fight depression (Krejcir, 2007). Further, Figley (2002) observed that people helpers may many times not be sure of, or good at the roles they must play, or the limits. They, therefore, may feel very inexperienced in handling the roles which produce anxious feelings (Figley, 2002).

The relationship between “how far ahead you knew you would retire” and levels of depression was significant, ($\chi^2(9)=21.28, p=0.011$). Also significant was the relationship between how frequently a participant received retirement benefit/s and level of baseline depression, ($\chi^2(9)=20, p=0.017$). Uncertainties about life issues, such as loss of employment and income, are some the major underlying triggers of depression (Auerbach et al., 2010). Significantly, the intervention seemed effective in reducing depression levels. There was a main effect of the intervention on depression levels, ($F(2, 258) =0.00, p<0.01, \omega^2 =0.47$). The frequency of receiving financial benefits (financial security) is a significant determinant of depression among older clergy.

Data gleaned from qualitative interviews revealed that the major causes of depression among older clergy were financial constraints, excessive workload, and leadership challenges. This finding strengthens the need to explore treatment for depression, through mechanisms such as the MBCT. If nothing else, the MBCT seems effective in reducing depression levels to a point where no medication might be needed, and depressive symptoms are easier to manage or are less debilitating.
5.2.3 Efficacy of the MBCT intervention in treating anxiety

This study applied MBCT principles, which include mindfulness meditation and mindfulness practices. The therapy was applied to the intervention group, while the control group continued with ‘treatment as usual’. Assessment of symptoms reduction was done ten weeks after applying of the therapy at midline and another ten weeks at the end line.

The results show that ‘within-subject effect’ on the assessments was highly significant $F (2, 253)=61.018, p<.05$. There was a significant difference in anxiety levels across at least two levels of assessment, namely baseline, midline, and end line. Similarly, there was a significant difference in the interaction between the treatment and control group $F (2, 253)=117.067, p<.05$. This shows that the observations made on the three levels of assessment on anxiety were different based on the treatment and control group. The difference on the anxiety level estimated on the tests of within-subject effects of BAI can be supported by the decrease in mean scores or estimates across the three levels of assessment: baseline at 20.16, midline at 16.78, and end line at 15.72. The level of anxiety fell by 17% from the baseline to the midline, and 22% from the baseline to the end line. Thus, the MBCT reduced symptoms of anxiety in the intervention group.

These findings are comparable with findings of other studies done elsewhere in the globe that demonstrated the success of MBCT in reducing depression. In Canada, a pilot study was carried out with six geriatric outpatients (aged≥60) who had anxiety and depression (Labbé et al., 2016). Following MBCT with baseline anxiety (BAI>7) ($n=5$), the BAI score was significantly decreased by a mean of 37.7% ($\pm13.7$) (range 26.1% to 57.1%), reduced from 28.0 ($\pm14.5$) to 18.6 ($\pm1.8$) ($t=6.7, p=.003$) (Labbé et al., 2016). One notable observation in the current study was with
the waitlist control group where the level of anxiety was increasing throughout the period of study. For the control group, the anxiety level increased by 11% from the baseline to the end line (14.536 to 16.058=1.522), while for the treatment group, the anxiety level decreased by 42%). In sum, the MBCT seems to be efficacious in reducing mild and moderate forms of anxiety.

5.2.4 Effectiveness of MBCT-SH on depression among older clergy

In its fourth objective, this study evaluated the effectiveness of MBCT-SH on depression among older clergy from selected mainline denominations in Nairobi County. On the general distribution of the respondents based on the BDI category, most of the older clergy had minimal depression at 43.2%. Yet, mild depression is often treated with simple lifestyle changes, such as altering a person's diet and sleeping patterns, or improving their work-life balance (Horwitz, 2007). Those with moderate depression were at 27.3%, mild depression at 24.2%, and those with severe depression at 5.3%. About 52% of the respondents had either mild or moderate depression.

Contingency analysis on the prevalence based on the respondents’ demographic information showed that there was no significant association between gender (p>.05), marital status (p>.05), or education level (p>.05). Equally, there was no significant effect of personal factors, such as issues or decisions tied to timing for or reasons for retirement of the participants, on depression. A significant effect was nonetheless observed in relation to the frequency of retirement benefits and depression.

In the US, depression is the most common geriatric disorder affecting more than 6.5 million of the 35 million Americans aged 65 years or older (National Alliance on Mental Illness, 2009). In the UK, depression affects around 22% of men
and 28% of women aged 65 years and over (Health and Social Care Information Centre, 2007). Across Europe, the prevalence of late-life depression was 53% (Horackova et al, 2019). However, there is scarcity of documented studies on how depression affects clergy. This could partly be because many people imagine that clergy are immune to psychological problems (Figley, 2002). Also, the clergy population is small, as several studies have noted. Available studies on depression among clergy suffer from small sample sizes and possible response biases (Figley, 2002; Knox et al., 2007; Proulx, 2008). Yet, findings from existing studies show that clergy are prone to depression, with some studies indicating that depression levels among clergy are higher than for among other professionals.

The number of pastors diagnosed with clinical depression was double the national average (Smietana, 2014). Similarly, research from the Clergy Health Initiative at Duke Divinity School indicated that protestant clergy are (by rather conservative figures) over 1.5 times more likely to experience depression than members of the general population (Proeschold-Bell et al., 2015). In a study involving Church of Nazarene pastors in New Mexico, depression rates ranged from 17% for 30% (Proulx, 2008). Researchers using the Symptom Checklist-90-R found that 41% of Roman Catholic clergy exhibited depressive symptomatology (Knox et al., 2007).

Assessed then was whether the MBCT intervention was effective in treating depression. Statistical evidence produced a highly significant result $F (2, 128)=3.084$, $p<.05$, an indication that there was significant difference on depression across the three levels, that is, baseline, midline, and end line. The difference on the depression level estimated on the multivariate test of BDI can be supported by the decrease in mean across the three levels of assessment as follows: baseline (assessment 1) $M=14.337$; midline (assessment 2)=$M13.037$; and end line (assessment 3)=$13.076$ - a
13% reduction from the baseline to end line. In the control group, BDI increased by 95% over the period between the baseline and end line. This suggests that participants would experience severe forms of depression, if left unattended.

At the same time, the BDI scores in the treatment group decreased by 40% in relation to the baseline versus end line. Both the sharp increase in depression in the control group and the reduction of depression in the treatment group is evidence of both the need to treat mild and moderate forms of depression and the effectiveness of the MBCT in treating these forms of depression. Existing studies have affirmed the effectiveness of MBCT in treating depression. For instance, a study by Piet and Hougaard (2011) found that MBCT reduces the relapse risk for depression by 44%.

Significant differences were also observed in relation to the MBCT intervention based on book read as a treatment mechanism. Compared were levels of depression of the treatment group on each of the three levels of data collected. The ‘within-subject effect’ on treatment group was highly significant F (2, 116)=56.078, p<.05, implying that there was a significant difference on book read across the three levels of treatment. Contrastingly, on the interaction of the treatment group based on the book read, there result was not statistically significant F (6, 116)=0.803, p>.05.

Regarding the BDI*control-treat contrast, there was a significant effect between level 1 assessment (baseline) and level 2 assessment (midline) F (1, 129)=144.033, p<.05. However, the contrast of the level 2 (midline) and level 3 (end line) was not significant F (1, 129)=3.349, p>.05; denoting no significant difference on the depression level between the treatment and control group. A comparison of mean estimates of BDI, involving the control and treatment groups, suggests that there was a 44% reduction in the mean BDI estimates. Together, the findings suggest the MBCT is effective in treating depression.
5.2.5 Experiences of older clergy in implementing mindfulness

Analysing the subjective experiences of older clergy who practiced mindfulness skills was the fifth objective of this study. The participants positively affirmed MBCT as useful for reducing depression and anxiety. The following are thematic clusters of their experiences of MBCT: relaxed, feeling light, and being happy. Comparably, in a study undertaken in the UK, participants gave their experiences with MBCT as being able to relax and regain control over symptoms (Schoultz, Macaden, & Hubbard, 2016).

The experiences of respondents on implementing mindfulness can be summarised as “enriched understanding on dealing with stressful symptoms”. Cognitive behaviour therapy is based on the principle that how we think (cognition), how we feel (emotion), and how we act (behaviour) are all interconnected. Our thoughts determine our feelings and our behaviour (Jacobson et al., 1996; Sincero, 2012). This model would therefore help an individual to change the perception and categorize situations appraised as stressful as either irrelevant or benign-positive. An individual can learn to grow through times of difficulty in life” (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). Likewise, participants reported that the intervention was an educational and transformational process (Schoultz et al., 2016).

However, one dissatisfactory observation by several participants was the lack of Bible references in the intervention. While in their context as clergy, the Bible would be their desired reference book, generally this study would take this observation to be alluding to a religious version of MBCT for consumers of the therapy who embrace religious beliefs intensely. Probably this is to be understood within the context of the participants and their profession. Furthermore, the fact that mindfulness integrates Buddhist (and Western psychological principles and practices)
may discourage some Christian clergy from using MBCT. Some clergy might feel
they are practicing principles of a religion they do not subscribe to.

Intervention studies have found that integrating religious clients’ spiritual and
religious beliefs in therapy is at least as effective in reducing depression than secular
treatments (Smith, Bartz, & Richards, 2007; Tan & Johnson, 2005; Wade,
Worthington, & Vogel, 2007). A review of 46 spiritual intervention studies concluded
that patients with spiritual beliefs in spiritually integrated psychotherapies showed
greater improvement than patients treated with other psychotherapies. When
compared with the same type of therapy in secular form, spiritually integrated
therapies showed more significant improvement on spiritual outcomes and similar
improvement on psychological outcomes (Worthington, Hook, Davis, & McDaniel,
2011).

Besides, 77% to 83% of patients over age 55 years (in the 46 reviews) wished
to have their religious beliefs integrated into therapy (Stanley et al., 2011).
Spirituality-based interventions focus not necessarily on using religious elements, but
on including and using patients’ religious resources. For example, from the current
study, the participants were Christian clergy, who were used to guiding people using
spiritual principles. Some Christian clergy might have been more at home with the
MBCT therapy if it had some biblical references.

Although the MBCT seemed effective in tackling both anxiety and depression
among older clergy, legitimate questions arose on its teleological and philosophical
foundations. It may be necessary to integrate biblical assumptions or beliefs in
applying the MBCT to the clergy. Development of a treatment approach, with
mechanisms such as the MBCT, might be justified.
5.3 Conclusion

In relation to the research question that sought to establish the anxiety levels of older clergy and ascertain whether the MBCT treatment was effective in the treatment of the same. The findings indicated that anxiety was both widespread and serious among older clergy. The factors and context that were identified to be partly responsible for the anxiety levels of the clergy were found to be attributable to concerns about financial security and welfare. About 90% of the clergy had levels of anxiety that merited urgent intervention, with about 50% of them eligible for MBCT treatment. For the control group, the anxiety estimates grew by about 10%. However, for the treatment group, the mean estimates of anxiety fell by about 40%. The evidence suggests that MBCT is effective in reducing mild and moderate depression among older clergy.

About 50% of the participants had either mild or moderate depression. This ratio was comparable to the ratio for older people in connection to depression. The factors of depression among older clergy emanated from worries about their financial insecurity, heavy workload, and workplace leadership conflicts. The mean estimates for the treatment group on the BDI decreased by 40% for the treatment period. On the other hand, for the control group, the BDI increased by about 90%. Effectively, then, the MBCT is a useful treatment finding for depression, and it seems to check the likelihood of people living with mild or moderate depression from sinking into deeper depression.

On the participants experience of implementing MBCT, the responses were mixed. On the one hand, the respondents 1). praised the MBCT for having useful content, which helped them have a better understanding of both stress and depression; and 2). found the procedures for treating depression easy to follow and effective. By
applying these treatment steps, the participants felt their stress and depression diminished. This meant that they had healthier, less toxic thoughts; could sleep better; felt happier, and so on. On the other hand, several participants observed, with dissatisfaction, the lack of Bible references in the MBCT intervention. The implication here is that in using the MBCT to treat older Christian clergy, there is need to recognise how the philosophical basis of this intervention might conflict with participant’s view of the Bible as the source of belief and action.

While the researcher is confident of the findings of this study, the results should still be considered with caution, mainly because of the convenience sample used. At the same time, old age is a phase in life where several factors might be at play. Even so, the findings of the present study contain useful insight into the prevalence and determinants of anxiety and depression among older clergy. These insights could pave the way for further research to delve deeper into understanding whether the MBCT is effective, and/or how it can be modified to work better among older Christian clergy. In sum, the findings showed that the MBCT is effective in treating mild and moderate depression and anxiety among older clergy.

5.4 Recommendations

Upon considering the findings of this study, the researcher makes the following recommendations:

On research question one, which aimed to determine the factors and prevalence and determinants of anxiety, a major factor shaping the anxiety outcomes of older clergy was related to the frequency of financial benefits. Mainline churches need strategies that support older people’s transition and settlement in retirement with some financial security. Where applicable, there may be a need to review the financial allowances of the clergy.
On the question of the factors and prevalence of depression, the participants of this study cited financial constraints, excess workload, and leadership challenges (see section 4.2.7). Based on these, the study makes the following recommendations for denominational leaders, congregational leaders, and clergy self-care:

1. Denominational leadership:
   i. Include mental health in denominational theological education training.
   ii. Offer continued education, awareness, and advocacy against social stigma on persons suffering from anxiety and depression. Possible forums the church can utilize include sermons, Bible studies, Sunday school lessons, and workshop, among others.
   iii. Enforce observing of off days and annual leave for clergy.
   iv. Consider introducing sabbaticals for clergy refreshment and restoration.
   v. Develop forums for fellowship and ongoing connection with clergy in retirement.

2. Congregational leadership:
   i. Provide emotional support to clerics in the realization that they too go through emotional times, such as bereavement, illness, and day-to-day stresses.
   ii. Develop healthy work schedules for clerics, for example, to not schedule meetings every evening, and respect of clergy’s off days and annual leave.
   iii. Handle church conflicts in a loving and caring manner.
   iv. Respect the privacy of clergy.

3. Clergy self-care practices
i. Develop healthy work schedules, for example, practice delegating church work, do not schedule meetings every evening, and observe off days and annual leave.

ii. Spent time with family and friends independent of the congregation.

iii. Rest, and set aside personal ‘me’ time for reflection and meditation.

iv. Create healthy habits, for example, regular exercise, eating a healthy diet, and having enough hours of sleep.

v. Find a confidant to talk with about life’s challenges openly

Christians and church groups that run retreat facilities could consider subsidized or free retreat opportunities for clergy. This is in line with the realization that clergy need time away from the overwhelming pressures of their profession where they can get renewed and reflect on and reconnect with themselves and their work. In the life of Jesus when he was here on earth, at a time when he and his disciples were very busy that they did not even have time to eat he said to them, “Come away by yourselves to a desolate place and rest a while” (Mark 6:31 (Zondervan NIV Study Bible)). According to the findings of this study, clergy’s tight budgets would pose a major challenge when it comes to observing the call to ‘come away and rest a while.’

On research question three, on the effectiveness of MBCT-SH on treating anxiety and depression, the intervention seems efficacious, and hence can be recommended as a therapeutic option or older clergy who are susceptible to mild and moderate anxiety and depression due to vocational experiences and situations, especially uncertainty about financial security.
Though not exhaustive, the recommendations outlined above would go a long way in facilitating the formation of policies and principles that would be beneficial for clergy’s mental health.

5.5 Recommendations for Further Research

The current study was confined to older clergy from selected mainline churches in Kenya. This sampling criteria does not make for generalization of results on the prevalence, determinants, and effectiveness of therapeutic interventions, such as the MBCT. There is therefore a need for studies that involve a representative sample of older clergy.

Future studies could target vocationally active clergy to bring a clearer view of the determinants of mild or moderate anxiety and depression. Such studies can make use of ideas generated from the qualitative dimension of this study to produce scales to estimate the challenges older people face and relate this with standardised inventories, such as the BAI and BDI. Qualitative evidence in this study generated powerful insights about the vocational experiences of older clergy, such as financial constraints, a demanding workload, and leadership challenges. These can be assessed and examined for effect on mental health using a representative sample.

Future studies can broaden our understanding of the context in which anxiety and depression of older clergy emanates. Older people go through several challenges, such as age-related illnesses, social challenges, including the empty nest syndrome, all of which are likely to cause or complicate anxiety and depression. It would, therefore, be of benefit for future studies to use a representative sample that incorporates the dynamics in which older people live.
In the present study, there was a gender imbalance in the sample. Although the population of clergy comprises more men than women, it would, hence, be beneficial to carry out a similar study in a heterogeneous population of older people, including realistic gender representation for better understanding of the prevalence and determinants of anxiety and depression.

Since this study has established that depression and anxiety symptoms are problems for clergy, it would be of benefit, in helping the clergy deal with these symptoms, to understand how the aspects of their work increase their vulnerability to depression and anxiety. While some causes of stress came out in the current study, linking each one of them to the levels of depression and/or anxiety was beyond the study’s scope. Such knowledge would be beneficial to the mental health profession in getting a better understanding of the clergy, and thus influence the development of psychological interventions that would be more targeted to clergy. Such findings would be useful for mobilizing churches to develop strategies of helping clergy to manage work-related stress more efficiently.

Finally, it would be valuable to carry out a long-term study of the effect of mindfulness on anxiety and depression. This is because behaviour change needs to be conclusively determined long-term and in natural settings. For example, in the context of clergy, a study could be done with a population of theological students whereby they are taught the principles of MBCT when they join the seminary. Assuming that such training would be for a duration of four years, MBCT can be taught in year one, with a follow-up evaluation at each of the three years until the students graduate. This way, the consistency of change would be better evaluated than if done within a period of months when participants are aware of the next time of evaluation and may, therefore, consciously prepare for it by rehearsing the mindfulness practice. This
would be beneficial in ascertaining a mindful lifestyle which is the goal of self-help therapy, such as the MBCT-SH.

5.6 Strengths and Limitations of the Study

The current research has several strengths. It is probably the first (as far as the researcher is aware) to investigate mental health among older clergy in an urban setting in Kenya. Consequently, it makes a significant contribution to building evidence for the reality of depression and anxiety among the clergy. It is also among the first documented research to examine the effectiveness of MBCT in a Kenyan population giving useful insights into the use of MBCT for clinical purposes in Kenya. The study further gives insights into probable causes of anxiety and depression among clergy in vocational settings. Such factors are useful for denominational church leaderships tasked with the responsibility of developing ministry programs that address the wholistic wellbeing of the clergy. The knowledge is a pointer to mental health workers to think about the psychological needs of clergy.

The appraisal of the study findings should be perceived in the light of some limitations. First, the study narrowed itself to the effectiveness of MBCT on depression and anxiety in a convenience sample of 132 older clergy from four selected denominations. While this might help in understanding anxiety and depression among older people, the findings may not be replicable to other age groups given the different physical, social, and emotional features that come with age.

In addition, the study utilized self-reporting to determine levels of anxiety and depression and the benefits of MBCT. While the authenticity of the measures is considered valid and reliable owing to the utilizing of research ethics during recruitment and data collection, the probability of bias reporting may not be entirely ruled out in self-reporting where the data cannot be independently verified. Coupled
with these is the fact that the instruments utilized for this study were all in the English language. It is difficult to rule out the possibility of some participants having found a challenge in understanding the language.

The study focussed on understanding the effectiveness of MBCT on anxiety and depression without controlling for the presumed effects of prayer, meditation, and fellowship in reducing anxiety and depressive symptoms.
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APPENDICES

Appendix A: Ethical Clearance

Daystar University Ethics Review Board

Our Ref. DU-ERB/ERB/08/03/2017/0007

Date: 08-03-2017
Ruth Mumo Omungo

Dear Ruth,

RE: Efficacy of mindfulness-based cognitive therapy self-help (MBCT-SH) for treatment of anxiety and depression for older clergy from selected mainline Christian denominations in Nairobi County, Kenya.

Reference is made to your request dated 24-02-2017 for ethical approval of your proposal by Daystar University Ethics Review Board.

We are pleased to inform you that ethical review has been done and approval granted. In line with the research projects policy, you will be required to submit a copy of the final research findings to the Board for records.

Before proceeding to the next stage, ensure the following attached comments are addressed to the satisfaction of your supervisor. Note that it’s an offence to proceed without addressing the concerns of ERB.

This approval is valid for a year from 08-03-2017

This approval does not exempt you from obtaining a research permit from the National Commission for Science, Technology and Innovation (NACOSTI).

Yours sincerely,

[Signature]

Purity Kiambi,
Secretary, Daystar University Ethics Review Board
Appendix B: Research Permit

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Ref: No. NACOSTI/P/17/37320/16892

Date: 28th April, 2017

Ruth Mumo Omungo
Daystar University
P.O Box 44400-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Efficacy of mindfulness based cognitive therapy self-help (MBCT-SH) for treatment of anxiety and depression for older clergy from selected mainline denominations in Nairobi County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for the period ending 28th April, 2018.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.
Appendix C: Ministry of Education Authorization Letter

[Image of the authorization letter]

The letter is addressed to Ruth Mumo Omungo, Daystar University, P.O. Box 44400-00100, Nairobi, and is dated 18th May, 2017. It grants permission for research on "Efficacy of Mindfulness Based Cognitive Therapy (MBCT-SH) for treatment of anxiety and depression for older clergy from selected mainline denominations in Nairobi County, Kenya." The letter indicates that the grant is for the period ending 28th April, 2018.

Signed:
[Signature]
MAINNA NGURU
FOR: REGIONAL COORDINATOR OF EDUCATION
NAIROBI

C.C.:
Director General/CEO
Nation Commission for Science, Technology and Innovation
NAIROBI
Appendix D: Anglican Church of Kenya, Nairobi Diocese Consent Letter

21st March 2017

To Whom It May Concern

RE: PERMISSION TO CONDUCT A STUDY

Ruth Omungo is conducting a study on Efficacy of Mindfulness Based Cognitive Therapy – Self Help (MBCT-SH) for treatment of anxiety and depression. The study is part of her PhD studies in Clinical Psychology at Daystar University. It is also intended to test the effectiveness of Mindfulness Based Cognitive Therapy (MBCT) in the treatment of anxiety and depression. The study will seek to identify gaps in the understanding and treatment of depression and anxiety and invite the church to use the results in planning for the mental and emotional welfare of their clergy.

Ruth has asked for permission from my office to collect data from several clergy in the Diocese. Kindly accord her the necessary information if she contacts you for information.

Yours in His Service,

The Rt Rev. Joel Waweru
DIOCESAN BISHOP
28th March, 2017

TO WHOM IT MAY CONCERN

REF: MRS. RUTH MUMO OMUNGO RESEARCH

This is to introduce the above named who is undertaking Ph.D studies in Clinical Psychology at Daystar University.

Ruth is a wife of an Anglican clergy from the Diocese of Nairobi. She has been in Daystar for the last three years doing her course work and is now doing her research on “Anxiety and depression among Clergy”.

We encourage you to support Ruth in her research project which will not only help the clergy but also enrich the entire church in many ways.

All support given to Ruth will be greatly appreciated.

The Most Rev. Dr. Jackson Ole Sapit
ARCHBISHOP OF KENYA AND BISHOP OF ALL SAINTS’ CATHEDRAL DIOCESE & BISHOP-IN-ORDINARY TO THE KENYA DEFENCE FORCES
Appendix F: African Inland Church Consent Letter

28th March 2017

To Pastor/Rev.______________________________

RE: RUTH OMUNGO - RESEARCH

The above named person is a Student at Daystar University pursuing her PHD studies. She is doing research on “Anxiety and Depression among Older Clergy in Mainline denominations”.

I hereby humbly request you to accord her any information that might assist her, in her research.

Faithfully,

Pastor John M. Kitala
ADMINISTRATIVE SECRETARY, AIC KENYA.

Our Mission: To Fulfill the Great Commission of Our Lord Jesus Christ Matthew: 28:19-20
Our Vision: To Proclaim him, warning and teaching every man in all wisdom, that we may present every man mature in Christ. Col:1-28

P.O. Box 45019-00100, Nairobi, Kenya. Upper Hill Rd. off Haile Selassie Ave. Tel: 254-020 2711686/ 2728497 Wireless: 020 8016251/52/53 Email: aicchurch@todays.co.ke
Appendix G: Methodist Church of Kenya Consent Letter

METHODOIST CHURCH IN KENYA
NAIROBI SYNOD

Nairobi Synod Headquarters, Muthangari Rd.
P.O. Box 59755 - 00400
Nairobi - Kenya

Tel: 020 8000054, Cell: 0723 544454
Email: info@mcknaairobiysynod.org
Website: www.mcknaairobiysynod.org

OUR CIRCUITS

Charles New
P.O.Box 58540
00200 City Square.

Lavington
P.O.Box 35030
00603, Lavington

Karokor
P.O.Box 31583
00600, Ngara

Lang'ata
P.O.Box 62271
00200, City Square

Nakuru
P.O.Box 4108
20100, Nakuru

Kisii
P.O.Box 20328
00200, City Square

Kawangware
P.O.Box 35410
00200, City Square

Kasarok
P.O.Box 66180
00618, Nairobi

Mashua
P.O.Box 65470
00607, Nairobi

Thika
P.O.Box 4571
00510, Madaoroka, Thika

19th April 2017,
To whom it may concern

RE: MRS. RUTH OMUNGO

Receive Christian greetings.
I write to introduce you to the above lady who is a student in Daystar University
pursuing a PhD in clinical psychology.

Mrs. Omungo would like your help in regards to data collection for her research which is
on anxiety and depression among clergy from mainline denominations within Nairobi.
Please assist her to the best of your ability.

God bless you.

Yours sincerely,

REV. PAUL MATUMI
NAIROBI SYNOD BISHOP
METHODOIST CHURCH IN KENYA

Witnessing for Christ in transforming Lives
Appendix H: Participant’s Consent Form

I have been explained to, and I have understood the aims and the process of this research. I willingly give my consent to participate in the study.

Participant’s Name:

Participant’s Signature:

Date:
Appendix I: Data Entry Clerk Confidentiality Form

Data Entry Clerk Confidential Information

Research Topic

Efficacy of MBCT-SH as a Public Mental Health Intervention for Depression and Anxiety Symptoms Among Older Clergy from Selected Mainline Christian Denominations in Nairobi, Kenya.

I, John Gathuru, understand that through my role as a data entry clerk, I will have access to data for entry and management that is strictly confidential and is of sensitive nature. I therefore hereby promise that:

1. I will not discuss, disclose, copy, share, distribute, or otherwise make available to any persons or institutions, any and all information pertaining to this study that is going to be made available to me.
2. I will keep all research information in any form or format secure while it is in my possession.
3. Upon the completion of my allocated tasks, I promise to return all information in any form or format to the researcher. I will also destroy, erase and/or destroy all research information in any form or format that regards this research that cannot be returned like information stored in computer hard disk.

Agreed and signed by:

John Gathuru
Data entry clerk (Name)

[Signature]

12/1/2017
Date

Principle Researcher (Name)

[Signature]

12/2/2017
Date
Appendix J: Statistician’s Confidentiality Form

Statistician Confidential Information

Research Topic
Efficacy of MBCT-SH as a Public Mental Health Intervention for Depression and Anxiety Symptoms Among Older Clergy from Selected Mainline Christian Denominations in Nairobi, Kenya.

I.... Paul Ruto......understand that through my role as a statistician, I will have access to data for entry and management that is strictly confidential and is of sensitive nature. I there do hereby promise that:

1. I will not discuss, disclose, copy, share, distribute, or otherwise make available to any persons or institutions, any and all information pertaining to this study that is going to be made available to me.
2. I will keep all research information in any form or format secure while it is in my possession.
3. Upon the completion of my allocated tasks, I promise to return all information in any form or format to the researcher. I will also destroy, erase and/or destroy all research information in any form or format that regards this research that cannot be returned like information stored in computer hard disk after achieving period.

Agreed and signed by:

Paul Ruto
Statistician (Name)

Signature
Date

28th June 2018

Principle Researcher (Name)

Signature
Date

26th June 2018
Appendix K: Social Demographic Questionnaire

Read through the questions and give honest answers to each of the questions. Your answers will remain confidential.

1. Participant Number:

2. Gender: ( ) Male ( ) Female

3. Age (optional):

4. Marital Status: ( ) Single ( ) Married ( ) Widowed ( ) Divorced

5. Highest Educational Level Acquired: ( ) Primary ( ) Secondary ( ) College Diploma ( ) College Degree ( ) Post Graduate Degree

6. If you have not retired, when do you expect to retire? ( ) 1-2 years ( ) 3 – 4 years ( ) 5 years ( ) Over 5 years ( ) I do not know

7. If you are retired, when did you retire as a pastor/clergy? ( ) 1 – 5 years ( ) 6 – 10 years ( ) Over 10 years

8. Why did you retire? ( ) Reached statutory age ( ) On medical grounds ( ) Reasons beyond my control ( ) Personal choice ( ) Other: state

9. How far ahead did you know when you would retire? ( ) Years ahead ( ) Months ahead ( ) Weeks ahead ( ) Less than a week ahead

10. Do you receive any retirement benefits from ( ) Church ( ) Insurance ( ) Other (tick what applies)

11. If your answer to number 10 is yes, how often do you receive the benefits? ( ) Monthly ( ) Annually ( ) After several regular months ( ) after several irregular months

12. Are you currently taking any prescribed medication for mental health? ( ) Yes ( ) No
13. Write down what you would consider 3 major causes of anxiety and depression among clergy.

14. Write down what you would consider three joys working as a clergy.
Appendix L: Beck Anxiety Index (BAI)

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

<table>
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<tr>
<th>Symptom</th>
<th>Not at all</th>
<th>Mildly but it did not bother me much</th>
<th>Moderately – it wasn’t pleasant at times</th>
<th>Severely – it bothered me a lot</th>
</tr>
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<tbody>
<tr>
<td>Numbness or tingling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Feeling hot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wobbliness in legs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unable to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of the worst happening</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizzy or lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Heart pounding</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Terrified of afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling of chocking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hands trembling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shaky/unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Fear of losing control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty in breathing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of dying</td>
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<td>1</td>
<td>2</td>
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<tr>
<td>Scared</td>
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**Scoring** - Sum each column. Then sum the column totals to achieve a grand score.

Write that score here ____________
Appendix M: Beck Depression Inventory (BDI)

Below is a list of common symptoms of depression. Please carefully read items under each question. Indicate by circling the choices given how much you have been bothered by that symptom during the past month, including today.

1. 0 I do not feel sad.  
   1 I feel sad  
   2 I am sad all the time and I can’t snap out of it.  
   3 I am so sad and unhappy that I can’t stand it.

2. 0 I am not particularly discouraged about the future.  
   1 I feel discouraged about the future.  
   2 I feel I have nothing to look forward to.  
   3 I feel the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.  
   1 I feel I have failed more than the average person.  
   2 As I look back on my life, all I can see is a lot of failures.  
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.  
   1 I don't enjoy things the way I used to.  
   2 I don't get real satisfaction out of anything anymore.  
   3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty  
   1 I feel guilty a good part of the time.  
   2 I feel quite guilty most of the time.  
   3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.  
   1 I feel I may be punished.  
   2 I expect to be punished.  
   3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.  
   1 I am disappointed in myself.  
   2 I am disgusted with myself.  
   3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.  
   1 I am critical of myself for my weaknesses or mistakes.  
   2 I blame myself all the time for my faults.  
   3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.  
   1 I have thoughts of killing myself, but I would not carry them out.  
   2 I would like to kill myself.
3 I would kill myself if I had the chance.

10.
0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11.
0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

12.
0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13.
0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

14.
0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.

15.
0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16.
0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17.
0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18.
0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19.
0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.

20.

0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think of anything else.

21.

0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

Write down your total score here _______________
Appendix N: Mindfulness-Based Cognitive Therapy (MBCT-SH) Review Form

Participant No. __________ Signature ____________ Date ____________

1. What was your personal experience of implanting MBCT in your daily life?
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

2. How much of the book did you read?
   () Less than 144 pages (less than 50%)
   () Until page 144 (50%)
   () Until page 216 (75%)
   () 288 pages (100%)

3. How much time did you spent each week practicing mindfulness?
   () 10 hours and above
   () 5-10 hours
   () 2-5 hours
   () Less than 2 times
Appendix O: Researcher’s Curriculum Vitae

Name

Ruth Mumo Omungo

Education

Daystar University - Clinical Psychology PhD (Candidate)
Daystar University - Counselling Psychology (MA) 2010
International Leadership University (ILU) - Biblical Counselling (MA) 1997
Scott University - Bachelor of Theology – Christian Education (BA) 1993

Internship

Adult Practicum

- Daystar University, Nuru Counselling Centre 2015
- St. Stephen’s Anglican Church, Jogoo Road 2015

Adolescence/Children Practicum

- Kenyatta National Referral Hospital 2014
- Nonkopir Girls Secondary School, Kajiado 2013

Pre-Practicum

- Daystar University, Nuru Counselling Centre 2013

Employment

- St. Paul’s University, Kenya – adjunct lecturer 2013 – 2014
- Daystar University, Kenya - adjunct lecturer 2010 -date
- Serving in Mission, Kenya – Project Manager 1997- date
## Appendix P: Plagiarism Report

**Ruth Omungo dissertation - 28th Sept. 2020**

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