

Liberty University

School of Music

**Restoring Functions of Christian Worship: An Examination of the Impacts of Biblical
Musical Meditation on Anxiety**

A Thesis Submitted to
the Faculty of the School of Music
in Candidacy for the Degree of
Doctor of Worship Studies

by

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Abstract

Based on diagnostic interview data from the National Comorbidity Study Replication (NCS-R), an estimated 31.1% of U.S. adults experience anxiety at some time in their lives.

This project outlines a mixed-methods research that examines the impact of music and Scripture, and illustrates the experiences of multiple individuals experiencing situational anxiety. For fifteen minutes, for seven days, the three groups listened to a cycle of three songs that depicted calming instrumental music, general worship music with promising themes, and positive lyrics or songs with lyrics based on Scripture. The three groups received varying treatments of music while completing a modified version of the Hamilton Anxiety Scale before and after. The results of the study demonstrate the impact Scripture lyrics have on each individual's thinking and suggest that music with Scripture decreases general anxiety. The work is necessary because it illustrates the impact lyrics have on one's thoughts and mind. The study also demonstrates how music, in combination with Scripture can improve one's overall physical, emotional, mental, and spiritual health.

Dedication/Acknowledgements

This study has reminded me of the power of Scripture and how privileged I am to have access to the holy and infallible Word of God. The Word of God is powerful, life-giving, and the greatest comfort. God's Word and music are both a reflection of His goodness.

I am grateful for my amazing husband, Dewayne, who has supported me and has been my advocate through this entire process. I am so grateful for your faithful love and encouragement. I am thankful for my daughters, Lauran and Lexi, who inspire me to trust the Lord and persevere. I pray that you will always be diligent to study God's Word and find rest in His character. I am grateful to my dad, who taught me by example to love God's Word and who gave me a love and passion for Jesus and music. I am grateful to my mom for praying for me and giving me a passion for teaching and learning. I am thankful for my mother-in-law, who consistently prayed and encouraged me throughout this journey.

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To Jesus, my Savior, I am most grateful. "He is my strength and my shield; my heart trusts in Him, and I am helped; my heart greatly rejoices, and with my song, I will praise Him (Psalm 28:7).

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Chapter One: Introduction

Music is essential for people to communicate and express their thoughts and feelings. CJ Murrock affirms, “Music is used in healthcare to promote physical and psychological well-being.”¹ Dr. JR Keller maintains, “As clinical applications of music continue to expand, there is a growing need to understand the biological mechanisms by which music influences health.”² According to The National Comorbidity Study Replication (NCS-R) diagnostic interview data, “An estimated 31.1% of U.S. adults, have experienced anxiety at some time in their lives.”³ Dr. Caroline Leaf affirms, “An undisciplined mind is filled with a continuous stream of worries, fears, and distorted perceptions that trigger degenerative processes in the mind and body.”⁴ Thus, this study seeks to explore the aspects of anxiety and demonstrate how Christian worship and Biblical Musical Meditation could be used as healing agents for anxiety.

Background

Stress, worry, and anxiety can be caused by endless possibilities. June Hunt suggests, “There are many causes of anxiety, such as relationships, financial stress, deadlines, illness, and even a global pandemic.”⁵ Regardless of the source, the result is still anxiety or fear. Caroline Leaf validates, “Anxiety is the number one mental health problem among American women and

¹ CJ Murrock, & P.A. Higgins. (2009). The theory of music, mood, and movement to improve health outcomes. *Journal of Advanced Nursing*, 65(10), 2249–2257. <https://doi.org/10.1111/j.1365-2648.2009.05108.x>

² JR Keeler, EA Roth, BL Neuser, JM Spitsbergen, DJ Waters, JM Vianney. The neurochemistry and social flow of singing: bonding and oxytocin. *Front Hum Neurosci*. 2015 Sep 23;9:518. DOI: 10.3389/fnhum.2015.00518. PMID: 26441614; PMCID: PMC4585277.

³ National Institute of Mental Health. 2017. “NIMH» Any Anxiety Disorder.” [Www.nimh.nih.gov](http://www.nimh.nih.gov). 2017. <https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder>.

⁴ Caroline Leaf. *Switch On Your Brain: The Key to Peak Happiness, Thinking, and Health*. Grand Rapids: Baker Books, 2015. 76.

⁵ June Hunt. *Anxiety: Calming the Fearful Heart*. Peabody, MA: Aspire Press, 2021. 12.

is second only to alcohol and drug abuse in men.”⁶ Dr. Leaf also affirms, “An estimated 264 million people worldwide experienced an anxiety disorder in 2017, making it the most prevalent mental health disorder around the globe.”⁷ However, anxiety is a normal part of life and is part of living in a broken, stressful world. June Hunt concurs, “Anxiety can serve a purpose to remind one to manage daily life or pursue success, yet anxiety can become destructive and prevent one from functioning normally.”⁸ Anxiety stems from uncertainty and can cause apprehension over a specific outcome. Anxiety can also invade a person’s heart and mind amplifying fear and can be sequestering.

According to the National Institute of Mental Health, occasional anxiety is an expected part of life. When anxiety does not go away, and the symptoms interfere with daily activities, an individual may have an anxiety disorder. Hunt affirms, “Anxiety can evolve into a disorder when it becomes so intense that it takes over a person’s thoughts, feelings, and actions, preventing the person from controlling the anxiety and functioning normally.”⁹

In recent literature, much research has been conducted on the impact of music therapy decreasing anxiety. There have been studies that have researched listening to music to minimize anxiety. Keller concurs, “Not only does music raise oxytocin levels and singing increases oxytocin, but listening to positive tunes distracts from pain and exhaustion, increases

⁶ Leaf, *Switch on Your Brain*, 146.

⁷ Ibid., 154.

⁸ Hunt, *Anxiety*, 12.

⁹ Ibid., 12.

stamina, and enhances people's moods.”¹⁰ While there is little information on the neurochemistry of singing, research has demonstrated the effects of music and singing on behavioral and self-reported outcomes. According to a research study by Anshel, “Group singing produced the highest scores on trust and cooperation compared to other group activities.”¹¹

Dr. Leaf confirms, “National Institute of Mental Health reports that research has shown five to sixteen minutes a day in focused, meditative capturing of thoughts shifts frontal brain states that are more likely to engage in the world and increase the chances of a happier outlook on life.”¹² Dr. Robert Morgan discusses the idea of biblical meditation. He concurs, “Meditation is the activity of calling to mind and thinking over, and dwelling on and applying to oneself, the various things that one knows about the works and ways and purposes and promises of God.”¹³ June Hunt examines how God’s sovereignty provides peace and ways to calm the body, mind, and spirit. She also analyzes how God’s Word can help calm one’s anxious heart and mind. There are many Scripture references in the Bible concerning meditation, and thinking, encouraging the engagement of one’s thoughts with the Word of God. Dr. Morgan affirms, “The word “meditate” occurs 21 times in the Bible, and the word “think” or “thinking,” or “thoughts” is in the Bible 253 times.”¹⁴ Dr. Morgan also concurs, “The word “mind” is

¹⁰ Jason Keeler, EA Roth, BL Neuser, JM Spitsbergen, DJ Waters, JM Vianney. The neurochemistry and social flow of singing: bonding and oxytocin. *Front Hum Neurosci*. 2015 Sep 23;9:518. DOI: 10.3389/fnhum.2015.00518. PMID: 26441614; PMCID: PMC4585277.

¹¹ Anat Anshel, and David A. Kipper (1988). The influence of group singing on trust and cooperation. *J. Music Theory*. 25, 145–155. 10.1093/jmt/25.3.145.

¹² Leaf, *Switch on Your Brain*, 175.

¹³ Robert Morgan. *Reclaiming the Lost Art of Biblical Meditation*. Nashville: Thomas Nelson Publishing. 2017. 1.

¹⁴ *Ibid.*, 1.

mentioned 163 times, and the word “ponder” is found nine times.”¹⁵ The Bible endorses having a mind full of Scripture: “Let the word of Christ dwell in you richly” (Colossians 3:16 NKJV) and “This Book of the Law shall not depart from your mouth, but you shall meditate on it day and night, that you may observe to do according to all that is written in it. For then you will make your way prosperous, and then you will have good success” (Joshua 1:8). Many people in the Bible modeled meditation. The Psalmist wrote, “Blessed is the man who walks not in the counsel of the ungodly, nor stands in the way of sinners, nor sits in the seat of the scornful. But his delight is in the law of the LORD, and in His law, he meditates day and night.” (Psalm 1:1-3). “Mary treasured God’s Word and pondered them in her heart” (Luke 2:19). Paul also urged, “Be anxious for nothing, but in everything by prayer and supplication, with thanksgiving, let your requests be made known to God; and the peace of God, which surpasses all understanding, will guard your hearts and minds through Christ Jesus (Philippians 4:6-7). The Bible strongly recommends making meditation a habit.

Statement of the Problem

The problem is that while theological and Scripture references support the idea that biblical meditation eases anxiety, no scientific experiments have been conducted to determine if Biblical Musical Meditation significantly relieves anxiety. Researchers have found the impacts of music on anxiety. Studies have suggested ways to alleviate anxiety, such as physical exercise, breathing techniques, and nutrition; however, there is little research on the correlation between Biblical Musical Meditation and minimizing anxiety.

¹⁵ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, 1.

Theoretical Framework

As a core concept of this study, Biblical Musical Meditation should provide a critical and theoretical examination of music and how it impacts one's thinking. Many in American culture struggle with anxiety, and Scripture suggests that worshiping the Lord has been shown to decrease stress. There is scriptural evidence that meditation is recommended in the Bible. Morgan affirms, "Meditation helps and heals the mind while shoring up the soul; it lessens anxiety, reduces stress, and generates peace."¹⁶ In addition, studies have shown that meditation and music are good for overall health and beneficial for the mind and body.

The National Institute of Health reports that 18 million people in the United States practice meditation. Most people use meditation because numerous studies demonstrate that meditation produces a calming effect. Many studies go a step further and indicate that meditation produces stronger minds, just as exercise achieves stronger bodies. It is not surprising that biblical meditation also brings countless benefits. According to Tedeschi, "Music unites humanity with God."¹⁷ Human physiology works together with the soul and spirit to create sound. The mind illumines with imagination and thoughtfulness, particularly creativity.

Through research, Nina Maria Tedeschi determined the following:

"God's Spirit forms within us, energy partnering with God in the creative performativity that music brings. Within the realm of music, the compositional processes are of the highest spiritual discipline. This process of creating music and holy engagement with God excites, ignites, and instantiates spiritual verities pressing into the very marrow of our bones and consciousness of our existence. We sing that which we believe."¹⁸

¹⁶ Morgan, *Reclaiming the Lost Art of Biblical Meditation*. 10.

¹⁷ Nina Maria Tedeschi. "An Exploration of Musical Influences Throughout Worship: Enhancing Worship Experiences Via Hymns Encompassing Spiritual Gifts," 2019.
<https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=3120&context=doctoral>

¹⁸ Ibid., 75.

Bob Popyk affirmed that Science has shown that when children learn to play music, their brains begin to hear and process sounds they couldn't otherwise hear. Popyk also discovered, "Music improves the body's immune system function and reduces stress."¹⁹

New studies show the benefits of music on mental and physical health. A recent study reported that music was more effective than prescription drugs in reducing anxiety.²⁰ Research studies have shown that music alone can improve sleep, improve memory, elevate mood, and ease anxiety.²¹

Michael Liedke, D.N.P., used a simple study design, recruiting patients from different faith customs and directing them to spend twelve minutes a day in active prayer to God and another control group that did nothing. Liedke concurred, "After obtaining baseline fMRI, a repeat fMRI scan was obtained, and differences in volume and metabolic activity were evaluated."²² The findings were startling and showed actual quantifiable changes in brain volume and metabolism.

Statement of the Purpose

The purpose of this study is to determine whether or not there is statistical evidence that Biblical Musical Meditation, the combination of Scripture and music, reduces anxiety. There is also a need for this study because there are existing studies on how music

¹⁹ Bob Popyk. "Sell The Benefits Of Music." *Music Trades*, Vol. 167 Issue 3, p126. April 1, 2018.

²⁰ Thoma, M. V., La Marca, R., Brönnimann, R., Finkel, L., Ehlert, U., & Nater, U. M. (2013). The effect of music on the human stress response. *PloS one*, 8(8), e70156. <https://doi.org/10.1371/journal.pone.0070156>

²¹ Ibid.

²² Michael Liedke, D.N.P. (2018) "Neurophysiological Benefits of Worship," *The Journal of Biblical Foundations of Faith and Learning*: Vol. 3: Is. 1, Article 22.

impacts anxiety, and Scripture suggests how meditating on God's Word eases anxiety, but the two have not yet been explored together.

Significance of the Study

This research is significant because it demonstrates the process of renewing one's mind by utilizing Scripture and worship music to decrease stress and reduce anxiety. Many people in the world struggle with anxiety. Anxiety is a normal part of life and is part of living in a broken, stressful world. Apart from God, the mind is corrupt (Titus 1:15), anxious (Deuteronomy 28:65), and perverse (Proverbs 12:8). The way to change one's mind is first to accept Christ as Lord and Savior (Romans 3:22-25). After receiving Christ, everyone continues to struggle with negative thoughts (Romans 7:23). First, the Holy Spirit must govern the mind of the believer (Romans 8:5-6). Secondly, the mind must be transformed daily (Romans 12). The result is trust. Thus, Dr. Morgan affirms, "Biblical meditation decreases anxiety and generates peace."²³

This study is important for worship leaders. It is essential for worship leaders to lead worship team members and the congregation to a closer relationship with the Lord. Ephesians 5:18-19 upholds, "But be filled with the Spirit, speaking to one another in psalms and hymns and spiritual songs, singing and making melody in your heart to the Lord." Worship leaders encourage congregants to engage in worshipping the Lord. The worship leader must first cultivate a relationship with the Lord and develop a private time of worship. It is also necessary for worship leaders to disciple worship team members. Meditating on biblical lyrics set to music could help one cultivate a better relationship with the Lord, ultimately lessening

²³ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, 10.

stress and producing peace.

This examination could also benefit music therapists. Recent research has been conducted on the impact of music therapy and decreasing anxiety. There have been research studies based on listening to music to minimize anxiety. Dr. Leaf concurs, “Not only does music raise oxytocin levels and singing increases oxytocin, but listening to positive lyrics provides a distraction from pain and exhaustion, increases stamina, and enhances people's moods.”²⁴ Biblical Musical Meditation could help patients by decreasing stress, lessening anxiety, and creating peace.

The study could also influence one’s personal quiet time. Romans 12 provides a biblical basis for understanding the power of biblical musical meditation. “Be transformed by the renewing of our minds.” (Romans 12:2). God can change the way one thinks, and this verse clarifies why one struggles with thoughts and how to bring health and healing to one’s brain. Salvation is by faith alone in Jesus Christ, but renewing one’s mind is a daily process. Biblical Musical Meditation could be an effective technique for renewing the mind daily. The results of this study should demonstrate the impact music has on an individual's thinking and suggest that Biblical Musical Meditation promotes calmness and decreases anxiety.

Research Question and Sub Questions

There are no scientific experiments that have been conducted to determine if Biblical Musical Meditation significantly relieves anxiety. Therefore, this study will seek to answer the following questions:

²⁴ Leaf, *Switch on Your Brain*, 176.

Research Question One: Does Biblical Musical Meditation, through music and meditating on Scripture lyrics, produce a statistically significant difference in anxiety levels?

Research Question Two: What aspects of holistic health, if any, can be affected by Biblical Musical Mediation?

Hypotheses

Research Question One may be answered with the following hypothesis:

Hypothesis One: There is a statistically significant difference in anxiety reduction through Biblical Musical Meditation.

Zach Cooper states, “Spirituality is integral to the provision of high-quality health and mental healthcare.”²⁵ Spirituality has a positive impact on health and mental health; however, there is not much research on how to access the spiritual factors of health. At present, researchers have studied the effects of music on the spiritual health of students. Cooper concurs, “Studies show how music affects student’s mental health and study scores.”²⁶ The study showed that music had an evident energetic impact on student’s academic performances. Cooper also affirms, “The studies also revealed that the mood of music can help relaxation and imagination so that it can reduce the stress state of the body.”²⁷

The Bible says, “Anxiety weighs down the heart” (Proverbs 12:25). Jesus said, “Peace I leave with you, my peace I give to you, not the peace that the world gives. Do not let your heart

²⁵ Zach Cooper. 2022. "Spirituality in Primary Care Settings: Addressing the Whole Person through Christian Mindfulness" *Religions* 13, no. 4: 346. <https://doi.org/10.3390/rel13040346>

²⁶ Ibid., 4.

²⁷ Ibid., 4.

be troubled; neither be afraid.” (John 14:27).

Research Question Two may be answered with the following hypothesis:

Hypothesis Two: The aspects of holistic health that can be affected by Biblical Musical Meditation include physical, mental, emotional, and spiritual health.

Worship is an integral part of Christian practice. Paul encourages believers to offer their bodies as a “living sacrifice,” which is “true and acceptable worship (Romans 12:1-2).”

According to Michael Liedke, D.N.P, “Believers have known through experience that worship is helpful in maintaining equilibrium between the stresses of life.”²⁸ Liedke explains, “Recent studies and advances in imaging technology, as well as an increase in neuroscience knowledge, have allowed the viewing of the workings of the real-time brain.”²⁹ Neuroplasticity has opened eyes to the neurophysiological benefits of worship in the brain. According to J. Anderson, “Worship and prayer have a well-documented positive effect on both the person who engages in the prayer and worship and the person who is the subject of prayer.”³⁰

Andrew Newberg found the most exciting finding related to prayer as a radiologist, who first began to study the effects of prayer on the individual using functional magnetic resonance imaging (fMRI). Newberg confirmed, “fMRI is a relatively new form of advanced imaging technology which can show detail unprecedented in prior imaging techniques, using the properties of the highly oxygenated blood in the brain and is able to capture minute

²⁸ Liedke, *Neurophysiological Benefits of Worship*.

²⁹ Ibid., 22.

³⁰ James Anderson, & Paige Nunnelley. (2016). Private prayer associations with depression, anxiety, and other health conditions: an analytical review of clinical studies. *Postgraduate Medicine*, 128(7), 635-641. <http://dx.doi.org>

metabolic changes and extrapolate a detailed image of not only the physical location studied but also, the metabolic characteristics of the same location.”³¹

While there is little information on the neurochemistry of singing, research has demonstrated the effects of music and singing on behavioral and self-reported outcomes. According to the research study by Anat Anshel, “Group singing produced the highest scores on trust and cooperation compared to other group activities.”³²

Identification of Variables

For this study, there were three groups, and each group received a different variable of music. The first music selection was Instrumental Classical Music with no recognizable lyrics. The second group listened to General Worship Songs, which were uplifting and motivating yet vague in theology. The third group listened to songs with lyrics based on Scripture. The three groups received varying manners of worship music while completing a modified version of the Hamilton Anxiety Scale before and after listening. The instrumental music was music without vocal instrumentation. The music was not instrumental worship music but classical instrumental music, so there were not any recognizable lyrics. The General Worship Songs were worship songs that demonstrate reverence offered to God. The songs were motivational yet elusive in theology. The Scripture Meditative Songs were songs that incorporate Scripture within the music.

³¹ Anderson, *Private prayer associations with depression, anxiety*, 128.

³² Anshel, *The influence of group singing*, 145.

Core Concepts

The core concept in this study is biblical meditation, which is the practice of pondering and practicing, and reciting Scripture. Renewing one's mind is a spiritual process, which is explained in Romans 12:1, "Do not be conformed to the things of this world but be transformed by the renewing of your mind. Scripture meditation is a technique whereby one ponders, quotes, studies, and meditates on the Words of God. Robert Morgan concurs, "Biblical meditation helps and heals the mind while supporting the soul."³³

The second core concept is Biblical Musical Meditation. This concept combines music with Scripture, focusing on God's unfailing Words, God's promises, and God's faithfulness. Research has shown that music can provide positive benefits by reducing stress and reducing the production of cortisol. Music therapist Donna Stoering concluded, "Music can strengthen the immune system and help improve mood by increasing the production of dopamine and endorphins."³⁴ Steve Midgley researched the effects of meditation and concluded, "An individual who meditates and focuses on passages of Scripture speaks of the closeness of God."³⁵

Meditating on passages that spoke of God's presence with His people or related to narratives where God has drawn near was beneficial and helped reduce anxiety. Dr. Morgan affirms, "We meditate as we pray, as we sing praises to God, as we worship, as we witness, as we compose songs, as we talk with others about the Word of God, as we listen, as we delight in the Word of

³³ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, 10.

³⁴ Donna Stoering. "Healing Benefits." Listen4Life Foundation. Accessed October 9, 2022. <https://www.listenforlife.org/healingbenefits.html?gclid=Cj0KCQjw4omaBhDqARIsADXULu>

³⁵ Steve Midgley. "Meditating for a Change: Embracing a Lost Art." *Journal of Biblical Counseling*. 2021. 44.

the Lord day and night.”³⁶ In sorrow and fear, one must know God is with them in struggles. Biblical Musical Meditation is the combination of music and meditation of Scripture, which can bring one close to God and produce peace and contentment.

Definition of Terms

For the purpose of this study, the following words will be defined:

Anxiety – Anxiety is a feeling of nervous apprehension, usually over something imminent which has an uncertain outcome, affecting a person both physically and psychologically.³⁷

Anxiety Disorders – Anxiety disorders are intense, excessive feelings of helplessness and dread, even when the threat of danger is mild or nonexistent.³⁸

Meditation – Meditation is to engage in contemplation or reflection; to engage in a mental exercise for the purpose of reaching a heightened level of spiritual awareness; to focus one’s thoughts on, to ponder over; or to plan a project in the mind.³⁹

Biblical Meditation – Biblical meditation is the powerful practice of pondering, personalizing, and practicing Scripture.⁴⁰

³⁶ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, 98.

³⁷ Carolyn Chambers Clark, ARSP, EdD, *Living Well with Anxiety; What Your Doctor Doesn’t Tell You That You Need to Know* (New York, NY: Harper Collins Publishers, 2006), 11.

³⁸ Hunt, *Anxiety*, 12.

³⁹ Noah Webster. *An American Dictionary of the English Language Containing the Whole Vocabulary*. Springfield, MA: George and Charles Merriam, 1848.

⁴⁰ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, x.

Research Plan

The research data demonstrate the combined effects of biblical meditation involving music and meditation based on Scripture. This project outlines mixed-method research that examines the impact of worship music and Scripture and illustrates the experiences of multiple individuals who have experienced anxiety. For fifteen minutes, for seven days, the three groups listened to a cycle of three songs that depict promising themes with positive lyrics or Scripture. The three groups received varying treatments of worship music while completing a modified version of the Hamilton Anxiety Scale before and after. According to the National Library of Medicine, “The Hamilton Anxiety Rating Scale (HAM-A) was one of the first rating scales developed to measure the severity of anxiety symptoms and is still widely used today in both clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety).”⁴¹ For the purpose of this research, a modified scale of six questions was used. A series of T-tests and thematic analysis was used to determine a significant difference within each of the groups and common themes both within and among the groups. The results of the study demonstrate the impact music had on each individual and the benefits of Biblical Musical Meditation.

Summary

The purpose of this study was to determine whether or not there was statistical evidence that Biblical Musical Meditation decreases anxiety. While theological and Scripture references support the idea that biblical meditation eases anxiety, no scientific experiments have been

⁴¹ “Hamilton Anxiety Rating Scale (HAM-A) - University of Florida,” accessed March 22, 2023, <https://dcf.psychiatry.ufl.edu/files/2011/05/HAMILTON-ANXIETY.pdf>.

conducted to determine if Biblical Musical Meditation relieves anxiety. There is little research on the correlation between Biblical Musical Meditation and lessening anxiety. More research is needed in order to gather data on a theoretical understanding of the effects of biblical Musical Meditation involving music, meditation, and Scripture.

Chapter Two: Literature Review

Introduction

Based on diagnostic interview data from the National Comorbidity Study Replication (NCS-R), an estimated 31.1% of U.S. adults have experienced anxiety at some time in their lives."⁴² Music is used in healthcare to stimulate physical, emotional, mental, and spiritual well-being. The purpose of this chapter is to examine existing literature concerning anxiety statistics, music therapy, music and anxiety, meditation effects, Biblical Meditation, Biblical Musical meditation, and the use of songs in worship.

Anxiety Statistics

According to the American Psychological Association, anxiety is

"An emotion characterized by apprehension and somatic symptoms of tension in which an individual anticipates impending danger, catastrophe, or misfortune. The body often mobilizes itself to meet the perceived threat: muscles become tense, breathing is faster, and the heart beats more rapidly. Anxiety may be distinguished from fear conceptually and physiologically, although the two terms are often used interchangeably. Anxiety is a future-oriented, long-acting response broadly focused on a diffuse threat. In contrast, fear is an appropriate, present-oriented, and short-lived. focused on a diffuse threat. In contrast, fear is an appropriate, present-oriented, and short-lived response to a clearly identifiable and specific threat."⁴³

Anxiety is a normal part of life and is part of living in a broken, stressful world; however, it can also serve as a purpose and reminder to manage daily life. Anxiety is a learned coping mechanism. For example, allowing one's mind to dwell on repetitions of negative thoughts or devastating rational, believing there will be a terrible outcome, is all associated with anxiety. The thoughts can help protect one from danger, but brooding over the thought can become

⁴² National Institute of Mental Health. 2017. "NIMH» Any Anxiety Disorder." [Www.nimh.nih.gov. 2017. https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder.](https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder)

⁴³ "APA Dictionary of Psychology," American Psychological Association (American Psychological Association), accessed February 15, 2023, [https://dictionary.apa.org/anxiety? ga=2.135264241.1794497634.1676756611-1388704190.1673485712.](https://dictionary.apa.org/anxiety? ga=2.135264241.1794497634.1676756611-1388704190.1673485712)

debilitating. Another form of coping with situations is avoidance. When one deliberately evades menacing situations, learning that these situations are harmless can become impossible. While anxiety is normal and can be a motivating tool, if not controlled, it can cause physical and mental issues affecting the way one functions in life. The American Psychiatric Association states, "Americans anticipated higher stress at the start of 2023 and graded their mental health worse."⁴⁴

When asked about the sources of anxiety in the new year, Americans indicated they were somewhat or very anxious about:

- Personal finances (64%, up from 58% last year).
- The uncertainty of 2023 (55% versus 54% last year).
- Their physical health (49%, up from 44% last year).
- Their mental health (41%, up from 37% last year).
- Relationships with friends and family (31%, up from 28% last year).
- Job security (27% in both years).
- Romantic relationships (26% versus 25% last year).
- Keeping their New Year's resolution (24% both years).
- Traveling (21%, down from 29% last year).⁴⁵

Rebecca W. Brendel, M.D., President of the American Psychiatric Association, said, "It is concerning any time we hear Americans say that they are more stressed out and that their mental health is worse, and we know that there are many contributing causes, including economic uncertainty and another season of respiratory illnesses."⁴⁶ There does not seem to be a straightforward answer as to why anxiety is more common now.

⁴⁴ Psychiatry.org – "Americans Anticipate Higher Stress at the Start of 2023 and Grade Their Mental Health Worse," December 21, 2022, <https://www.psychiatry.org/News-room/News-Releases/Americans-Anticipate-Higher-Stress-at-the-Start-of>.

⁴⁵ Ibid.

⁴⁶ Psychiatry.org., "Americans Anticipate Higher Stress."

Situational Anxiety

According to Banyan Treatment Center, "Situational anxiety is a form of anxiety that occurs in response to a specific situation."⁴⁷ As mentioned before, there are plenty of situations, such as taking an exam, having financial trouble, having relationship issues, going on an interview, or giving a speech in front of a large group of people. Situational anxiety may cause insomnia, feelings of worry, and panic.

Common symptoms of situational anxiety may include the following:

- Rapid or irregular breathing
- Increased heart rate
- Stomach cramping and pain
- Diarrhea
- Difficulty concentrating
- Dizziness
- Dry mouth
- Lightheadedness
- Irritability
- Muscle tension
- Nausea
- Nervousness
- Restlessness or trembling
- Excessive sweating ⁴⁸

⁴⁷ “What Is Situational Anxiety?” Banyan Treatment Center, January 25, 2022, <https://www.banyantreatmentcenter.com/2022/01/21/what-is-situational-anxiety-boca/>.

⁴⁸ Ibid.

Situational Anxiety versus Anxiety disorders

“The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), is the clinical manual that doctors use to diagnose patients with mental health disorders.”⁴⁹ According to physicians at the Banyan Treatment Center in Florida, “It is normal to experience anxiety in the face of situations that are unfamiliar, and in many cases, situational anxiety begins to subside once the situation becomes more familiar.”⁵⁰ Situational anxiety is not usually severe and does not interfere with a person's quality of life, so treatment is typically not required.

According to the National Institute of Mental Health, occasional anxiety is an expected part of life. However, when anxiety does not go away and the symptoms interfere with daily activities, an individual may have an anxiety disorder. According to the World Health Organization WHO, an estimated 264 million people worldwide have experienced an anxiety disorder. Anxiety can evolve into a disorder when it becomes so intense that it takes over a person's thoughts, feelings, and actions, preventing the person from controlling the anxiety and functioning normally. According to the American Psychiatric Association, the definition of an Anxiety disorder is “Any of a group of disorders that have as their central organizing theme the emotional state of fear, worry, or excessive apprehension.”⁵¹

There are several types of anxiety disorders:

- Generalized Anxiety Disorder (GAD): The focus of anxiety is not on one thing but several things when a person has GAD. This could include health, social interactions, or work. These stressors occur on more days than not for at least six months.

⁴⁹ “What Is Situational Anxiety?” Banyan Treatment Center.

⁵⁰ Ibid.

⁵¹ APA Dictionary of Psychology, “Anxiety Disorder.”

- Panic Disorder: This disorder involves unexpected and recurring panic attacks. Panic disorder can lead to worry about future panic attacks.
- Agoraphobia: This condition involves an intense fear of a situation that might be difficult to escape. This might include open spaces, enclosed spaces, or public transport. These fears make it difficult for some to leave the house.
- Social Anxiety Disorder: This is an intense fear of social situations. The anxieties are linked with a fear of negative judgment from others and a fear of showing signs of anxiety or embarrassment in public.
- Specific Phobias: Also known as simple phobias, this involves an intense fear of a particular object or situation. The fear is out of proportion with the actual danger posed. Common phobias people have involved animals, heights, flying, and injections.
- Separation Anxiety Disorder: This condition involves intense anxiety about being separated from people you feel close to. This can affect both children and adults.⁵²

Dr. Jamie Smith explains, "Anxiety disorders, like many other medical health conditions, are likely caused by a complex combination of elements, including environmental and genetic factors."⁵³ Research studies have not determined why one person develops a phobia or panic attacks while one who grew up in the same home does not share the same symptoms. Dr. Smith affirms, "Childhood development, genetics, psychological factors, neurobiology, personality development, social and environmental cues, and protective factors all contribute to the

⁵² Jamie Smith, "Anxiety Disorders: Symptoms, Types, and Treatments," Psych Central (Psych Central, February 17, 2021), <https://psychcentral.com/anxiety/anxiety-disorders#types>.

⁵³ Ibid.

development of an anxiety disorder."⁵⁴ Anxiety disorders are more common in females, affecting 23.4% of females and 14.3% of males.⁵⁵ American Psychiatric Association affirms, "The risk factors for anxiety disorders may include being exposed to stressful events, either in childhood or adulthood, a family history of anxiety or other mental health conditions, certain physical health conditions, including thyroid problems or heart arrhythmia, and shyness in childhood."⁵⁶ Studies show that coping methods can reduce anxiety levels. There are various coping methods, including music therapy, and multiple forms of meditation, involving Mindfulness Meditation, Yoga Meditation, Guided Meditation, Biblical meditation, and Biblical Musical Meditation.

Music Therapy

Studies have revealed that music therapy has an impact on anxiety symptoms. According to the Canadian Association of Music Therapists, "Music therapy is a discipline in which credentialed professionals use music purposefully within therapeutic relationships to support development, health, and well-being. Music therapists use music safely and ethically to address human needs within cognitive, communicative, emotional, musical, physical, social, and spiritual domains."⁵⁷ Michael Silverman analyzed quantitative research evaluating the influence of music on the symptoms of psychosis. Silverman explains, "A meta-analysis was conducted on 19 studies, and the results indicated that music has proven to be significantly effective in

⁵⁴ Jamie Smith, "Anxiety Disorders: Symptoms, Types, and Treatments."

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Canadian Association of Music Therapists. (2020, September). About music therapy. <https://www.musictherapy.ca/about-camt-music-therapy/about-music-therapy/>

suppressing and combating the symptoms of psychosis."⁵⁸ There was no differentiation between live or recorded music and preferred or therapist-selected music. Classical music did not prove as effective as nonclassical music in reducing psychotic symptoms. Silverman confirms, "This supports the therapeutic potential of popular music while dispelling the theory that classical music provides the form and structure that can contribute to mental health and well-being."⁵⁹ All types of music had equal effects. Further research is necessary to compare and evaluate the impact of live music versus recorded music, passive music versus music activities, music preferences, and classical music.

Various studies have revealed music's psychological and spiritual effects and continue to be examined. An experimental study was conducted in 2019 designed to determine the effects of listening to classical music on anxiety and well-being. The study was comprised of fifteen senior students in an education facility. The data was collected with the State-Trait Anxiety Scale and the Psychological Well-being Scale. Paired Sample t-test were used in the analysis. According to the author, Devrim Osmanoglu, "The findings revealed that listening to classical music for a sixty-day period according to a music listening schedule did not have any significant effect on the student's State Anxiety scores; however, it led to a significant effect on their Trait Anxiety and Psychological Well-being scores."⁶⁰

⁵⁸ Michael J. Silverman. "The Influence of Music on the Symptoms of Psychosis: A Meta-Analysis." *Journal of Music Therapy* 40, no. 1 (Spring, 2003): 27.
<https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/influence-music-on-symptoms-psychosis-meta/docview/223566246/se-2>.

⁵⁹ Ibid., 28.

⁶⁰ Devrim Erginsoy Osmanogly and Huseyin Yilmaz. "The Effects of Classical Music on Anxiety and Well-Being of University Students. International Education Studies. Published by Canadian Center of Science and Education, October 12.2019. <https://files.eric.ed.gov/fulltext/EJ1232294.pdf>.

Osmanoglu explains, "There are two types of anxiety: trait anxiety and state anxiety; state anxiety is a state of unease and unhappiness that arises as a result of a temporary situation experienced by the individual but disappears as soon as the threat disappears."⁶¹ The state in which the individual is afraid is evident. In the case of state anxiety, when the person experiences intense fear, physiological reactions such as sweating, fading, flushing, and trembling occur in the body. When the threat disappears, anxiety level decreases. This situation is not considered a problem and is necessary for survival in threatening situations. The type of anxiety that negatively affects mental health is continuous anxiety. He continues to explain, "Trait anxiety, on the other hand, refers to the individual's disposition to experience anxiety."⁶² The individual perceives the situations in which they are stressful and tends to interpret events negatively. When the pre-test and post-test Psychological Well-being scores were compared, no significant difference was found for the sub-dimension of "autonomy." "The significant differences were found in the sub-dimensions of "positive relations with others," "environmental mastery," "personal growth," and "self-acceptance."⁶³ Music is an important stimulus for physical and psychological treatments. Osmanoglu concurs that with the musical melodies and rhythms created within the existing basic harmony, music meets the need for psychological and physical well-being."⁶⁴ Music has the power to affect mental states such as anxiety and well-being.

Music Therapy Techniques

The World Federation of Music Therapy (WFMT) defines music therapy as follows: "It

⁶¹ Osmanoglu, *The Effects of Classical Music*. 18.

⁶² *Ibid.*, 18.

⁶³ *Ibid.*, 18.

⁶⁴ *Ibid.*, 19-20.

is the use of music and musical elements professionally to optimize the quality of life of individuals, groups, families, or communities and to improve their physical, social, communicative, spiritual, intellectual, and emotional health and well-being as a means of intervention in educational and medical fields or in daily life" ⁶⁵ "According to results reported by Music Therapy Research Centre music results in positive outcomes in patients with psychological and psychiatric problems, behavioral disorders and neurological problems."

"APA Dictionary of Psychology defines music therapy as the use of music as an adjunct to the treatment or rehabilitation of individuals to enhance their psychological, physical, cognitive, or social functioning."⁶⁶ Gardstom explains that music therapy involves four intervention categories, receptive, re-creation, improvisation, and composition. Gardstom expounds, "Receptive is when the patient listens to music and responds verbally or through art or dance."⁶⁷ "Some receptive approaches may include music-assisted relaxation, as well as the use of music and imagery."⁶⁸ The goals of the music therapist may include promoting stimulation or relaxation, facilitating memory or reminiscence, developing auditory skills, enhancing mood, and reducing anxiety. Gardstom clarifies, "Re-creation is a music-centered approach where the patient is encouraged to play or sing along to a pre-composed song in a manner that supports identified goals."⁶⁹ It may involve singing or playing various instruments. The therapist may achieve goals through music, including strengthening gross and fine motor skills, promoting social interaction, encouraging the use of one side of the body, or fostering self-expression

⁶⁵ Osmanogly, The Effects of Classical Music. 19.

⁶⁶ APA Dictionary of Psychology, "Music Therapy."

⁶⁷ S. Gardstrom, & Sorel, S. Music therapy methods. In B. Wheeler (Ed.), *Music therapy handbook*. The Guilford Press, 2015. 116.

⁶⁸ Ibid., 116.

⁶⁹ Ibid., 116.

through singing and playing an instrument. Gardstrom expounds, "Improvisation involves spontaneous music making using simple instruments, body percussion, or the voice." ⁷⁰ In this type of intervention, the therapist must interpret and respond to the patient's playing. Some goals related to this category of intervention may include facilitating expression and communication through music, especially when verbal communication is limited, increasing the ability to make choices, and developing the capacity for relationship-building through music. Gardstrom describes, "Composition is whereby the therapist supports the client in creating their own music or lyrics."⁷¹ These compositions may be recorded or performed. Some goals that the music therapist may achieve through composition or songwriting may include validating experiences, externalizing thoughts or emotions, and fostering creativity.

Numerous studies have investigated ways mindfulness and music therapy may be mutually beneficial. Specific kinds of meditation interventions are used in music therapy. Dan Goldman, MTA, explains, "Mindfulness can be described as the ability to openly engage in present moment awareness with a non-judgmental attitude."⁷² Formal and informal approaches are taken to cultivate mindfulness. These strategies are commonly implemented in psychotherapy.

Goldman's study looks at the intersection between music therapy and mindfulness. He discusses interventions implemented by two music therapists, Ginger Clarkson and Anja Tanhane. Both therapists have training in Buddhism and psychotherapy. Clarkson and Tanhane provide formal meditation practices at the beginning of Guided Imagery and Music sessions.

⁷⁰ Gardstrom, *Music therapy methods*, 116.

⁷¹ *Ibid.*, 118.

⁷² Dan Goldman, MTA. "Exploring the Role of Mindfulness in Music Therapy: A Qualitative ...," accessed March 2, 2023, https://spectrum.library.concordia.ca/id/eprint/988232/13/Goldman_MA_S2021.pdf, 18.

According to the APA Dictionary of Psychology, "Guided Imagery and Music (GIM) is a psychodynamic and multimodal therapy that incorporates music listening in a deeply relaxed state to stimulate imagery, memories, and feelings to help the client understand life issues from a holistic perspective."⁷³ The meditation was illustrated as a method used to help ground the patient in their immediate senses. At the end of the sessions, another meditation was used to help incorporate insight collected from the musical experience. "Tanhane states, "Body awareness can be focused on during a GIM session, and there are three ways in which reminding a person to return to their body sensations may be beneficial."⁷⁴ Tanhane expounds, "First, is to help the clients to release from ruminative thinking, second, to encourage the client to explore the sensations with a sense of curiosity and thirdly, support the client to feel grounded in case they may be experiencing triggering memories."⁷⁵

Some of the interventions are warranted; however, a closer analysis suggests that the terminology of mindfulness is vague. Goldman affirms, "Suggestions for enhancing the validity of future research include clarifying details regarding researcher and clinician training and experience in mindfulness, increased specificity of terminology, and more detailed descriptions of approaches."⁷⁶ Goldman explained the limitations of the research. His own biases around mindfulness meditation may have influenced the way interviewees answered the questions, the way in which he introduced topics, and how he reached his interpretations.

⁷³ APA Dictionary of Psychology, "Guided Imagery and Music."

⁷⁴ Goldman, *Exploring the Role of Mindfulness in Music Therapy*, 46.

⁷⁵ Ibid., 46.

⁷⁶ Goldman, *Exploring the Role of Mindfulness in Music Therapy*, 51.

Benefits of Music Therapy

Music therapy has been commonly considered helpful in cases of psychological trauma. Lucille Foran affirms, "The origins of music as an emotional experience, how it is processed in the brain, and why it stays in the memory so long remain largely a mystery."⁷⁷ For children who have experienced trauma, the resulting impact on the brain is connected with difficulties in emotional regulation, behavior problems, poor concentration, and deficits in verbal memory. It is necessary for educators who work with traumatized to understand the neurological foundations of the student's behavioral and learning challenges and how to enhance their learning potential.

Dr. Foran explains when a student is anxious and stressed, the amygdala responds by blocking the absorption of sensory input. Under those circumstances, the information taught in a classroom cannot enter long-term memory processed in the hippocampus. The brain's emotional system needs to be activated to help students remember and apply what is being taught. Students with trauma histories are primed to overreact or under-react to emotional experiences; their immediate tendency is to connect to their trauma experience. Dr. Foran examined the enormous challenge of teaching students with PTSD in her research and realized the challenge is to help them manage their emotional responses when asked. The evidence supports music's positive role in helping traumatized children, particularly in therapeutic and classroom settings, manage their emotions and activate brain pathways so that they can learn new cognitive information. Foran believes that music has a unique association with memory. She argues that music embeds and activates sequences of knowledge and action when other forms of information fail. The brain

⁷⁷ Lucille M. Foran. "Listening to Music: Helping Children Regulate their Emotions and Improve Learning in the Classroom." *Educational Horizons* 88, no. 1 (Oct, 2009): 51
<https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/listening-music-helping-children-regulate-their/docview/61817761/se-2>.

processes music components in a unique way: the musical pitch is directly mapped in the brain. Foran explains, "Electrodes placed in the brain show exactly what pitch a person is listening to because the electrodes emit activity at the exact frequency of the sound being played."⁷⁸

Daniel Levitin concurs, "When someone is listening to music, the sound first enters the cochlear nuclei, the brain stem, and the cerebellum, and it then moves up the auditory cortices on both sides of the brain."⁷⁹ Following along with familiar music brings in the hippocampus and the inferior frontal cortex. According to the American Psychiatric Association, "The hippocampus is a complex brain structure embedded deep into the temporal lobe and has a major role in learning and memory."⁸⁰ Tapping along with the music activates the cerebellum's timing circuits. Performing music involves the frontal lobes and the sensory and motor cortices, and trying to recall lyrics of familiar music brings in the language areas. Music exercises more parts of the brain than almost any other single activity. Listening to music appears to help students access parts of their brains that function poorly or not at all.

Dr. Foran writes, "Some classrooms should start the day with three to five minutes of classical music as a soothing and attention-focusing tool, while other classrooms are learning math using "Math Songs" or practicing reading with music and movement."⁸¹ Mozart, Haydn, Vivaldi, Bach, and Handel's music can help students concentrate; more-romantic classical music, such as Debussy's or Ravel's, is suggested for creative assignments. Popular music and jazz, as long as they possess predictable rhythms and dissonant notes are not used, can aid attention, emotional regulation, and memory.

⁷⁸ Foran, *Listening to Music*, 54.

⁷⁹ Levitin, *This Is Your Brain on Music*. New York: Plume. 2016. 77.

⁸⁰ APA Dictionary of Psychology, "Hippocampus."

⁸¹ Foran, *Listening to Music*, 54.

Music and Anxiety

According to ASCAP, the American Society of Composers, Authors, and Publishers, "Studies have found that listening to music can help calm one's nervous system and lower cortisol levels, both of which can help reduce stress."⁸² ASCAP provides seven ways music can help reduce stress and anxiety. 1. Music triggers pleasure, 2. Music takes your nervous system down a beat via hormones, 3. Music is an emotional release, 4. Music grounds in the present, 5. Music distracts from stressors, 6. Music fosters creativity, 7. Music facilitates connection.⁸³

Physical Effects of Music

Music can aid in keeping stress levels down. According to music therapist Tim Ringgold, "Research has shown that the production of cortisol decreases when one listens to music, which can help take the edge off the fight-or-flight response."⁸⁴ Music helps boost the hormones that produce happiness, serotonin, dopamine, endorphins, and oxytocin. Ringgold affirms, "When one listens to music or makes music, the reward center in the brain releases dopamine, a neurotransmitter associated with reward and motivation."⁸⁵ Music can also help reduce stress by influencing the biological process. Ringgold expounds, "For example, the tempo of music can slow down or speed up a person's heart rate and blood pressure."⁸⁶ He recommends that his patients listen to slower music (60 to 80 BPM) when they feel anxious because the relaxed tempo will help moderate the body's functioning and lower the heightened nervous state.

⁸² Kathleen Ferraro. "Seven Ways Music Can Help Reduce Stress and Anxiety - ASCAP," accessed February 18, 2023, <https://www.ascap.com/help/wellness/7-ways-music-reduces-stress-anxiety>.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Ibid.

An article was published in 2021 in the National Library of Medicine called "How Do Music Activities Affect Health and Well-Being? A Scoping Review of Studies Examining Psychosocial Mechanisms." The review analyzed research on how music activities affected the participant's health and well-being. The outcomes were measures of health such as symptoms, behaviors, mood, cognitive functions, and physical motivation or relaxation. Different musical activities were used, such as receptive and intentional music listening, sharing music, playing instruments, singing, group singing, movement and dancing, composition, and improvisation. Sixty-three papers met the selection criteria, representing over six thousand participants of all ages and nationalities. According to the author, Genevieve Dingle, "Receptive and intentional music listening was found to reduce pain through changes in physiological arousal in some studies, but not others."⁸⁷ Shared music listening enhanced social connections and moods in hospital patients and older adults. Listening to music decreased agitation and improved movement and well-being in people with dementia. Group singing reinforced cognitive health in older adults and those with mental health problems, lung disease, stroke, and dementia. Cognitive health and well-being improved in students, older adults, and people with brain injuries when playing a musical instrument. Movement and dance improved the health and well-being of people with dementia, women with postnatal depression, and sedentary women with obesity. Choir, songwriting, and composing music helped improve the well-being of those marginalized participants through empowerment and improving self-esteem. Not just listening or consuming music but composing music can be a way to express compressed energy effectively.

⁸⁷ G. A. Dingle, Sharman, L. S., Bauer, Z., Beckman, E., Broughton, M., Bunzli, E., Davidson, R., Draper, G., Fairley, S., Farrell, C., Flynn, L. M., Gomersall, S., Hong, M., Larwood, J., Lee, C., Lee, J., Nitschinsk, L., Peluso, N., Reedman, S. E., Vidas, D., ... Wright, O. R. L. (2021). *How Do Music Activities Affect Health and Well-Being?*

The physical and mental act of creating music may allow one to get negative feelings out of their mind.

Positive effects on mood or emotions were reported in studies across all music activity categories. Cognitive mechanisms such as improved memory were mentioned in several of the music activities. Genevieve Dingle affirmed, "Although the field of music, health, and well-being requires further development, there is emerging evidence that specific music activities may be recommended for specific psychosocial purposes and specific health conditions."⁸⁸ Extensive medical research has shown conclusively that music can provide significant positive benefits for those suffering from anxiety.

Mental Effects of Music

When one is in a fight or flight state, uncomfortable symptoms such as a fast heart rate, tense muscles, and sweating may occur. Dr. Caroline Leaf affirms, "One cannot control the events or circumstances in their life, but they can control their reaction."⁸⁹

Dr. Leaf provides statistics confirming 75 to 98 percent of mental and physical illness comes from one's thought life. A study by the American Medical Association found that stress is a factor in 75 percent of all illnesses and diseases people suffer from today. The association between stress and disease is a colossal 85 percent. The International Agency for Research and Cancer and World Health Organization have concluded that 80 percent of cancers are due to lifestyle and not genetics, and this is a conservative number. According to Dr. Bruce Lipton, a scientist who has made great strides in understanding the effect of our thinking on our brain, genetic disorders like Huntington's chorea, beta thalassemia, and cystic fibrosis, to name a few,

⁸⁸ Dingle, *How Do Music Activities Affect Health and Well-Being?*

⁸⁹ Leaf, *Switch On Your Brain*, 17.

affect less than two percent of the population. The vast majority of the world's population comes into this world with genes that should enable them to live happy and healthy lives. Lipton says a staggering 98 percent of diseases are related to lifestyle choices- in other words, our thinking. The American Institute of Health estimates that 75-90 percent of all visits to primary care physicians are for stress-related problems. Some of the stress statistics causing illness as a result of toxic thinking are eye-opening. Research shows that DNA actually changes shape in response to ones thinking.⁹⁰

Research has shown that music can be beneficial mentally and physically.

- Music can reduce stress by reducing the production of cortisol and releasing stress-reducing neurotransmitters. It can also reduce stress by reducing a patient's sense of isolation and helping them reconnect with positive places within themselves.
- Music can help healthy circulation by reducing blood pressure and stabilizing the heart rate.
- Music can strengthen the immune system by triggering the production of gamma globulin and killer cells.
- Music can help improve mood by increasing the production of dopamine, serotonin, and endorphins.
- Music can help patients manage pain better than medication alone.
- Music has been shown to can give a newborn a soothing first experience of sound, replacing the beeping of medical machinery in a neonatal ward.

⁹⁰ Leaf, *Switch On Your Brain*. 37-38.

- Music has been shown to help patients with compromised lungs stabilize erratic respiration in a COVID unit.
- Music has helped patients cope better with pain in a cancer ward.
- Music has been shown to help ease the anxiety of an upcoming procedure for patients in a waiting room.⁹¹

Emotional Effects of Music

Mental and emotional health are related; however, they have very different meanings. According to the Mental Health Foundation, “Emotional health is a positive state of wellbeing, which enables an individual to be able to function in society and meet the demands of everyday life.”⁹² The Eddins Counseling Group affirms. “Mental health involves processing all the information we encounter, while emotional health is about the feelings provoked by the data processed.”⁹³ Emotional health involves being aware of one's emotions, acknowledging and managing the feelings, and appropriately expressing the feelings. If anxious thoughts limit one's cognitive ability, one will have difficulty evaluating circumstances and interactions with others, which will lead to inappropriate reactions. Emotions must be processed and expressed appropriately for a person's well-being and the well-being of those around them.

⁹¹ “Healing Benefits,” Listen4Life Foundation, accessed March 1, 2023, https://www.listenforlife.org/healing-benefits.html?gclid=CjwKCAiAmJGgBhAZEiwA1JZolk-Bs7T-Ne6Mu0x_jHsiigIzhxPbKlErIMkCD-SBrzuihsipIFdaVRoC6H0QAvD_BwE.

⁹² Ibid.

⁹³ Sara Lane, “Emotional Health vs. Mental Health: The Real Difference,” Eddins Counseling Group – Houston & Sugar Land, TX, April 16, 2022, <https://eddinscounseling.com/emotional-health-vs-mental-health/#:~:text=With%20that%20comparison%20in%20mind,provoked%20by%20the%20data%20processed>.

Music can be a powerful asset in improving one's emotional health. Moving to music, dancing, tapping, or clapping along to music can bring about a sense of control. Stress can result from feeling a lack of control from worrying about the past or the future. Music can bring one back to the present. Kathleen Ferraro concurs, "Music cognition is so complex for the human brain, it offers an easy distraction or diversion from any competing internal or external stress stimuli."⁹⁴ Isolation is also a source of stress. Listening to and creating music can help combat loneliness-induced anxiety. While playing music alone, one will connect to the music. Playing music with others will bring a connection in the present moment and with one another.

Spiritual Effects of Music

Music plays an essential role in a person's spiritual life. Music is used in ceremonies to connect people to God and each other. Ephesians 5:19 declares, "Encourage one another with psalms, hymns, and spiritual songs. Sing and make music in your hearts to the Lord." Music has a divine quality that brings unity and is confirmed to positively affect one's spirituality and quality of life. Worship is an essential role of Christian practice. Paul encourages believers to offer their bodies as a "living sacrifice," which is "true and acceptable worship (Romans 12:1-2). Liedke maintains, "Believers have known through experience that worship is helpful in maintaining equilibrium between the stresses of life."⁹⁵ Liedke explains, "Recent studies and advances in imaging technology, as well as an increase in neuroscience knowledge, have allowed the viewing of the workings of the real-time brain."⁹⁶ Neuroplasticity has opened our

⁹⁴ Ferraro, *Seven Ways Music Can Help Reduce Stress and Anxiety*.

⁹⁵ Liedke, *Neurophysiological Benefits of Worship*.

⁹⁶ Ibid., 22.

eyes to the neurophysiological benefits of worship in the brain. J. Anderson upholds, "Worship and prayer have a well-documented positive effect on both the person who engages in the prayer and worship and the person who is the subject of prayer."⁹⁷

Andrew Newberg found in his research the most exciting finding related to prayer as a radiologist who first began to study the effects of prayer on the individual using functional magnetic resonance imaging (fMRI). Newberg explains, "fMRI is a relatively new form of advanced imaging technology, which is able to show detail unmatched in prior imaging techniques, using the properties of the highly oxygenated blood in the brain and is able to capture minute metabolic changes and extrapolate a detailed image of not only the physical location studied, but also the metabolic characteristics of the same location."⁹⁸ Studies revealed the benefits of prayer and meditation.

Dr. Caroline Leaf specializes in the field of cognitive neuroscience. Her research is concerned mainly with how humans think and the impact of this thinking on what they say and do. She is convinced, "Our God-given ability to think and choose means that our free will influences our thinking, which produces our state of mind."⁹⁹ She has dedicated her life to understanding the process of thought and how one can choose to think the way God wants them to think. Her research does not explain free will away, but the neuroscientific evidence actually explains how free will works. Dr. Leaf explains, "Brain activity can be identified in the prefrontal cortex (just above the eyebrows) and parietal cortex (top side of your head) seven to ten seconds before an actual decision is verbalized or enacted."¹⁰⁰

⁹⁷ Anderson, *Private prayer associations with depression, anxiety*, 628.

⁹⁸ Ibid., 635.

⁹⁹ Leaf, *Switch On Your Brain*, 41-42.

¹⁰⁰ Ibid., 41-42.

Leaf concurs, "This brain activity is the processing activity that is done unconsciously on the very real and active unconscious level, which is flavored by the thoughts and memories we have implanted into our nonconscious mind over time."¹⁰¹ What we say and do is based on what we have already built into our minds. We evaluate information and then build a new thought, which determines what we say or do. This brain activity, which can be seen on brain imaging, is the build-up of the moment of consciousness. Leaf insists, "It is the activity of a network or neural circuits that begin to prepare for an upcoming decision long before it enters our awareness; the intellectualizing that is happening in the nonconscious mind."¹⁰² In other words, "As a man thinks in his heart, so is he" (Proverbs 23:7). We are not driven by forces out of our control. God has made us in His image, He has given us free will, and we are accountable for every thought and responsible for each choice. Romans 12:2 is a challenge to renew our minds. In God's great mercy, He wired in the design of our brain, neural circuits organized by the default mode network (DMN). Hebrews 4:9-10 states, "There remains, therefore, a rest for the people of God. For he who has entered His rest has also ceased from his works as God did from His." Dr. Leaf explains, "When one activates the default mode network, DMN, it is like a Sabbath in the brain, which is a cessation from the conscious flurry of work and a withdrawal into the depths of one's mind."¹⁰³ In other words, it is a mental rebooting process to reconnect with who we are and with the Savior to bring perspective to our circumstances.

¹⁰¹ Leaf, *Switch On Your Brain*, 42.

¹⁰² Ibid., 42.

¹⁰³ Ibid., 85.

Meditation Effects

Dr. Leaf insists, "Research shows that when one does not engage in this disciplined and focused self-reflective pattern of thinking that activates DMN, they may experience negative self-esteem, depression, worry, anxiety, and health issues."¹⁰⁴ According to Dr. Leaf, Stage one of stress is good and keeps one alert and focused. However, Negative stage two and stage three stress is created by toxic memories. Numerous research studies speak of Eastern meditation techniques. However, Dr. Leaf affirms, "Deeply intellectual, disciplined thinking with attention regulation, thinking, body awareness, emotion regulation, and a sense of self changes the brain positively."¹⁰⁵ Philippians 4:8 provides this instruction. "Finally, brethren, whatever things are true, whatever things are noble, whatever things are just, whatever things are pure, whatever things are lovely, whatever things are of good report, if there *is* any virtue and if there *is* anything praiseworthy—meditate on these things."

Dr. Leaf concurs, "Research has shown that five to sixteen minutes a day in focused, meditative capturing of thoughts shifts frontal brain states that are more likely to engage in the world and increase the chances of a happier outlook on life."¹⁰⁶ The Mayo Clinic affirms that meditation can promote a sense of calmness, peace, and balance that can benefit emotional well-being and overall health. The Mayo Clinic endorses meditation confirming, "Meditation is a type of mind-body complementary medicine, producing a deep state of relaxation and a tranquil mind."¹⁰⁷ There are emotional and physical benefits from meditation, including building skills to

¹⁰⁴ Leaf, *Switch On Your Brain*, 85.

¹⁰⁵ *Ibid.*, 85.

¹⁰⁶ *Ibid.*, 76.

¹⁰⁷ "Meditation: A Simple, Fast Way to Reduce Stress," MayoClinic.org, n.d., <https://www.mayoclinic.org/tests-procedures/meditation/in-depth/meditation/art-20045858#:~:text=Meditation%20can%20give%20you%20a,centered%20and%20keep%20inner%20peace>.

manage stress, focusing on the present, decreasing negative emotions, lowering one's heart rate and blood pressure, and improving sleep quality. Research has suggested meditation may help anxiety, asthma, chronic pain, depression, irritable bowel syndrome, sleep apnea, and headaches. There are several forms of meditation.

Forms of Meditation

Guided Meditation

The Mayo Clinic provides the definitions and explanations of each form of mediation.

"Guided meditation is also called guided imagery or visualization; with this method of meditation, one will form mental images of places and situations that are relaxing."¹⁰⁸

"Mantra mediation, defined by the Mayo Clinic, is the repetition of a calming word, thought or phrase to prevent distracting thoughts."¹⁰⁹ Transcendental meditation is a technique where one silently repeats a personally assigned mantra, such as a word, sound, or phrase, in a specific way, which allows the body to settle into a state of profound rest and relaxation, causing the mind to achieve a state of inner peace, without needing to use concentration or effort."¹¹⁰ Guided meditation allows one to be guided by someone else to walk through a series of exercises or reminders of a specific memory to aid in practicing meditation.

Yoga Meditation

Yoga meditation requires one to perform a series of postures and controlled breathing exercises to promote a more flexible body and calm mind. As one accomplishes the poses, concentration, balance, and focused attention are required. Relaxed breathing is also a technique

¹⁰⁸ *Meditation*, MayoClinic.org.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

that involves using the diaphragm to expand the lungs and slow down breathing. A quiet setting without distractions is also recommended. Having a receptive attitude is also advised in order to let one's thoughts pass through the mind without judgment.

Adrian Ross concurs, "Yoga and meditation have been practiced in the Eastern part of the world for years; however, in recent decades, it has become popular in Western society, and the increased interest has been followed by research."¹¹¹ Many people who study yoga report that it improves their mood. Yoga has been identified as one of the most effective ways to build mindfulness skills and is associated with increased mindfulness. The benefits of yoga have been compared to other forms of exercise, such as walking or jogging. Newby's research also examines successful evidence-based, mindfulness-based programs, such as Mindfulness-Based Cognitive Therapy, MBCT, and Mindfulness-Based Stress-Reduction, MBSR. These programs appear to be mediated by self-compassion and mindfulness. Newby concluded, "If self-compassion counteracts self-criticism, one pathway to increase self-compassion is for an individual to learn and practice mindfulness."¹¹²

Kelly Newby explains in her research study, "Participants in yoga class reported a greater number of physical and psychological health improvements, including improvements in musculoskeletal flexibility, balance, strength, body alignment, memory, endurance, and quality of life and reductions in anxiety and depression."¹¹³ Mantra yoga employs the use of sounds or affirmations as a point of focus. Sometimes chanting is used as a way to enter into meditation.

¹¹¹ A. Ross., & Thomas, S. "The health benefits of yoga and exercise: A review of comparison studies. *Journal of Alternative and Complementary Medicine*, 2010. 16, 3- 12.

¹¹² Kelly Newby. "The Effects of Yoga with Meditation (YWM) on Self-Criticism, Self-Compassion, and Mindfulness. *Philadelphia College of Osteopathic Medicine*. 2014. 24.

¹¹³ Newby, *The Effects of Yoga with Meditation*, 23.

Chanting involves both rhythm and pitch. Newby says, "Sometimes chants and hymns are used to invoke the name of God, inspire, and produce a spiritual awakening."¹¹⁴ Many believe chanting produces spiritual and physical effects.

Mindfulness Meditation

"Mindfulness meditation is centered on being mindful or having an increased awareness and acceptance of living in the present moment."¹¹⁵ This form of meditation allows one to increase conscious awareness and focus on the experience during meditation. One can focus on the flow of breath while being mindful of their thoughts and emotions and let them pass through the body and mind without judgment of any stress or anxiety. Newby discovered, "Mindfulness requires one to develop an awareness of what they are doing, thinking, and feeling during any given activity."¹¹⁶ She concurs, "Mindfulness is paying attention on purpose, in the present, and doing so in a nonjudgmental way."¹¹⁷

The American Family Physician Academic Journal published an article in 2018 called "Exercise, yoga, and meditation for depressive and anxiety disorders." According to the author, S. Saeed, "Anxiety and depression are the most common conditions cited by those seeking treatment with alternative therapies, such as exercise, meditation, and yoga."¹¹⁸ These alternative treatments are increasing in popularity. Several studies have demonstrated therapeutic

¹¹⁴ Newby, *The Effects of Yoga with Meditation*, 24.

¹¹⁵ *Ibid.*, 24.

¹¹⁶ *Ibid.*, 24.

¹¹⁷ *Ibid.*, 24.

¹¹⁸ S. Saeed, Antonacci DJ, and Bloch RM. 2010. "Exercise, Yoga, and Meditation for Depressive and Anxiety Disorders." *American Family Physician* 81 (8): 981.

effectiveness using yoga and mindfulness meditation. Weekly high-energy exercise and aerobic exercise at least three to five times a week has shown to reduce symptoms of anxiety and depression more than those using low-energy exercise. Mindful meditation has demonstrated positive effects on anxiety disorders, although studies show multiple methodological weaknesses. Exercise and yoga have shown positive effects, but there is far less data available on the impact of exercise on anxiety than depression.

Biblical Meditation

In recent literature, much research has been conducted on the impact of music therapy on decreasing anxiety. There have been studies that have researched listening to music and playing instruments to minimize anxiety. There are also studies on the various forms of meditation and their effects on anxiety. Studies have suggested ways to alleviate anxiety through physical exercise, breathing techniques, and nutrition; however, there is little research on the correlation between biblical meditation and music minimizing anxiety.

Research studies have shown that meditation and music are good for overall health and beneficial for the mind and body. "Meditation can be a useful part of cardiovascular risk reduction," says cardiologist Dr. Deepak Bhatt, a professor at Harvard Medical School."¹¹⁹ The National Institute of Health reports that 18 million people in the United States practice meditation. Most people use meditation because there have been numerous studies that demonstrate that meditation produces a calming effect. Many studies go a step further and indicate that meditation produces stronger minds just as exercise achieves for the body.

The Bible declares, "Anxiety weighs down the heart." (Proverbs 12:25). However, Jesus said in John 14:27. "Peace I leave with you, my peace I give to you, not the peace that the world

¹¹⁹ Wang, *The Intervention of Music Education on Students*.

gives. Do not let your heart be troubled; neither be afraid." Philippians 4:6-7 commands, "Be anxious for nothing, but in everything by prayer and supplication, with thanksgiving, let your requests be made known to God; and the peace of God, which surpasses all understanding, will guard your hearts and minds through Christ Jesus. It is not surprising that Biblical Meditation also brings countless benefits. Pondering, personalizing, and practicing Scripture is a powerful practice. There is evidence that meditation is recommended in the Bible. Dr. Morgan affirms, "Meditation helps and heals the mind, lessens anxiety, reduces stress, and generates peace."¹²⁰

Joshua 1:8 declares, "This Book of the Law shall not depart from your mouth, but you shall meditate in it day and night, that you may observe to do according to all that is written in it. For then you will make your way prosperous, and then you will have good success." Meditating on God's Word will cultivate and maintain the mind of Christ. Meditation is reflective thinking on a topic to discern its significance. Psalm 145:5 affirms, "I will meditate on the glorious splendor of Your majesty and on Your wondrous works."

Scientific research has found that biblical meditation promotes health, improves sleeping and immune system functioning, and lowers stress. According to Bill Gaultiere, Biblical Meditation promotes well-being in the following ways:

- Meditation promotes more compassion. Luke 10:25-37 describes the Good Samaritan who went out of his way to offer compassion. Research has found that regular "compassion meditation" helps people receive and give compassion to others.
- Meditation provides positive emotions. In Mark 10:13-16 Jesus embraced the children. Luke 5:12-13 promotes joy and relation through meditating on Jesus healing the leper.

¹²⁰ Morgan, *Reclaiming the Lost Art of Biblical Meditation*, 10.

Scientific studies show that practicing kindness through meditation produces lasting positive emotions.

- Meditation improves emotional health. Meditating on verses such as Philippians 4:13 calms worry and lifts discouragement. Scientific studies have shown that meditation improves mental and emotional health by decreasing fear and anxiety.
- Meditation improves focus and memory. Research has found that even a few days of meditation training can improve cognitive focus, memory, and decision-making.
- Meditation can improve physical health. Reciting Scripture renews one's mind and heart and will bring health to our bodies and nourishment to our bones Proverbs 3:1-3, 8. Scientific research has found that meditation fosters physical health by improving sleep and lowering stress.
- Meditation can decrease pain. Mark 5:24-34 discusses the story of a woman who suffered from pain for twelve years, but when she touched Jesus, she was healed. Meditation on Scripture is a spiritual touch; countless people have reported that it helps reduce physical and emotional pain. Scientific meditation has validated that meditation can decrease pain.
- Meditation can improve creativity. Spending time outside in nature, focusing on the presence of God, can bring peace. In Mark 1:38 and Mark 3:13, many of the stories and creative teachings of Jesus came this same way. A study by Harvard Business Review found that a routine of just ten minutes of mindfulness meditation enhances creativity and innovation for executive leaders.¹²¹

¹²¹ Bill Gaultiere. Author at Soul Shepherding. "Soul Shepherding," February 6, 2023. <https://www.soulsherding.org/author/bill/>.

June Hunt explains how God's sovereignty provides peace and ways to calm the body, mind, and spirit. The information she provides outlines how God's Word can help calm one's anxious heart and mind. Hunt combines biblical truths with psychological principles in her counseling services. Hunt affirms, "God's people know that meditation on Scripture promotes health in one's body and mind."¹²² Recently, numerous scientific studies have also confirmed ways in which meditation improves one's health and well-being. According to Romans 12:2, the purpose of biblical meditation is to renew the mind. Hunt concurs, "To meditate in the Christian tradition is to reflect on Scripture, with the help of the Holy Spirit, to fully present to God our thoughts, feelings, and desires."¹²³ Along with biblical meditation, Hunt also advocates prayer and music to help facilitate meditation. She is also an accomplished musician who at one time sang with the Billy Graham Crusades. In 2006, Hunt recorded *Shelter Under His Wings*, featuring fifty comforting verses from Psalms with a soothing instrumental background. She understands the concept of combining Scripture with meditation and music, which is the concept of Biblical Musical Meditation.

Biblical Musical Meditation

Biblical Musical Meditation is a concept that combines music with Scripture meditation, focusing on God's unfailing Words, God's promises, and God's faithfulness. The examination of Biblical Musical Meditation will provide a critical and theoretical examination of music and how it impacts one's thinking. Many researchers have studied the effects of music on spiritual health. Some studies have shown how music affects the mental health of students. The studies reveal that music has a noticeable impact on the academic performances of students. Just

¹²² Hunt, *Anxiety*, 78.

¹²³ Ibid., 78.

like exercise, music has the ability to increase oxytocin and serotonin levels in the brain and can improve one's mood and increase positive feelings of calmness, ultimately reducing anxiety.

According to Matt Bradshaw, "Research has linked several aspects of religion--including service attendance, prayer, meditation, religious coping strategies, congregational support systems, and relations with God, among others--with positive mental health outcomes among U.S. adults."¹²⁴ The study examines a neglected dimension of religious life: listening to religious music. Bradshaw affirms, "The results suggest that the frequency of listening to religious music is associated with a decrease in anxiety and increases life satisfaction, self-esteem, and a sense of control across the two waves of data."¹²⁵ In addition, the frequency of listening to gospel music is associated with a decrease in death anxiety and an increase in the sense of control. The study shows that listening to religious music may promote psychological well-being in later life.

King David was the first music therapist. 1 Samuel 16:14-23 explains that an "evil spirit from the Lord was terrifying Saul." He requested David come and play the harp for him to relax, ease his mind and cause the evil spirit to leave him alone. Music was thought to have a therapeutic effect, so Saul's officials summoned David to come and play the harp and soothe King Saul's troubled heart and mind with music. Man is made in the image of God, and combined with man's musical abilities and the fact that God sings over us (Zephaniah 3:17), it provides the possibility that music is a part of God's very being. Man's communication in music could be a part of the image of God. Music is powerful and can unquestionably affect and soothe the mind.

¹²⁴ Matt Bradshaw et al., "Listening to Religious Music and Mental Health in Later Life," *The Gerontologist* 55, no. 6 (2014): pp. 961-971, <https://doi.org/10.1093/geront/gnu020>.

¹²⁵ Ibid., 961.

Use of Songs in Worship

Will Durant, an American author, and historian, declared, "Music was as vital as the church edifice itself, more deeply stirring than all the glory or stone; many a stoic soul, doubtful of the creed, was melted by the music and fell on his knees before the mystery that no words can speak."¹²⁶ Music is created to communicate thoughts, emotions, viewpoints, and beliefs. The early Christians used music to express a personal relationship with the Lord. From the 1800s through the twenty-first century, musical styles were used to advance the gospel and theological lyrics in the language of the people. The Reformers focused on getting the Word of God into the minds and hearts of the people, and they realized music was the greatest way to accomplish this goal.

Zach Neese of Gateway Church affirms, "Reformation hymns were not intended to facilitate "worship"; they were intended to teach doctrine. For the Reformers, the Word was supreme. The entire "worship" service centered on the preaching of the Word. . . . The Reformers gave us back Scripture by putting it in our language. It gave us back prayer by teaching us that God speaks all languages. And it gave us hymnody—the songs of the redeemed."¹²⁷ Singing Scripture can help place one's trust and affection in God's Word so that their heart will overflow with thanksgiving and praise.

General Worship Songs

A General Worship Song, according to *The New Westminster Dictionary of Liturgy*, "A general worship song is a song that demonstrates reverence offered to a divine being or

¹²⁶ Vernon M. Whaley. *Exalt His Name: Understanding Music and Worship Book 2*. Calumet City: Evangelical Training Association, 2018. 76.

¹²⁷ Neese, *How to Worship a King*, xxii–xxiii.

supernatural power; an act of expressing reverence."¹²⁸ The Gospel Music Association defines "general worship songs" as "Songs specifically used to lead churches in worship, which invite participation, and which tend to have a vertical focus toward God rather than toward the listener; and which have had a significant impact on congregational worship."¹²⁹

Most General Worship Songs are simple songs about a general attribute of God. Many worship songs are not clear on who the song is about. General worship songs are meant to encourage the person singing and are usually about overcoming adversity. Many General Worship Songs are simply vague in theology. Keith Getty believes, "Tragically, many of the songs written for and sung in churches today do not fulfill the description laid out in God's Word (Colossians 3:16, Luke 14:26-27)." Careful, intentional attention must be taken when choosing songs for worship.

Instrumental Music

The definition of instrumental music from *Webster's Dictionary* is the following: "Instrumental music is produced by playing a musical instrument, without vocal instrumentation."¹³⁰ Instrumental music has been found to have some form of health benefits. "Research studies have found that patients who listen to instrumental classical music before having surgery experience less anxiety and pain afterward."¹³¹ Furthermore, instrumental music has also been found to improve mood, cognitive function, and memory.

¹²⁸ Bradshaw. *The New Westminster Dictionary of Liturgy and Worship*, 940.

¹²⁹ The Gospel Music Association, August 1, 2022, <https://gospelmusic.org/about-gma/>.

¹³⁰ Webster, *An American Dictionary of the English Language*, 1848.

¹³¹ David Miranda, Gaudreau Paige, Debrosse R., Morizot J., Kirmayer L. J. Music listening and mental health: Variations on internalizing psychopathology. Oxford, UK: Oxford University Press. In MacDonald R., Kreutz G., Mitchell L. (Eds.), *Music, health, and wellbeing*, 2012. 513.

A recent study published in *Psychology of Music* shows a link between listening to classical instrumental music and improved health. Classical and instrumental music have also been found to help with pain management and improve cognitive function. More research is necessary, but the findings provide valuable insight into how music can be used as a tool for improving mental health and lowering anxiety, and preventing cognitive decline.

Scripture Meditative Songs

The New Westminster Dictionary of Liturgy defines a Scripture Meditative Song as "A song that incorporates Scripture within the music."¹³² Singing uses both parts of the brain. The brain uses the left hemisphere to make sense of the lyrics and the right hemisphere for the melody. Singing can teach theology and solidify doctrinal truths. Colossians 3:16 declares, "Let the word of Christ dwell in you richly in all wisdom, teaching and admonishing one another in psalms and hymns and spiritual songs, singing with grace in your hearts to the Lord." Keith Getty states, "The Bible gives a command to sing the Word of God, the truth that God reveals in the Scriptures."¹³³ The command is to sing about God, revealed in His Son, Jesus Christ, and in His suffering and His glory (Luke 24:26-26). Getty affirms, "Every part of a lyric should link together to bring a wonderful, thoughtful, deep expression of Scripture." When believers assemble at church, each song should point to Jesus as He reveals Himself in His Word.

¹³² Bradshaw, *The New Westminster Dictionary of Liturgy*, 1207.

¹³³ Getty, *Sing!*, 16.

Summary

Research suggests a link between music, meditation, and the effects on anxiety. However, the examination of existing literature reveals that more research is necessary to determine the impact Biblical Musical Meditation has on decreasing anxiety. This study provides an understanding of the literature and determines the effects and benefits of Biblical Musical Meditation. The study aims to address the gap in the literature and determine the effects and ways in which music, meditating on Scripture lyrics, improves physical, mental, emotional, and spiritual health, specifically through decreasing levels of anxiety.

Chapter Three: Methodology

Introduction

Music is a powerful gift from God and is essential for people to communicate and express their thoughts and feelings. This chapter outlines mixed-method research that examines the impact of the lyrics of worship music. The purpose of this chapter is to discuss the design, participants, setting, procedure, recruitment, testing materials, and data analysis.

Design

A thematic analysis was used to analyze the qualitative data, which entails, “Selecting codes and constructing themes, identifying, analyzing, and reporting repeated patterns.”¹³⁴ The quantitative research analyzed data using a series of T-Test to determine a significant difference within each groups pretest and posttest.

Questions and Hypotheses

Scientific experiments have not been conducted to determine if Biblical Musical Meditation significantly relieves anxiety. Therefore, this study will seek to answer the following questions:

Research Question One: Does Biblical Musical Meditation, through music and meditating on Scripture lyrics, produce a statistically significant difference in anxiety levels?

Research Question Two: What aspects of holistic health, if any, can be affected by Biblical musical mediation?

¹³⁴ John W. Creswell and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: SAGE Publications, Inc., 2018.

Hypothesis for the research:

Hypothesis One: Aspects of Biblical Musical Meditation that can produce a statistically significant differences in anxiety levels include music, meditation, and Scripture.

Hypothesis Two: The aspects of holistic health that can be affected by Biblical Musical Meditation include physical, mental, emotional, and spiritual health.

Participants

Participants were recruited through convenience sampling because the contributors were close to hand, and this type of sampling is most useful for pilot testing. Participants in this study were believers in a mid-Atlantic church who, at times, experience anxiety. The study included fifty-one male and female participants with ages ranging from 18-75 who were members of the Church choir. Initially, there were fifty-one participants, but some participants did not complete the entire study or withdrew, bringing the total number of participants to thirty-eight. The participants were divided into three groups. Group A listened to Instrumental Classical Music with no recognizable lyrics. Group B listened to General Worship Music, where the message was encouraging and uplifting but did not explicitly contain Scripture in the lyrics, and the songs were vague in theology. Group C listened to Scripture Meditative Songs, or songs specifically including Scripture in the lyrics. See Table 1 for participant demographics.

Table #1: Demographic

Gender	Number	Percent
Male	9	.24
Female	29	.76
Christian		

Yes	38	1.00
No	0	.00
Age		
18-24	11	.28
25-34	3	.07
35-44	2	.05
45-54	10	.26
55-64	4	.10
65+	8	.21

Setting

Those who chose to participate in the study did so by taking online surveys. Therefore, the exact location of the participants while completing the study is unknown.

Procedure

Prior to the study, permission was secured in order to conduct the experiment. The Institution Review Board (IRB) approved the mixed methods design, study procedures, and all required documents and written permission from the church and choir director. Once approved by the IRB, the participants were recruited by email. Announcements were made in choir rehearsal to inform the choir members about participating in the survey. The choir administration initiated an email asking those who desired to participate to confirm their interest in the study by email. The contributors were asked to participate in a pre-test and post-test and were provided

with links and the necessary information to answer the questions to complete the study accurately. The questions were based on a modified Hamilton Anxiety Scale. The participants formally agreed to partake in the study, reading and approving the consent form. The choir members were not required to participate and were given the option to opt out of the experiment. As the experiment design required confidentiality, signatures and emails were the only identification included in the consent letter. All participant information was kept confidential in the results reporting. Participants completed a demographics survey including their gender, age, and if they considered themselves to be Christians.

Testing Materials

For this study, there were three groups, however, the instrumental music group was the control group, and the lyrics were the variables. Prior to the testing, three Spotify playlists were compiled. The music selections were Instrumental Classical Music, General Worship Songs, and Scripture Meditative Songs. The three groups received varying treatments of worship music while completing a modified Hamilton Anxiety Scale before and after. According to the National Library of Medicine, “The Hamilton Anxiety Rating Scale (HAM-A) was one of the first rating scales developed to measure the severity of anxiety symptoms and is still widely used today in both clinical and research settings.”¹³⁵

Testing

Corresponding instructions were created for all three groups. Each group was given specific instructions to complete the modified Hamilton Anxiety Scale. The participants were also given the links for their respective group's Spotify playlist to listen to the specific songs

¹³⁵ “Hamilton Anxiety Rating Scale (HAM-A) - University of Florida,” accessed March 20, 2023, <https://dcf.psychiatry.ufl.edu/files/2011/05/HAMILTON-ANXIETY.pdf>.

each day for seven days. After listening to the playlist for seven consecutive days, the participants completed the modified Hamilton Anxiety Scale again and answered four post-survey, open-ended questions. The four open-ended questions were: 1. How did the playlist affect your physical health? 2. How did the playlist affect your mental health? 3. How did the playlist affect your emotional health? 4. How did the playlist affect your spiritual health?

The first group listened to a playlist consisting of instrumental music. The music was Instrumental Classical Music, so there were no recognizable lyrics. An attempt was made to utilize less recognizable classical music so that this group would be treated as the control group. The second group listened to General Worship Songs that were uplifting, but the theology is vague in this genre. Examples are “Look Up Child” by Lauran Daigle and “No Fear in Love” by Steffany Gretzinger.

The third group listened to Scripture Meditative Songs. According to Bradshaw, “A Scripture Meditative Song is a song that incorporates Scripture within the music.”¹³⁶ The songs on this playlist are inspired by words directly from Scripture. Much of the lyrics include the Psalms, which have been sung throughout history. Examples of songs in this group were “Psalm 46” by Shane and Shane and “The Blessing” by Kari Jobe and Cody Carnes. All three groups were given twenty-one total songs to consider within the specified category. Participants listened to three songs from the specified Playlist each day for seven consecutive days. See Appendix A for song lists.

Data Analysis

A thematic analysis was used to analyze the qualitative data, including

¹³⁶ Bradshaw, *The New Westminster Dictionary of Liturgy*, 2027.

selecting codes and constructing themes, identifying, analyzing, and reporting repeated patterns. The quantitative research analyzed data using a series of T-tests to determine a significant difference between the means of the groups. The qualitative research was analyzed and compared with the quantitative data.

Summary

This research analyzed data using a series of T-tests and thematic analysis to determine substantial differences within the pre and post-test means of each group. The method was necessary in order to gather data on the correlation between music, meditation, and Scripture. The results of the research are discussed in Chapter Four.

Chapter Four: Research Findings

Introduction

This chapter illustrates the analysis performed to test the hypotheses that Biblical Musical Meditation can produce a statistically significant difference in anxiety levels. Group A- Instrumental Music, Group B- General Worship Music, and Group C – Scripture Meditative Songs were all considered, and the results demonstrated the effects Biblical Musical Meditation has on physical, mental, emotional and spiritual health. The findings are described, and the results are explained in this chapter.

Quantitative Results

A t-test was used to compare the means within each of the groups pre and post tests and to determine whether the treatment of the playlists actually had an effect on the participants. According to Kim, “A paired t-test is used in such crossover test designs to compare the amount of change of A to that B for the same subjects.”¹³⁷ The t-test is used often in hypothesis testing to determine if two groups are different or if a treatment or process has an effect on a population. Thus, this was an appropriate method of analysis to assess the variable of Biblical Musical Meditation.

T-Test for Group A

A Paired Samples T-Test was conducted to determine the effect of instrumental music on general anxiety scores. Group A- Instrumental Classical Music was the control group with no recognizable lyrics. There was not a significant difference in the scores for anxiety between pre-

¹³⁷ TK Kim. T test as a parametric statistic. Korean J Anesthesiol. 2015 Dec;68(6):540-6. doi: 10.4097/kjae.2015.68.6.540. Epub 2015 Nov 25. PMID: 26634076; PMCID: PMC4667138.

treatment testing ($M=9$, $SD=4.47$) and post-treatment testing ($M=7.78$, $SD=3.15$); $t(4) = 1.44$, $p = .19$. These results suggest that instrumental music did not have an impact on lowering anxiety according to the Hamilton Anxiety Scale.

See Table #2 and #3 Paired Samples Statistics for Group A – Instrumental Group

Table #2: Paired Samples Statistics – Instrumental Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre A	9.000	9	4.47214	1.49071
	Post A	7.7778	9	3.15348	1.05116

p

Table #3: Paired Samples Test – Instrumental Group

Paired Differences					t	df	Significance
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Two-Sided p
			Lower	Upper			
1.2222	2.53859	.84620	-.72911	3.17356	1.444	8	.187

T-Test for Group B

Another Paired Samples T-Test was conducted to determine the effect of General Worship Music on general anxiety scores. Group B – General Worship Music was uplifting and motivating music yet was vague in theology and Scripture. There was not a significant difference in the scores for anxiety between pre-treatment testing ($M=7.69$, $SD=2.75$) and post-treatment testing ($M=7.54$, $SD=6.12$); $t(4) = .12$, $p = .91$. These results suggest that General Worship Music did not have an impact on lowering anxiety according to the Hamilton anxiety scale.

See Table #4 and #5 Paired Samples Statistics for Group B – General Worship Lyrics Group.

Table #4: Paired Samples Statistics – General Worship Lyrics Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre B	7.6923	13	2.75029	.76279
	Post B	7.5385	13	6015921	1.70826

Table #5: Paired Samples Test – General Worship Lyrics Group

Paired Differences					t	df	Significance
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		
					Lower	Upper	Two-Sided p
		.15385	4.61603	1.28026	-2.63559	2.94328	.120
							12
							.906

T-test for Group C

A final Paired Samples T-Test was conducted to determine the effect of Biblical Musical Medication music on general anxiety scores. Group C – was the Biblical Musical Meditation group with Scripture Meditative Songs, which included music infused with Scripture. There was a significant difference in the scores for anxiety between pre-treatment testing (M=9.75, SD=4.28) and post-treatment testing (M=7.50, SD=4.41); $t(4)=3.65$, $p = .002$. The results suggest that music with Scripture did have a significant impact on lowering anxiety according to the Hamilton anxiety scale.

See Table #6 and #7 Paired Samples Statistics for Groups C – Biblical Musical Meditation.

See Table #8 for Lyric/Song Groups.

Table #6: Paired Samples Statistics – Biblical Musical Meditation Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre C	9.7500	16	4.28174	1.07044
	Post C	7.5000	16	4.41210	1.10303

Table #7: Paired Samples Test – Biblical Musical Meditation Group

Paired Differences					t	df	Significance
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Two-Sided p
			Lower	Upper			
2.2500	2.46306	.61577	.93753	3.56247	3.65	15	.002

Table #8: Lyric/Song Groups

Group	Number	Percent
Instrumental	9	.24
General Worship Lyrics	13	.34
Biblical Musical Meditation	16	.42

Qualitative Results

Thematic analysis is the process of identifying patterns and themes within qualitative research. Moria Maguire and Brid Delahunt note, “The goal of a thematic analysis is to identify themes, for example, patterns in the data that are important or interesting, and use these themes to address the research or say something about an issue.”¹³⁸ This is much more than simply summarizing the data; thematic analysis deciphers the data. The following themes were found;

¹³⁸ Moria Maguire & Brid Delahunt, “Doing Thematic Analysis: A Practical, Step by Step Guide for Learning and Teaching Scholars,” All Ireland Journal of Teaching and Learning in Higher Education, Volume, Number 3 (2017).3352. <https://ojs.aishe.org/index.php/aishe-j/article/view/335>

the quantitative data aligned with the qualitative data, and the results were strengthened by the qualitative answers.

Themes in Instrumental Group

Open-ended questions were presented in the post-test. The qualitative questions asked, “How did the playlist affect you physically, mentally, emotionally, and spiritually?” The common theme of those who listened to the Instrumental playlist was relaxation. Several of the participants stated that Instrumental Music, without recognizable lyrics, brought about a relaxing effect. One participant remarked, “The music helped my muscles relax at night when listening to the playlist.” Another participant noted, “The music was enjoyable, and the melodies were refreshing and soothing.” In contrast, one participant remarked, “The music was not enjoyable, and the instrumental music was a chore to listen to every day.” One participant noted, “The instrumental playlist did not have an effect on my spiritual health; however, the worship music we practice and sing in the choir encourages me and lifts me to a more spiritual closeness to the Lord, Jesus.” Similarly, the majority specified that the Instrumental Music had no impact on their mental or emotional health, and there were no changes in their spiritual health.

Themes in General Worship Lyrics Group

The General Worship lyrics were chosen with the intention of inspiration and encouragement. The song lyrics were vague in theology yet motivational and uplifting. The concentration of the lyrics was on love, joy, perseverance, and overcoming. The music, although uplifting and inspirational, did not have an impact on the participants in a way that decreased anxiety. The majority of the participants specified that the General Worship music had no effect on their physical health. However, one participant acknowledged the music made them feel energized and motivated to accomplish specific tasks. The participant acknowledged, “The

music gave me the motivation to study and complete assignments.” A common theme established in the lyrics was affirming and produced feelings of positivity and encouragement. One participant remarked, “Some of the songs were motivating but did not help my emotional health.” The majority of the group felt the music did not have an effect on their emotional or mental health.

Almost all of the participants affirmed that the music had no impact on their spiritual health. One participant affirmed, “The music did not help my spiritual health but, on the contrary, produced a desire for songs with more depth that focused more specifically on God and worship.” The outlier of the group did not enjoy the music and felt that listening to the General Worship songs each day was a chore. The outlier did not influence the model as a whole.

Themes in Biblical Musical Mediation Group

The Biblical Musical Meditation group listened to music with lyrics strictly from Scripture. The first common theme was that the music lessened tension and impacted the participants physically by producing a more relaxed state. One contributor noted, “The lyrics particularly helped me to relax.” The majority specified that they worried less and were less anxious while listening to the lyrics. Mentally, a common shared theme was that the lyrics lessened fear and anxious thoughts and provided peace and hope. One participant remarked, “My mental health improved when listening to the songs because the truths of the lyrics spoke to my anxieties and allowed me to think more clearly.” Another common theme was the impact on emotional health by bringing about the feeling of peace, comfort, and contentment. Another contributor documented, “The songs with lyrics straight from the Bible left me feeling peaceful.” One participant noted, “My emotional health was positively affected, bringing peace and calmness as I meditated on the lyrics.” Several participants indicated that the lyrics based on

Scripture put them in a better mood and lowered their stress. One contributor remarked, “When listening to the Scriptural lyrics, I felt cradled and safe in truth and less worried, and it helped me to focus on God’s Word each day.” Another participant stated, “Focusing on the lyrics made me less focused on my anxiety and fears and helped me to better control my emotions.”

There was an enormous change in the spiritual health of this group. The overall theme was that the lyrics with Scripture caused their minds and thoughts to focus on God and His Word. The thoughts were focused on God’s promises instead of circumstances and problems. One participant noted, “I added the playlist to my personal worship time because the songs helped me focus on the Lord.” Another contributor assured, “The playlist reminded me of the truths of Scripture and God’s promises over our lives.” This group specified that the lyrics, with Scripture, produced an overwhelming peace while meditating on God’s presence and His faithfulness. Additionally, one participant affirmed, “What we listen to affects our behavior; the lyrics filled with Scripture changed my thinking, caused me to be less anxious, and helped me bring my mind and focus into God’s presence.” The Biblical Musical Meditation group was hopeful and spiritually encouraged because of God’s Word set to music. The majority of the group affirmed that the lyrics stayed in their mind and hearts all day, and the melodies made the Scripture easy to recall, which subsequently lifted their spirits.

Themes Comparison Across Groups

A similar theme in all three groups was the element of relaxation and the calming effect of the music. All three groups were comprised of a variety of styles of music. The instrumental group involved only classical music without recognizable lyrics. The other two groups containing lyrics were comprised of a variety of styles of music, from choral music, acoustic music, and rock sound characterized by a heavy beat and electric guitar. The groups did not

mention the styles of music; however, all three groups indicated that the music overall brought a calming and relaxing effect. Another similar theme between the General Worship group and the Biblical Musical Meditation Group was that the encouraging lyrics produced a feeling of positivity.

There was no difference in the physical health of the Instrumental Group and the General Worship Group. The Instrumental Group had no impact on the participant's mental, emotional, or spiritual health. The General Worship Group felt emotionally more positive and motivated. The major difference in the themes was in the areas of mental and spiritual health. The Biblical Musical Meditation Group was physically relaxed and had less tension in their bodies. The Biblical Musical Meditation group confirmed that listening to music in combination with Scripture produced peace, contentment, and security, in addition to decreasing worry and anxiety. This group improved their spiritual health and felt closer to God as they meditated on His Word and reflected on His promises.

One unexpected observation in the Instrumental Group and General Worship Group was that there were participants who began contributing to the research study by answering the initial survey; nevertheless, some withdrew and did not follow through and complete the post-survey. When the research study originated all three groups had an equal number of participants. At the end of the study, the Instrumental Group had the least number of participants. However, in the Biblical Musical Meditation Group, all participants followed through, completed the post-survey, and confirmed that the music with Scripture was beneficial for their physical, mental, emotional, and spiritual health.

Mixed Methods Analysis

Mixed methods research is the combination of quantitative and qualitative research. To this point, the research considered has been quantitative and qualitative data. Both forms of data provided a different type of information, closed-ended data in the case of quantitative and open-ended data in the case of qualitative. Creswell states, “Each type of data collection has both limitations and strengths, and the strengths can be combined to develop a stronger understanding of the research.”¹³⁹ Mixed methods research was used to expand and strengthen the conclusion of the study.

Overall Analysis of Instrumental Group

A t-test was used to analyze the difference in each group. A total number of answers were acquired from each participant from the pre-test, and the sum was compared to the answer in their post-tests. The data was analyzed to concur if there was a statistical significance confirmed with a 95% confidence level that the treatment of music was effective and the reason the participant’s answers changed. The level of statistical significance is conveyed as a p-value between 0 and 1. According to Giovanni Di Leo, “The smaller the p-value, the stronger the evidence that the null hypothesis should be rejected. A p-value less than 0.05 (typically ≤ 0.05) is statistically significant and indicates strong evidence against the null hypothesis, as there is less than a 5% probability the null is correct.”¹⁴⁰ The Paired samples t-test compared the pre-test and

¹³⁹ John W. Creswell, and J. David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: SAGE Publications, Inc., 2018. 213.

¹⁴⁰ Giovanni Di Leo and Francesco Sardanelli. “Statistical Significance: P Value, 0.05 Threshold, and Applications to Radiomics—Reasons for a Conservative Approach.” *European Radiology Experimental* 4, no. 1 (2020). <https://doi.org/10.1186/s41747-020-0145-y>.

the post-test to one another. The results of the pre-test for Group A and the results of the post-test were calculated with a standard deviation. The two-sided p was .187, indicating that the treatment of music for Group A – Instrumental Music, did not have any statistically significant difference on the participants. The results signified that Instrumental Music did not lower anxiety levels. One participant affirmed, “The music did not affect my mental or emotional health.” Another contributor observed, “At times, the music produced a feeling of relaxation, but it did not lower my stress or anxiety.” The quantitative data aligned with the qualitative data and the results were strengthened by the qualitative answers.

Overall Analysis of General Worship Lyric Group

The results of the pre-test for Group B- General Worship Music and the results of the post-test were analyzed with a standard deviation. The two-sided p was .906, indicating again that the treatment of music for Group B did not have any statistically significant difference on the participants. The result of $p = .91$ indicated that the General Worship Music was not effective in lower anxiety levels. One participant acknowledged the music made them feel motivated. The participant stated, “The music gave me the motivation complete daily tasks.” Another participant observed, “I found only four songs from the playlist that helped me to focus on the Lord. I really didn't care for most of the songs, but it gave me a thirst to seek out songs that I know really lead me into worship.” Additionally, another contributor observed, “Some of the songs made me feel calmer; others made me more excited, but the music did not help to relieve stress.” The quantitative data aligns with the qualitative data as the participants confirmed that the General Worship Music had no effect on decreasing anxiety.

Overall Analysis of Biblical Musical Meditation Group

The results of the pre-tests for Group C- Biblical Musical Meditation and the results of the post-tests were analyzed with a t-test, and the numbers changed for nearly every participant. The two-sided p was .002, indicating that the treatment of music combined with Scripture for Group C had a statistically significant difference on the participants. The treatment is indicated with more than a 95% confidence level that the Scripture meditation songs aided in the reduction of anxiety according to the Hamilton Anxiety Scale. The results of $p = .002$ indicated that the Scripture Meditative Songs were effective in lower anxiety levels. Statistics indicate support of music combined with Scripture reduces anxiety. The most common theme was that the music lessened stress and created an emotional state of relaxation. One contributor noted, "The lyrics particularly helped me to relax." Another contributor remarked, "I focused on the lyrics and not on my anxiety and fears." The majority specified that they worried less and were less anxious while listening to the lyrics. The common theme of this group was that anxiety was lessened as they focused on the promises in God's Word. Several participants noted, "My mental health improved when listening to the music." Others confirmed Scriptures combined with melodies created peace and lessened anxiety. Another participant noted, "The Scripture songs helped calm my negative thoughts and decrease anxiety."

In this world, trouble is a guarantee. However, John 16:33 affirms, "I have told you these things, so that in me you may have peace. In this world, you will have trouble. But take heart! I have overcome the world." God's Word cultivates peace, and combining Scripture with music diminishes worry and anxiety. One participant confirmed, "The Scriptures infused in the melodies lowered my anxiety; the Scriptures produced peace, and the melodies helped me recall the Scripture throughout the day." This group indicated that they were less fearful and less

anxious because they were focused on God's promises to strengthen them, to give them rest, to provide for their needs, to answer prayer, to protect them, and to work everything out for their good. The quantitative data aligned with the qualitative data as the participants confirmed that the music combined with Scripture had an impact on decreasing anxiety.

Summary

The results indicated that Instrumental Music and General Worship Music had no impact on lowering anxiety. However, statistics and thematic analysis indicate the support of Biblical Musical Meditation, the combination of music and Scripture, reducing anxiety. The quantitative data and the qualitative data aligned and supported these findings. The results are further discussed in Chapter Five.

Chapter Five: Conclusions

Introduction

This chapter will provide a summary of the research, significant findings, and the limitations of the study. An explanation of how the research and results of the study align and do not align with the existing literature will be provided. The chapter concludes with implications and recommendations for future study.

Summary of Study

This study aimed to establish whether or not there is statistical evidence that Biblical Musical Meditation reduces anxiety. The research demonstrates the impact music has on individuals. The study also suggests the validity of Biblical Musical Meditation and that it promotes peace and decreases anxiety. The post-test results and thematic analysis indicate that exposure to song lyrics based on Scripture produced a positive attitude as it attempted to connect the minds of humans with God.

Three groups were used to test the physical, mental, emotional, and spiritual impact of Instrumental Music, General Worship Music, and Scripture Meditative Songs using a modified Hamilton Anxiety Scale and post-test qualitative questions. The instrumental music used for this research was classical instrumental music with no recognizable lyrics. All three groups listened to the specified category of music for seven consecutive days and then completed a follow-up survey.

Summary of Findings and Prior Research

This research is significant because it demonstrated the process of renewing one's mind by utilizing Scripture and music to decrease stress and reduce anxiety. Anxiety is a

normal part of life and is part of living in a broken, stressful world. Apart from God, the mind is corrupt (Titus 1:15), anxious (Deuteronomy 28:65), and perverse (Proverbs 12:8). The way to change one's mind is first to accept Christ as Lord and Savior (Romans 3:22-25). After receiving Christ, struggling with negative thoughts can continue to be an issue (Romans 7:23). The Holy Spirit must govern the mind of the believer (Romans 8:5-6), and the mind must be transformed daily (Romans 12). This study is important for worship leaders. It is essential for worship leaders to lead worship team members and congregates to a closer relationship with God (Ephesians 5:18-19). Meditating on Scriptural lyrics set to music can help one cultivate a better relationship with the Lord, ultimately lessening stress and cultivating peace.

Dr. Robert Morgan explains the brain is one of the greatest wonders of God's creation, but it is polluted by the lies of Satan. The only way to change one's life is to change the mind by allowing the Holy Spirit to govern. Dr. Robert Morgan maintains, "It is not surprising that positive thinking and meditation yield some benefits. Thus, it should not be even less surprising to note the benefits of Biblical Meditation to those who let the Word of God dwell in them richly (Colossians 3:16)."¹⁴¹ Meditating on Scripture causes the mind to be filled with the thoughts of God, His wisdom, His truths, and His promises (Isaiah 26:3-4). Dr. Morgan affirms, "Biblical Meditation helps and heals the mind while shoring up the soul."¹⁴² Morgan also advocates taking Scripture and converting it into song.

Many find memorization difficult, yet melodies run through the minds of every individual throughout the day by uniting words into a rhythm of a melody. Using the vehicle of Biblical Musical Meditation, Scripture will flood through one's thoughts and encourage and

¹⁴¹ Morgan, 31.

¹⁴² Ibid., 10.

produce peace. Biblical Musical Meditation is filling the mind with God's thoughts. Music, in combination with Scripture, causes the mind to repeat God's Word over and over. God has provided great promises to those who meditate on His Word. Psalm 1 affirms, "Blessed is the man, who delights in the law of the Lord, and meditates on it day and night." Joshua 1:8 also affirms God's promise, "This Book of the Law shall not depart from your mouth, but you shall meditate in it day and night, that you may observe to do according to all that is written in it. For then you will make your way prosperous, and then you will have good success." David also testified to having God's Word ever before him in Psalm. 16:8, "I have set the LORD always before me; because He is at my right hand, I shall not be shaken." God's Word, combined with music, Biblical Musical Meditation, produces peace beyond all understanding and helps guard hearts and minds in Christ Jesus (Philippians 4:8). Biblical Musical Meditation is a valuable method to decrease stress and lower anxiety.

The study is beneficial to music therapists. Much research has been conducted on the impact of music therapy and anxiety. Dr. Carolyn Leaf confirms, "Not only does music raise oxytocin levels, and singing increases oxytocin, but listening to positive tunes provides a distraction from pain and exhaustion, increases stamina, and enhances people's moods."¹⁴³ Biblical Musical Meditation can provide therapists with a tool to aid patients in decreasing stress, lessening anxiety, and cultivating inner peace. The study can also influence one's personal quiet time with the Lord. Romans 12 provides a biblical basis for understanding the power of Biblical Musical Meditation. "Be transformed by the renewing of your mind" (Romans 12:2).

¹⁴³ Leaf, *Switch On Your Brain*, 176.

To answer the proposed research questions employing the outlined research method, existing literature was gathered and examined for informative details, perspectives, ideologies, and implications that define the concepts and impacts of Biblical Musical Meditation. This project outlined a mixed-methods research study that examined the implications of lyrics and illustrated the experiences of multiple individuals. Pastors, Worship leaders, Music Therapists and individuals should understand the benefits of song lyrics, which include Scripture and demonstrate the character of God. Songs based on Scripture will renew the mind and soul and immensely impact one's thought life and spiritual life.

Limitations

Some limitations were unavoidable with the research study. First, the participants may not have recognized the songs and therefore did not connect to them. Secondly, the participants may have recognized the songs, and that biased their answers either positively or negatively. For example, if a participant had a negative experience with a song, it would cause a negative memory. One participant remarked that her mother passed away during the week of the research. She stated that one of the Scripture songs included her mother's favorite Scripture verse, which could have evoked a positive emotion. Another participant mentioned that the song "Rescue" by Lauren Daigle was motivating but reminded her of a friend who had struggled with depression, producing a negative effect on the participant.

Another limitation of the study was the setting of the research. The participants were asked to listen to three songs consecutively for seven days. There were no restrictions on where or when the participants listened to the songs. The listening environment could have been in the home of the participant, in a car, or while walking or exercising. The songs could have impacted

the individuals based on their environment while listening to the songs. The judgment of the participant could have been altered by the environment or outside circumstances. One participant noted that her scores on the post-test were likely higher due to an exceptionally stressful situation, which would be considered greater than the general anxiety that this research aimed to study.

Another limitation of the study was the Convenience Sample. Some participants were acquainted with the researcher and may have tried to answer the questions in a manner that would be favorable to the researcher. Some participants could have been afraid to be truthful, particularly about anxiety. Ultimately, the study was preliminary and additional testing is needed to validate the results.

A final limitation is the bias of the researcher in the thematic analysis. If the researcher only looked at the themes that emerged from the data and did not consider the relationship between the different themes or implications, this could lead to incomplete and inaccurate interpretations of the data.

Recommendations for Future Study

While this study provided insights into the relationship between worship lyrics and anxiety, more studies are needed. A recommendation for further study of the physical, mental, emotional, and spiritual effects of Biblical Musical Meditation is necessary, given the limitation, procedures, and results of the study. To understand the benefit of the research, the study should be repeated within other groups and church denominations. A more in-depth qualitative study could be conducted as well, such as interviews.

Another recommendation is to find control measures, such as random sampling, to

prevent participant bias. Creswell concurs, “The function of random sampling is to choose individuals to become samples who will be representative of the population.”¹⁴⁴ This method of gathering data for research provides the best opportunity to produce an unbiased sample that demonstrates an entire group overall. The sample of the population reflects those who were available and willing to participate in the research study. Ideally, the collection of information should be a truly representative sample of the population.

Another recommendation is to conduct a quantitative study on Scripture meditation versus meditating on Scripture songs. There have been numerous studies on the effects of Biblical Mediation; however, there is no literature on which treatment is more impactful in reducing anxiety.

One final recommendation is to repeat this study with participants who are not of the Christian faith. Even though the Holy Spirit does not dwell in an unbeliever, the Holy Spirit can influence an unbeliever (John 14:16-17). The Holy Spirit convicts the lost of sin and brings spiritual regeneration and new birth to those who trust Christ as Savior (John 3:5-7). Jesus said in John 16:7, “I tell you the truth: it is to your advantage that I go away, for if I go away, the Comfort will come to you.” The study would be important to examine the impacts of music in combination with Scripture in decreasing anxiety in those who do not consider themselves Christians.

Implications for Practice

“According to the National Comorbidity Study Replication (NCS-R), an

¹⁴⁴ Creswell,. 142.

estimated 31.1% of U.S. adults experience anxiety at some time in their lives.”¹⁴⁵ For this reason, Biblical Musical Meditation is essential. The study revealed that combining Scripture and meditation with music, Biblical Musical Meditation, is impactful and beneficial in improving and renewing the mind. Ultimately, one’s thoughts affect how one feels, believes, acts, and lives. Psalms 23:7 affirms, “For as he thinks in his heart, so is he.”

Several implications of this study involving Biblical Musical Meditation include the overwhelming importance of what is sung in church and what one sings on a daily basis. The songs we sing in church matter. Research studies have shown a correlation between music and memory. Researchers from the Massachusetts Institute of Technology have discovered that a specific set of neurons located in the auditory cortex of the brain respond to singing but not other sounds like speaking or instrumental music. According to Sam Normar, an MIT researcher and professor, “This work suggests there is a distinction in the brain between instrumental music and vocal music.”¹⁴⁶ Lyrics have the ability to influence cognition and impact spiritual lives as well. Patricia Ransom’s study demonstrated the idea of lyrics impacting thoughts and ideas. “The study noted the benefits of listening to “meaning-filled” lyrics, or lyrics that aid in discovering one’s life purpose, as they increase overall well-being, suggesting, one can increase well-being by mindfully listening to meaning-filled lyrics bolstered by music’s ability to influence emotion.”¹⁴⁷ Positive lyrics filled with Scripture encourage believers and build unity within the congregation.

¹⁴⁵ National Institute of Mental Health.

¹⁴⁶ Dana Boebinger et al., “Music-Selective Neural Populations Arise without Musical Training,” *Journal of Neurophysiology* 125, no. 6 (January 2021): pp. 2237-2263, <https://doi.org/10.1152/jn.00588.2020>.

¹⁴⁷ Patricia Ransom. “Message in the Music: Do Lyrics Influence Wellbeing?” (Master’s Thesis, University of Pennsylvania, 2015).

Song lyrics are crucial for church congregations as doctrinal truths are taught through lyrics the congregants sing. Keith Getty asserts, “Martin Luther believed that a truly biblical church would be one where every believer was actively participating in every part of the service, including singing and celebrating the incredible gospel together.”¹⁴⁸ Teaching doctrine is one of the most significant reasons for rendering the lyrics chosen for the church a great priority.

Paul gave clear direction to the church concerning singing in Ephesians 5:19 and Colossians 3:16. Ephesians shows a juxtaposition between those who are children of darkness and children of light. Colossians demonstrates the contrast between life before rebirth in Christ and after rebirth in Christ. Getty emphasizes singing is a joy and impacts hearts and minds. Singing equips churches to express admiration for the Lord together in unity. Singing also inspires congregants to be a witness to the world. Getty also reiterates the importance of singing Scripture, “We are commanded to sing the Word of God – the truths revealed in Scripture.” Singing Scripture is a powerful way of communicating spiritual truths and a means of reminding believers to trust in God’s character.

What one listens to daily has a significant impact on physical, mental, emotional, and spiritual health. Philippians 4:8 declares, “Finally, brethren, whatever things are true, whatever things are noble, whatever things are just, whatever things are pure, whatever things are lovely, whatever things are of good report if there is any virtue, and if there is anything praiseworthy—meditate on these things.” The information that is heard and stored in the brain will shape minds, views, and actions. God’s Word changes attitudes, which ultimately alters actions. God’s Word is a manual and a hymnal that provides words to sing and live by. Psalm 104:33-34 affirms, “I will sing to the LORD as long as I live; I will sing praise to my God while I have

¹⁴⁸ Getty, Sing! 18.

being. May my meditation be pleasing to him, for I rejoice in the LORD.” There are earthly and eternal benefits to listening to and singing Scripture. The music ministers to the spirit and the words are given directly by God. Scripture is the foundation of the praise offered to God. It makes Scripture available in the mind and heart to bring comfort and to have it available to share with others. Music is a gift from God and attests to His creativity. Music that reveres the principles that God designed for music uplifts the heart and exalts God as Creator. Music, in combination with Scripture, focuses the attention on the Lord Himself. Music secures words to a rhythm and to individual notes in a melody, which is especially valuable when the lyrics are Scripture inspired by God Himself.

Summary

The goal of this project was to demonstrate that Biblical Musical Meditation promotes psychological well-being and minimizes anxiety. The results of the study demonstrate the impact Scripture lyrics, in combination with music, have on cognition. The research revealed an improvement in positive thinking and in the reduction of anxiety. These preliminary results should be considered and should challenge pastors, worship leaders, music therapists, and individuals to utilize Biblical Musical Meditation to renew the mind, cultivate peace, and ultimately decreases anxiety.

Appendix A: Group Playlist A

- 1. Little Things** - Adrian Berenguer
- 2. Nocturne in E Flat Major** – Frederic Chopin, Tom Peters
- 3. Etude In E Major** – Frederic Chopin, Konstantin Lifschitz
- 4. The Well-Tempered Clavier, Book 1** - Johann Sebastian Bach, Lang Lang
- 5. 12 Etudes, Op. 10: No. 6 in E-Flat** – Frederic Chopin, Jan Lisiecki
- 6. Reverie, L. 68** – Claude Debussy, Alain Planes
- 7. Piano Sonata No. 12 in F Major, K. 332- II. Adagio** - Frederic Chopin, Jan Lisiecki
- 8. Daydreaming** - Adrian Berenguer
- 9. Prelude in G-Flat Major, La Fille Aux Cheveux De Lin** - Claude Debussy, Rik
- 10. Into the Soul** – Solemn Resonance of a Pianoforte
- 11. Piano Sonata No. 16 in C, K.545** - Wolfgang Amadeus Mozart, Andras Schiff
- 12. Liebestraum No. 3** - Frank List, George Nascimento
- 13. Lieder ohne Worte (Songs Without Words) Book 2, Op. 30: No.7 in E-Flat Major, Op. 30, No. 1** - Felix Mendelssohn, Peter Nagy
- 14. Capriccio brilliant, Op. 22: Andante** - Felix Mendelssohn, Matthias Kirschnereit
- 15. I giardini di vienna in A Major** - Claudio Gizzi, Jean-Pierre Posit
- 16. Meadow** - Adrian Berenguer
- 17. Ride** – Adrian Berenguer
- 18. Un volto, un ricordo in E minor** – Claudio Gizzo, Jean-Pierre Posit
- 19. The Gift** – Adrian Berenguer
- 20. The Ivory Keys** - Solemn Resonance of a Pianoforte

21. Breve Amore in G Major – Claudio Gizzi, Jean-Pierre Posit

Playlist B

- 1. Look Up Child – Lauren Daigle**
- 2. Pieces – Bethel Music, Steffany Gretzinger**
- 3. Touch The Sky – Hillsong United, TAYA**
- 4. Brother (feat. Gavin DeGraw) – NEEDTOBREATHE**
- 5. Need Your Love – Hillsong Young and Free**
- 6. Rescue – Lauren Daigle**
- 7. Relentless – Hillsong United**
- 8. Sinking Deep – Hillsong Young and Free**
- 9. Stand in Your Love – Bethel Music**
- 10. Raise a Hallelujah – Bethel Music**
- 11. Real Love – Hillsong Young and Free**
- 12. You Make Me Brave – Bethel Music, Amanda Cook**
- 13. Love Goes On – Hillsong Young and Free**
- 14. No Fear in Love – Steffany Gretzinger**
- 15. Joy – For King & Country**
- 16. Who Am I – NEEDTOBREATHE**
- 17. Love Won't Let Me Down – Hillsong Young and Free**
- 18. You Will Be Found – Natalie Grant, Cory Asbury**
- 19. Out of Hiding – Steffany Gretzinger**
- 20. In Over My Head – Bethel Music, Jenn Johnson**

21. Burn The Ships – For King & Country

Playlist C

- 1. Psalm 46 (Lord of Hosts) – Shane & Shane**
- 2. Is He Worthy? - Andrew Peterson**
- 3. Be Still and Know – Scripture Lullabies**
- 4. Psalm 23 (Surely Goodness) Shane & Shane**
- 5. Thou Oh Lord – The Prestonwood Choir**
- 6. The Peace of God – Scripture Lullabies**
- 7. Psalm 34 (Taste and See) - Shane & Shane**
- 8. Oh God, You are My God – Fernando Ortega**
- 9. Psalm 91 (In You Will I Trust) - Scripture Lullabies**
- 10. Psalm 13 - Shane & Shane**
- 11. Be Exalted O God – Scripture In Song**
- 12. Psalm 91 (On Eagles Wings) Shane & Shane**
- 13. The Lord Is My Salvation – Keith & Kristyn Getty**
- 14. Plans I Have For You – Scripture Lullabies**
- 15. Your Faithfulness (Lamentations 3:22-23) - Seeds Lullabies**
- 16. I Will Wait for You (Psalm 130) - Shane & Shane**
- 17. Let The Words Of My Mouth (Psalm 19:14, Philippians 4:8) Fernando Ortega**
- 18. Be Strong And Courageous – Scripture Lullabies**
- 19. The Blessing – Kari Jobe, Cody Carnes**
- 20. Shield For Me – Scripture Lullabies**
- 21. My Soul Finds Rest (Psalm 62:1-2) – Seed Lullabies**

Appendix B: IRB Approval

LIBERTY UNIVERSITY.

INSTITUTIONAL REVIEW BOARD

March 17, 2023

Laurie Brooks
Hanna Byrd

Re: IRB Exemption - IRB-FY22-23-817 The Restoring Functions of Christian Worship

Dear Laurie Brooks, Hanna Byrd,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at

<https://outlook.office.com/mail/id/AAQkAGY4Yjc3NTk3LTUzNTEtNGM1YS05YWYwLTdjMWZlODUxYTA3YQAQAEUqF9UWexRjksXaUFHALBo%3D>

1/2

Appendix C: Pretest Questions

Please complete the following survey.

Below is a list of phrases that describe a certain feeling that people have during stressful situations. Find the answer which best describes the extent to which you have these conditions. Select one of the five responses for each of the questions.

0 = Not ever present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

1. Anxious mood: Examples include: Worry, the anticipation of the worst, fearful anticipation, and irritability. *

- 0 - I never feel anxious.
- 1 - I sometimes feel mildly anxious.
- 2 - I sometimes feel moderately anxious.
- 3- I sometimes feel severely anxious.
- 4 -I sometimes feel very severely anxious

2. Tension: Examples include: Feelings of tension, being moved to tears easily, feelings of restlessness, inability to relax, or depressed mood.

- 0 - I never feel tension.
- 1- I am sometimes mildly tense.
- 2- I am sometimes moderately tense.
- 3 - I am sometimes severely tense.
- 4 - I am sometimes very severely tense.

3. Fears: Examples include: being left alone, of animals, traffic, crowds, heights, or other fears.

- 0- I never feel fearful.
- 1- I am sometimes mildly fearful.
- 2- I am sometimes moderately fearful.
- 3 - I am sometimes severely fearful.
- 4- I am sometimes very severely fearful.

4. Insomnia: Examples include: Difficulty falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, or nightmares.

0- I never have trouble sleeping.

1- I have mild insomnia.

2- I have moderate Insomnia.

3 -I have severe Insomnia.

4 -I have very severe Insomnia.

5. Intellectual: Examples include: Brain Fog or difficulty in concentration.

0 - I never have difficulty concentrating

1-- I sometimes have mild difficulty concentrating.

2- I sometimes have moderate difficulty concentrating.

3-- I sometimes have severe difficulty concentrating.

4- I sometimes have very severe difficulty concentrating.

6. Physical Symptoms: Examples include: Pains and aches, twitching, stiffness, teeth grinding, hot and cold flashes, feelings of weakness, or upset stomach.

0- I never have physical symptoms.

1- I sometimes have mild physical symptoms.

2- I sometimes have moderate physical symptoms.

3- I sometimes have severe physical symptoms.

4- I sometimes have very severe physical symptoms.

Appendix D: Post-test Questions

After listening to three songs each day on the Playlist for seven consecutive days, please complete the survey.

0 = Not ever present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

1. Anxious mood: Examples include: Worry, the anticipation of the worst, fearful anticipation, and irritability. *

0 - I never feel anxious.

1 - I sometimes feel mildly anxious.

2 - I sometimes feel moderately anxious.

3- I sometimes feel severely anxious.

4 -I sometimes feel very severely anxious

2. Tension: Examples include: Feelings of tension, being moved to tears easily, feelings of restlessness, inability to relax, or depressed mood.

0 - I never feel tension.

1- I am sometimes mildly tense.

2- I am sometimes moderately tense.

3 - I am sometimes severely tense.

4 - I am sometimes very severely tense.

3. Fears: Examples include: being left alone, of animals, traffic, crowds, heights, or other fears.

0- I never feel fearful.

1- I am sometimes mildly fearful.

2- I am sometimes moderately fearful.

3 - I am sometimes severely fearful.

4- I am sometimes very severely fearful.

4. Insomnia: Examples include: Difficulty falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, or nightmares.

0- I never have trouble sleeping.

1- I have mild insomnia.

2- I have moderate Insomnia.

3 -I have severe Insomnia.

4 -I have very severe Insomnia.

5. Intellectual: Examples include: Brain Fog or difficulty in concentration.

0 - I never have difficulty concentrating

1– I sometimes have mild difficulty concentrating.

2- I sometimes have moderate difficulty concentrating.

3– I sometimes have severe difficulty concentrating.

4- I sometimes have very severe difficulty concentrating.

6. Physical Symptoms: Examples include: Pains and aches, twitching, stiffness, teeth grinding, hot and cold flashes, feelings of weakness, or upset stomach.

0- I never have physical symptoms.

1- I sometimes have mild physical symptoms.

2- I sometimes have moderate physical symptoms.

3- I sometimes have severe physical symptoms.

4- I sometimes have very severe physical symptoms.

7. How did the playlist affect your physical health?

8. How did the playlist affect you mentally?

9. How did the playlist affect you emotionally?

10. How did the playlist affect you spiritually?

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