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**A Pilot Study of
Mindfulness-Based Music Therapy
in an Intensive Outpatient Program for Adults
with Co-Occurring Mental Health and Substance Use Disorders**

Jennifer Rebekah Hicks

Submitted in partial fulfillment of the
requirement for the degree of
Master of Music Therapy

Augsburg University
Minneapolis, Minnesota

2020

MASTER OF MUSIC THERAPY
AUGSBURG UNIVERSITY
MINNEAPOLIS, MINNESOTA

CERTIFICATE OF APPROVAL

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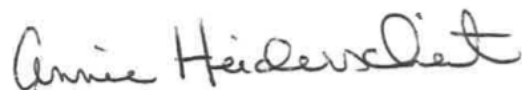
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Dedication

Dedicated to the clients who shared their experiences and perspectives with me and made this thesis possible. I am grateful and honored to share this journey with you.

Acknowledgements

When appropriate, in the music therapy groups that integrate principles of mindfulness along with music therapy, we end with “Namaste as a symbol of gratitude and respect” (Palkhivala, 2017, para. 6) or some other form of gratitude, one of my most significant core values. As I complete this final step in my journey for a Master of Music Therapy degree, I would similarly like to take a moment to express my gratitude for just a few of the many individuals who have guided me along the way.

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Any errors are mine alone.

Questions or comments may be sent to jhicks@JoyfulNoisesLLC.com.

Namaste.

Abstract

This pilot study was designed to explore the use of mindfulness-based music therapy in an intensive outpatient program for adults with co-occurring mental health and substance use disorders. All participants completed the Brief Serenity Scale (Kreitzer et al., 2009) as a pre-test prior to their participation in this study. Participants took part in four monthly 50-minute mindfulness-based music therapy groups. At designated points throughout each music therapy session (including the beginning, end, and after each specific experience), the participants marked on a Likert scale where their thoughts were, in relation to the past, present, and future. Post-test measures of the Brief Serenity Scale (Kreitzer et al., 2009) were completed after the participants' final study session. Descriptive statistics were used to identify trends in data from the Likert scales, and results indicated that the highest number of participants in each session felt present after the musical introductions. Differences between pre- and post-test scores were calculated using inferential statistics. The statistical analysis of the overall pre- and post-test scores showed no significant differences in the mean scores, although the mean score was higher for the post-test than the pre-test. Pre- and post-test scores for the individual questions showed a significant difference for four responses. These responses are all connected with the serenity factor of inner haven (Kreitzer et al., 2009).

Keywords: mental health, substance use, co-occurring disorders, mindfulness, music therapy

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Chapter One: Introduction

Mindfulness is the English umbrella term used to describe a variety of ancient Buddhist practices (Anālayo, 2003; Gethin, 2015; Hanh, 2016; Satchidananda, 2012). Various mindfulness-based secular practices have emerged from these religious traditions due to colonization, globalization, and the appropriation and commodification of spirituality (Hsu, 2016; Sherrell & Simmer-Brown, 2017; Swamy, 2017). While the history and definitions of mindfulness are complex and multifaceted, mindfulness-based practices today generally emphasize being grounded in and mindful of the present moment without judgment or attachment (Atkins, 2014; Creswell, 2017; Hanh, 2016; Kabat-Zinn, 1994; Linehan, 2015).

Mindfulness-based practices are becoming more common in the Euro-American world due to their documented positive impact on both mental and physical health (Carmody, 2015). When used alone or in combination with other treatment modalities, mindfulness-based practices can be beneficial in addressing both mental health disorders, such as depression and anxiety, and substance use disorders (e.g. Atkins, 2014; Bowen et al., 2011; Hofmann & Gómez, 2017). Therefore, mindfulness-based practices are often included as a foundational therapeutic approach for treating individuals with co-occurring disorders (Atkins, 2014).

Background

The relationship between mental health and substance use disorders (SUDs) has been noted since the late 1970s. However, the terms dual diagnosis or co-occurring

disorder (COD) were not introduced until the late 1980s, and it wasn't until the 1990s that treatment programs developed integrated approaches to address these co-occurring disorders (Atkins, 2014; Substance Abuse and Mental Health Services Administration [SAMHSA], 2005).

According to the National Survey on Drug Use and Health (NSDUH), an estimated 9.2 million people in the United States were diagnosed with both a mental health disorder and at least one substance use disorder in 2018 (SAMHSA, 2019b). This demonstrates an increase from 8.5 million in 2017 (SAMHSA, 2018b). Multiple factors may have contributed to this increase, including the genetic and environmental factors (such as trauma and stress) that place individuals at a higher risk of developing co-occurring mental health and substance use disorders (National Institute on Drug Abuse [NIDA], 2018c).

Individuals use substances for a variety of reasons, including the influence of genetic and environmental factors as well as epigenetics, family history, medical history, lifestyle, psychological traits, and temperament (Atkins, 2014; Center for Substance Abuse Treatment [CSAT], 2004). Additionally, individuals may use substances because of their ability to activate receptors in the brain to release dopamine, a naturally-produced chemical that increases feelings of pleasure and blocks feelings of pain (American Psychiatric Association [APA], 2013; NIDA, 2018a; Vanyukov et al., 2003).

Many individuals with mental health disorders also have histories of trauma or abuse, and researchers and theorists believe that these individuals may use substances to numb their emotions in order not to feel or experience pain in the present moment (Martin et al., 2007; Van der Kolk, 2014). This history of trauma or abuse can be another

reason individuals turn to alcohol or drugs (Martin et al., 2007; NIDA, 2018c; Soderstrom & Smith, 1997) and can cause genetic changes that may increase the potential for future generations also to experience co-occurring mental health and substance use disorders (NIDA, 2018c).

This use of substances to numb emotions is not limited to those with past or present trauma or abuse in their lives. The literature suggests that many individuals with mental health disorders who do not have stated histories of trauma or abuse also use substances to numb their feelings. Individuals living and struggling with symptoms of mental health disorders may also use substances to numb or manage these symptoms, such as anxiety. While this may provide relief in the moment, these numbing behaviors worsen or exacerbate the mental health symptoms (Atkins, 2014; Baker et al., 2007; Martin et al., 2007; NIDA, 2018c; Test et al., 1989). Additionally, the presence of both mental health and substance use disorders dramatically increases the risks of homelessness, poverty, arrests, violence, physical illness, and premature mortality due to the chronic and persistent nature of these disorders (Atkins, 2014; SAMHSA, 2019a; World Health Organization [WHO], 2013).

Mindfulness

Mindfulness is an umbrella term used to describe ancient spiritual practices that are the very center of Buddhist meditation traditions (Anālayo, 2003; Gethin, 2015; Hanh, 2016; Satchidananda, 2012) and that are a vital component to achieving enlightenment (Anālayo, 2003; Gethin, 2015). These spiritual practices must be understood within the context of the South Asian Buddhist practices from which they

originated and distinguished from the various secular forms that have developed as a result of colonialism, globalization, and the commodification of spirituality (Hsu, 2016; Sherrell & Simmer-Brown, 2017; Swamy, 2017).

The earliest mindfulness literature was transcribed between the fourth and second centuries BCE in India and evolved as it spread through Vietnam, China, Tibet, Burma, and eventually around the world (Gethin, 2015; Hanh, 2016). Mindfulness is the English translation of a very nuanced concept, and different meditation practices use a variety of terms to describe specific aspects of mindfulness (Anālayo, 2003). Mindfulness definitions can therefore vary, but they generally include holding attention or focus on something in particular without judgement or attachment (Gethin, 2015; Linehan, 2015). For example, Linehan (2015) defined mindfulness as “the act of consciously focusing the mind in the present moment without judgment and without attachment to the moment” (p. 151). In this paper, mindfulness is described as the practice of being grounded in and mindful of the present moment without judgment or attachment (Atkins, 2014; Creswell, 2017; Hanh, 2016; Kabat-Zinn, 1994; Linehan, 2015).

According to the National Health Interview Survey (NHIS), a significant increase in the use of mindfulness-based practices such as deep breathing, meditation, and yoga occurred from 2002 to 2007 (Barnes et al., 2008) and again from 2007 to 2012 (Clarke et al., 2018). As mindfulness-based practices have become more common and accessible, an increasing number of individuals have employed the use of these mindfulness-based techniques, regardless of religious background or orientation, due to their practical health benefits (Atkins, 2014; Creswell, 2017; Creswell & Lindsay, 2014; Gethin, 2015; Hanh, 2016; Kabat-Zinn, 1994; Linehan, 2015).

Impact of Mindfulness on Health

There has been an increase in the number of research studies and clinical papers reporting on the mental and physical health benefits of mindfulness practices (Barnes et al., 2008; Carmody, 2015; Chiesa & Serretti, 2011; Creswell, 2017). While the ability to focus on sensory events or internal thoughts varies in individuals, a lack of mindfulness is common in adults (Killingsworth & Gilbert, 2010; Posner & Rothbart, 2007). Research suggests that adults report being less happy when their minds are wandering, even when these thoughts are pleasant, and that adults are happier when they are fully present (Killingsworth & Gilbert, 2010).

Mindfulness-based practices may not only increase feelings of happiness (Killingsworth & Gilbert, 2010) but also improve emotional comprehension and somatic and autonomic regulation (breathing patterns and vagal reactivity) (Delgado et al., 2010). The evidence related to significantly reduced stress levels and overall improved mental wellbeing is still limited (Brewer et al., 2009; Chiesa & Serretti, 2009; Creswell, 2017; Goyal et al., 2014). However, mindfulness-based programs demonstrate moderate improvement in symptoms of anxiety and depression (Creswell, 2017; Goyal et al., 2014; Hofmann et al., 2010; Hofmann & Gómez, 2017) and may help to reduce chronic worry (Delgado et al., 2010).

Research indicates that mindfulness-based stress reduction programs may be effective in reducing chronic insomnia (Gross et al., 2011) and pain (Goyal et al., 2014; Kabat-Zinn, 1982). Mindfulness training may also improve a wide range of other mental and physical health conditions by reducing stress and increasing resilience and coping

skills (Creswell & Lindsay, 2014) and may have enduring positive effects on emotional processing for healthy adults (Desbordes et al., 2012). Additionally, preliminary studies suggest that mindfulness-based practices may increase compassion towards others and improve interpersonal relationships (Creswell, 2017).

Connections Between Mindfulness and Music

Mindfulness-based practices and music have been connected for millennia (Brummel-Smith, 2011), with music being integrally associated with both healing arts and altered states of awareness (Brummel-Smith, 2011; S. Sundar, personal communication, October 23, 2018; Swamy, 2017). Examples include religious music being utilized to create meditative or prayerful states (Brummel-Smith, 2011) and certain Indian ragas being sung to “bring cure, enhance mood, and serve as a medium of prayer to seek health from god” (S. Sundar, personal communication, October 23, 2018). Modern-day mindfulness-based practices and mindful music listening can involve noticing the sounds as well as the silences within the music and incorporating this practice with the breath in order to focus attention and decrease anxiety (Kabat-Zinn, 2013).

Research exploring the connections and outcomes related to the combined use of mindfulness-based practices and music is just beginning to emerge (Miller, 2017; Sorensen et al., 2018). Sorensen et al. (2018) evaluated the combination of the mindfulness-based practice of loving-kindness meditation (LKM) with a classical guitar accompaniment compared to LKM-only and music-only control groups. All three groups

showed an improvement in wellbeing, mindfulness, compassion, and self-compassion with no additive effect noted when these practices were combined (Sorensen et al., 2018).

Connections Between Mindfulness and Music Therapy

Mindfulness-based principles have often been connected with relaxation practices in the music therapy, psychological, and medical literature (Davis & Hayes, 2011; Hammer, 1996; Hofmann & Gómez, 2017). The combination of soft music with progressive muscle relaxation, meditative breathing, and guided imagery significantly reduced anxiety for patients in an inpatient psychiatric unit (Weber, 1996). McGraw Hunt (2013) detailed a mindful approach to silence in her description of “Rhythm and Sound Improvisation” (pp. 39-40), and Grocke and Wigram (2007) included a case example depicting a “mindfulness approach” (pp. 115-117) for facilitating relaxation in palliative care, with vital considerations for adapting this experience for the client they described. They also noted that this approach can be beneficial for “engaging a busy mind” as it encourages the client to “notice the flow of images and thoughts and to let them pass” (Grocke & Wigram, 2007, p. 127).

Mindfulness-based practices are a key component of Dialectical Behavior Therapy (DBT), the principles of which are sometimes incorporated along with music therapy (Chwalek and McKinney, 2015). DBT is a specific form of cognitive-behavioral psychotherapy developed by psychologist Marsha M. Linehan (Linehan, 2015). It was originally designed as a treatment for individuals with borderline personality disorder and has since been shown to be effective when working with a variety of populations, including individuals with mental health and substance use disorders (Linehan, 2015).

Chwalek and McKinney (2015) surveyed music therapists to determine if they integrated adaptations of DBT in their music therapy sessions. They found that “more than half of the respondents indicated that they ‘frequently’ use music therapy experiences to address mindfulness, emotion regulation, and distress tolerance” (p. 297). “Respondents further indicated that mindfulness was most commonly addressed through music listening, followed closely by music and imagery, and music improvisation” (Chwalek & McKinney, 2015, p. 299). Spiegel and Scheidt were interviewed as part of this study and affirmed that “music therapy inherently addresses...and reinforces the DBT skills” (Chwalek & McKinney, 2015, p. 308), such as mindfulness. The survey also supported this statement, as “respondents who indicated that they do not use DBT in their practice indicated that they frequently address mindfulness, emotion regulation, distress tolerance, and/or interpersonal effectiveness” (Chwalek & McKinney, 2015, p. 310), the primary components of DBT.

Miller (2017) explored a mindfulness-based music therapy protocol for women with addiction living in a therapeutic community, integrating guided mindfulness and music experiences along with active music making and song discussion to assist the clients in connecting with the 12-Steps and Slogans of Alcoholics Anonymous (AA). Clients completed pre- and post-tests assessing their knowledge of the 12-Steps and Slogans of AA prior to the first session and after the thirteenth session. Miller collected client responses for each individual session as well. Clients showed an overall growth in their personal relationship with the 12-Steps and a greater familiarity with the Slogans of AA. However, the group size was small and did not remain consistent throughout this study.

Statement of the Problem

Miller's (2017) clinical project is one of the only studies to date specifically focused on the connections between mindfulness and music therapy. Little research has been conducted exploring the integration of principles of mindfulness with music therapy methods and ways they might be helpful for clients with co-occurring mental health and substance use disorders. Combining the practices of mindfulness and music therapy could hold potential benefits for clients with co-occurring disorders as they struggle to safely ground themselves with nonjudgmental acceptance in the present moment and to connect more with their own minds, bodies, and emotions and with others as well.

Miller (2017) highlighted the need for further research in this area, as well as research in mixed-gender treatment settings. This pilot study sought to address those needs as well as the recommendations included in other studies for further research on the effects of mindfulness on overall wellbeing (Brewer et al., 2009; Chiesa & Serretti, 2009; Creswell, 2017; Goyal et al., 2014). This study explored the following research questions:

- Are participants' thoughts in the past, present or future during mindfulness-based music therapy sessions?
- Does mindfulness-based music therapy affect the overall level of serenity (acceptance, inner haven, and trust) for participants?

Epoché

Understanding the potential for bias and following best practice to reduce its potential negative effects in research is vital (Murphy, 2017). Because the researcher also

served as the clinician and primary data analyst for this study, it is important to be transparent about my potential biases that may have affected its implementation.

Clinical Identity

I have practiced as a board-certified music therapist for over 20 years. I entered this research with a strong core identity as a clinician with a humanistic, person-centered theoretical foundation. What I perceive as best for the clients will always be my top priority. This is a consideration that I monitored closely throughout the research process through reflection, journaling, and supervision.

As both a board-certified music therapist (MT-BC) and experienced registered yoga teacher (E-RYT), I naturally incorporate principles of yoga, including that of mindfulness, into my clinical music therapy practices. Therefore, my level of comfort, training, and expertise with these principles must also be taken into consideration, particularly for music therapists who may wish to replicate this study.

Culture and Appropriation

I am a heterosexual, white, enabled, highly-educated, middle-class, Christian, cisgender female researching principles that were originally handed down from teacher to student as a part of ancient South Asian Buddhist practices. Within the music therapy room as well as society at large, I operate from a position of individual and structural power and privilege in many ways. Ethically, this was incredibly important for me to remember when I interacted with clients and interpreted data as well as when I integrated principles of mindfulness. Using and teaching practices that are a sacred part of a

historically marginalized culture from the perspective of someone in a more dominant culture opens up the potential for appropriation and harm. “While mutual cultural exchange can be fruitful when it is beneficial to both cultures, removing South Asian practices from their cultural roots increases the risk of cultural appropriation, or taking or using artifacts, arts, and spiritual practices from another culture in a manner that causes harm” (Swamy, 2017, p. 80).

As part of my own journey, I have explored (and continue to explore) my own biases and areas of privilege as well as this important issue of appropriation through reading, reflecting, journaling, seeking peer supervision, participating in continuing education and anti-bias and anti-racism training, and doing what I can to draw attention to and dismantle the systems and structures of oppression in my profession and community. I am grateful for the teachers who have shared the history and practices of mindfulness with me and who continue to challenge, question, and support me as I seek to listen to, amplify, and engage others in this important work. I did my best throughout this research study to present principles of mindfulness in ways that respect and honor the traditions from which they have evolved and yet are accessible and appropriate for most music therapists and clients.

Mindfulness-Based Music Therapy

Due to their global proliferation, [yoga, meditation, and other spiritual] practices may seem universal. However, they originate from specific South Asian traditions and require deconstruction. From an ethical perspective, it is important to understand the context of these practices and the influence of globalization and to

distinguish ancestral practices from the various hybrid or Americanized forms that have emerged. (Swamy, 2017, p. 80)

Therefore, when it comes to integrating principles of mindfulness and other spiritual practices into music therapy sessions, Swamy (2017) suggested we “[borrow] the qualities of spiritual practices rather than the culturally specific forms” (p. 80).

Chwalek & McKinney (2015) recommended a similar approach when incorporating components of DBT, such as mindfulness, into music therapy groups, and this has become best practice in the wider psychological arena as well (Chwalek & McKinney, 2015; Creswell, 2017; Hofmann & Gómez, 2017). The result is terms such as DBT-informed music therapy (Chwalek & McKinney, 2015), mindfulness-based stress reduction (MBSR) (Creswell, 2017; Kabat-Zinn et al., 1992), mindfulness-based interventions (MBIs) (Creswell, 2017; Hofmann & Gómez, 2017), and mindfulness-based cognitive therapy (MBCT) (Chiesa & Serretti, 2011; Piet & Hougaard, 2011). Therefore, the term “mindfulness-based” music therapy was used for the sessions and experiences in this study in order to remain respectful of these cultural considerations and consistent with these precedents.

Definitions and Operational Terms

Co-Occurring Disorders (CODs): Diagnoses of simultaneous mental health and substance use disorders; also called dual diagnoses (National Alliance on Mental Illness [NAMI], 2017)

Mental Health Disorders: Disorders that affect the thinking, feeling, mood, and/or behavior of those diagnosed, often interfering with their ability to connect with others or even to function on a daily basis (APA, 2013; NAMI, n.d.)

Mindfulness: The practice of being grounded in and mindful of the present moment without judgment or attachment (Atkins, 2014; Creswell, 2017; Hanh, 2016; Kabat-Zinn, 1994; Linehan, 2015)

Mindfulness-Based Music Therapy: Music therapy experiences and sessions grounded in “the basic ability to be fully present and aware without judgement” (Miller, 2017, p. 50)

Music Therapy: “The clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program” (American Music Therapy Association [AMTA], n.d.b, para. 1)

Substance Use Disorders (SUDs): The continued use of alcohol, drugs, and other substances despite significant substance-use-related cognitive, behavioral, physiological, and psychological problems that interfere with the ability of those diagnosed to function on a daily basis (APA, 2013; SAMHSA, 2015); SUDs are categorized by class (APA, 2013), and other terms for these disorders include Alcohol and Other Drug (AOD) abuse disorders, substance abuse, substance-related disorders, substance dependence, addiction, and alcohol or drug abuse or dependence (Margolis & Zweben, 2011)

Chapter Two: Review of Literature

Impact of Co-Occurring Mental Health and Substance Use Disorders

Mental Health Disorders

Mental health disorders affect thinking, feeling, mood, and behavior and can interfere with an individual's ability to connect with others and to function on a daily basis (APA, 2013; NAMI, n.d.). An estimated 47.6 million adults (nearly one in five) are diagnosed with a mental health disorder (NAMI, n.d.; National Institute of Mental Health, 2017; SAMHSA, 2019b), with 11.4 million of these diagnoses designated as serious mental illnesses (SAMHSA, 2019b). Many of these individuals are diagnosed with more than one mental health disorder, which can increase the overall severity of the illnesses and complicate the diagnostic and treatment process (Aina & Susman, 2006).

The number of individuals diagnosed with mental health disorders rose significantly from 2008 through 2016 but has remained fairly consistent since 2017 (SAMHSA, 2018a; SAMHSA, 2019b). Reports of suicidal ideation also rose between 2008 and 2014 but have remained stable since 2015 (SAMHSA, 2018a; SAMHSA, 2019b). Approximately 10.7 million adults stated that they experienced suicidal ideation in 2018, resulting in suicide still being identified as an “important public health problem in the United States” (SAMHSA, 2019b, p. 47). The increased prevalence of mental health diagnoses in the United States has resulted in it also being identified as a “critical public health issue” (Center for Behavioral Health Statistics and Quality, 2018b, para. 2). The World Health Organization (WHO) described mental health as “an indispensable part

of health” (2013, p. 9) and “a vital concern of individuals, communities, and societies throughout the world” (2013, p. 5).

Mental health disorders affect not only the individuals diagnosed but also their households, neighborhoods, and communities at large (Unite for Sight, n.d.; WHO, 2013). Negative stigmas, misconceptions, and cultural attitudes persist that can result in discrimination towards those affected by mental health disorders and their families (Barry et al., 2013; WHO, 2013). The global effects of mental health disorders can also manifest in decreased quality of life and productivity and increased educational and social challenges and incidents of poverty and abuse (Unite for Sight, n.d.; WHO, 2013). It is estimated that mental health disorders can cost families catastrophic levels of out-of-pocket expenditures and cost economies several billion dollars annually due to reduced labor productivity and increased health care costs (Unite for Sight, n.d.; WHO, 2013).

Substance Use Disorders

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*, “the essential feature of a substance use disorder is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems” (APA, 2013, p. 483). These disorders are classified by substance and include alcohol use disorder, tobacco use disorder, cannabis use disorder, stimulant use disorder, hallucinogen use disorder, and opioid use disorder (APA, 2013; SAMHSA, 2015).

The National Institutes of Health (2015) reported that approximately 10 percent of individuals living in the United States will be diagnosed with a substance use disorder at

some point in their lives, with 20.3 million people aged 12 or older self-identifying with a SUD in 2018 (SAMHSA, 2019b). Many will suffer and die as either a direct or indirect result of their substance use, making “addiction...the nation’s number-one health problem today” (Martin et al., 2007, p. 3).

While the prevalence of alcohol use disorders has decreased (SAMHSA, 2018a; SAMHSA, 2019b), the use and misuse of opioids, including both prescription medications and heroin, has become “one of the most serious public health problems in the United States” (Center for Behavioral Health Statistics and Quality, 2018b, para. 4). The misuse of prescription pain relievers is second only to marijuana in illicit drug use (SAMHSA, 2019b). Opioid use was declared a public health emergency by the U.S. Department of Health and Human Services in 2017 and is the cause of more deaths than motor vehicle crashes, approximately 130 every single day (Center for Behavioral Health Statistics and Quality, 2018b; Department of Health and Human Services, 2019).

Substance use disorders are now so common that “practitioners can assume it may be an issue even in the absence of warning signs” (Margolis & Zweben, 2011, p. 3). However, most practitioners have not been trained in how to address these disorders (Margolis & Zweben, 2011). In addition, risk factors related to SUDs are complex (NAMI, n.d.). They may include biological, psychological, social, and spiritual components (NAMI, n.d.), such as genetics, epigenetics, medical history, environment, lifestyle, stress level, family dynamics, psychological traits, temperament, and trauma history (Atkins, 2014; CSAT, 2004; NIDA, 2018c).

Over time, substance use can result in decreased brain functioning and increased potential for strokes, Parkinson’s disease, seizures, diabetes, liver cirrhosis, certain

cancers, and cardiovascular disease (CSAT, 2004; Department of Health and Human Services, 2019; Lappin & Sara, 2019; SAMHSA, 2019a; Scott et al., 2011; WHO, 2013). In addition, substance use disorders can increase the potential for accidents, workplace injuries, and high-risk sexual behaviors, and as a result negatively impact the lives and health of the children and family members of those affected (Hedigan, 2010; Lander et al., 2013; NIDA, 2018a; Ramchand et al., 2009; Scott et al., 2011). Ultimately, those diagnosed with a substance use disorder die an average of 22.5 years earlier than those not diagnosed with one (Neumark et al., 2000).

Co-Occurring Disorders

Each year the National Survey on Drug Use and Health (NSDUH) evaluates the use of legal and illegal substances as well as the prevalence of mental health disorders, substance use disorders, and co-occurring mental health and substance use disorders (SAMHSA, 2019b; SAMHSA, 2020). Approximately 9.2 million adults (or 3.7 percent of adults in the United States) were diagnosed with co-occurring disorders in 2018 (SAMHSA, 2019b).

For some individuals, the use of substances may come first, and mental health disorder symptoms may follow (Atkins, 2014; NIDA, 2018c). For others, the mental health disorder may come first, and substances may be used as a means to address those mental health disorder symptoms (Atkins, 2014; Baker et al., 2007; Martin et al., 2007; NIDA, 2018c; Test et al., 1989). Regardless of which comes first or whether symptoms appear simultaneously, mental health and substance use disorders are frequently linked

(Atkins, 2014; NAMI, 2017; NIDA, 2018c), with about half of all individuals who have one disorder also having the other (NIDA, 2018c).

Risk factors for co-occurring disorders are complex and include both genetic and environmental components (NIDA, 2018c). Many genes can affect the potential for someone to develop both a mental health disorder and a substance use disorder.

Environmental factors, such as trauma and stress, can also contribute to the likelihood of someone developing co-occurring mental health and substance use disorders (NIDA, 2018c).

Treatment of Co-Occurring Mental Health and Substance Use Disorders

Mental Health Disorder Treatment

Only 43.3% of adults diagnosed with mental health disorders (15.0% of all adults) reported they received mental health care in 2018 (SAMHSA, 2019b). About half of these adults (7.9% of all adults) received outpatient mental health services (SAMHSA, 2019b). The 2018 NSDUH included statistics for those receiving any mental health services (not just for “mental illnesses”) and estimated that 37.1 million adults (approximately 14.3%) received treatment (SAMHSA, 2019b).

These data reveal the challenge and complexity of accessing mental health care and treatment in the United States (Center for Behavioral Health Statistics and Quality, 2018b). Approximately 11.2 million adults reported that their mental health needs remained unmet, and 5.0 million indicated that they did not receive any mental health

services at all in 2018 (SAMHSA, 2019b). These numbers were slightly lower than those reported in 2017 (SAMHSA, 2018b; SAMHSA, 2019b).

The number one reason adults reported for not receiving mental health care is the perceived cost of that care. Other reasons have consistently included individuals thinking that they could handle their mental health symptoms on their own, not knowing how to access services, and being concerned about various aspects of mental health care, such as medication, time or transportation needed, confidentiality, and/or potential negative effects on employment or community standing (SAMHSA, 2018b; SAMHSA, 2019b). Individuals reported these challenges despite the increased number of treatment options, including outpatient mental health clinics, private mental health offices, outpatient medical clinics, and partial day intensive treatment programs (Center for Behavioral Health Statistics and Quality, 2018a).

Intensive outpatient treatment (IOT) programs were initially developed to provide a more feasible option for individuals who don't pursue treatment due to concerns about it affecting their employment (Margolis & Zweben, 2011). However, the stigma of mental health can also be a barrier to treatment, and helping individuals accept and overcome this barrier while providing them with coping skills that they can integrate into their daily lives are primary needs of this population (SAMHSA, 2019b). Rebuilding relationships and support systems is also critical for recovery because of this stigma (NAMI, n.d.).

Substance Use Disorder Treatment

Accessing and receiving treatment for substance use disorders can also be challenging (Center for Behavioral Health Statistics and Quality, 2018b; NIDA, 2018a;

Shaw, 2002). Out of the estimated 20.3 million people aged 12 or older who self-identified as having a substance use disorder, less than 4.0 million reported receiving any treatment for this disorder in 2018 (SAMHSA, 2019b). The primary barriers individuals reported to receiving treatment included the following: they were not ready to stop their substance use (38.4%), they had no health care coverage or could not afford treatment (32.5%), or they felt it would negatively affect their employment (16%) or standing in the community (14.9%). Still others (21.1%) stated they didn't know where to find treatment or couldn't find the type of treatment they wanted (SAMHSA, 2019b).

Treatment for substance use disorders is complex and multifaceted as the misuse of drugs and alcohol affects and often disrupts so many different aspects of the individual's life (Lander et al., 2013; NIDA, 2018a; Scott et al., 2011). Treatment for SUDs is generally grounded in either medical or psychosocial methodology. The medical model focuses on pharmacological treatments. The psychosocial model may include both individual and group psychotherapy as well as family sessions and self-help groups, with a focus on assisting individuals in recognizing and intentionally responding to feelings, triggers, and urges. While tension used to exist between these two methods of treatment, these models are now commonly found together and generally believed to be most effective when used in tandem (Gardstrom et al., 2017; Martin et al., 2007).

The combined use of medical and psychosocial treatment increases recovery, with success rates similar to those for other chronic diseases (Martin et al., 2007). In order to recover, however, clients must be committed and motivated. They must also be dedicated to developing the relationships that will support them in this process (Martin et al., 2007). This is one of the reasons why substance use treatment most often occurs in community-

based outpatient settings (SAMHSA, 2005; SAMHSA, 2017). IOT programs have expanded as substance use disorders have come to be recognized as chronic health disorders. These programs generally include both individual and group services offered for 6 to 30 contact hours each week for a minimum of 90 days, with variations in intensity and/or duration depending on client need (Atkins, 2014; CSAT, 2006; SAMHSA, 2005).

The need to develop supportive relationships in recovery is one of the reasons that self-help groups, including those based upon 12-Step programs, can be particularly effective (NIDA, 2018b). It is important to understand and acknowledge the role that 12-Step programs such as Alcoholics Anonymous (AA) have played in substance use recovery. AA was founded in 1935, making 12-Step programs the oldest and largest self-help groups in the United States and around the globe. Twelve-Step programs are based upon the belief that alcoholism (and other addictions) are diseases, with biological, psychological, and spiritual components that must be addressed as part of recovery (Atkins, 2014; CSAT, 2006).

Self-help groups can meet some of the primary needs of individuals with substance use disorders, including those of building relationships, social skills, and group cohesion (Martin et al., 2007). In addition to these needs and the necessity of maintaining motivation and commitment (Martin et al., 2007), goals for those with SUDs may include increasing self-awareness and acceptance (Martin et al., 2007), processing and expressing (rather than numbing) emotions (Martin et al., 2007; Van der Kolk, 2014), accepting the uncertainties of life (Martin et al., 2007), overcoming any perceived stigma of their diagnoses (SAMHSA, 2019b), providing for basic needs such as housing and financial

stability (Martin et al., 2007), and building coping skills and protective factors (CSAT, 1999; Martin et al., 2007) as well as enjoyment in life (Martin et al., 2007).

As apparent in the literature, even if a co-occurring diagnosis is not officially given, many adults with substance use disorders also struggle with mental health disorder symptoms. It is vital therefore to determine if symptoms such as anxiety and depression are related to withdrawal or are signs of underlying co-occurring disorders (Martin et al., 2007). Martin et al. (2007) reminded health professionals that “all the problems of patients must be treated if they are to recover their health” (p. 44).

Co-Occurring Disorder Treatment

Accessing and receiving treatment is both complex and challenging for many adults with either mental health or substance use disorders (Center for Behavioral Health Statistics and Quality, 2018b), and this is particularly true for individuals diagnosed with both (Atkins, 2014; Martin et al., 2007; SAMHSA, 2005). In addition to the barriers to care described above, a primary challenge for those with co-occurring disorders involves the complexity of treating and coordinating care for both the mental health disorder and the substance use disorder. Many individuals are treated for only one diagnosis, which may worsen symptoms associated with the other diagnosis that is not being treated (Atkins, 2014; CSAT, 2006; Martin et al., 2007; NIDA, 2018c). Adults with co-occurring disorders may face additional challenges such as financial and social instability; histories of violent victimization, traumatization, and homelessness; multiple hospitalizations and medical problems, including HIV and hepatitis; and past suicidal ideation and attempts

(Atkins, 2014; CSAT, 2006; SAMHSA, 2005). Resistance and relapses are also common with this population (Atkins, 2014; Martin et al., 2007).

Many adults with co-occurring mental health and substance use disorders are now being treated in IOT programs (CSAT, 2006). However, it is only recently that IOT programs specializing in co-occurring disorders have been developed (Atkins, 2014; SAMHSA, 2005). These have been primarily effective for clients with substance use disorders and less serious mental health disorders; clients with more severe mental health disorders or active psychosis may need higher levels of care (Atkins, 2014; CSAT, 2006). It is vital for IOT programs that serve clients with co-occurring disorders to integrate best practices from both mental health and substance use fields and to be flexible enough to meet the diverse needs of these individuals (Atkins, 2014; SAMHSA, 2005). Housing and case management services can also be critical in helping clients maintain their recovery because of the additional challenges that clients with co-occurring disorders face (SAMHSA, 2005). Many IOT programs for individuals with CODs also incorporate a multidisciplinary treatment team to best meet the needs of these clients (Atkins, 2014).

Self-help groups (such as Alcoholics Anonymous and other 12-Step programs), mindfulness-based practices, motivational interviewing, and cognitive behavioral therapy are all well-established therapeutic approaches that can create a foundation for treating individuals with co-occurring disorders (Atkins, 2014). The benefits of self-help groups, vital for providing social support for clients in recovery (Martin et al., 2007; NIDA, 2018b), were detailed above, and mindfulness-based practices will be described in detail further down below.

Motivational interviewing (MI) was developed by William Miller, Ph.D., and Stephen Rollnick, Ph.D., to empower clients to make decisions and changes to address their problem behaviors and meet their goals. Rather than giving advice, the therapist uses nonjudgmental verbal and nonverbal reflective listening, empathy, questioning, and validation techniques. These are designed to help the clients focus on and articulate their need for and plan to change as well as their resistance to and internal dissonance or ambivalence around this change. This therapeutic approach may be applied not only to substance use but also to changes in nutrition, exercise, and medication regimens (Atkins, 2014; Lindson et al., 2019; Miller, 1996).

Cognitive behavioral therapy (CBT) was initially developed for treating clients with mental health disorders. In CBT, clients are encouraged to learn and then practice techniques focused on the connections between their thoughts, feelings, and actions. This often involves identifying and challenging cognitive distortions, in the forms of black-and-white thinking, catastrophic thinking, emotional reasoning, generalizations, labeling/judging, mind reading, blaming, shoulds, and the fallacy of fairness and of change (Atkins, 2014; Beck, 1997). CBT is considered best practice in the area of co-occurring disorders, particularly when combined with other treatment modalities, such as mindfulness-based practices, self-help groups, and motivational interviewing (Atkins, 2014).

All of these treatment approaches can be used to address the many needs of clients with CODs, including building self-awareness and acceptance in the present moment (Martin et al., 2007); processing and expressing (rather than numbing) emotions (Martin et al., 2007; NIDA, 2018a); decreasing anxiety (Atkins, 2014; Martin et al.,

2007); building relationships, social skills, and group cohesion (Atkins, 2014; NIDA, 2018a); overcoming stigma (SAMHSA, 2019b); improving mood and thought organization (Atkins, 2014); decreasing reactivity (Atkins, 2014; NIDA, 2018a); building coping skills and protective factors (Atkins, 2014; Martin et al., 2007; NIDA, 2018a); increasing motivation and commitment (Martin et al., 2007); decreasing suicidal ideation and harmful behaviors (NIDA, 2018a); reducing substance use urges (Martin et al., 2007; NIDA, 2018a) and resistance (Atkins, 2014); and providing assistance with housing and other basic needs (Martin et al., 2007; SAMHSA, 2005).

Music Therapy in the Treatment of Co-Occurring Disorders

Nineteen percent of music therapists reported working with clients with a variety of mental health and substance use disorders in 2018 (AMTA, 2018). Music therapists may work with individuals with CODs in both acute and longer-term inpatient and outpatient treatment centers as well as group homes, community-based mental health centers, and various other settings (AMTA, 2018; Silverman, 2015b). Music therapists working at these sites conduct initial and ongoing assessments, create treatment plans based upon therapeutic goals, and complete regular evaluations of these established goals (Ross et al., 2008; Silverman, 2015b). Music therapy sessions may be offered in individual and group formats and may include both active music making and receptive music therapy methods, based on the preferences, abilities, and needs of the clients (Silverman, 2015b; Vega, 2017).

The literature regarding the use of music therapy with clients with CODs is limited (Jackson, 2015; Murphy, 2017; Vega, 2017). To date, findings suggest that group

improvisation may decrease symptoms of depression (Albornoz, 2011). Additionally, engagement in music therapy groups that incorporate a variety of music therapy methods may decrease self-reported feelings of anxiety, anger, and sadness (Gardstrom, Bartkowski, et al., 2013) and improve coping skills (Gallagher & Steele, 2002). Adults with CODs may experience a variety of other benefits from group music therapy, including reductions in fear, stress, substance urges, and resistance as well as increases in motivation and mood (Albornoz, 2011; Gallagher & Steele, 2002). Research also suggests that attending music therapy sessions may provide motivation for increased treatment retention and after-care follow up for individuals with CODs (Murphy & Ziedonis, 2016; Ross et al., 2008).

Group Music Therapy in the Treatment of Co-Occurring Disorders

Group Music Therapy for Adults with Mental Health Disorders

Group music therapy sessions for individuals with mental health disorders often incorporate a variety of song, improvisation, receptive, and compositional techniques to meet diverse client goals (Eyre & Lee, 2015). Within the group setting, song techniques can be used to improve mood and social skills, to process emotions and issues, to learn coping skills, and to help create a sense of group cohesion (Eyre & Lee, 2015).

Improvisation techniques can decrease anxiety (Zarate, 2016) and can assist the clients in building positive relationships as they are encouraged to be present, work together, and support each other (Eyre & Lee, 2015). Rhythmic percussion improvisation and drum circles can be used to address social-emotional goals (including socialization,

self-esteem, nonverbal communication, and coping skills) as well as to improve thought organization, impulse control, and reality orientation (Eyre & Lee, 2015). Clients have described how improvisation provided them a way to express themselves, to build tolerance, to develop confidence, to experience achievement, and to be “heard and witnessed by others in a social setting” (McCaffrey & Edwards, 2016, p. 134).

Receptive techniques can be used to learn self-regulation coping skills, to stimulate creative thinking, and to encourage mindfulness (Eyre & Lee, 2015).

Compositional techniques can inspire creativity and emotional expression and are often incorporated along with other creative arts (such as writing, drawing, and/or moving) to achieve these goals (Eyre & Lee, 2015). Actively creating and re-creating music can be “grounding for clients” (Eyre & Lee, 2015, p. 176) and can improve self-esteem, socialization, and motivation and provide a sense of achievement (Eyre & Lee, 2015).

Research suggests that group music therapy sessions can assist clients in building protective factors, such as connection, that can help stabilize individuals with mental health disorders and decrease their risk of suicidal ideation (Bullard, 2011). The music itself can facilitate this sense of connection, with the participants in Bullard’s (2011) study noting that they felt close enough to the other group members to be able to express their thoughts and feelings.

Music’s ability to create this sense of connection, along with its capacity to decrease stress and fear levels and increase feelings of self-confidence, may assist clients diagnosed with Post Traumatic Stress Disorder (PTSD) in building resiliency (Landis-Shack et al., 2017). Music therapy may also address and reduce some of the negative

symptoms of PTSD, including intrusions, avoidance, negative moods, and arousal (Landis-Shack et al., 2017).

Group music therapy can assist clients in building relationships and positively addressing issues related to grief, loneliness, trauma, and stigma, regardless of the theoretical orientation of the music therapist (Jackson, 2015). Music therapy sessions can also provide opportunities for clients to build flexibility, adaptability, and reciprocity, as they work through the challenges that can occur in group therapy (McCaffrey, 2017).

Group Music Therapy for Adults with Substance Use Disorders

Music therapy methods, such as lyric analysis, music and imagery, and songwriting, have been researched with groups of clients with substance use disorders to understand their effect on a variety of physiological, emotional, social, and behavioral goals. These studies have shown mixed results in significance (Murphy, 2017; Silverman, 2003), and many studies were biased because the researchers implemented the method variations and analyzed the data (Murphy, 2017).

Research and clinical literature report that adults with substance use disorders perceive music therapy groups as 1) being helpful in their recovery (Gardstrom et al., 2017), 2) decreasing their anxiety (Gardstrom & Diestelkamp, 2013; Hammer, 1996), and 3) increasing their treatment readiness and motivation (Dingle et al., 2008; Jones, 2005; Murphy, 2017; Silverman, 2015a). Group music therapy may increase feelings of acceptance and joy/happiness/enjoyment and decrease feelings of guilt/regret/blame and fear/distrust for those with SUDs (Jones, 2005). Jones (2005) reported that “lonely” was the most intensely felt emotion prior to music therapy groups, while “acceptance” was the

most intensely felt emotion afterward (p. 102). Loneliness and isolation are factors that can inhibit recovery and are therefore important feelings to address in the therapeutic process (Creswell, 2017; Gallant et al., 1997; Martin et al., 2007). Music therapy can help individuals with SUDs explore and express their emotions without the need for substances, allowing clients to discover and develop new skills to cope with their feelings (Baker et al., 2007).

Music therapy can also be used to meet the different needs of clients at various stages in recovery. Borling (2012) identified a 3-stage model of recovery: 1) bio-physical, 2) psycho-emotional, and 3) psycho-spiritual. The bio-physical stage is frequently the first one that must be addressed as clients experience the physiological symptoms of withdrawal. In order to ameliorate these symptoms, the music therapist may implement experiences that include stress management techniques, physical movement, and drumming. Clients are encouraged to practice these techniques regularly in order to integrate them into their daily lives and to utilize these new skills after they are discharged from treatment. Learning these strategies can give the clients control over their responses throughout the course of their treatment and beyond, from managing their withdrawal symptoms to dealing with future stressors in life (Borling, 2012; Borling, 2017).

As bio-physical withdrawal symptoms are reduced, psycho-emotional symptoms (including co-occurring mental health issues) become more prominent. The psycho-emotional stage provides opportunities for clients to explore psychodynamic issues and emotions in as safe a space as is possible. Music therapy strategies for this stage include

therapeutic sing-alongs, lyric discussion, songwriting, and/or structured imagery (Borling, 2012; Borling, 2017).

The psycho-spiritual stage focuses on the clients' connections with a Higher Power, a critical component of many substance use disorder treatment programs. These three stages are not necessarily linear and are based on the needs of the client, the ultimate goal of treatment being to assist clients in finding wisdom within, thus empowering the client in the process (Borling, 2012). Borling (2012) stated, "Fundamental to this model of music therapy with addictions is the suggestion that answers to recovery must come from within the client" (p. 33).

While music has the potential to trigger a craving or relapse, music therapy sessions can foster discussions of this and provide options for listening to music in a healthy manner. It can be helpful for individuals with substance use disorders to explore this topic before they encounter music as a trigger outside of treatment (Gardstrom et al., 2017; Silverman, 2019). Using music in a healthy manner can also serve as a predictor of other healthy coping skills for recovery (Silverman, 2019).

Group Music Therapy for Adults with Co-Occurring Disorders

Songwriting, including lyric substitutions and complete compositions, and both referential and non-referential improvisation are the most commonly used methods by music therapists working with clients with co-occurring diagnoses (Vega, 2017). Group music therapy has been shown to significantly reduce symptoms of depression for adolescents and adults receiving treatment for mental health disorders and co-occurring substance use (Albornoz, 2011). It may also lead to a decrease in adult clients' self-

reported levels of anxiety, anger, and sadness (Gardstrom, Bartkowski, et al., 2013).

Music therapy may help clients with co-occurring disorders express their thoughts and emotions with appropriate affect and develop coping skills that can be used outside the treatment setting (Gallagher & Steele, 2002). In addition, adults with CODs described a variety of other benefits of group music therapy, including reductions in fear, stress, substance urges, and resistance as well as increases in motivation and mood (Albornoz, 2011; Gallagher & Steele, 2002; Ross et al., 2008).

It is not uncommon for the treatment process to involve some initial resistance from individuals with CODs (Atkins, 2014; Gardstrom & Hiller, 2016; Irle & Lovell, 2014). Both research and clinical practice reports suggest that music therapy can reduce this resistance and lead to success when other treatment approaches have failed (Gallagher & Steele, 2002; Irle & Lovell, 2014). Irle and Lovell (2014) examined the effect of participating in a weekly men's music group on self-reported wellness. About a third of the participants' wellbeing scores initially decreased from the first through the sixth session but then almost all participants' scores increased from the sixth through the twelfth session. Almost all participants ended up at the same increased level of wellbeing, regardless of whether they initially had descending or ascending scores. The authors suggested that these "late responders" as they referred to them "may not have previously accepted they were in need of help until at least midway through the intervention" and further discussed the progression from this state of resistance through an awareness of their need for help to finally the willingness to accept and utilize this help to enhance their wellbeing (Irle & Lovell, 2014, p. 182).

To date, research on music therapy for adults with co-occurring mental health and substance use disorders has been limited and has produced inconsistent results (Jackson, 2015; Murphy, 2017; Vega, 2017). The literature has also primarily focused on gender-specific groups, such as males (ages 16 to 60) receiving treatment for depression and substance abuse (Albornoz, 2011) and women with addictive disorders as their primary diagnosis who self-reported anxiety levels (Gardstrom & Diestelkamp, 2013).

Mindfulness in the Treatment of Co-Occurring Disorders

Mindfulness in the Treatment of Mental Health Disorders

The practice of mindfulness can be beneficial for clients with a variety of mental health disorders, including those with histories of trauma who may have numbed many of their body sensations (Martin et al., 2007; Van der Kolk, 2014). As Van der Kolk (2014) stated, “Simply noticing what you feel fosters emotional regulation, and it helps you to stop trying to ignore what is going on inside you.... Once you start approaching your body with curiosity rather than with fear, everything shifts” (p. 275).

The research around mindfulness is growing, including the number of randomized controlled trials (RCTs) (Chiesa & Serretti, 2011; Creswell, 2017). Davis and Hayes (2011) completed a practice review on mindfulness in psychotherapy-related research, noting the use of mindfulness-based practices in DBT. Benefits of mindfulness-based practices for clients with mental health disorders may include improved emotion regulation, awareness, acceptance, and cognitive flexibility; decreased reactivity; and enhanced interpersonal and intrapersonal connections (Creswell, 2017; Davis & Hayes,

2011). Individuals engaged in mindfulness-based practices also may experience decreased anxiety (Chiesa & Serretti, 2011; Creswell, 2017; Hofmann et al., 2010; Hofmann & Gómez, 2017), depression (Chiesa & Serretti, 2011; Chiesa et al., 2015; Creswell, 2017; Hofmann et al., 2010; Hofmann & Gómez, 2017; Piet & Hougaard, 2011), PTSD symptoms, and feelings of loneliness (Creswell, 2017).

Mindfulness in the Treatment of Substance Use Disorders

The practice of mindfulness may be beneficial for individuals with substance use disorders and is often included as an adjunctive therapy for IOT programs for this population (CSAT, 2006). Mindfulness training and mindfulness-based interventions may decrease cravings, relapses, and overall drug use (Bowen et al., 2011; Brewer et al., 2009; Chiesa & Serretti, 2014; Creswell, 2017; Garland et al., 2010) as well as some of the other challenges related to drug use, such as legal problems (Witkiewitz et al., 2014). These techniques may improve emotional and psychological functioning and be beneficial for adults with SUDs in both their short and long term recovery (Creswell, 2017; CSAT, 1994).

Miller (2017) connected mindfulness with the Alcoholics Anonymous (AA) slogan “one day at a time,” and CSAT (1999) affirmed that mindfulness is consistent with the philosophies of 12-Step support and self-help groups. As a result, mindfulness-based training is being incorporated into 12-Step programs for diverse individuals with a variety of substance use disorders (Jacobs-Stewart, 2010) as well as into relapse prevention programs, using cognitive-behavioral approaches similar to DBT (Bowen et al., 2011; Creswell, 2017).

The research around mindfulness and substance use disorders is still limited. The systematic review of mindfulness meditation (MM) for individuals with SUDs by Zgierska et al. (2009) included 25 manuscripts and noted significant methodological limitations in most of them. Chiesa and Serretti's (2014) systematic review of MBIs for individuals with substance use disorders included 24 studies. Potential benefits reported included reduced cravings and substance use and increased mindfulness. However, limitations in these findings also highlight the need for larger and more rigorous studies (Chiesa & Serretti, 2014).

Mindfulness in the Treatment of Co-Occurring Disorders

Mindfulness-based practices, used both alone and in combination with other treatment modalities, have been included in current therapeutic approaches for treating co-occurring disorders (Atkins, 2014). These practices may be beneficial in addressing both the mental health disorders, such as depression and anxiety, and the co-occurring substance use disorders (Atkins, 2014; Bowen et al., 2011; Creswell, 2017; CSAT, 1994; CSAT, 1999; CSAT, 2006; Hofmann & Gómez, 2017; Jacobs-Stewart, 2010; Miller, 2017).

Mindfulness-based practices for clients with CODs focus on bringing a nonjudgmental and fluid awareness to the present moment. This often starts with a focus on the breath and then expands out to include thoughts, emotions, and other sensations. Common mindfulness-based practices for individuals with CODs may include seated meditation, breath work (such as counting the breath), mindfulness in daily activities such

as walking or eating, and other traditional mindfulness practices such as yoga, qigong, or tai chi (Atkins, 2014).

Mindfulness and Music Therapy in the Treatment of Co-Occurring Disorders

Both mindfulness-based practices and music therapy have demonstrated their own therapeutic benefits for clients with co-occurring disorders, and references to mindfulness-based practices are becoming more common in music therapy research and related areas of literature (Grocke & Wigram, 2007; McGraw Hunt, 2013; Sorensen et al., 2018; Weber, 1996). For example, music therapists commonly use receptive, re-creative, and improvisational techniques to promote a sense of mindfulness, grounding, and present-mindedness in clients with mental health disorders (Eyre & Lee, 2015).

Mindfulness-based practices, although not named specifically as such, may also be used to assist clients in transitioning and becoming more present in their bodies during music therapy sessions (Bradt et al., 2016). All of these goals may be applicable for clients with co-occurring disorders as well.

Atkins (2014) included listening to music as one of the ways that clients with CODs could fully focus their minds. Reducing anxiety and increasing relaxation, two other potential benefits of mindfulness-based practices, are also common goals for music therapy groups for clients with co-occurring mental health and substance use disorders (Gardstrom, Bartkowski, et al., 2013; Gardstrom & Diestelkamp, 2013; Grocke & Wigram, 2007; Hammer, 1996). However, studies have yet to be done to explore these potential connections.

Summary

The research on music therapy for adults with co-occurring mental health and substance use disorders has been limited, produced inconsistent results, and is often biased (Jackson, 2015; Murphy, 2017; Vega, 2017). Research into mindfulness-based music therapy for adults with CODs is even more limited. In fact, there has only been one previous paper published detailing mindfulness-based music therapy strategies for women in recovery (Miller, 2017).

Therefore, this pilot study sought to expand the overall evidence base of research into mindfulness-based music therapy practices for adults with co-occurring mental health and substance use disorders. It explored the following research questions:

- Are participants' thoughts in the past, present or future during mindfulness-based music therapy sessions?
- Does mindfulness-based music therapy affect the overall level of serenity (acceptance, inner haven, and trust) for participants?

Chapter Three: Methods

Participants

Study participants were adults with co-occurring mental health and substance use disorders recruited from one counselor's music therapy group at an intensive outpatient treatment program. The IOT program is located in a large Midwest urban area and primarily serves adults with CODs from low-resource environments, including some who are transitioning out of prison or inpatient treatment.

Participant Inclusion Criteria

Participants were adults (at least eighteen years of age) of diverse gender identities recruited from one counselor's group. Due to the organization's privacy policies, information was not available on the participants' demographics (age, gender, substance use histories, specific diagnoses, etc.). However, clients at this site generally range in age from approximately their early 20s through their late 60s. While exact diagnoses weren't revealed, each participant was in treatment for co-occurring mental health and substance use disorders. Many participants also routinely introduced themselves with their name and drug of choice, presumably because of their participation in recovery groups such as AA.

Participant Exclusion Criteria

Potential contraindications for inclusion in this study included active psychosis, which could significantly affect the appropriateness of some mindfulness-based

techniques, and specific diagnoses of brain injuries and cognitive deficits, which could interfere with an individual's ability to give informed consent (Murphy, 2016). No clients were excluded from this study based upon these criteria.

Because of the prevalence of past trauma for individuals with co-occurring diagnoses (Gardstrom, Carlini, et al., 2013; Martin et al., 2007; NIDA, 2018c; Van der Kolk, 2014), an awareness of potential triggers for the participants was vital. Alternate options were provided within experiences throughout the implementation of this study to address this possibility (see Appendix C and the Practice Guidelines in the Discussion chapter for details).

Mindfulness-Based Music Therapy Groups

All potential participants were informed about the research study. Those interested in participating were screened based upon the inclusion criteria then completed and signed the Research Participant Consent Form. All participants also completed the Brief Serenity Scale (Kreitzer et al., 2009) as a pre-test prior to their participation in this study (Appendix A). Four monthly 50-minute mindfulness-based music therapy groups were then facilitated, focusing on the following mindfulness-based themes, chosen based upon the related literature described above and grounded in past clinical experiences in this setting: 1) presence and connection with our bodies (including entrainment and the iso principle), 2) presence and connection with our minds and memories (including musical memories), 3) presence and connection with nature (including guided imagery and relaxation), and 4) presence and connection with others (including boundaries and support). Mindfulness-based prompts were woven into each experience in each session.

At various points throughout each music therapy session (including the beginning, end, and after each specific experience), the participants marked on a Likert scale (Appendix B) where their thoughts were, in relation to the past, present, and future.

While the basic structure of each session was planned in advance, space was left to adapt these sessions based on the needs of the clients in the moment. As Murphy (2015) stated, “When planning music therapy experiences, the music therapist should always ask: ‘What does the client need from the music today?’” (p. 355).

The overall format for the sessions, as they were conducted, is represented in Tables 1-4, with a full description of the experiences included in the session overview (Appendix C):

Table 1. Session 1: Presence and Connection with our Bodies

| Session 1 | Description |
|--------------------------------|--|
| Clients completed Likert Scale | Likert Scale 1.1 |
| Instrumental Improvisation | Referent of Noticing Physiological Responses to the Music and/or the Silence |
| Clients completed Likert Scale | Likert Scale 1.2 |
| Client Sharing & Discussion | Physiological Effects of Improvisation |
| Clients completed Likert Scale | Likert Scale 1.3 |
| Musical Introductions | Blues-Style |
| Clients completed Likert Scale | Likert Scale 1.4 |
| Client Reflection | Entrainment Journal (Appendix D) |
| Client Sharing & Discussion | Responses to Entrainment Journal |
| Clients completed Likert Scale | Likert Scale 1.5 |
| Review of Research | Entrainment and the Iso Principle |
| Clients completed Likert Scale | Likert Scale 1.6 |
| Playlist Creation | Entrainment Playlist (Appendix E) |
| Clients completed Likert Scale | Likert Scale 1.7 |
| Clients completed Likert Scale | Likert Scale 1.8 |

Table 2. Session 2: Presence and Connection with our Minds and Memories

| Session 2 | Description |
|--------------------------------|--|
| Clients completed Likert Scale | Likert Scale 2.1 |
| Guided Body Scan & Breath Work | Focused on Listening |
| Clients completed Likert Scale | Likert Scale 2.2 |
| Musical Introductions | Pink Floyd's "Wish You Were Here" Riff |
| Clients completed Likert Scale | Likert Scale 2.3 |
| Instrumental Improvisation | Referent of Listening |
| Clients completed Likert Scale | Likert Scale 2.4 |
| Client Sharing & Discussion | Responses to Improvisation |
| Clients completed Likert Scale | Likert Scale 2.5 |
| Review of Research | Connections between Music & Memories and Neuroplasticity |
| Clients completed Likert Scale | Likert Scale 2.6 |
| Client Reflection & Journaling | Musical Memory Journal (Appendix F) |
| Clients completed Likert Scale | Likert Scale 2.7 |
| Client Sharing & Discussion | Responses to Musical Memory Journal |
| Clients completed Likert Scale | Likert Scale 2.8 |

Table 3. Session 3: Presence and Connection with Nature

| Session 3 | Description |
|------------------------------------|--|
| Clients completed Likert Scale | Likert Scale 3.1 |
| Guided Body Scan & Breath Work | Focused on Body, Feelings, Thoughts, & Breath |
| Clients completed Likert Scale | Likert Scale 3.2 |
| Musical Introductions | Blues-Style |
| Clients completed Likert Scale | Likert Scale 3.3 |
| Instrumental Improvisation | Built around the Sound of the Rainstick and Ocean Drum |
| Clients completed Likert Scale | Likert Scale 3.4 |
| Client Sharing & Discussion | Responses to Improvisation |
| Clients completed Likert Scale | Likert Scale 3.5 |
| Guided Relaxation & Nature Imagery | Centered around a Favorite Place in Nature |
| Clients completed Likert Scale | Likert Scale 3.6 |
| Client Discussion | Responses to Guided Relaxation & Nature Imagery |
| Clients completed Likert Scale | Likert Scale 3.7 |

Table 4. Session 4: Presence and Connection with Others

| Session 4 | Description |
|---|--|
| Clients completed Likert Scale | Likert Scale 4.1 |
| Guided Body Scan & Breath Work | Focused on Support |
| Clients completed Likert Scale | Likert Scale 4.2 |
| Musical Introductions | Tom Petty's "Free Falling" Riff |
| Clients completed Likert Scale | Likert Scale 4.3 |
| Instrumental Improvisation | Referent of Support for a Client Volunteer |
| Clients completed Likert Scale | Likert Scale 4.4 |
| Client Sharing & Discussion | Responses to Improvisation |
| Clients completed Likert Scale | Likert Scale 4.5 |
| Vocal Re-Creation & Song (Lyric) Analysis | "Lean On Me" by Bill Withers (Appendix G) |
| Clients completed Likert Scale | Likert Scale 4.6 |
| Client Discussion | Responses to Vocal Re-Creation & Song (Lyric) Analysis |
| Clients completed Likert Scale | Likert Scale 4.7 |
| Client Reflection, Journaling, & Discussion | Support Journal (Appendix H) |
| Clients completed Likert Scale | Likert Scale 4.8 |
| Clients completed Post-Test | Brief Serenity Scale (Appendix A) |

Post-test measures of the Brief Serenity Scale (Kreitzer et al., 2009) were completed after the participants' final study session (Appendix A).

Research Methodology

The first question (Are participants' thoughts in the past, present or future during mindfulness-based music therapy sessions?) was addressed using a single group repeated measures design. Trends were analyzed using descriptive statistics (O'Leary, 2017; Snedecor & Cochran, 1989).

The second question (Does mindfulness-based music therapy affect the overall level of serenity (acceptance, inner haven, and trust) for participants?) was addressed

using the Brief Serenity Scale (Kreitzer et al., 2009) as both a pre- and post-test. Results were evaluated using inferential statistics (Hollander & Wolfe, 1999; Snedecor & Cochran, 1989).

Originally created by Roberts and Aspy (1993), the Serenity Scale measures nine factors described as Inner Haven, Acceptance, Belonging, Trust, Perspective, Contentment, Present-Centered, and Cognitive Restructuring that were found to measure the single concept of Serenity. Kreitzer et al. (2009) were given permission to abbreviate this scale, ultimately selecting 22 items, representing Acceptance (which also includes aspects of Perspective, Benevolence, and Present-Centered), Inner Haven, and Trust. All were strongly related to the foundational concept of Serenity. In their study of adult solid organ transplant recipients, Kreitzer et al. (2009) found that the Brief Serenity Scale was significantly correlated with other self-report measures. “Higher serenity scores were positively associated with positive affect and mindful awareness and inversely related to negative affect, anxiety, depression, health distress, and transplant-related stress” (Kreitzer et al., 2009, p. 11). In addition, the three subscales of Acceptance, Inner Haven, and Trust were also found to have high reliability and thus could potentially be used individually as well (Kreitzer et al., 2009).

The concept of Serenity, subscales of Acceptance, Inner Haven, and Trust, and specific items on the Brief Serenity Scale connect with many of the needs identified for adults with CODs, including accepting the present moment (Martin et al., 2007); building relationships and group cohesion (Atkins, 2014; Gardstrom et al., 2017; NIDA, 2018a); processing and expressing (rather than numbing) emotions (Martin et al., 2007; NIDA, 2018a); decreasing reactivity (Atkins, 2014; NIDA, 2018a) and anxiety (Atkins, 2014;

Martin et al., 2007); overcoming stigma (SAMHSA, 2019b); improving mood and thought organization (Atkins, 2014); building coping skills and protective factors (Atkins, 2014; Martin et al., 2007; NIDA, 2018a); increasing motivation and commitment (Martin et al., 2007); reducing resistance (Atkins, 2014); and decreasing suicidal ideation and harmful behaviors (NIDA, 2018a).

In addition, this measurement tool's subscale factors (Kreitzer et al., 2009) are related to benefits of group music therapy for individuals with CODs previously identified in the research literature. These include decreasing self-reported levels of anxiety, anger, and sadness (Gardstrom, Bartkowski, et al., 2013); expressing thoughts and emotions with appropriate affect and developing coping skills that can also be used outside the treatment setting (Gallagher & Steele, 2002); reducing fear, stress, and resistance (Albornoz, 2011; Cevalco et al., 2005; Gallagher & Steele, 2002); and increasing motivation and mood (Albornoz, 2011; Cevalco et al., 2005; Gallagher & Steele, 2002; Ross et al., 2008).

Finally, this Brief Serenity Scale (Kreitzer et al., 2009) is consistent with the benefits of mindfulness-based practices previously identified for individuals with CODs. These include bringing a nonjudgmental and fluid awareness to the present moment (Atkins, 2014; Grocke & Wigram, 2007); being present with their own mind and body as well as present with others (Eyre & Lee, 2015); reducing anxiety (Hofmann & Gómez, 2017); and addressing emotion regulation, distress tolerance, and/or interpersonal effectiveness (Chwalek & McKinney, 2015).

The Brief Serenity Scale (Kreitzer et al., 2009) was used as one of the measures of a mindfulness-based stress reduction program which resulted in significant increases in

serenity for nurses employed in a corporate setting (Bazarko et al., 2013). It has also been reviewed as a measure of both mental and spiritual wellbeing (Linton et al., 2015).

Analysis

Data Collection

All participants completed the Brief Serenity Scale (Kreitzer et al., 2009) (Appendix A) as a pre-test prior to their participation in this study. Participants then took part in up to four monthly 50-minute mindfulness-based music therapy groups, depending on when they joined and left the intensive outpatient treatment program. At various points throughout each music therapy session (including the beginning, end, and after each specific experience), the participants marked on a Likert scale (Appendix B) where their thoughts currently were, in relation to the past, present, and future (O’Leary, 2017). Post-test measures of the Brief Serenity Scale (Kreitzer et al., 2009) were completed either at the end of the study or at the end of each individual participant’s treatment program, whichever came first.

Data Analysis Method

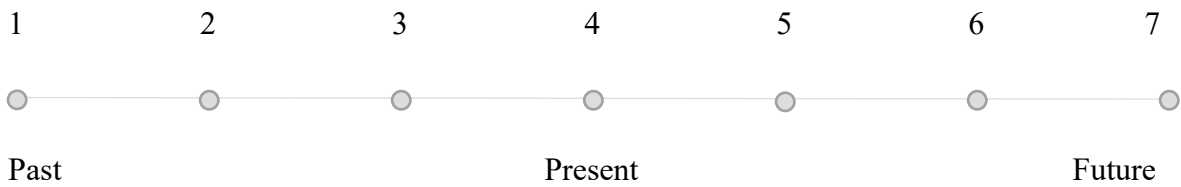
The Likert scale results were analyzed quantitatively by assigning numbers to each point on the scale (1-7) and using descriptive statistics to identify trends in the data (O’Leary, 2017; Snedecor & Cochran, 1989). Differences between pre- and post-test scores were calculated using a paired samples t-test (Snedecor & Cochran, 1989) and Wilcoxon test (Hollander & Wolfe, 1999).

Chapter Four: Results

Effects of Mindfulness-Based Music Therapy on Participants’ Thoughts

The first question (Are participants’ thoughts in the past, present or future during mindfulness-based music therapy sessions?) was addressed using a single group repeated measures design. The Likert scale results for all participants (N = 13) were analyzed quantitatively by assigning numbers to each point on the scale (1-7) and using descriptive statistics to identify trends in the data (O’Leary, 2017; Snedecor & Cochran, 1989). These statistical analyses were conducted using the *Statistical Program for the Social Sciences* version 25. See Appendix B for the Likert scales and Table 5 for the scoring key.

Table 5. Likert Scale Scoring Key



Session 1 Results

Mean Likert scale results for session 1 (N = 8 for 1.1-1.6, N = 7 for 1.7, N = 6 for 1.8) are shown in Table 6. Looking only at these mean scores, results would seem to indicate that the thoughts of the participants were most in the present after reviewing the research on entrainment and the iso principle (Likert Scale 1.6 N = 8) and at the end of the group (Likert Scale 1.8 N = 6). This is consistent with the highest number of participants (six) marking that they felt most present after reviewing the research on

entrainment and the iso principle (Likert Scale 1.6 N = 8), as represented in Table 7. However, an equally high number of participants (six) also indicated that they felt most present after the blues-style introduction (Likert Scale 1.4 N = 8), as represented in Table 8. In contrast, although the mean score (4) seems to indicate that the participants' thoughts were in the present at the end of session 1 (Likert Scale 1.8 N = 6), Table 9 shows that the individual scores for this moment varied widely (from 1 to 7).

The only time that the mean score seems to indicate that the participants' thoughts were in the past was after the instrumental improvisation (Likert Scale 1.2 N = 8); however, this only reflects the marked scores for three participants. Four participants still marked a 4 for present, as indicated in Table 10.

Table 6. Mean Likert Scale Results for Session 1

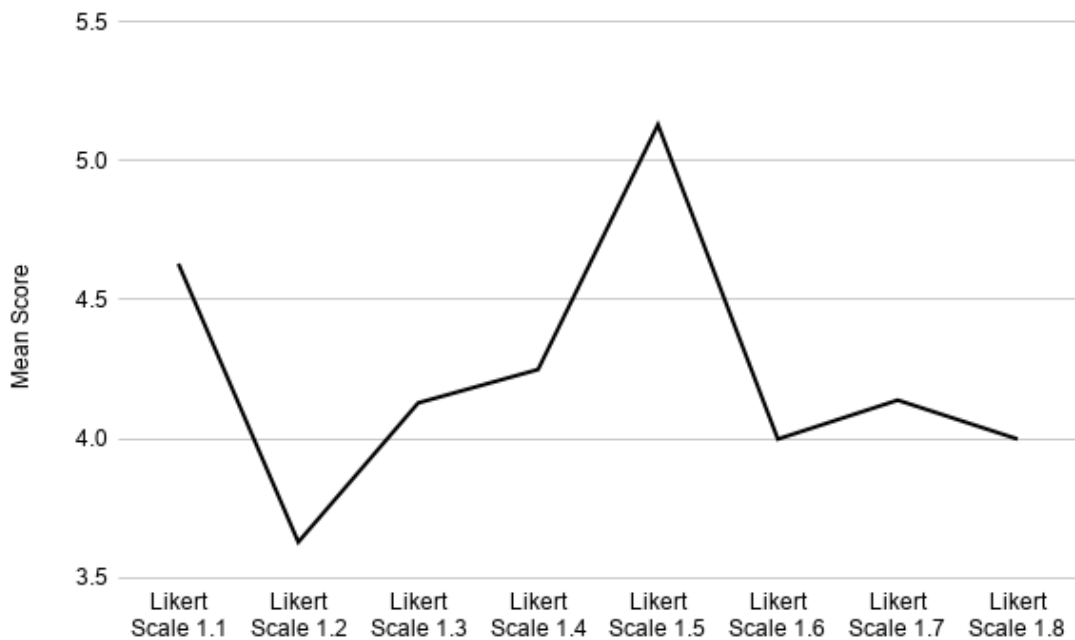


Table 7. Frequency Table for Likert Scale 1.6 (Post Review of Research)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 (Present) | 6 |
| 5 | 1 |
| 6 | 0 |
| 7 (Future) | 0 |

Table 8. Frequency Table for Likert Scale 1.4 (Post Musical Introductions)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 (Present) | 6 |
| 5 | 2 |
| 6 | 0 |
| 7 (Future) | 0 |

Table 9. Frequency Table for Likert Scale 1.8 (End of Session 1)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 1 |
| 2 | 0 |
| 3 | 1 |
| 4 (Present) | 2 |
| 5 | 1 |
| 6 | 0 |
| 7 (Future) | 1 |

Table 10. Frequency Table for Likert Scale 1.2 (Post Instrumental Improvisation)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 1 |
| 3 | 2 |
| 4 (Present) | 4 |
| 5 | 1 |
| 6 | 0 |
| 7 (Future) | 0 |

Session 2 Results

Mean results for session 2 (N = 7) are shown in Table 11. As in the first session, the highest number of participants (six) indicated that they felt present after the musical introductions (Likert Scale 2.3), as represented in Table 12. The downward spike in mean scores on Table 11 from Likert Scale 2.6 to 2.7 is noticeable, which coincides with the participants journaling about their musical memories. For Likert Scale 2.7, six out of seven participants marked that their mind was in the past (Table 13).

Table 11. Mean Likert Scale Results for Session 2

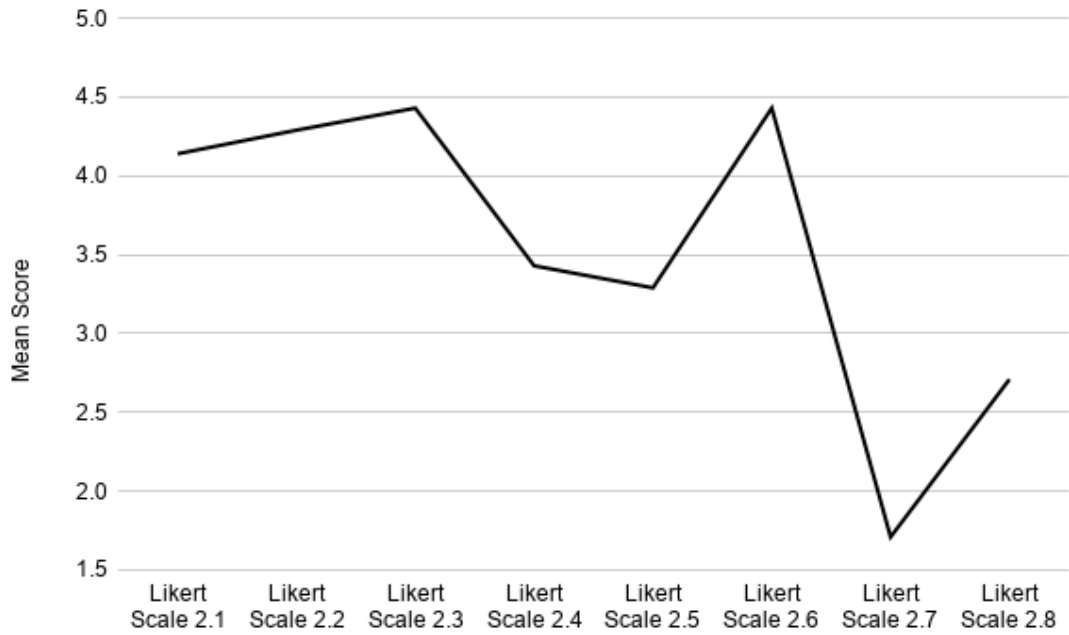


Table 12. Frequency Table for Likert Scale 2.3 (Post Musical Introductions)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 (Present) | 6 |
| 5 | 0 |
| 6 | 0 |
| 7 (Future) | 1 |

Table 13. Frequency Table for Likert Scale 2.7 (Post Client Reflection & Journaling)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 4 |
| 2 | 2 |
| 3 | 0 |
| 4 (Present) | 1 |
| 5 | 0 |
| 6 | 0 |
| 7 (Future) | 0 |

Session 3 Results

Mean results for session 3 (N = 8) are shown in Table 14, with all mean scores located in the present to future range. Although the mean score is closest to present (4) for Likert Scale 3.2, Table 15 shows that the individual scores for this moment varied widely (from 1 to 7). As in the first two sessions, the highest number of participants (five) indicated that they felt present after the musical introductions (Likert Scale 3.3), as represented in Table 16.

Table 14. Mean Likert Scale Results for Session 3

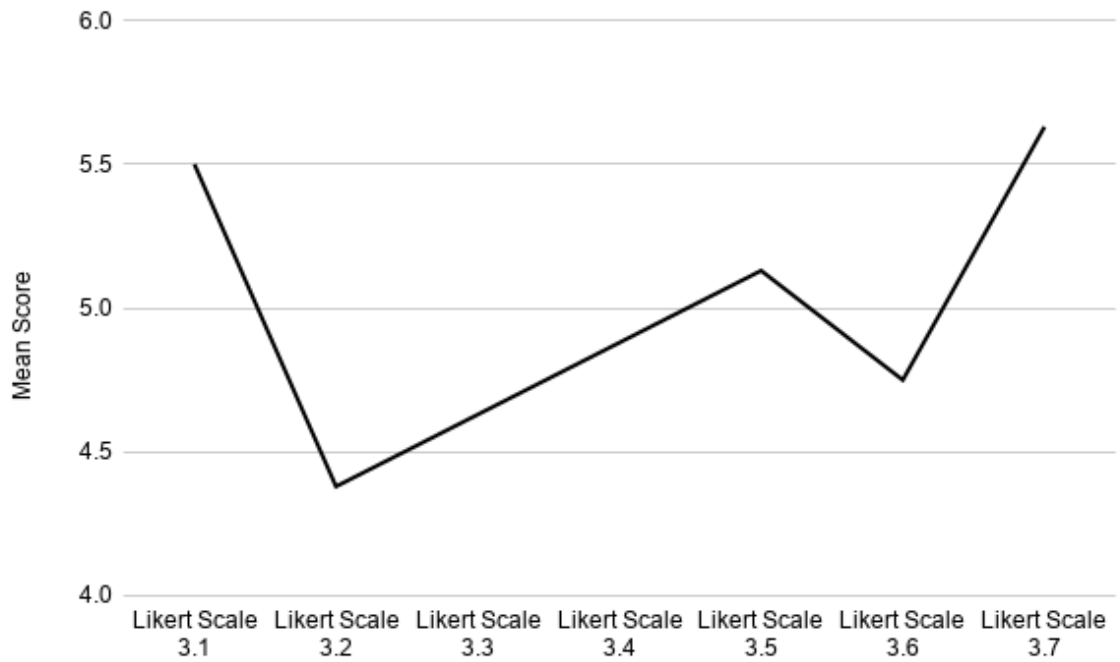


Table 15. Frequency Table for Likert Scale 3.2 (Post Guided Body Scan & Breath Work)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 1 |
| 2 | 1 |
| 3 | 0 |
| 4 (Present) | 2 |
| 5 | 2 |
| 6 | 0 |
| 7 (Future) | 2 |

Table 16. Frequency Table for Likert Scale 3.3 (Post Musical Introductions)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 (Present) | 5 |
| 5 | 2 |
| 6 | 0 |
| 7 (Future) | 1 |

Session 4 Results

Mean results for session 4 (N = 9) are shown in Table 17, with all mean scores once again located in the present to future range. The mean score is closest to present (4) for Likert Scale 4.6; however, Table 18 shows that the individual scores for this moment varied widely (from 2 to 7). As in the first three sessions, the highest number of participants (four) indicated that they felt present after the musical introductions (Likert Scale 4.3), as represented in Table 19, as well as after the initial guided body scan and breath work (Likert Scale 4.2), as indicated in Table 20.

Table 17. Mean Likert Scale Results for Session 4

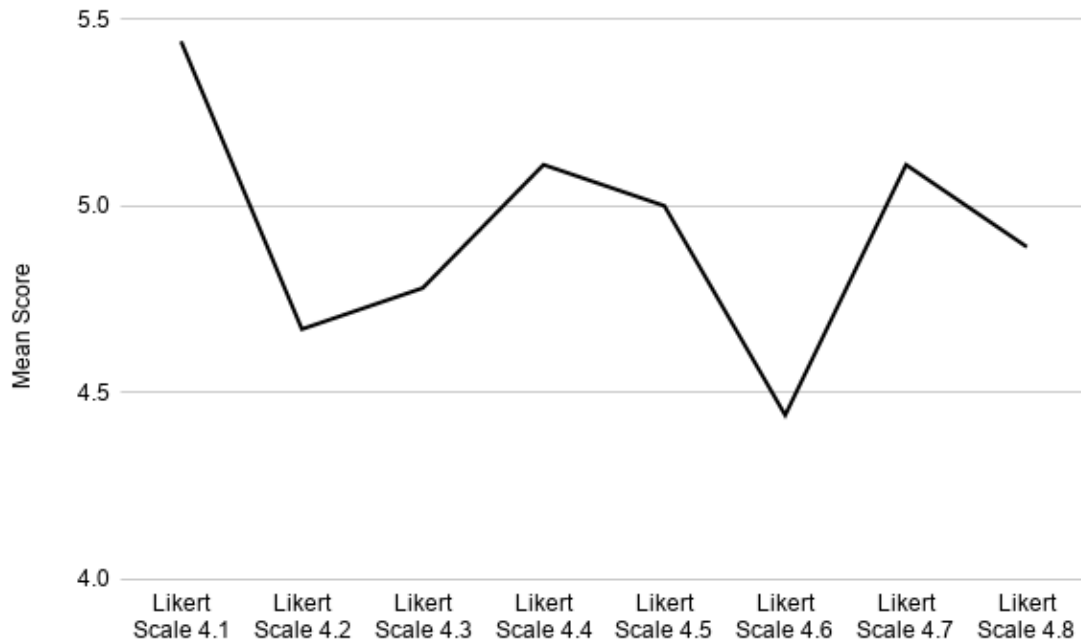


Table 18. Frequency Table for Likert Scale 4.6 (Post Vocal Re-Creation & Song Analysis)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 2 |
| 3 | 1 |
| 4 (Present) | 2 |
| 5 | 1 |
| 6 | 1 |
| 7 (Future) | 2 |

Table 19. Frequency Table for Likert Scale 4.3 (Post Musical Introductions)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 (Present) | 4 |
| 5 | 2 |
| 6 | 0 |
| 7 (Future) | 2 |

Table 20. Frequency Table for Likert Scale 4.2 (Post Guided Body Scan & Breath Work)

| Likert Scale Response | Number of Participants |
|-----------------------|------------------------|
| 1 (Past) | 0 |
| 2 | 1 |
| 3 | 0 |
| 4 (Present) | 4 |
| 5 | 2 |
| 6 | 0 |
| 7 (Future) | 2 |

Effects of Mindfulness-Based Music Therapy on Serenity

The second question (Does mindfulness-based music therapy affect the overall level of serenity (acceptance, inner haven, and trust) for participants?) was addressed using the Brief Serenity Scale (Kreitzer et al., 2009) as both a pre- and post-test. Results were calculated using a paired samples t-test (Snedecor & Cochran, 1989) and Wilcoxon test (Hollander & Wolfe, 1999) to compare the differences between the individual and overall pre- and post-test scores for each participant (N = 13). These statistical analyses were conducted using the *Statistical Program for the Social Sciences* version 25.

Overall Response Results

While the mean score for the post-test was higher than the mean score for the pre-test, the statistical analysis of the overall pre- and post-test scores showed no significant differences ($p < 0.005$). Results are shown in Table 21.

Table 21. Overall Brief Serenity Scale Pre- and Post-Test Results

| Pre-test Mean Score | Post-test Mean Score | Sig. (2-tailed) |
|---------------------|----------------------|-----------------|
| 70.62 | 77.23 | 0.078 |

Individual Question Response Results

Individual question pre- and post-test scores were positively correlated ($p < 0.005$) for three responses, as indicated by the * in Table 22.

Table 22. Individual Question Response Correlation

| Response | Correlation (r) | Significance (p) |
|--|---------------------|----------------------|
| A. I am aware of an inner source of comfort, strength, and security. | .332 | .268 |
| B. During troubled times, I experience an inner source of strength. | .025 | .937 |
| C. I trust that life events happen to fit a plan which is larger and more gentle than I can know. | .787 | .001* |
| D. I see the good in painful events that have happened to me. | .564 | .045 |
| E. I experience peace of mind. | .513 | .073 |
| F. I am forgiving of myself for past mistakes. | .552 | .050 |
| G. I take care of today and let yesterday and tomorrow take care of themselves. | .358 | .230 |
| H. In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it. | .779 | .002* |
| I. I accept situations I cannot change. | .421 | .152 |

| | | |
|--|-------|-------|
| J. I try to place my problems in the proper perspective in any given situation. | .470 | .105 |
| K. I am aware of an inner peace. | -.100 | .746 |
| L. I experience an inner quiet that does not depend on events. | .194 | .526 |
| M. I find ways to share my talents with others. | .677 | .011 |
| N. When I get upset, I become peaceful by getting in touch with my inner self. | .459 | .115 |
| O. I attempt to deal with what is, rather than what was, or what will be. | .134 | .663 |
| P. Even though I do not understand, I trust in the ultimate goodness of the plan of things. | .832 | .000* |
| Q. I experience an inner calm even when I am under pressure. | .542 | .056 |
| R. I feel that I have done the best I could in life. | .557 | .048 |
| S. I can feel angry and observe my feeling of anger and separate myself from it and still feel an inner peace. | .661 | .014 |
| T. I trust that everything happens as it should. | .679 | .011 |
| U. I feel forgiving of those who have harmed me. | .048 | .876 |
| V. I feel serene. | .492 | .088 |

* Statistically significant

Statistical analysis of post-test scores using both the paired samples t-test and the Wilcoxon test showed a significant difference ($p < 0.05$) for four responses, as shown by the * in Table 23.

Table 23. P-Values from Paired Samples T-Test and Wilcoxon Test

| Response | Paired Samples T-Test P-Value | Wilcoxon Test P-Value |
|--|-------------------------------|-----------------------|
| A. I am aware of an inner source of comfort, strength, and security. | 0.025* | 0.040* |
| B. During troubled times, I experience an inner source of strength. | 0.711 | 0.717 |

| | | |
|--|--------|--------|
| C. I trust that life events happen to fit a plan which is larger and more gentle than I can know. | 0.776 | 0.821 |
| D. I see the good in painful events that have happened to me. | 0.808 | 0.830 |
| E. I experience peace of mind. | 0.009* | 0.020* |
| F. I am forgiving of myself for past mistakes. | 0.111 | 0.124 |
| G. I take care of today and let yesterday and tomorrow take care of themselves. | 0.829 | 0.915 |
| H. In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it. | 0.337 | 0.424 |
| I. I accept situations I cannot change. | 0.089 | 0.095 |
| J. I try to place my problems in the proper perspective in any given situation. | 0.337 | 0.386 |
| K. I am aware of an inner peace. | 0.108 | 0.092 |
| L. I experience an inner quiet that does not depend on events. | 0.700 | 0.668 |
| M. I find ways to share my talents with others. | 0.819 | 1.000 |
| N. When I get upset, I become peaceful by getting in touch with my inner self. | 0.819 | 0.829 |
| O. I attempt to deal with what is, rather than what was, or what will be. | 0.856 | 1.000 |
| P. Even though I do not understand, I trust in the ultimate goodness of the plan of things. | 0.337 | 0.374 |
| Q. I experience an inner calm even when I am under pressure. | 0.829 | 0.931 |
| R. I feel that I have done the best I could in life. | 0.136 | 0.159 |
| S. I can feel angry and observe my feeling of anger and separate myself from it and still feel an inner peace. | 0.013* | 0.025* |
| T. I trust that everything happens as it should. | 0.613 | 0.660 |
| U. I feel forgiving of those who have harmed me. | 0.570 | 0.671 |
| V. I feel serene. | 0.004* | 0.012* |

* Statistically significant

Chapter Five: Discussion

This study explored where participants' thoughts were (in the past, present, or future) after various experiences in mindfulness-based music therapy sessions and whether these mindfulness-based music therapy sessions affected the overall level of serenity (acceptance, inner haven, and trust) for the participants. This chapter discusses the findings from both the descriptive data and pre- and post-test scores along with study limitations, implications for future research, and recommendations for practice.

Discussion of Descriptive Data

The highest number of participants in each session indicated that they felt present after the musical introductions, regardless of which musical introduction was used (Tables 8, 12, 16, and 19). This experience involved going around the circle with each participant speaking or singing their preferred name and describing their body, mind, or feelings in the moment ("My name is _____, and I am _____."). The music therapist used a blues-style introduction for the first and third sessions, a riff from Pink Floyd's "Wish You Were Here" for the second session, and a riff from Tom Petty's "Free Fallin'" for the fourth session. While this experience maintained the highest frequency of 4 (present) indicators for each session, the percentage of clients who felt present did decrease. One reason for this could be the participants' familiarity with these musical introductions as the sessions progressed.

These musical introductions may support clients with co-occurring disorders in naming and expressing their feelings in the present moment. Being able to recognize their

emotions and choose how to respond may help clients with CODs avoid simply reacting by turning to substances. This is supported in the literature, as past studies show that music therapy may be helpful for exploring and expressing emotions without the need for substances (Baker et al., 2007; Gallagher & Steele, 2002). This is a skill considered vital in recovery (Martin et al., 2007; NIDA, 2018a) and one that can also be built through mindfulness-based practices (Delgado et al., 2010; Van der Kolk, 2014).

Other experiences that scored equally high frequencies of 4 (present) indicators included reviewing the research on entrainment and the iso principle in session 1 (Table 7) and the initial guided body scan and breath work in session 4 (Table 20). In both of these experiences, the researcher/clinician intentionally encouraged the participants to focus on the present moment, either through options for a variety of valid ways to participate in the group discussion or with prompts to notice specific aspects of their bodies, feelings, minds, and breath.

The most notable times that the mean score of the participants seemed to indicate that their thoughts were in the past were after the instrumental improvisation in the first session (Table 10) and after journaling about their musical memories in the second session (Table 13). However, the mean score for the instrumental improvisation in the first session only reflects the marked scores for three participants. Four participants still marked a 4 for present, and one participant marked a 5 indicating thoughts moving towards the future (Table 10).

In contrast, the downward trajectory in mean scores for the second session is striking, with six out of seven participants marking that their mind was in the past and only one participant indicating that their mind was in the present after journaling about

their musical memories (Table 13). It makes sense that asking the participants to journal about their past memories around music would result in their thoughts remaining in the past after that experience was complete.

Mean results for sessions 3 and 4 show all mean scores located in the present to future range (Tables 14 and 17, respectively). Although the mean score is closest to present (4) after the guided body scan and breath work in the third session, Table 15 shows that the individual scores for this moment varied widely (from 1 to 7). The mean score is closest to present (4) after the song (lyric) recreation and analysis in the fourth session; however, Table 18 shows that the individual scores for this moment also varied widely (from 2 to 7).

The overall results from the participants' Likert scale data may indicate that music therapy method variations can be used intentionally to assist clients in focusing their thoughts on the past, present, or future, depending on their goals and what would be most helpful for them in the moment. For example, experiences like journaling about musical memories that invite clients to focus on the past may result in their thoughts also being focused on the past. This may be beneficial when working with clients with life review and validation goals and also important to remember when working with clients with unhealthy or traumatic past memories.

Music therapy experiences like the musical introductions that require clients to pay attention to and communicate about the state of their body, mind, or emotions in the present moment may result in the clients' thoughts also being more grounded in that present moment. This may be beneficial when working with clients who are learning to recognize and respond to their own needs in the present. For example, clients with CODs

who are able to notice their urges to use or other precipitating factors (such as mental health symptoms) that could lead to relapses may be able to choose a different and more healthy response instead.

Discussion of Pre- and Post-Test Scores

The statistical analysis of the overall pre- and post-test scores showed no significant differences ($p < 0.005$). However, the mean score for the post-test was higher than the mean score for the pre-test (Table 21). Further studies are needed to better understand any potential connections this increase might have to the integration of mindfulness-based music therapy.

Individual question pre- and post-test scores were positively correlated ($p < 0.005$) for three responses (Table 22) showing a positive association between the pre- and post-test scores. While this is helpful for validating the pre- and post-test measures, it does not indicate anything about the efficacy of the mindfulness-based music therapy sessions.

Statistical analysis of post-test scores using the paired samples t-test (Table 23) showed a significant difference ($p < 0.05$) for four responses:

Response “A. I am aware of an inner source of comfort, strength, and security.”

Response “E. I experience peace of mind.”

Response “S. I can feel angry and observe my feeling of anger and separate myself from it and still feel an inner peace.”

Response “V. I feel serene.”

The robustness of these findings was confirmed using the Wilcoxon test (Table 23), a nonparametric alternative to the paired samples t-test.

All four of these responses are included under the “Inner Haven” factor on the Brief Serenity Scale (Kreitzer et al., 2009). This is consistent with the potential for both mindfulness-based practices and music therapy to reduce anxiety (Chiesa & Serretti, 2011; Creswell, 2017; Gardstrom, Bartkowski, et al., 2013; Gardstrom & Diestelkamp, 2013; Goyal et al., 2014; Hammer, 1996; Hofmann et al., 2010; Hofmann & Gómez, 2017; Zarate, 2016), which can be important within the recovery process (Atkins, 2014; Martin et al., 2007).

These responses are also consistent with the focus during these mindfulness-based music therapy sessions on prompts to help the participants physically ground themselves in their body and breath while intentionally increasing their awareness of their internal thought processes and emotions. The use of the Likert scales after each experience and the researcher/clinician’s directions for this measurement tool encouraged the participants to frequently check in with their current internal state and to notice how it can be affected by internal and external factors. The researcher/clinician also frequently reminded participants that it is common to feel multiple emotions at the same time and intentionally validated this experience in sessions. These prompts may have affected Response S since “aspects of therapy appearing in the [participant]’s responses tend to be those emphasized in the therapist’s session planning and facilitation” (Gardstrom et al., 2017, p. 355).

Study Limitations

This pilot study had several limitations, including the small sample size, lack of a control group, and extended length of time between the monthly music therapy groups. All 13 participants did not complete all four sessions, and some participants completed the pre- and post-tests at different times in order to do so prior to their first session and after their last session in the study (Table 24).

Table 24. Participant Session Attendance

| | Session 1 | Session 2 | Session 3 | Session 4 |
|----------------|-----------|-----------|-----------|-----------|
| Participant 1 | X | | | |
| Participant 2 | X | | | |
| Participant 3 | X | X | X | |
| Participant 4 | X | X | X | X |
| Participant 5 | X | X | X | X |
| Participant 6 | X | X | X | X |
| Participant 7 | X | X | X | X |
| Participant 8 | X | X | X | X |
| Participant 9 | | X | | |
| Participant 10 | | | X | X |
| Participant 11 | | | X | X |
| Participant 12 | | | | X |
| Participant 13 | | | | X |

Additionally, some participants had been in treatment for months before this study began and already had established a relationship with the researcher/clinician. Others were new to the group and to the IOT program. It is not known what effect these varying therapist-client relationships may have had on the outcome of this study.

Participants may also have been somewhat confused by the Likert scales during the first session as not all participants completed all eight Likert scales for that group.

This was not a limitation in the subsequent groups as participants became more familiar with the process and as the researcher/clinician became more adept at giving instructions.

The researcher served as the clinician and overall data analyst for this study, which increases the chance of bias (Murphy, 2017). To help counteract this limitation, the researcher did consult with a statistician to review the final results and to conduct the Wilcoxon test. This additional test validated the robustness of the results from the paired samples t-test of the pre- and post-test scores. However, the results from these two different tests (Table 23) still do not adjust for multiple comparisons.

Past studies have focused primarily on gender-specific groups (Albornoz, 2011; Gardstrom & Diestelkamp, 2013; Miller, 2017). While participants from diverse genders and gender identities were intentionally chosen as participants to address this gap in literature, this is also a limitation of this study, as is the lack of overall demographics that the researcher was able to access.

Finally, outside environmental factors may also have affected this study. The first session took place in the midst of a blizzard, which resulted in a late start and power outage. Construction was taking place directly outside the group room during the third session, with loud hammering and drilling during the guided imagery and relaxation experience. It is not known what effect all of these limiting factors may have had on the outcome of the study.

Future Research

In order to address some of these limitations, future research should include a larger and more consistent sample size of participants with a shorter time lapse between

groups. This may be more feasible in an inpatient setting where all participants would be in treatment for the same number of days.

It is also recommended that the researcher partner with a different music therapist to implement the method variations to reduce the potential for bias (Murphy, 2017). Adding a control group as well as a measure to explore the role of the relationship between the participants and the therapist may also be helpful in better understanding the current and future results.

This study included a variety of different mindfulness-based music therapy experiences in order to learn how they are perceived by participants. This could be a future area for more focused research, particularly because mindfulness is such a broad umbrella term in the literature (Chiesa & Malinowski, 2011).

As Chwalek and McKinney (2015) point out in their discussion of ways that music therapists can incorporate principles of DBT, such as mindfulness, into their clinical practices, the opportunities for future research are wide open, because the “identification and expression of emotions and mindfulness exercises taught through DBT skills can be helpful with many different populations” (p. 304). In addition, music therapy “can be less threatening, provide a safe way to explore one’s issues, and help identify which skills can be beneficial” (Chwalek & McKinney, 2015, p. 308). Other perceived advantages of combining DBT components, such as mindfulness, and music therapy that could be explored in future research include developing a common language with the treatment team and clients and teaching skills, such as mindfulness, that can be generalized posttreatment in a way that is “integrative, nonthreatening, and motivational” (Chwalek & McKinney, 2015, p. 299) for a wide variety of clients.

Practice Guidelines: Mindfulness-Based Music Therapy

Because mindfulness practices have been so frequently commodified and appropriated, it is vital for clinicians who wish to integrate principles of mindfulness to learn about their histories and find ways to practice them that respect and honor the traditions from which they have evolved. It is critically important to remember that using and teaching practices that are a sacred part of a historically marginalized culture from the perspective of someone in a more dominant culture opens up the potential for harm. Clinicians must take responsibility for their own learning about bias, privilege, and appropriation through reading, reflecting, journaling, seeking supervision, participating in continuing education, and doing what they can to draw attention to and dismantle the systems and structures of oppression in the music therapy profession and beyond (AMTA, 2013a; AMTA, 2013b; AMTA, 2019; Certification Board for Music Therapists, 2020).

It is also important for clinicians working with individuals with co-occurring mental health and substance use disorders to remember that “Recovery, as we know it, may be more of a process than a destination” (Borling, 2012, p. 32). Regardless of the approach of the clinician, it is vital to keep in mind “the multifaceted nature of music therapy clinical practice with this population and the need for the music therapist to be open and prepared to work on a variety of levels” (Borling, 2012, p. 56). Therefore, while a complete session overview is included in Appendix C, music therapists are encouraged to find ways to integrate these ideas and concepts in a manner that is authentic for them, that is within their scope, and that will best meet the needs of the clients they serve.

This includes taking into consideration potential risks and contraindications and possible adaptations to minimize any possible harm to the clients (Hiller & Gardstrom, 2018; Murphy & Ziedonis, 2016). Particularly when working with clients with histories of trauma, active psychosis, or dissociative disorders, an awareness of potential triggers is vital (AMTA, n.d.a; Murphy & Ziedonis, 2016). The researcher/clinician for this study reduced the potential for contraindications and triggers in a variety of ways, based upon past experience with this population. Music therapists are encouraged to keep these options in mind if they are considering incorporating mindfulness-based practices in their work.

One way that these risks and contraindications can be addressed is by openly acknowledging this potential and providing options (Hiller & Gardstrom, 2018). For example, closing eyes is not always helpful or healthy for clients with these histories so other options can include softening the gaze or focusing the gaze on something specific (Grocke & Wigram, 2007). Options can also be given around imagery experiences, as not all clients see images in their minds or would find this helpful (Grocke & Wigram, 2007). In addition, options can be provided for potential triggers related to specific songs, artists, or instruments within the music. For receptive and re-creative experiences within this study, those options included practicing coping skills or leaving the group room for a brief time if needed. For the improvisations, those options included being present in the music; speaking; singing; playing body percussion, found objects, or instruments; or leaving the room if needed.

Another way that potential contraindications can be minimized is by keeping all mindfulness-based experiences, including those that involve imagery, grounded in the

present through both the verbal prompts and the music (Grocke & Wigram, 2007). Verbal prompts can be grounded by focusing on the five senses and not allowing for long silences. Music can be grounded through a steady beat, a consistent tempo, predictable melodic lines and harmonic modulations, repetition, and a strong bass as the foundation (Grocke & Wigram, 2007).

Contraindications can also be addressed by remaining mindful of the responses of the clients and adjusting those verbal prompts and the music accordingly moment by moment (Hiller & Gardstrom, 2018). This might mean cutting an experience shorter than planned or adding and changing language based on the clients' responses. Improvising accompaniment for these experiences rather than using a pre-composed piece of music can both give the flexibility to adjust in the moment and also reduce the potential for triggers connected with the music or memories related to it.

Because of this potential for contraindications and the level of skill required to be able to monitor and adjust for this in the moment (Hiller & Gardstrom, 2018), music therapists who wish to integrate mindfulness-based music therapy concepts must be cognizant of their own scope of practice and take responsibility to seek out further learning and supervision as needed.

Conclusions

This study sought to determine when participants' thoughts were in the past, present, or future during mindfulness-based music therapy experiences and whether mindfulness-based music therapy could affect the overall level of serenity (acceptance, inner haven, and trust) for participants. Results indicate that music therapy experiences

may be used to focus the thoughts of clients with co-occurring mental health and substance use disorders on the past, present, or future, depending on the goal of the individual or group. For example, music therapists may encourage clients to focus on the past through experiences such as journaling or sharing about musical memories. Experiences like the musical introductions included in this study may also be used to help clients with co-occurring disorders to pay attention to and communicate about their feelings in the present moment. These experiences can support clients with CODs in naming, expressing, and understanding their emotions, a skill considered vital for recovery (Martin et al., 2007; NIDA, 2018a) and one that can be built through music therapy (Baker et al., 2007; Gallagher & Steele, 2002) and mindfulness-based practices (Delgado et al., 2010; Van der Kolk, 2014).

Although the results were not all statistically significant, the Brief Serenity Scale (Kreitzer et al., 2009) pre- and post-test scores may show some overall improvement in the participants' levels of serenity, particularly related to inner haven. While some of this improvement may have been due to treatment overall, the reinforcement of these factors is critical in recovery (Atkins, 2014; Martin et al., 2007) and supported by past studies in both mindfulness (Chiesa & Serretti, 2011; Creswell, 2017; Davis & Hayes, 2011; Goyal et al., 2014; Hofmann et al., 2010; Hofmann & Gómez, 2017) and music therapy (Gardstrom, Bartkowski, et al., 2013; Gardstrom & Diestelkamp, 2013; Hammer, 1996; Jones, 2005; Zarate, 2016).

What was most impactful to this researcher, however, was how honored these participants felt to be a part of this study. As I noted in my own journal, one participant was so excited that he spread the word, and "by the time I met with the group, they had

not only heard about it but were also really receptive - and honored to be included! It was really touching for me to see how much it meant to them that I valued their authentic voice and experience this much!” Future papers will detail the qualitative results from the journals kept by the participants throughout this study.

In summary, combining the practices of mindfulness and music therapy could hold potential benefits for clients with co-occurring mental health and substance use disorders as they struggle to safely ground themselves with nonjudgmental acceptance in the present moment and to connect more with their own bodies, minds, and emotions and with others as well. It is hoped that this study will further support the inclusion of music therapy and mindfulness-based practices as foundational therapeutic approaches for treating individuals with co-occurring disorders (Atkins, 2014) and encourage music therapists to further explore these areas in their clinical practices and research.

References

- Aina, Y., & Susman, J. L. (2006). Understanding comorbidity with depression and anxiety disorders. *Journal of the American Osteopathic Association, 106*, 509-514.
- Albornoz, Y. (2011). The effects of group improvisational music therapy on depression in adolescents and adults with substance abuse: A randomized controlled trial. *Nordic Journal of Music Therapy, 20*(3), 208-224.
- Aldridge, D., & Fachner, J. (Eds.). (2010). *Music therapy and addictions*. Jessica Kingsley Publishers.
- American Music Therapy Association. (n.d.a). *Music therapy interventions in trauma, depression, & substance abuse: Selected references and key findings*.
https://www.musictherapy.org/assets/1/7/bib_mentalhealth.pdf
- American Music Therapy Association. (n.d.b). *What is music therapy*.
<https://www.musictherapy.org/about/musictherapy/>
- American Music Therapy Association. (2013a). *Professional competencies*.
<https://www.musictherapy.org/about/competencies/>
- American Music Therapy Association. (2013b). *Standards of clinical practice*.
<https://www.musictherapy.org/about/standards/>
- American Music Therapy Association. (2018). *2018 AMTA member survey & workforce analysis*. <https://www.musictherapy.org/assets/1/7/18WorkforceAnalysis.pdf>
- American Music Therapy Association. (2019). *Code of ethics*.
<http://www.musictherapy.org/about/ethics/>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed). American Psychiatric Association. <https://doi-org.ezproxy.augsburg.edu/10.1176/appi.books.9780890425596>

- Anālayo. (2003). *Satipathāna: The direct path to realization*. Windhorse Publications.
- Atkins, C. (2014). *Co-occurring disorders: Integrated assessment and treatment of substance use and mental disorders*. [Kindle version] PESI Publishing & Media. Available from <http://www.amazon.com>
- Baker, F. A., Gleadhill, L. M., & Dingle, G. A. (2007). Music therapy and emotional exploration: Exposing substance abuse clients to the experiences of non-drug-induced emotions. *The Arts in Psychotherapy, 34*(4), 321-330. doi: 10.1016/j.aip.2007.04.005
- Barnes, P. M., Bloom, B., & Nahin, R. L. (2008, December 10). Complementary and alternative medicine use among adults and children; United States, 2007. *National Health Statistics Report, 12*, 2009-1250. <https://stacks.cdc.gov/view/cdc/5266>
- Barry, C. L., McGinty, E. E., Vernick, J. S., & Webster, D. W. (2013). After Newtown – Public opinion on gun policy and mental illness. *The New England Journal of Medicine, 368*(12), 1077-1081. doi: 10.1056/NEJMp1300512
- Bazarko, D., Cate, R. A., Azocar, F., & Kreitzer, M. J. (2013). The impact of an innovative mindfulness-based stress reduction program on the health and well-being of nurses employed in a corporate setting. *Journal of Workplace Behavioral Health, 28*, 107-133. doi: 10.1080/15555240.2013.779518
- Beck, A. T. (1997). The past and future of cognitive therapy. *The Journal of Psychotherapy Practice, 6*(4), 276-284.
- Borling, J. (2017). Stage two recovery for substance use disorders: Considerations and strategies for music therapists. *Music & Medicine, 9*(1), 59-63.

- Borling, J. (2012). Music therapy and addiction: Addressing essential components in the recovery process. In K. E. Bruscia (Ed.), *Case examples of music therapy for substance use disorders* (pp. 31-59). [iBooks version]. Available from www.barcelonapublishers.com
- Bowen, S., Chawla, N., Marlatt, G. A. (2011). *Mindfulness-based relapse prevention for addictive behaviors*. The Guilford Press.
- Bullard, E. (2011). Music therapy as an intervention for inpatient treatment of suicidal ideation. *Qualitative Inquiries in Music Therapy*, 6, 75-121.
- Bradt, J., Norris, M., Shim, M., Gracely, E. J., & Gerrity, P. (2016). Vocal music therapy for chronic pain management in inner-city African Americans: A mixed methods feasibility study. *Journal of Music Therapy*, 53(2), 178-206.
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. SAGE Publications Inc.
- Brewer, J. A., Sinha, R., Chen, J. A., Michalsen, R. N., Babuscio, T. A., Nich, C., Grier, A., Bergquist, K. L., Reis, D. L., Potenza, M. N., Carroll, K. M., & Rounsaville, B. J. (2009). Mindfulness training and stress reactivity in substance abuse: Results from a randomized, controlled stage I pilot study. *Substance Abuse*, 30(4), 306-317. doi: 10.1080/08897079093250241
- Brown, K. W., Creswell, J. D., & Ryan, R. M. (Eds.). (2015). *Handbook of mindfulness: Theory, research, and practice*. Guilford Press.
- Brummel-Smith, K. (2012). Music and the meditative mind: Toward a science of the ineffable. *The Oxford Handbook of Medical Ethnomusicology* doi: 10.1093/oxfordhb/9780199756261.013.0013

- Bruscia, K. E. (2014). *Defining music therapy* (3rd ed.). Barcelona Publishers.
- Burt, J. W. (1995). Distant thunder: Drumming with Vietnam veterans. *Music Therapy Perspectives, 13*(2), 110-112.
- Carmody, J. (2015). Reconceptualizing mindfulness: The psychological principles of attending in mindfulness practice and their role in well-being. In K. W. Brown, J. D. Creswell, & R. M Ryan (Eds.), *Handbook of mindfulness: Theory, research, and practice* (pp. 62-78).
- Center for Behavioral Health Statistics and Quality. (2018a). *2017 National survey on drug use and health final analytic file codebook*. Substance Abuse and Mental Health Services Administration.
- Center for Behavioral Health Statistics and Quality. (2018b). *Results from the 2017 national survey on drug use and health: Detailed tables*.
<https://www.samhsa.gov/data/>
- Center for Substance Abuse Treatment. (1994). *Assessment and treatment planning for cocaine-abusing methadone-maintained patients*. Treatment improvement protocol (TIP) series 10. DHHS Publication No. (SMA) 94-3003. Substance Abuse and Mental Health Services Administration.
<https://www.ncbi.nlm.nih.gov/books/NBK64651/>
- Center for Substance Abuse Treatment. (1999). *Enhancing motivation for change in substance abuse treatment*. Treatment improvement protocol (TIP) series 35. DHHS Publication No. (SMA) 99-3354. Substance Abuse and Mental Health Services Administration. <https://www.ncbi.nlm.nih.gov/books/NBK64967/>

- Center for Substance Abuse Treatment. (2004). *What is substance abuse treatment? A booklet for families*. HHS Publication No. (SMA) 14-4126. Substance Abuse and Mental Health Services Administration. <https://store.samhsa.gov/product/What-Is-Substance-Abuse-Treatment-A-Booklet-for-Families/SMA14-4126>
- Center for Substance Abuse Treatment. (2006). *Substance abuse: Clinical issues in intensive outpatient treatment*. Treatment improvement protocol (TIP) series 47. DHHS Publication No. (SMA) 06-4182. Substance Abuse and Mental Health Services Administration. <https://www.ncbi.nlm.nih.gov/books/NBK64093/>
- Certification Board for Music Therapists. (2020). *CBMT board certification domains – 2020*. https://www.cbmt.org/wp-content/uploads/2020/03/CBMT_Board_Certification_Domains_2020.pdf
- Cevasco, A. M., Kennedy, R., & Generally, N. R. (2005). Comparison of movement-to-music, rhythm activities, and competitive games on depression, stress, anxiety, and anger of females in substance abuse rehabilitation. *Journal of Music Therapy*, 42(1), 64-80. doi: 10.1093/jmt/42.1.64
- Chiesa, A., Castagner, V., Andrisano, C., Serretti, A., Mandelli, L., Porcelli, S., & Giommi, F. (2015). Mindfulness-based cognitive therapy vs. psycho-education for patients with major depression who did not achieve remission following antidepressant treatment. *Psychiatry Research*, 226, 474-483. doi: 10.1016/j.psychres.2015.02.003
- Chiesa, A., & Malinowski, P. (2011). Mindfulness-based approaches: Are they all the same? *Journal of Clinical Psychology*, 67(4), 404-424. doi: 10.1002/cip.20776

- Chiesa, A., & Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *The Journal of Alternative and Complementary Medicine, 15*(5). doi: 10.1089/acm.2008.0495
- Chiesa, A., & Serretti, A. (2011). Mindfulness-based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research, 187*, 441-453. doi: 10.1016/j.psychres.2010.08.011
- Chiesa, A., & Serretti, A. (2014). Are mindfulness-based interventions effective for substance use disorders? A systematic review of the evidence. *Substance Use & Misuse, 49*, 492-512. doi: 10.3109/10826084.2013.770027
- Chwalek, C. M., & McKinney, C. H. (2015). The use of dialectical behavior therapy (DBT) in music therapy: A sequential explanatory study. *Journal of Music Therapy, 52*(2), 282-318. doi: 10.1093/jmt/thv002
- Clarke, T. C., Barnes, P. M., Black, L. I., Stussman, B. J., & Nahin, R. L. (2018). Use of yoga, meditation, and chiropractors among U.S. adults aged 18 and older. *NCHS Data Brief, no 325*. National Center for Health Statistics.
- Comeau, P. (2004). A phenomenological investigation of being effective as a music therapist. *Qualitative Inquiries in Music Therapy, 1*, 19-36.
- Creswell, J. D. (2017). Mindfulness interventions. *Annual Review of Psychology, 68*, 491-516. doi: 10.1146/annurev-psych-042716-051139
- Creswell, J. D., & Lindsay, E. K. (2014). How does mindfulness training affect health? A mindfulness stress buffering account. *Current Directions in Psychological Science, 23*(6). doi: 10.1177/0963721414547415

- Davis, D. M., & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapy-related research. *Psychotherapy, 48*(2), 198-208. doi: 10.1037/a0022062
- Delgado, L. C., Guerra, P., Perakakis, P., Nieves Vera, M., Reyes del Paso, G., & Vila, J. (2010). Treating chronic worry: Psychological and physiological effects of a training programme based on mindfulness. *Behaviour Research and Therapy*. doi: 10.1016/j.brat.2010.05.012
- Desbordes, G., Negi, L. T., Pace, T. W. W., Wallace, B. A., Raison, C. L., & Schwartz, E. L., (2012). Effects of mindful-attention and compassion meditation training on amygdala response to emotional stimuli in an ordinary, non-meditative state. *Frontiers in Human Neuroscience, 6*(292), 1-15. doi: 10.3389/fnhum.2012.00292
- Dingle, G. A., Gleadhill, L., & Baker, F. A. (2008, March). Can music therapy engage patients in group cognitive behaviour therapy for substance abuse treatment? *Drug and Alcohol Review, 27*(2), 190-196.
- Doak, B. A. (2003). Relationships between adolescent psychiatric diagnoses, music preferences, and drug preferences. *Music Therapy Perspectives, 21*(2), 69-76. doi: 10.1093/mtp/21.2.69
- Eyre, L. (Ed.). (2013). *Guidelines for music therapy practice in mental health*. Barcelona Publishers.
- Eyre, L. & Lee, J. (2015). Mixed-methods survey of professional perspectives of music therapy practice in mental health. *Music Therapy Perspectives, 33*(2), 162-181. doi: 10.1093/mtp/miv034

- Gallagher, L. M., & Steele, A. L. (2002). Music therapy with offenders in a substance abuse/mental illness treatment program. *Music Therapy Perspectives, 20*(2), 117-122. doi: 10.1093/mtp/20.2.117
- Gallant, W., Holosko, M., Gorey, K. M., & Lesiuk, T. L. (1997) Music as a form of intervention with out-patient alcoholic couples: A quasi-experimental investigation. *Canadian Journal of Music therapy, 5*(1), 67-84.
- Gardstrom, S. C., Bartkowski, J., Willenbrink, J., & Diestelkamp, W. S. (2013). The impact of group music therapy on negative affect of people with co-occurring substance use disorders and mental illnesses. *Music Therapy Perspectives, 31*(2), 116-126. doi: 10.1093/mtp/31.2.116
- Gardstrom, S. C., Carlini, M., Josefczyk, J., & Love, A. (2013). Women with addictions: Music therapy clinical postures and interventions. *Music Therapy Perspectives, 31*(2), 95-104. doi: 10.1093/mtp/31.2.95
- Gardstrom, S. C., & Diestelkamp, W. S. (2013). Women with addictions report reduced anxiety after group music therapy: A quasi-experimental study. *Voices: A World Forum For Music Therapy, 13*(2). doi: 10.15845/voices.v13i2.681
- Gardstrom, S. C., & Hiller, J. (2016). Resistances in group music therapy with women and men with substance use disorders. *Voices: A World Forum For Music Therapy, 16*(3). doi: 10.15845/voices.v16i3.880
- Gardstrom, S. C., Klemm, A., & Murphy, K. M. (2017). Women's perceptions of the usefulness of group music therapy in addictions recovery. *Nordic Journal of Music Therapy, 26*(4), 338-358. doi: 10.1080/08098131.2016.1239649

- Garland, E. L., Gaylord, S. A., Boettiger, C. A., & Howard, M. O. (2010). Mindfulness training modifies cognitive, affective, and physiological mechanisms implicated in alcohol dependence: Results of a randomized controlled pilot trial. *Journal of Psychoactive Drugs, 42*(2), 177-192.
- Gethin, R. (2015). Buddhist conceptualizations of mindfulness. In K. W. Brown, J. D. Creswell, & R. M. Ryan (Eds.), *Handbook of mindfulness: Theory, research, and practice* (pp. 9-41). Guilford Press.
- Goyal, M., Singh, S., Sibinga, E. M. S., Gould, N. F., Rowland-Seymour, A., Sharma, R., Berger, Z., Sleicher, D., Maron, D. D., Shihab, H. M., Ranasinghe, P. D., Linn, S., Saha, S., Bass, E. B., & Haythornthwaite, J. A. (2014). Meditation programs for psychological stress and well-being: A systematic review and meta-analysis. *JAMA Internal Medicine, 174*(3), 357-368. doi: 10.1001/jamainternmed.2013.13018
- Grocke, D., & Wigram, T. (2007). *Receptive methods in music therapy: Techniques and clinical applications for music therapy clinicians, educators, and students*. Jessica Kingsley Publishers.
- Gross, C. R., Kreitzer, M. J., Reilly-Spong, M., Wall, M., Winbush, N. Y., Patterson, R., Mahowald, M., & Cramer-Bronemann, M. (2011). Mindfulness-based stress reduction vs. pharmacotherapy for primary chronic insomnia: A pilot randomized controlled clinical trial. *Explore (NY), 7*(2), 76-87. doi: 10.1016/j.explore.2010.12.003

- Hahna, N. D. (2017). Reflecting on personal bias. In A. Whitehead-Pleaux & X. Tan (Eds.), *Cultural intersections in music therapy: Music, health, and the person* (pp. 23-33). Barcelona Publishers.
- Hammer, S. E. (1996). The effects of guided imagery through music on state and trait anxiety. *Journal of Music Therapy*, 33(1), 47-70. doi: 10.1093/jmt/33.1.47
- Hanh, N. (2016). *The miracle of mindfulness: An introduction to the practice of meditation*. Beacon Press.
- Hedigan, J. P. (2010). Authenticity and intimacy: The experience of group music therapy for substance dependent adults living in a therapeutic community. In D. Aldridge & J. Fachner (Eds.) *Music therapy and addictions* (pp. 35-56). Jessica Kingsley Publishers.
- Hiller, J., & Gardstrom, S. C. (2018). The selection of music experiences in music therapy. *Music Therapy Perspectives*, 36(1), 79-86. doi: 10.1093/mtp/miy001
- Hofmann, S. G., & Gómez, A. F. (2017, December). Mindfulness-based intervention for anxiety and depression. *The Psychiatric Clinics of North America*, 40(4), 739-749. doi: 10.1016/j.psc.2017.08.008
<https://www.ncbi.nlm.nih.gov/pubmed/29080597>
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78(2), 169-183. doi: 10.1037/a0018555
- Hollander, M., & Wolfe, D. A. (1999). *Nonparametric statistical methods* (2nd ed.). Wiley-Interscience.

- Hsu, F. (2016). What is the sound of one invisible hand clapping? Neoliberalism, the invisibility of Asian and Asian American Buddhists, and secular mindfulness in education. In R. E. Purser, D. Forbes, & A. Burke (Eds.) *Handbook of mindfulness: Culture, context, and social engagement* (pp. 369-381). Springer, Cham. doi: 10.1007/978-3-319-44019-4_24
- Irle, K. & Lovell, G. (2014). An investigation into the efficacy of a music-based men's group for improving psychological wellbeing. *Music Therapy Perspectives, 32*(2), 178-184. doi: 10.1093/mtp/miu019
- Jackson, N. (2015). Music therapy and chronic mental illness: Overcoming the silent symptoms. *Music Therapy Perspectives, 33*(2), 90-96. doi: 10.1093/mtp/miv017
- Jackson, N. (2016). Phenomenological inquiry. In B. L. Wheeler & K. Murphy (Eds.), *Music therapy research* (3rd ed., pp. 441-452). Barcelona Publishers.
- Jacobs-Stewart, T. (2010). *Mindfulness and the 12 steps*. Thérèse Jacobs-Stewart.
- Jones, J. D. (2005). A comparison of songwriting and lyric analysis techniques to evoke emotional change in a single session with people who are chemically dependent. *Journal of Music Therapy, 42*(2), 94-110. doi: 10.1093/jmt/42.2.94
- Jones, J. D. (2016). One-sample designs. In B. L. Wheeler & K. Murphy (Eds.), *Music therapy research* (3rd ed., pp. 365-371). Barcelona Publishers.
- Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*(1), 33-47. doi: 10.1016/0163-8343(82)90026-3

- Kabat-Zinn, J. (2013). *Full catastrophe living: How to cope with stress, pain and illness using mindfulness meditation*. Piatkus.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., Pbert, L., Lenderking, W. R., & Santorelli, S. F. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *The American Journal of Psychiatry*, *149*(7), 936-943.
- Kabat-Zinn, J. (1994). *Wherever you go there you are: Mindfulness meditation in everyday life*. Hachette Books.
- Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science*, *330*. doi: 10.1126/science.1192439
- Kreitzer, M. J., Gross, C., Waleekhachonloet, O., Reilly-Spong, M., & Byrd, M. (2009). The brief serenity scale: A psychometric analysis of a measure of spirituality and well-being. *Journal of Holistic Nursing: Official Journal of the American Holistic Nurses' Association*, *27*(1), 7-16. doi: 10.1177/0898010108327212
- LaGasse, A. B. (2013). Pilot and feasibility studies: Application in music therapy research. *Journal of Music Therapy*, *50*(4), 304-320.
- Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: From theory to practice. *Social Work in Public Health*, *23*(3-4), 194-205. doi: 10.1080/19371918.2013.759005
- Landis-Shack, N., Heinz, A. J., & Bonn-Miller, M. O. (2017). Music therapy for posttraumatic stress in adults: A theoretical review. *Psychomusicology: Music, Mind, and Brain*, *27*(4), 334-342. doi: 10.1037/pmu0000192

- Lappin, J., & Sara, G. (2019). Psychostimulant use and the brain. *Addiction, 114*(11), 2065-2077.
- Linehan, M. M. (2015). *DBT skills training manual* (2nd ed.). The Guilford Press.
- Lindson, N., Thompson, T., Ferrey, A., Lambert, J., & Aveyard, P. (2019). Motivational interviewing for smoking cessation. *Cochrane Database of Systematic Reviews, 7*(7). doi: 10.1002/14651858.CD006936.pub4
- Linton, M-J., Dieppe, P., & Medina-Lara, A. (2016). Review of 99 self-report measures for assessing well-being in adults: Exploring dimensions of well-being and developments over time. *BMJ Open* 2016;6:e010641. doi: 10.1136/bmjopen-2015-010641
- Margolis, R. D., & Zweben, J. E. (2011). *Treating patients with alcohol and other drug problems: An integrated approach* (2nd ed.). American Psychological Association.
- Martin, P. R., Weinberg, B. A., & Bealer, B. K. (2007). *Healing addiction: An integrated pharmacopsychosocial approach to treatment*. John Wiley & Sons.
- McCaffrey, T. & Edwards, J. (2016). "Music therapy helped me get back doing": Perspectives of music therapy participants in mental health services. *Journal of Music Therapy, 53*(2), 121-148. doi: 10.1093/jmt/thw002
- McCaffrey, T. (2017). Evaluating music therapy in adult mental health services: Tuning into service user perspectives. *Nordic Journal of Music therapy, 27*(1), 28-43. doi: 10.1080/08098131.2017.1372510

- McGraw Hunt, A. (2013). Adults with schizophrenia and psychotic disorders. In L. Eyre (Ed.), *Guidelines for music therapy practice in mental health* (pp. 21-70). Barcelona Publishers.
- Miller, S. (2017). Music therapy and mindfulness: Treating women with addiction in a therapeutic community. *Music & Medicine*, 9(1), 50-58.
- Miller, W. R. (1996). Motivational interviewing: Research, practice, and puzzles. *Addictive Behaviors*, 21(6), 835-842.
- Muller, B. J. (2008). A phenomenological investigation of the music therapist's experience of being present to clients. *Qualitative Inquiries in Music Therapy*, 4, 69-112.
- Murphy, K. M. (2013). Adults with substance use disorders. In L. Eyre (Ed.), *Guidelines for music therapy practice in mental health* (pp. 449-501). Barcelona Publishers.
- Murphy, K. M. (2015). Music therapy in addictions treatment. In B. Wheeler (Ed.), *Music therapy handbook* (pp. 354-366). The Guilford Press.
- Murphy, K. M. (2016). Ethical thinking in music therapy research. In B. L. Wheeler & K. Murphy (Eds.), *Music therapy research* (3rd ed., pp. 66-73). Barcelona Publishers.
- Murphy, K. M., & Ziedonis, D. M. (2016). Group guided imagery and music for adults in addiction treatment: A pilot randomized control trial feasibility study. *Journal of the Association for Music and Imagery*, 15, 43-65.
- Murphy, K. M. (2017). Music therapy in addictions treatment: A systematic review of the literature and recommendations for future research. *Music & Medicine*, 9(1), 15-23.

National Alliance on Mental Illness. (2017, August). *Dual diagnosis*.

<https://www.nami.org/Learn-More/Mental-Health-Conditions/Related-Conditions/Dual-Diagnosis>

National Alliance on Mental Illness. (n.d.). *Mental health conditions*.

<https://www.nami.org/Learn-More/Mental-Health-Conditions>

National Institute on Drug Abuse. (2018a). *Principles of drug addiction treatment: A research-based guide* (3rd ed.).

<https://www.drugabuse.gov/node/pdf/675/principles-of-drug-addiction-treatment-a-research-based-guide-third-edition>

National Institute on Drug Abuse. (2018b). *Where do 12-step or self-help programs fit into drug addiction treatment?*

<https://www.drugabuse.gov/publications/principles-drug-addiction-treatment/frequently-asked-questions/where-do-12-step-or-self-help-programs-fit-drug-a>

National Institute on Drug Abuse. (2018c). *Comorbidity: Substance use disorders and other mental illnesses*.

<https://www.drugabuse.gov/publications/drugfacts/comorbidity-substance-use-disorders-other-mental-illnesses>

National Institute of Mental Health. (2017, November). *Mental illness*.

<https://www.nimh.nih.gov/health/statistics/mental-illness.shtml>

National Institutes of Health. (2015, November 18). *10 percent of US adults have drug use disorder at some point in their lives*. <https://www.nih.gov/news-events/news-releases/10-percent-us-adults-have-drug-use-disorder-some-point-their-lives>

<https://www.nih.gov/news-events/news-releases/10-percent-us-adults-have-drug-use-disorder-some-point-their-lives>

- Neumark, Y. D., Van Etten, M. L., & Anthony, J. C. (2000). Drug dependency and death: Survival analysis of the Baltimore ECA sample from 1981 to 1995. *Substance Use & Misuse, 35*(3), 313-327.
- O'Leary, Z. (2017). *The essential guide to doing your research project* (3rd ed.). SAGE Publications Inc.
- Palkhivala, A. (2017, April 21). The meaning of "Namaste."
<https://www.yogajournal.com/practice/the-meaning-of-quot-namaste-quot>
- Piet, J., & Hougaard, E. (2011). The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: A systematic review and meta-analysis. *Clinical Psychology Review, 31*, 1032-1040. doi: 10.1016/j.cpr.2011.05.002
- Posner, M. I., & Rothbart, M. K. (2007). Research on attention networks as a model for the integration of psychological science. *Annual Review of Psychology, 58*, 1-23. doi: 10.1146/annurev.psych.58.110405.085516
- Racette, K. (2004). A phenomenological analysis of the experience of listening to music when upset. *Qualitative Inquiries in Music Therapy, 1*, 1-18.
- Ramchand, R., Pomeroy, A., & Arkes, J. (2009). *The effects of substance use on workplace injuries*. RAND Corporation.
- Roberts, K. T., & Aspy, C. B. (1993). Development of the serenity scale. *Journal of Nursing Measurement, 1*(2), 145-164.
- Ross, S., Cidambi, I., Dermatis, H., Weinstein, J., Ziedonis, D., Roth, S., & Galanter, M. (2008). Music therapy: A novel motivational approach for dually diagnosed

- patients. *Journal of Addictive Diseases*, 27(1), 41-53. doi: 10.1300/J069v27n01_05. <https://www.ncbi.nlm.nih.gov/pubmed/18551887>
- Satchidananda, S. (2012). *The yoga sūtras of Patañjali*. Integral Yoga Publications.
- Scott, C. K., Dennis, M. L., Laudet, A., Funk, R. R., & Simeone, R. S. (2011, April). Surviving drug addiction: The effect of treatment and abstinence on mortality. *American Journal of Public Health*, 101(4), 737-744.
- Shaw, V. (2002, December). Substance use and abuse: A career perspective. *Addiction Research & Theory*, 10(6), 501-534.
- Sherrell, C., & Simmer-Brown, J. (2017). Spiritual bypassing in the contemporary mindfulness movement. *Initiative for Contemplation Equity & Action Journal*, 1(1), 75-93.
- Silverman, M. J. (2003, December). Music therapy and clients who are chemically dependent: A review of literature and pilot study. *The Arts in Psychotherapy*, 30(5), 273-281. doi: 10.1016/j.aip.2003.08.004
- Silverman, M. J. (2009a). The effect of lyric analysis on treatment eagerness and working alliance in consumers who are in detoxification: A randomized clinical effectiveness study. *Music Therapy Perspectives*, 27, 115-121.
- Silverman, M. J. (2009b). The use of lyric analysis interventions in contemporary psychiatric music therapy: Descriptive results of songs and objectives for clinical practice. *Music Therapy Perspectives*, 27(1), 55-61. doi: 10.1093/mtp/27.1.55
- Silverman, M. J. (2010). The effect of a lyric analysis intervention on withdrawal symptoms and locus of control in patients on a detoxification unit: A randomized effectiveness study. *The Arts in Psychotherapy*, 37, 197-201.

- Silverman, M. (2015a). Effects of lyric analysis interventions on treatment motivation in patients on a detoxification unit: A randomized effectiveness study. *Journal of Music Therapy, 52*(1), 117-134. doi: 10.1093/jmt/thu057
- Silverman, M. J. (2015b). *Music therapy in mental health for illness management and recovery*. Oxford University Press.
- Silverman, M. J. (2019). Music-based emotion regulation and health and unhealthy music use predict coping strategies in adults with substance use disorder: A cross-sectional study. *Psychology of Music, 42*, 692-713. doi: 10.1177/0305735619854529
- Snedecor, G. W., & Cochran, W. G. (1989). *Statistical methods* (8th ed.). Iowa State University Press.
- Soderstrom, C., & Smith, G. (1997). Psychoactive substance use disorders among seriously injured trauma center patients. *Jama: Journal of the American Medical Association, 277*(22), 1769-1774. doi:10.1001/jama.1997.03540460033029
- Sorensen, S., Steindl, S. R., Dingle, G. A., & Garcia, A. (2018, December 28). Comparing the effects of loving-kindness meditation (LKM), music and LKM plus music on psychological well-being. *The Journal of Psychology, 1-21*. doi: 10.1080/00223980.2018.1516610
<https://www.ncbi.nlm.nih.gov/pubmed/30592696>
- Stige, B. (2002). *Culture-centered music therapy*. Barcelona Publishers.
- Substance Abuse and Mental Health Services Administration. (2005). *Substance abuse treatment for persons with co-occurring disorders*. Treatment improvement

protocol (TIP) series, no. 42. HHS publication no. (SMA) 13-3992. Substance Abuse and Mental Health Services Administration.

Substance Abuse and Mental Health Services Administration. (2015, October 27).

Substance use disorders. <https://www.samhsa.gov/disorders/substance-use>

Substance Abuse and Mental Health Services Administration. (2017, August 22). *Center*

for substance abuse treatment. <https://www.samhsa.gov/about-us/who-we-are/offices-centers/csat>

Substance Abuse and Mental Health Services Administration. (2018a). *Comparison of 2008-2009 and 2016-2017 NSDUH state prevalence estimates.*

<https://www.samhsa.gov/data/report/comparison-2008-2009-and-2016-2017-nsduh-state-prevalence-estimates>

Substance Abuse and Mental Health Services Administration. (2018b). *Key substance use and mental health indicators in the United States: Results from the 2017 national survey on drug use and health* (HHS Publication No. SMA 18-5068, NSDUH Series H-53). Center for Behavioral Health Statistics and Quality, Substance

Abuse and Mental Health Services Administration. <https://www.samhsa.gov/data/>

Substance Abuse and Mental Health Services Administration. (2019a). *Substance abuse*

and mental illness prevention. <https://www.samhsa.gov/find-help/prevention>

Substance Abuse and Mental Health Services Administration. (2019b). *Key substance use*

and mental health indicators in the United States: Results from the 2018 national survey on drug use and health (HHS Publication No. PEP19-5068, NSDUH

Series H-54). Center for Behavioral Health Statistics and Quality, Substance

Abuse and Mental Health Services Administration. <https://www.samhsa.gov/data/>

- Substance Abuse and Mental Health Services Administration. (2020). *National survey on drug use and health*. <https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health>
- Suicide Prevention Resource Center. (n.d.). *Risk and protective factors*. <https://www.sprc.org/about-suicide/risk-protective-factors>
- Swamy, S. (2017). Music therapy in the South Asian-American diaspora. In A. Whitehead-Pleaux & X. Tan (Eds.), *Cultural intersections in music therapy: Music, health, and the person* (pp. 65-89). Barcelona Publishers.
- Test, M. A., Wallisch, L. S., Allness, D. J., & Ripp, K. (1989). Substance use in young adults with schizophrenic disorders. *Schizophrenia Bulletin*, 15(3), 465-476.
- Unite for Sight. (n.d.). *Module 1: Introduction to global mental health: Effects of mental health on individuals and populations*. https://www.uniteforsight.org/mental-health/module1#_ftn1
- U.S. Department of Health and Human Services. (2019, January 22). *What is the U.S. opioid epidemic?* <https://www.hhs.gov/opioids/about-the-epidemic/index.html>
- Van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. Penguin Books.
- Vanyukov, M. M., Kirisci, L., Tarter, R. E., Simkevitz, H. F., Kirillova, G. P., Maher, B. S., & Clark, D. B. (2003, October). Liability to substance use disorders: 1. Common mechanisms and manifestations. *Neuroscience & Biobehavioral Reviews*, 27(6), 507-515. doi: 10.1016/j.neubiorev.2003.08.002
- Vega, V. P. (2017). Music therapy with addiction and co-occurring disorders. *Music & Medicine*, 9(1), 45-49.

- Weber, S. (1996). The effects of relaxation exercises on anxiety levels in psychiatric inpatients. *Journal of Holistic Nursing, 14*(3), 196-205.
- Witkiewitz, K., Warner, K., Sully, B., Barricks, A., Stauffer, C., Thompson, B. L., & Luoma, J. B. (2014). Randomized trial comparing mindfulness-based relapse prevention with relapse prevention for women offenders at a residential addiction treatment center. *Substance Use & Misuse, 49*, 536-546.
- World Health Organization. (2013). *Investing in mental health: Evidence for action*. https://apps.who.int/iris/bitstream/handle/10665/87232/9789241564618_eng.pdf;jsessionid=3845652AE412826B35A2EE82A40CED10?sequence=1
- Zarate, R. (2016). Clinical improvisation and its effect on anxiety: A multiple single subject design. *The Arts in Psychotherapy, 48*(1), 46-53. doi: 10.1016/j.aip.2015.11.005
- Zgierska, A., Rabago, D., Chawla, N., Kushner, K., Koehler, R., & Marlatt, A. (2009). Mindfulness meditation for substance use disorders: A systematic review. *Substance Abuse, 30*(4), 266-294. doi: 10.1080/08897070903250019

Appendix A: Brief Serenity Scale

Pseudonym: _____

The Brief Serenity Scale

Instructions:

The following items describe experiences (thoughts, feelings, or actions). To the right of each statement are numbers that describe how often you have the experience. **“1” means never, “5” means always, or you may select 2, 3, or 4 for any responses in between.** The lower the number, the less often you have the experience. The higher the number, the more often you have the experience. **There are no “right” answers, only answers that best describe you.** Do not think about the statement too long. Give the answer you think of first, based on how things have been with you in the last 4 weeks.

Circle one number on each line.

| | Never | | | | Always |
|--|-------|---|---|---|--------|
| A. I am aware of an inner source of comfort, strength, and security. | 1 | 2 | 3 | 4 | 5 |
| B. During troubled times, I experience an inner source of strength. | 1 | 2 | 3 | 4 | 5 |
| C. I trust that life events happen to fit a plan which is larger and more gentle than I can know. | 1 | 2 | 3 | 4 | 5 |
| D. I see the good in painful events that have happened to me. | 1 | 2 | 3 | 4 | 5 |
| E. I experience peace of mind. | 1 | 2 | 3 | 4 | 5 |
| F. I am forgiving of myself for past mistakes. | 1 | 2 | 3 | 4 | 5 |
| G. I take care of today and let yesterday and tomorrow take care of themselves. | 1 | 2 | 3 | 4 | 5 |
| H. In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|--|---|---|---|---|---|
| I. I accept situations I cannot change. | 1 | 2 | 3 | 4 | 5 |
| J. I try to place my problems in the proper perspective in any given situation. | 1 | 2 | 3 | 4 | 5 |
| K. I am aware of an inner peace. | 1 | 2 | 3 | 4 | 5 |
| L. I experience an inner quiet that does not depend on events. | 1 | 2 | 3 | 4 | 5 |
| M. I find ways to share my talents with others. | 1 | 2 | 3 | 4 | 5 |
| N. When I get upset, I become peaceful by getting in touch with my inner self. | 1 | 2 | 3 | 4 | 5 |
| O. I attempt to deal with what is, rather than what was, or what will be. | 1 | 2 | 3 | 4 | 5 |
| P. Even though I do not understand, I trust in the ultimate goodness of the plan of things. | 1 | 2 | 3 | 4 | 5 |
| Q. I experience an inner calm even when I am under pressure. | 1 | 2 | 3 | 4 | 5 |
| R. I feel that I have done the best I could in life. | 1 | 2 | 3 | 4 | 5 |
| S. I can feel angry and observe my feeling of anger and separate myself from it and still feel an inner peace. | 1 | 2 | 3 | 4 | 5 |
| T. I trust that everything happens as it should. | 1 | 2 | 3 | 4 | 5 |
| U. I feel forgiving of those who have harmed me. | 1 | 2 | 3 | 4 | 5 |
| V. I feel serene. | 1 | 2 | 3 | 4 | 5 |

Appendix B: Likert Scales

1.



2.



3.



4.



5.



Appendix C: Session Overview

Session 1: Presence and Connection with our Bodies, including Instrumental Improvisation, Musical Introductions, Reflection, Discussion, and Playlist Creation based on Entrainment and the Iso Principle

- Clients completed LIKERT SCALE 1.1.
- Instrumental Improvisation
 - I welcomed the clients and reminded them about our foundation of respect.
 - I reviewed the instruments, any cultural connections they have¹, and options and directions for this improvisation.
 - We began with a moment of silence, which I kept grounded by providing verbal prompts reminding the clients to notice and be mindful of their physiological responses to the music as well as the silence throughout the improvisational experience.
 - Clients then had the opportunity to improvise and explore these responses. I used grounding and reflecting techniques as needed within the music.
 - We ended with a moment of silence, which I kept grounded through verbal prompts reminding the clients again to notice their physiological responses to the music and/or the silence.

¹ This includes the country or culture of origin for each instrument and a brief explanation behind using only synthetic drumheads during these music therapy sessions.

- We put away the instruments and stretched.
- Clients completed LIKERT SCALE 1.2.
- Client Sharing & Discussion of Physiological Effects of Improvisation
 - Affirming our foundation of respect, I invited the clients to share what they noticed about their physiological responses within the music and/or the silence.
 - As clients shared, I used verbal and nonverbal active listening techniques to validate their experiences and draw connections.
 - Clients completed LIKERT SCALE 1.3.
- Blues-Style Introduction
 - I modeled and led this on guitar, inviting the clients to share their preferred name and one word to describe how their body was feeling in that moment after the improvisation.
 - Clients completed LIKERT SCALE 1.4.
- Client Reflection
 - Clients reflected and journaled on the questions in their “Entrainment Journal” (Appendix D).
- Client Sharing & Discussion
 - Affirming our foundation of respect, I invited the clients to share their responses to the questions as follows:
 1. When do you listen to music? Why?
 2. How do you use music to enhance or change your energy level or mood?

- For these first two questions, I invited the clients to share responses “popcorn” style. As they did this, I asked others who had a similar response to raise their hands. I also encouraged them to notice and indicate when they had the opposite response. We discussed this as we went, noticing themes as we did so.
- 3. What song, artist, or style of music energizes you? Why?
- 4. What song, artist, or style of music relaxes you? Why?
 - For these final two questions, we discussed common qualities of the music they listed.
- As clients shared, I used verbal and nonverbal active listening techniques to validate their experiences and draw connections.
- Clients completed LIKERT SCALE 1.5.
- Review of Research on Entrainment and the Iso Principle
 - Using their responses from our discussion, I introduced the concepts of entrainment and the iso principle.
 - We discussed both how important it is to feel emotions (rather than numbing them with substances) and also how important it is to be able to move through those emotions and not get stuck in them.
 - Clients completed LIKERT SCALE 1.6.
- Playlist Creation

- Clients began work on their “Entrainment Playlist” (Appendix E) to either enhance or change an energy level or mood of their choosing. They used their devices for this experience.
- Clients completed LIKERT SCALE 1.7.
- Clients completed LIKERT SCALE 1.8.

Session 2: Presence and Connection with our Minds and Memories, including a Guided Body Scan & Breath Work, Musical Introductions, Instrumental Improvisation, Discussion, Reflection, Journaling, and Sharing of Musical Memories

- Clients completed LIKERT SCALE 2.1.
- Guided Body Scan & Breath Work
 - I invited the clients to ground their feet, sit back in their chairs, get comfortable, and either close their eyes or soften their gaze, focusing in on listening as I led this experience with my voice and the guitar.
 - I invited the clients to listen first to the sounds in the space around them and then to themselves, to their bodies, their thoughts, and then their breath, using a variety of mindfulness-based prompts to guide them in this process and connecting the importance of listening in this body scan with the need to listen to themselves and each other as they explored and shared their musical memories in this session.
 - We ended with falling out breaths and stretching.

- Clients completed LIKERT SCALE 2.2.
- I then welcomed the clients and reminded them about our foundation of respect.
- Pink Floyd “Wish You Were Here” Introduction
 - I modeled and led this on guitar, inviting the clients to share their preferred name and a word or phrase that described how their mind was doing after listening in that moment.
 - Clients completed LIKERT SCALE 2.3.
 - I intentionally utilized the beginning riff from this song for this session’s introductions, asking clients afterward to “name that tune.” I then invited them to raise their hands if they also had musical memories connected with the music of Pink Floyd and used this to introduce the connections that music makes with our memories.
- Instrumental Improvisation
 - I reviewed the instruments, any cultural connections they have, and options and directions for this improvisation.
 - We began with a moment of silence, which I kept grounded through verbal prompts encouraging the clients to focus on listening within the music and the silence afterwards, noting that listening is particularly important as they have the opportunity to reflect on and share music that is meaningful for them today.

- Clients then had the opportunity to focus on listening as they played. I continued to use grounding and reflecting techniques as needed within the music.
- We ended with a moment of silence, which I kept grounded through verbal prompts reminding them to notice what they heard in the music and/or the silence.
- We put away the instruments and stretched.
- Clients completed LIKERT SCALE 2.4.
- Client Sharing & Discussion of Improvisation
 - Affirming our foundation of respect, I invited the clients to share what they noticed as they listened within the music and/or the silence.
 - As clients shared, I used verbal and nonverbal active listening techniques to validate their experiences and draw connections.
 - Clients completed LIKERT SCALE 2.5.
- Review of Research on the Connections Between Music & Memories and on Neuroplasticity
 - Using their previously discussed connections with Pink Floyd, I briefly shared about the ways that music can create neural pathways to our memories, either due to significance or repetition.

- We discussed how these connections can be healthy or unhealthy, stressing that healthy does not always mean happy and noting how important it is to feel and not numb our emotions.
- For the unhealthy memories, we discussed options they have not to explore musical memories they are not ready to explore yet, both in their reflections and during the sharing. I reminded them of the option they always have to leave the room if needed.
- We also discussed neuroplasticity and how they can start to create new neural pathways and memories, if they choose, both in the music therapy sessions and in their lives outside of treatment.
- Clients completed LIKERT SCALE 2.6.
- Client Reflection & Journaling
 - Clients reflected and journaled on the questions in their “Musical Memory Journal” (Appendix F). They were able to use their devices for this experience.
 - Clients completed LIKERT SCALE 2.7.
- Client Sharing & Discussion
 - Clients shared their songs and memories as they chose in small groups of two or three.
 - Clients completed LIKERT SCALE 2.8.

Session 3: Presence and Connection with Nature, including a Guided Body Scan & Breath Work, Musical Introductions, Instrumental Improvisation, Guided Relaxation & Imagery, and Discussion of Connections with Nature

- Clients completed LIKERT SCALE 3.1.
- Guided Body Scan & Breath Work
 - I invited the clients to ground their feet, sit back in their chairs, get comfortable, and either close their eyes or soften their gaze, as I led this experience with my voice and the guitar.
 - I invited the clients to focus in on themselves, their bodies, their feelings, their thoughts, and then their breath, using a variety of mindfulness-based prompts to guide them in this process.
 - We ended with falling out breaths and stretching.
 - Clients completed LIKERT SCALE 3.2.
 - I then welcomed the clients and reminded them about our foundation of respect.
- Blues-Style Introduction
 - I modeled and led this on guitar, inviting the clients to share their preferred name and a word or phrase that described how they were feeling that day.
 - Clients completed LIKERT SCALE 3.3.
- Instrumental Improvisation
 - I reviewed the instruments, any cultural connections they have, and options and directions for this improvisation, including the

reminder to simply notice what they hear and feel throughout the experience.

- Then, I asked for volunteers for the rainstick and ocean drum.
- We started in silence and then built up the improvisation one person at a time, starting with the rainstick and then the ocean drum. We played for a few minutes and then faded out in reverse order one person at a time, finishing with the ocean drum and then the rainstick. I used grounding and reflecting techniques as needed within the music.
- We ended with a moment of silence, which I kept grounded through verbal prompts reminding them to notice what they heard and felt in the music and/or the silence.
- We put away the instruments and stretched.
- Clients completed LIKERT SCALE 3.4.
- Client Sharing & Discussion of Improvisation
 - Affirming our foundation of respect, I invited the clients to share what they noticed as they listened within the music and/or the silence.
 - As clients shared, I used verbal and nonverbal active listening techniques to validate their experiences and draw connections.
 - Clients completed LIKERT SCALE 3.5.
- Guided Relaxation & Imagery

- I invited the clients to ground their feet, sit back in their chairs, get comfortable, and either close their eyes or soften their gaze, focusing in on their breath and intentionally relaxing various parts of their bodies on the exhalations as I led this experience with my voice and the guitar.
- I then encouraged the clients to think about or picture a favorite place, either real or imagined, in nature, using verbal prompts centered on the five senses and the guitar to keep the imagery grounded.
- We ended with falling out breaths and one more stretch.
- Clients completed LIKERT SCALE 3.6.
- Client Discussion
 - As we went around the circle, the clients had the opportunity to share what they chose from their guided relaxation and imagery experience.
 - Clients completed LIKERT SCALE 3.7.

Session 4: Presence and Connection with Others, including a Guided Body Scan & Breath Work, Musical Introductions, Instrumental Improvisation, Vocal Re-Creation & Song (Lyric) Analysis, Reflection, Journaling, and Discussion of Boundaries and Support

- Clients completed LIKERT SCALE 4.1.
- Guided Body Scan & Breath Work

- I invited the clients to ground their feet, sit back in their chairs, get comfortable, and either close their eyes or soften their gaze, as I led this experience with my voice and the guitar.
- I invited the clients to focus in on themselves, their bodies, their feelings, their thoughts, and then their breath, using a variety of mindfulness-based prompts to guide them in this process. I also used these prompts to connect to the topic of support, encouraging them to feel the support of the chair as well as the support of their own breath and then inviting them to notice their first responses to the idea of support.
- We ended with falling out breaths and stretching.
- Clients completed LIKERT SCALE 4.2.
- I then welcomed the clients and reminded them about our foundation of respect.
- Tom Petty “Free Falling” Introduction
 - I modeled and led this on guitar, inviting the clients to share their preferred name and a word or phrase to describe how they were feeling that day.
 - Clients completed LIKERT SCALE 4.3.
 - I intentionally utilized the beginning riff from this song for today’s introductions, asking clients afterward to “name that tune” and making the connection to the importance of support when it feels like we are falling.

- Instrumental Improvisation
 - I reviewed the instruments, any cultural connections they have, and options and directions for this improvisation.
 - I asked for a volunteer to be supported in the music, acknowledging the challenge of asking for support.
 - We began with a moment of silence, which I kept grounded through verbal prompts encouraging the clients to focus on how they could support this client within the music and the silence afterwards and to simply notice what they hear and feel throughout the experience.
 - The volunteer started playing, and clients had the opportunity to focus on both giving and receiving support as they played. I continued to use grounding and reflecting techniques as needed within the music.
 - We ended with a moment of silence, which I kept grounded through verbal prompts reminding them to notice what they heard in the music and/or the silence and to reflect on how this connects with giving and receiving support outside of music therapy as well.
 - We put away the instruments and stretched.
 - Clients completed LIKERT SCALE 4.4.
- Client Sharing & Discussion of Improvisation

- Affirming our foundation of respect, I invited the clients to share what they noticed within the music and/or the silence and how this might connect with giving and receiving support outside of music therapy.
- As clients shared, I used verbal and nonverbal active listening techniques to validate their experiences and to draw connections to metaphors around boundaries and support.
- Clients completed LIKERT SCALE 4.5.
- Vocal Re-Creation & Song (Lyric) Analysis & Discussion ~ “Lean On Me” by Bill Withers (Appendix G) (Silverman, 2009b)
 - I encouraged the clients to underline, circle, and/or otherwise indicate lyrics that stood out to them as they sang or listened.
 - I led the group with my voice and guitar in singing “Lean On Me.”
 - Clients completed LIKERT SCALE 4.6.
 - Afterward, I gave the clients the opportunity to share what stood out to them and why if they chose to do so, and we discussed in greater depth the themes that emerged as the group members shared.
 - Clients completed LIKERT SCALE 4.7.
 - I included in this discussion the acknowledgment that giving and receiving support can be both healthy and unhealthy, affirmation

of the importance of healthy boundaries, and validation of how challenging it can be to ask for help.

- Client Reflection, Journaling & Discussion
 - As we transitioned to our reflection and journaling, I also included in the discussion recognition of the ways that we can intentionally work on both giving and receiving support in healthy ways as we build and/or rebuild relationships and trust.
 - As I played the original recorded version of “Lean On Me” by Bill Withers, the clients reflected and journaled on where they receive and give support now, and where they would like to receive and give support in the future (Appendix H).
 - Clients completed LIKERT SCALE 4.8.
- POST-TEST

Appendix D: Entrainment Journal

Music Therapy Group

When do you listen to music? Why?

How do you use music to enhance or change your energy level or mood?

What song, artist, or style of music energizes you? Why?

What song, artist, or style of music relaxes you? Why?

Appendix F: Musical Memory Journal

Music Therapy Group

Choose a song that has special meaning for you. What is the name of the song? Who performs it?

Is there a phrase or line from the lyrics of this song that is particularly meaningful for you? If so, what is it?

Why does this lyric and/or this song have special meaning for you?

Appendix G: Lean On Me Lyrics

Lean On Me

Bill Withers ©1972

Sometimes in our lives, we all have pain, we all have sorrow.

But, if we are wise, we know that there's always tomorrow.

Chorus: Lean on me, when you're not strong,
 And I'll be your friend, I'll help you carry on
 For it won't be long,
 'Til I'm gonna need somebody to lean on.

Please swallow your pride if I have things you need to borrow

For no one can fill those of your needs that you won't let show.

(Chorus)

If there is a load you have to bear that you can't carry,

I'm right up the road, I'll share your load if you just call me. (Chorus)

You just call on me, brother, when you need a hand.

We all need somebody to lean on.

I just might have a problem that you'll understand.

We all need somebody to lean on. (Chorus)

Appendix H: Support Journal

Who/What do you lean on?

| Now | Future |
|------------|---------------|
| | |

Who/What leans on you?

| Now | Future |
|------------|---------------|
| | |

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 MT-BC E-RYT

Date: November 10, 2020

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Date: November 10, 2020