

MINDFULNESS-BASED MUSIC THERAPY GROUP PROTOCOL FOR INDIVIDUALS  
WITH SERIOUS MENTAL ILLNESSES AND CHRONIC ILLNESSES: A FEASIBILITY  
STUDY

By

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## Abstract

Mindfulness is the practice of being fully aware of the internal and external happenings in the present moment (Kabat-Zinn, 2012). The purpose of this research study was to determine the feasibility of a mindfulness-based music therapy protocol for people with a combined serious mental illness and chronic illness. The research questions included: To what extent can the mindfulness-based music therapy protocol be delivered as intended to participants? Does this six-week mindfulness-based music therapy protocol affect (a) emotional, psychological, and social well-being and/or (b) increase mindfulness? Nine adults diagnosed with a serious mental illness and chronic illness participated in the six-week mindfulness-based music therapy protocol. Participants completed the Mental Health Continuum- Short Form (MHC-SF) (Keyes, 2009) and the Mindful Attention Awareness Scale (MAAS) (Brown and Ryan, 2003) as pre- and post-test measures. The researcher implemented the mindfulness-based music therapy protocol as intended with minor modifications. Suggestions for future implementation are indicated. Due to fluctuating attendance and limited numbers for follow-up, the researcher used descriptive statistics to analyze change from pre-test to post-test. Results indicated an overall positive change in mindfulness scores, but a decrease in well-being scores. Follow-up questionnaire responses were positive and indicated psychosocial benefits as a result of participating in the group. Clinical implications for music therapists interested in implementing a similar mindfulness-based music therapy protocol are included.

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## Chapter 1: Introduction

### Serious Mental Illness

*Serious or severe mental illness* (SMI) is a general term applied to individuals with a mental illness. SMI causes significant disturbance within one's day-to-day life (Dickey, 2005). There is some debate on the actual definition of an SMI (Dickey, 2005). However, the National Survey on Drug Use and Health (NSDUH, 2014) states that a serious mental illness must meet the following requirements: a mental, behavioral, or emotional disorder that has been diagnosed within one year, of adequate span of time to fit the relevant diagnostic criteria indicated by the current Diagnostic and Statistical Manual of Mental Disorders, and severely impairs daily functions, which hinders the individual's life activities. The Substance Abuse and Mental Health Services Administration (SAMHSA) published the findings from the 2014 National Survey on Drug Use and Health, which indicated that 4.1 percent of adults over the age of 18, approximately 10 million adults, have an SMI (Center for Behavioral Health Statistics and Quality, 2015).

### Serious Mental Illness and Chronic Illness

Along with SMI, many people are also diagnosed with a *chronic illness* (CI). Chronic illnesses are placed within 14 categories including pulmonary, gastrointestinal, cardiovascular, skeletal and connective tissue, metabolic, skin, genital, eye, diabetes, neurologic, hematologic, renal, cancer and infectious (Jones et al., 2004). Examples of CI include obesity, chronic obstructive pulmonary disease, congestive heart failure, diabetes, and HIV. Jones et al. (2004) indicated that 74% of individuals diagnosed with an SMI have at least one CI and 50% have two or more CIs. The CI that is diagnosed most often is chronic obstructive pulmonary disease (Jones et al., 2004), which is a common lung disease that makes it difficult to breathe and is typically

caused by smoking (National Heart, Lung, and Blood Institute, [NIH], 2013). In Jones et al. (2004), the researchers indicated that age, obesity, and substance use disorders were noted as critical indicators of the level of severity of the CI.

### **Risk Factors**

Individuals diagnosed with an SMI and CI are a vulnerable group of people who generally have poor access to healthcare (Jones et al., 2004). Research indicates that people with an SMI have a higher mortality (i.e. rate of death) (Saha, Chant, & McGrath, 2007) and morbidity rate (i.e. incidence of disease) (Mai, Holman, Sanfilippo, & Emery, 2011), which may be due to a number of reasons (Corrigan et al., 2014). One reason for these higher rates is lack of integrated care services (Lutterman, 2010). A second reason is insufficient insurance coverage (Druss & Mauer, 2010), although research conducted by Miller, Druss, Dombrowski, and Rosenheck (2003) noted that individuals diagnosed with an SMI typically have access to primary care through Medicare and Medicaid. However, there is consistent documentation of unmet health needs for these individuals (Miller et al., 2003). Research conducted by Park, Swendsen, Singer, and Tate (2006) also indicated that individuals diagnosed with an SMI die an average of 25 years earlier than individuals in the general population due to poor prevention of adaptable factors including obesity, substance abuse, smoking, and inadequate access to care.

### **Treatment for Serious Mental Illness**

Treatment for an SMI typically consists of medications, behavioral therapies, and outpatient community-based care programs (Carey & Carey, 1999). Inadequate access to care, an individual's failure to seek out appropriate care for a diagnosis, and insufficient treatment for routine CIs create a revolving door into the emergency room for individuals with SMIs (Davidson, Giancola, Gast, Ho, & Wadwell, 2003). However, the creation of outpatient

programs that provide various therapies to address the needs of individuals diagnosed with SMIs and CIs has helped to decrease the speed and frequency with which this revolving door continues to spin.

**Community-based care programs.** The Affordable Care Act now covers a program to support individuals with SMIs and CIs under Medicaid coverage- *health homes* (Substance Abuse and Mental Health Services Administration and Health Resources and Services Administration, [SAMHSA-HRSA], 2013). Health homes take a holistic approach with a multidisciplinary team. Health homes provide services including: comprehensive care management, care coordination, health promotion, transitional care, individual and family support, and referral to community and support services (SAMHSA-HRSA, 2013). States are given flexibility to determine which activities and services are placed under these six core categories (SAMHSA-HRSA, 2013). This flexibility enables states to determine which services are the most appropriate for providing preventative and comprehensive care, as long as the states indicate under which of the six core categories the activities and services fall (SAMHSA-HRSA, 2013). Each state's health home program uses quality measures to examine an individual's clinical outcomes and overall care. By including quality measures, states are able to measure how much the services are having an effect on various goals such as cost savings or reduction of emergency room visits.

### **Dialectical Behavior Therapy**

An evidence-based treatment that is becoming prevalent in addressing the needs of a variety of mental health disorders is *Dialectical Behavior Therapy* (DBT) (Chapman, 2006). Although originally created for individuals diagnosed with a borderline personality disorder who were chronically suicidal, DBT is now used to treat a variety of diagnoses (Linehan, 2015).

People with diagnoses of substance abuse (Dimeff, Rizvi, Brown, & Linehan, 2000), eating disorders (Telch, Agras, & Linehan, 2001), bipolar disorder (Goldstein, Axelson, Birmaher, & Brent, 2007), and depression (Harley, Sprich, Safren, Jacobo, & Fava, 2008) may also use DBT. DBT is founded upon a dialectical and biosocial theory that highlights the challenges in regulation of emotions and behaviors. *Dialectics*, defined as a fusion of opposites, is used to address opposite procedures of acceptance and change (Linehan, 2015). Dialectics is based upon three elements. The first element is that there are interconnecting forces of reality, which focus on the individual part as well as the whole and the interconnection between the parts. The second element is opposing forces, which is the idea that nothing is stagnant. The third element is the acceptance of change, which focuses on nature as a process (Linehan, 2015). *Biosocial theory* was created by Linehan (2015) to address the biological susceptibility to emotions, which along with factors from the social environment, create an imbalance and lead to emotion dysregulation. Biological susceptibility factors include an inclination for negative emotions, high sensitivity, and spontaneous acts. These factors combined with an environment that discredits emotions over time will lead to chronic emotional dysregulation (Linehan, 2015). Therefore, the primary goal of DBT is to help adjust emotions, thought processes, behaviors, and internal patterns that are connected with challenges in an individual's life (Linehan, 2015).

DBT dates back to the late 1970s when Marsha Linehan was practicing within a Cognitive Behavior Therapy (CBT) framework with women diagnosed with borderline personality disorder (The Linehan Institute, 2016). Linehan and her team noticed that clients felt undermined with the extreme focus on change and would drop out of treatment or become frustrated. Along with a high drop-out rate, Linehan and team noticed that it was difficult to address all problems using the standard CBT (The Linehan Institute, 2016). Therefore, Linehan

and her team adjusted standard CBT by adding acceptance-based methods to CBT's focus on change, specifically with the addition of dialectics (The Linehan Institute, 2016). Linehan and her team also incorporated the biosocial model and aspects from contemplative practices to form DBT (The Linehan Institute, 2016).

DBT addresses four groups of behavioral skills: mindfulness, distress tolerance, interpersonal effectiveness, and emotion regulation (Linehan, 2015). In the context of DBT, *mindfulness* promotes a nonjudgmental view of one's day-to-day life. There are core mindfulness skills within DBT including *wise mind*- combining rational and emotional mind, "*what*" skills: observing (simply noticing emotions, thoughts or feelings), describing (putting to words our thoughts or feelings), and participating (entering completely into an activity), and "*how*" skills: non-judgmentally (not judging thoughts, feelings or experiences as good or bad), one-mindfully (being completely present in this one moment and doing one thing at a time), and effectively (doing what works rather than what is "right"). *Distress tolerance* is the act of accepting pain in what may be a challenging experience. *Interpersonal effectiveness* is the skill of asking for something that you want and the ability to say no to others. *Emotion regulation* is the ability to adjust your emotions in a given situation. Within each behavioral skill the focus of DBT is to incorporate the need for change and acceptance to promote self-management (Linehan, 2015).

### **DBT with People Diagnosed with Serious Mental Illnesses and Chronic Illnesses**

DBT focuses on the regulation of emotion, which is necessary in addressing the factors that lead to a higher mortality and morbidity rate- substance abuse, obesity, and smoking- for individuals diagnosed with SMIs and CIs (Selby, Anestis, Bender, & Joiner, 2009). Other factors to be considered and focus areas to be addressed are depression and anxiety and overall wellness, respectively. Ritschel, Cheavens, and Nelson (2012) found that within an intensive outpatient

program implementing DBT treatment, depression and anxiety scores decreased and hope scores increased. This study will focus only on only one of the four DBT behavioral skills, mindfulness, within a DBT model.

### **Mindfulness**

Mindfulness is the practice of being fully aware of the internal and external happenings in the present moment (Kabat-Zinn, 2012). Baer (2003) reviewed the various therapies within the practice of mindfulness, other psychotherapies that incorporate mindfulness, the factors addressed within mindfulness, and empirical research on mindfulness-based interventions. The interventions that are a part of mindfulness training include mindfulness-based stress reduction (MBSR) (Kabat-Zinn, 1982, 1990) and mindfulness-based cognitive therapy (MBCT) (Segal, Williams, & Teasdale, 2002). Other therapies that include mindfulness training are Dialectical Behavior Therapy (DBT) (Linehan, 1993a, 1993b, 2015), Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999), and relapse prevention (Marlatt & Gordon, 1985; Parks, Anderson, & Marlatt, 2001). While many of these interventions were created for specific diagnoses, Baer (2003) noted that many researchers have tailored these interventions for their specific population and program.

### **Mindfulness and Music Listening**

Music is a useful tool in mindfulness practice. Kabat-Zinn (1990) noted one mindfulness exercise that involves the awareness of music or sound. While engaging in sitting meditation, Kabat-Zinn promotes the idea of observing the sounds and silences present in the moment, with or without music. Eckhardt and Dinsmore (2012) proposed an intervention to incorporate music and mindfulness, titled Mindful Music Listening. During this intervention, patients diagnosed with depression practice mindfulness skills while listening to music. The client decides who will

select the music (counselor or client). While listening to the music, clients are encouraged to be mindful of anything happening physically and thoughts or emotions that occur. After listening, patients are encouraged to identify, discuss, and learn to manage their emotions. Therefore, the music acts as a bridge by helping the client identify emotions. Then through mindfulness, the clients are able to practice acknowledging the emotions without judgment (Eckhardt & Dinsmore, 2012).

### **Music Therapy in Mental Health**

Music therapy is an evidence-based practice implemented in the mental health field. Music therapy goals that may be addressed within a mental health setting include: self-expression, coping skills, leisure skills, and symptom management (Eyre & Lee, 2015; Silverman, 2007, 2015). Music therapy can be used to enhance mental state (Mossler, Chen, Heldal, & Gold, 2011) and decrease negative symptoms for individuals with schizophrenia (Tang, Yao, & Zheng, 1994) and address symptoms of psychosis (Silverman, 2003). Music therapy in mental health can occur in a variety of settings such as acute, long-term, outpatient, and detoxification facilities (Silverman, 2015). In a study conducted by de l'Etoile (2002), participants diagnosed with chronic mental disorders who were a part of an outpatient program and participated in music therapy groups had a decrease in anxiety, obsessive-compulsive behaviors, and sensitivity to others (de l-Etoile, 2002).

### **Music Therapy and Chronic Illnesses**

Music therapy, along with standard care, has been used with various CIs including chronic pain (Kenny & Faunce, 2004; Rider, 1987; Rider & Kibler, 1990), cardiac healthcare and rehabilitation (Bradt, Dileo, & Potvin, 2013; Hanser & Mandel, 2005; Mandel, Hanser, & Ryan, 2010; Mandel, Hanser, Secic, & Davis, 2007), and diabetes (Mandel, Davis, & Secic, 2013).



Various music therapy interventions in these studies included improvised music and imagery, music listening, instrument play, and music-assisted relaxation. The authors assessed various measurements including active coping (Kenny & Faunce, 2004), anxiety (Bradt, Dileo, & Potvin, 2013), and health effects (Mandel, Davis, & Secic, 2013). The studies did not include individuals with identified co-morbidities.

### **Music Therapy and Mindfulness**

Within the music therapy research, mindfulness has been conceptualized in multiple ways. Some conceptualizations involve mindfulness used by the music therapist during a session (Mika, 2014), while others incorporate mindfulness within clinical improvisation (Fidelibus, 2004; Robarts, 2009), and still others conceptualize mindfulness as a way to enhance music listening (Tomaselli, 2014). While these researchers provided insight into how mindfulness- in various forms- can be used within music therapy, there is limited research addressing mindfulness-based music therapy interventions. However, there is emerging literature conducted by Lesiuk (2015, 2016) in which the researcher created a mindfulness-based music therapy program for women receiving chemotherapy. Results indicated that the mindfulness-based music therapy enhanced attention and mood. In order to determine the effectiveness of mindfulness-based interventions in music therapy, more studies that focus on the feasibility of implementation and limited-efficacy testing are needed.

### **Music Therapy and Dialectical Behavior Therapy**

A study conducted by Chwalek and McKinney (2015) noted the gap in literature specifically with the use of DBT and music therapy. Chwalek and McKinney's mixed-methods study provides insight regarding the current state of practice in music therapy incorporating mindfulness, specifically using a DBT orientation. Results from a survey and interviews

indicated that roughly one-third (38.3%) of music therapists are implementing DBT components into their music therapy practice. Respondents of the survey marked that they frequently use music therapy interventions to focus on mindfulness, emotion regulation, and distress tolerance, specifically with music listening, music and imagery, and music improvisation interventions (Chwalek & McKinney, 2015). Other music therapists have used song discussion when focusing on interpersonal effectiveness.

DBT is an evidence-based approach used effectively to improve overall wellness, increase emotion regulation (Selby, Anestis, Bender, & Joiner, 2009), decrease depression and anxiety, and increase hope (Ritschel, Cheavens, & Nelson, 2012). A specific skill in DBT that goes hand in hand with music is mindfulness. However, there is limited music therapy research addressing music therapy interventions to encourage mindfulness within clients.

When considering the quality of life and psychosocial needs of individuals diagnosed with both an SMI and a CI, the purpose of therapy is to prevent care gaps, stop the revolving door through the emergency room, and to promote an overall higher quality of life (Miller, Druss, Dombrowski, & Rosenheck, 2003). DBT is a recognized treatment that addresses those needs. Within DBT, mindfulness is a behavioral skill to help individuals acknowledge, in a non-judgmental way, a view of their present moment. Music is a component that may influence mindfulness practice. However, there is a gap in evidenced-based research regarding the use of music therapy and mindfulness. The purpose of this research study was to determine the feasibility of a mindfulness-based music therapy protocol for people with a combined serious mental illness and chronic illness.

## Chapter 2: Review of Literature

This chapter presents a summary of relevant research literature to address the need for a mindfulness-based music therapy protocol with adults diagnosed with both SMIs and CIs. The chapter is divided into the following categories and subcategories: serious mental illness (medication adherence), chronic illness (health homes), dialectical behavior therapy (DBT and borderline personality disorder; DBT and substance abuse disorders; DBT and eating disorders; DBT and depression), music therapy in mental health (music therapy and serious mental illnesses; music therapy and chronic illnesses; music therapy and dialectical behavior therapy; music and mindfulness; music therapy and mindfulness), and the mindfulness-based music therapy protocol (music as a focus for psychophysiological connection; music as a focus for mindful listening; music as a focus for mindful active engagement; feasibility study). The final portion of this chapter discusses the purpose of the study and includes the research questions.

### **Serious Mental Illness (SMI)**

It is necessary to distinguish the difference between individuals with an SMI versus other mental illnesses as both present with different symptoms, are associated with different disorders, and require different approaches (Dickey, 2005). Disorders that are typically placed within the SMI category include schizophrenia, schizo-affective disorder, bipolar disorder, major depression, and obsessive compulsive disorder (Carey & Carey, 1999; Dickey, 2005). The most prevalent symptom for individuals with an SMI is psychosis (i.e., detachment from reality). Other symptoms that individuals with an SMI may have include hallucinations and delusions (i.e., experience in any of the senses that exists in the mind but not in reality) (Dickey, 2005). Individuals with an SMI typically receive various forms of treatment including medications, frequent hospitalizations, and community-based care (Carey & Carey, 1999). However, as noted

by Dickey (2005), treatment is an important public health concern due to the large economic cost associated with an SMI. According to the research conducted by Kessler et al. (2008), the economic consequence of one indirect cost of mental disorders, the costs from loss of earnings, is estimated to be nearly 200 billion dollars each year. In Thomas Insel's (2008) editorial in the *American Journal of Psychiatry*, he notes the economic cost of SMIs- including health care investments, loss of earnings, and disability earnings- approximately 300 billion dollars. This total does not include costs of comorbidity, imprisonment, homelessness, and early fatalities (Insel, 2008).

**Medication adherence.** In addition to the high cost of treatments and medications, adherence to a medication schedule is a major concern in the effectiveness of an individual with an SMI's treatment. Approximately 50% of individuals do not adhere to maintaining their medication schedule (Fenton, Blyler, & Heinssen, 1997; Lacro, Dunn, Dolder, Leckband, & Jeste, 2002; Young, Zonana, & Shepler, 1986). When individuals do not take their medication regularly, or discontinue their medication without consulting their healthcare providers, there is an increased frequency of returning to the emergency room, which may lead to more hospitalizations (Valenstein et al., 2002; Weiden & Offson, 1995).

Gilmer et al. (2004) assessed the relationship between medication adherence and health costs from Medicaid claims including inpatient hospitalizations (psychiatric or medical), outpatient care, and pharmaceuticals. Researchers included data from individuals eligible for Medicaid in the San Diego area and examined pharmacy records containing information about treatment adherence. Results indicated that approximately 41% of individuals with schizophrenia receiving Medicaid were adherent to their antipsychotic medications. Medical hospitalization rates were lower for those who were adherent (7%) whereas those who were nonadherent (13%)

had higher rates of medical hospitalization. Psychiatric hospitalization rates were also lower for individuals who were adherent (13.5%) versus those who were nonadherent (34.9%). Overall, the individuals who were adherent with their medications had lower hospital bills but higher pharmacy costs. Further research needs to be conducted on the adherence percentage for Medicaid patients in area states or across the country. However, this research sheds light on the need for education on the importance of medication adherence to decrease hospitalization rates for individuals with SMIs.

To address the concern of medication adherence, Wilder, Elbogen, Moser, Swanson, and Swartz (2010) conducted a study to explore the use of psychiatric advance directive with treatment choice and medication adherence for individuals diagnosed with an SMI. According to Srebnik and LaFond (1999), a psychiatric advance directive helps empower an individual with a mental health disorder by indicating their personal choice of treatment including medications in a legal document. In Wilder et al. (2010), the researchers compared prescribed medicine to preferred medicine, the agreement between preferred and prescribed, and the effect of acceptance on medication adherence within a one-year time frame. Results of the study indicated that patients who received medication that they preferred were more likely to adhere to their medications. Therefore, it is beneficial to include patients with SMIs in their treatment plan because it may make patients feel as though they have input into their treatment, which leads to an increased commitment to that treatment. This is important because with commitment to treatment and medication, patients can focus on recovery and quality of life.

### **Chronic Illness (CI)**

Many individuals diagnosed with an SMI are also diagnosed with a chronic illness (CI) (Jones et al., 2004). These CIs may include obesity (Daumit, Pratt, Crum, Powe, & Ford, 2002),

cardiovascular disorders (Davidson et al., 2001), diabetes (Dixon et al., 2000), HIV (Stoskopf, Kim, & Golver, 2000), chronic and acute pulmonary disease (Prior, Hassall, & Cross, 1996), as well as substance use disorders (Dickey, Normand, Weiss, Drake, & Azeni, 2002).

Individuals diagnosed with both an SMI and a CI are a fragile population that have higher mortality (Dickey, Drembling, Azeni, & Normandi, 2004; Saha, Chant, & McGrath, 2007) and morbidity rates (Mai, Holman, Sanfilippo, & Emery, 2011). Holmberg (1988) indicated that individuals diagnosed with an SMI may not pursue medical help or may have difficulty explaining their specific problems to a physician. Although individuals diagnosed with an SMI and a CI have access to primary care through Medicare and Medicaid (Miller et al., 2003), research indicates that there are unmet health needs (Miller et al., 2003) along with other factors that cause issues with primary care. Corrigan et al. (2014) examined whether or not medical providers held mental health biases and if the presence or absence of a mental health bias affected the treatment they provided for individuals with both an SMI and a CI. Results indicated that providers who believed in mental health stigmas were more likely to believe that their patients would not follow through with treatment and medication, and subsequently would not refill prescriptions or refer the patient to a specialist. Inconsistencies in primary care often lead to individuals with both an SMI and a CI to use the emergency room to meet their primary health care needs (Davidson, Giancola, Gast, Ho, & Wadwell, 2003). Therefore, individuals diagnosed with SMIs and CIs have complex medical needs due to the combination of mental and physical symptoms. Individuals with both an SMI and a CI need a structured treatment program with which they can comply, that addresses medication, medication adherence, and community programs to focus on the needs of the person as a whole to decrease hospitalizations and ER trips.

**Health homes.** The push towards community-based programs is an ongoing initiative to promote holistic and inclusive treatments for individuals with an SMI and a CI. The health homes program, created through the Affordable Care Act (SAMHSA-HRSA, 2013), is part of that change to promote care of the whole person. The purposes of health homes are (a) ensuring that Medicaid coverage is more worthwhile for individuals with mental illnesses and (b) focusing on the public health issue of CIs and early mortality rates in individuals with SMIs. Medicaid is noted to be the largest payer for mental health needs within the United States (Centers for Medicare and Medicaid Services, 2013). The Affordable Care Act has since broadened the qualifications of Medicaid and has begun to alter the financing and delivery of behavioral health services (SAMHSA-HRSA, 2013). Section 2703 of the Affordable Care Act indicates that states will be able to obtain federal funding for the implementation of health home services for people with chronic conditions, which became available in January 2011 (SAMHSA-HRSA, 2013). Each state has the ability to define specific populations and service elements for health home.

Each health home includes healthcare professions such as doctors, nurses, social workers, and nutritionists. The qualifications for Medicaid health homes are: at least two chronic conditions (i.e., mental health illness, substance abuse disorder, diabetes, heart disease, asthma, or obesity), one chronic condition with the potential risk of a second, or one serious mental health disorder (SAMHSA-HRSA, 2013). Within a health home, the team must provide the following services: comprehensive care management, care coordination, health promotion, transitional care, individual and family support, and referral to community and support systems (SAMHSA-HRSA, 2013). The Affordable Care Act will allow people with an SMI and a CI to use their Medicaid benefit to take part in a program that focuses on prevention and overall wellness. This care is crucial for a holistic approach to mental health. The Centers for Medicare

and Medicaid Services (CMS) has implemented quality measurement reporting requirements with health homes to assess progress of the program and individuals in the program. The categories of quality measures are: (a) clinical outcome (i.e., address health status and healthcare usage, such as hospital admissions, medication adherence, etc.), (b) experience of care (i.e., how participants rate the care received), and (c) quality of care (i.e., the measures implemented in distribution of care). By utilizing these quality measures, the program can objectively assess the progress of individuals and the program as a whole.

### **Dialectical Behavior Therapy (DBT)**

Within the Midwest mental health facility in which this current study was conducted, one of the therapies implemented is DBT. While DBT was first implemented with individuals with a Borderline Personality Disorder (BPD), research has now expanded to use DBT with other populations and diagnoses including substance abuse disorders, eating disorders, and depression (Linehan, 2015).

**DBT and Borderline Personality Disorder (BPD).** Due to Borderline Personality Disorder (BPD) being the initial population for the implementation of DBT, there are many studies that focus on this population. Linehan, Armstrong, Suarez, Allmon, and Heard (1991) conducted the first study to determine the effectiveness of DBT on women who were constantly parasuicidal (i.e., engaging in self-injurious behaviors with or without the intent of suicide). The women were placed into an experimental group therapy or a treatment as usual control group for one year. Results indicated a decrease in the frequency of parasuicidal behaviors in the women who were placed in the experimental group therapy in comparison to those who received treatment as usual. The results also indicated that those in the DBT group had fewer days of inpatient psychiatric hospitalization than those in the control group. Thus, DBT may have an



effect on admission for inpatient hospitalizations, which is a crucial concern with individuals diagnosed with an SMI and a CI.

A similar study conducted by Linehan et al. (2006) examined the effect of DBT with women who have suicidal and self-injurious behaviors and also are diagnosed with BPD. The researchers measured suicidal behaviors, frequency of emergency services used, and overall psychological functioning. Results indicated that participants in the DBT group were less likely to have suicide attempts and had fewer psychiatric hospitalizations for suicidal ideation. Those in the DBT group were also more likely to adhere to treatment and have less emergency room trips. These results provide further evidence for the efficacy of DBT on lowering hospitalizations, use of emergency room services, and adherence to treatment, all key factors in the effective treatment of an SMI and a CI.

Other studies focused on individuals diagnosed with BPD and the effect of DBT on suicidal ideation as well as emotions, such as depression, anger, and hopelessness (Koons et al., 2001) and coping behaviors (Van Goethem, Mulders, Muris, Arntz, & Egger, 2012). Koons et al. (2001) indicated a significant decrease in the emotions listed above. Van Goethem et al. (2012) found that participants reported passive coping (i.e. momentary coping skills that relieve the stressor but do not address the underlying problem) and active coping (i.e. coping skills that are specifically used to address the underlying problem) after treatment was completed. The emotions and coping skills reported in these studies can be transferred to the needs of individuals with an SMI and a CI. Results suggest that negative emotions may be decreased and coping skills may be increased as a result of participating in DBT.

**DBT and substance abuse disorders.** DBT researchers have also focused on individuals dually diagnosed with BPD and substance abuse disorders. This is applicable to individuals with

an SMI because research suggests that those diagnosed with an SMI abuse alcohol and drugs at a higher rate (Dickey, 2005), which can further complicate treatment. An initial research study conducted by Linehan et al. (1999) examined the use of DBT with women diagnosed with BPD and drug dependency. Participants were randomly assigned to DBT or treatment as usual within the local community for one year. Treatment as usual consisted of participants either being referred to other local substance abuse and/or mental health counselors and programs or the participants were able to remain with their individual therapists if they were already working with them. Treatment as usual also allowed participants to meet with case managers, if desired. Results of the study noted that the participants in the DBT group had a significant decrease in drug abuse. At the follow-up assessment, it was also noted that the global and social adjustment (i.e. functionality level at work, in relationships/family, and social activities) of those in the DBT group had increased. Linehan et al. (2002) conducted a study addressing DBT with individuals with BPD and substance abuse, specifically heroin-dependency. Individuals underwent DBT treatment or comprehensive validation therapy paired with a 12-step program. Results noted that both forms of treatment were effective to decrease opiate usage. While DBT was not found to be more beneficial as compared to treatment as usual, researchers noted that the differing styles of therapy could have had an effect on the results. Van der Bosch, Verheul, Schippers, and Van Den Brink (2002) researched the use of DBT with individuals diagnosed with BPD and with or without substance abuse disorders. Researchers compared DBT with treatment as usual. Results of the study indicated that DBT can be implemented with individuals with DBT with and without comorbid substance abuse. These research studies presented above provide insight on the efficacy of DBT and the positive effects it can have on people with substance abuse disorders.

**DBT and eating disorders.** While eating disorders are not categorized as an SMI,

research on individuals with eating disorders is still important as its finding and measurement tools used may be applicable to the individuals with an SMI and CI. Glisenti and Strodl (2012) examined DBT versus CBT with four case studies of individuals who were obese who identified as emotional eaters. The measurements used in the study were weight, BMI, depression, anxiety, stress, and emotional eating. Results indicated that those who received DBT lost a higher percentage of their initial weight and experienced lower emotional distress and fewer episodes of emotional eating. Kroger et al. (2010) researched DBT with inpatient women with BPD and anorexia or bulimia. Researchers measured body weight at pre, post, and follow-up treatments. Results indicated that binge-purge episodes by individuals with bulimia decreased, and the global psychosocial functioning, as measured by the Global Assessment of Functioning scale addressing occupation, social, and psychological functioning, of both those with anorexia and those with bulimia increased at post-treatment and follow-up. These studies indicate that DBT can have an effect on emotional distress (Glisenti & Strodl, 2012) and an increase in global psychosocial functioning (Kroger et al., 2010), both of which are important factors for improving the quality of life for individuals diagnosed with an SMI and a CI.

**DBT and depression.** Individuals diagnosed with depression are another group that can benefit from DBT. Huss and Baer (2007) conducted a case study in which mindfulness-based cognitive therapy (MBCT) was combined with DBT for an individual with BPD and depressive episodes. Researchers focused on measuring acceptance and change and the utilization of mindfulness skills from DBT skills group and MBCT individual therapy. The researchers noted that in teaching mindfulness skills, the participant was able to identify emotions or thoughts, how these related to one another and the environment, and how to be more accepting of the present. While this study is limited by the fact that it is only a singular case study, the results suggest that

MBCT can be combined with ongoing DBT to address depressive episodes. However, further research needs to be conducted to delineate the effects of combining both acceptance and change-centered treatment interventions in the treatment of BPD and depressive symptoms (Huss & Baer, 2007).

Lynch et al. (2007) analyzed the use of DBT with older adults with personality disorders and depression. Participants were randomly assigned to receiving medication only or medication with DBT group skills training and individual telephone consultations. Results of the study indicated that approximately 71% of those with medications and DBT were in remission at post treatment. While there was not a difference in depressive symptoms and mood, the results indicate that the combination of DBT with medication can lead to remission more quickly. However, further research needs to be conducted on the matter. While the studies above did not involve participants with a major depression disorder, which is categorized as an SMI, the results still suggest that the use of DBT affects acceptance and change, increases the use of mindfulness skills, and ability to reach remission from depression. These three factors can be applied in working with SMIs and CIs, as they are key components in addressing quality of life and wellness during recovery.

DBT is an evidence-based therapy that is implemented with various disorders including BPD, substance abuse, eating disorders, and depression. While these disorders do not necessarily fall under the category of an SMI, the variables measured in the research can be transferred to measures that are important with individuals diagnosed with an SMI and a CI as well. Findings that are specifically relevant to the population include lowering hospitalizations, use of emergency room services, and adherence to treatment (Linehan et al., 2006), decrease in drug abuse (Linehan et al., 1999), increase in global psychosocial functioning (Kroger et al., 2010),

and the combination of DBT with medication can lead to remission from depression (Lynch et al., 2007). These combined can address the needs of individuals with an SMI and a CI.

### **Music Therapy in Mental Health**

Music therapy research in mental health includes individuals with various diagnoses, such as schizophrenia and schizophrenia-like disorders (Mossler et al., 2011; Talwar et al., 2006; Tang, Yao, & Zheng, 1994; Ulrich, Houtmans, & Gold, 2007), severe mental illness (SMI) (Grocke, Bloch, & Castle, 2009; Grocke et al., 2014; Silverman, 2010a; Silverman & Leonard, 2012; Silverman & Marcionetti, 2004), substance abuse (Cevasco, Kennedy, & Generally, 2005; Silverman, 2012), and depression (Erkkila et al., 2011). These studies measured different symptoms and behaviors, such as negative symptoms for individuals with schizophrenia (Tan et al., 1994), symptoms of psychosis (Silverman, 2003), and overall mental states (Mossler et al., 2011). Research has also focused on the use of music therapy in specific facilities such as patients at an acute facility (Carr, Odell-Miller, & Priebe, 2013; Goldberg, McNiel, & Binder, 1988; Silverman, 2013; Silverman, 2014), outpatient facility (de l'Etoile, 2002; Grocke et al., 2009; Grocke et al., 2014), and detoxification facility (Silverman, 2010b; Silverman, 2011a; Silverman, 2011b; Silverman, 2012). The increasing amount of literature in the field of music therapy in mental health is beneficial in providing support for evidence-based practice.

**Music therapy and serious mental illnesses.** Individuals with an SMI are a vulnerable population as indicated by their complex medical issues, which can have an effect on overall quality of life. Many factors must be taken into consideration for the implementation of music therapy including, but not limited to: number of sessions, interventions implemented, and perception of music therapy within the treatment program. Review articles have been written that

examine the effects of music therapy on the symptoms in individuals with SMIs (Gold, Solli, Kruger, & Lie, 2009) and music therapy in comparison to other treatments (Mossler et al., 2011).

Grocke et al. (2009) conducted a study in which they examined the effects of music therapy on quality of life for individuals diagnosed with an SMI. Seventeen participants, who lived in the community, attended a 10-week music therapy group program, which included songwriting, instrumental improvisation, and group singing. These interventions led to each group recording an original song. The results indicated an increase in five of the items on the Quality of Life (QoL) scale. A recent study conducted by Grocke et al. (2014) also addressed group music therapy with individuals diagnosed with an SMI. This randomized mixed methods study sought to examine the effect of group music therapy on quality of life, self-esteem, religiosity, social improvement, and symptoms. Interventions included group singing, songwriting, and recording the original songs. The results of the study determined that quality of life and self-esteem were enhanced. While the sample size was small, the results of this study demonstrate the effect of specific interventions on quality of life with individuals with an SMI.

Research conducted by Silverman and Mancionetti (2004) addressed the effect of a single group music therapy session in an inpatient psychiatric hospital on individuals who were diagnosed with various disorders including schizophrenia, schizoaffective disorder, bipolar disorder, major depressive disorder, and psychosis not otherwise specified. Interventions implemented included lyric analysis, music games, group drumming, music listening, and songwriting. Participants indicated that music therapy had an immediate effect on self-esteem, expression, coping, mood, anger, and psychosis symptoms. While no statistical analyses were conducted, this research provides insight on the short-term effects of music therapy on an

individuals' understanding of coping skills, well-being, and symptoms (Silverman & Mancionetti, 2004).

Silverman and Leonard (2012) shed light on attendance levels and length of time in sessions for people with an SMI using active versus passive music therapy interventions. For both of the pilot studies, the researchers implemented active music therapy interventions in the experimental groups including lyric analysis, songwriting, music games, percussion play, and facilitated group singing and passive music listening interventions in the control groups in which participants listened to recorded music via an iPod. In the first study, the researchers examined attendance rates. For the second study, the researchers addressed how much time participants spent in the session (Silverman & Leonard, 2012). Results in the first study indicated that more participants were present at the active music therapy sessions versus the passive sessions. For the second study, the results indicated that participants were present at the active sessions for a longer duration than the passive sessions. While a larger sample size and randomization would be necessary for future studies, this research provides knowledge on the use of particular interventions that are effective in increasing attendance for group therapy with individuals with an SMI.

A mixed methods study by Silverman (2010a) also addressed patients diagnosed with an SMI and their views on interventions used within an inpatient setting. Interventions that were incorporated included an individual game, team game, singalong, lyric analysis, and songwriting. Results indicated that patients noted that a music game was most beneficial for an individual and a group music game was most pleasant within a group. Silverman also interviewed the patients for the qualitative portion of the study after each session. Patient interview results indicated that patients were able to discuss what they had done within the group and the overall purpose of the

group session. This research study helps paint a clearer picture of interventions that can be beneficial for and well received with patients with SMIs.

A systematic review and meta-analysis conducted by Gold et al. (2009) investigated the effects of music therapy on individuals with an SMI. The researchers' review included all randomized, uncontrolled pre-post studies, and other controlled studies addressing SMI and music therapy. The results indicated that music therapy, in conjunction with standard care, can have a positive effect on global state, positive symptoms (i.e., hallucinations, delusions, or disorganized speech), negative symptoms (i.e., social retraction, diminishing motivation, or restricted emotional expression), anxiety, depression, daily performance, and engagement in music. The results also indicated that the more sessions conducted, the more effect would be seen on symptoms, meaning more sessions- ranging from 16 and 51 as noted from the findings- are needed to see improvements. This systematic review is important in identifying that music therapy, in addition to standard care, is an effective treatment and that the number of sessions is an important factor to keep in mind when working with individuals with an SMI.

Mossler et al. (2011) reviewed the Cochrane schizophrenia group trials database and the three American music therapy journals to identify randomized controlled trial studies that addressed music therapy in comparison to standard care, placebo therapy, or no treatment. Eight studies were included in the review and investigated the effect of music therapy in short-term and medium-term settings with varying amounts of sessions. The review indicated that music therapy, in combination with standard care, could enhance individuals' with schizophrenia global state, mental state, and social functioning when there is an adequate amount of sessions included. The researchers noted that future studies should look at the long-term effects of music therapy. Overall, there is still a need for more quantitative data in music therapy to promote evidenced



based practice (Mossler et al., 2011). These review articles are important as their findings demonstrate that results can be seen in positive and negative symptoms as well as the other relevant areas stated above for an individual diagnosed with an SMI when music therapy and standard care are implemented with a sufficient amount of sessions in order to see results.

**Music therapy and chronic illnesses.** According to the Centers for Disease Control and Prevention (CDC, 2015), examples of chronic diseases include diabetes, arthritis, heart disease, and obesity. Music therapy has been used alongside standard care with individuals diagnosed with a chronic disease. Research has addressed specific interventions for individuals with chronic health conditions, including the use of music-mediated imagery with patients experiencing chronic pain (Rider, 1987; Rider & Kibler, 1990) and group singing on mood, coping, and pain in individuals with chronic pain (Kenny & Faunce, 2004). Research has also focused on specific diagnoses such as cardiac healthcare and rehabilitation (Bradt, Dileo, & Potvin, 2013; Hanser & Mandel, 2005; Mandel, 1996; Mandel, Hanser, & Ryan, 2010; Mandel, Hanser, Secic, & Davis, 2007) and diabetes (Mandel, Davis, & Secic, 2013).

Rider (1987) proposed the use of improvised music and imagery to address chronic pain and disease. Within the case studies presented, Rider demonstrated how the music could be created and manipulated to entrain the individual's mental images to focus on healing states. Rider (1987) noted the importance of live, improvised music because of its ability to adapt to a client's needs, at that particular moment. Research conducted by Rider and Kibler (1990) further analyzed the effect of music-mediated imagery on individuals diagnosed with various chronic conditions including systemic lupus erythematosus, rheumatoid arthritis, and osteoarthritis. The researchers implemented music-mediated imagery and group psychotherapy (control group) or music-mediated imagery on its own (experimental group) with a small sample size of 13

participants. Participants took part in a preliminary session for pretesting and training, which was followed by weekly sessions over the course of five weeks. The researchers examined the effects on participants' activities of daily living, trait anxiety, and imagery. Results indicated a significant improvement in activities of daily living in both the experimental and control group; however, there was not a significant improvement in trait anxiety. While these add to the music therapy literature and provide evidence of potential benefit, there is a need for quantitative data with larger sample sizes and randomization.

A feasibility study conducted by Mandel et al. (2007) provides positive results on the effect of music therapy, in combination with rehabilitation, on health-related outcomes with individuals with coronary heart disease (CHD). As a feasibility study, the researcher wanted to examine the effectiveness of a music therapy protocol over the course of time. The study was originally designed as a longitudinal randomized controlled trial to assess patients one month, four months, and ten months after treatment. However, due to the sample size decreasing over time, the researchers were limited in their interpretations of the follow-up data. Patients were randomly assigned to cardiac rehabilitation or cardiac rehabilitation and music therapy. Cardiac rehabilitation included one-hour exercise sessions, three times a week. Those in the cardiac rehabilitation and music therapy group also attended music therapy once a week, every other week for 90-minutes over the course of rehabilitation. Interventions implemented within the sessions by a board certified music therapist included an opening song, verbal support and counseling, live music with discussion, instrument play, songwriting and Music-Assisted Relaxation and Imagery (MARI). Results indicated a greater decrease in systolic blood pressure for individuals in the music therapy group versus the control group. Mandel et al. (2010) further investigated the use of recorded Music-Assisted Relaxation and Imagery (MARI) without a

music therapist and its effect on blood pressure, anxiety, and stress with people with CHD at an outpatient cardiac rehabilitation center. Results for the immediate effects demonstrated a significant decrease in systolic blood pressure, state anxiety, and stress. Further research needs to be conducted on the long-term effects of this protocol with a larger sample size.

Bradt et al. (2013) conducted a Cochrane systematic review, including randomized control trials and quasi-randomized trials that examined the use of music for decreasing stress and anxiety in individuals with coronary heart disease (CHD). Studies that were included in this review addressed music interventions in combination with standard care versus standard care by itself. Twenty-six studies were found in which listening to music was the most frequently implemented intervention to affect anxiety. Other factors that were affected were systolic blood pressure, heart rate, respiratory rate, sleep quality and pain. While this systematic review provides applicable results, a trained music therapist did not conduct twenty-three of the studies included. Other researchers have proposed music therapy interventions for cardiac patients (Hanser & Mandel, 2005; Mandel, 1996), but do not provide the strongest evidence through randomized control trials. Therefore, there is a need for evidence-based research through randomized controlled trials, conducted by board-certified music therapists that address the use of music therapy with chronic heart conditions.

Mandel et al. (2013) continued to research the effects of Music-Assisted Relaxation and Imagery (MARI) with individuals participating in a diabetes self-management training class. Participants were randomly assigned to diabetes self-management education/training (DSME/T), DSME/T and MARI CD, or DSME/T and music therapy with a board certified music therapist. The researchers analyzed the effect on blood pressure, glycosylated hemoglobin, body mass index, trait anxiety, state anxiety, and stress. DSME/T and MARI CD treatment consisted of the

participant receiving the MARI CD along with a phone report schedule. The board certified music therapist contacted the participants to recommend the use of the CD for 30 minutes a day and instructed participants to call in to report every two weeks on usage of the CD and overall experience. Participants in the music therapy group attended four biweekly sessions.

Interventions implemented in the music therapy group included music listening of stimulating or relaxing music which was played live by the music therapist, the participants providing examples of preferred music for the group, and each participant creating a personalized program for music listening at home. The results determined that there was a significant decrease in systolic blood pressure for the music therapy intervention group.

The chronic illnesses mentioned in the studies above may be seen in individuals with SMIs. The research indicates that music therapy can have an effect on improving activities of daily living (Rider & Kibler, 1990), decreasing systolic blood pressure with individuals with coronary heart disease (Mandel et al., 2007) and diabetes (Mandel et al., 2013), decreasing state anxiety and stress for individuals with CHD (Mandel et al., 2010), and decreasing anxiety in individuals with CHD (Bradt et al., 2013). These are measurements that an individual with an SMI and a CI may also experience, and would have an effect on their overall health and well-being.

**Music therapy and Dialectical Behavior Therapy.** As previously noted, there are limited studies regarding the specific use of dialectical behavior therapy (DBT) and music therapy. A pilot study conducted by Plener, Sukale, Ludolph, and Stegemann (2010) combined elements of dialectic behavior therapy for adolescents (DBT-A) with music therapy to decrease nonsuicidal self-injurious behaviors in adolescents. The treatment consisted of 12, two-hour, group music therapy sessions conducted by a music therapist. During every session, each

participant, ( $N=5$ ), took part in a 20-minute, individual therapy session with a child and adolescent psychiatrist in which they focused on emotions and their connections to actions, emotion regulation skills, and interpersonal communication (Plener et al., 2010). Interventions used during the group music therapy sessions include music and relaxation, progressive muscle relaxation, sharing of preferred music, instrument play, and recording music. The music therapy groups focused on incorporating interpersonal communication and working as a group (Plener et al., 2010). At the completion of the program, results indicated that the majority of the participants had ended self-injuring and depression scores decreased (Plener et al., 2010). While this research study had a small sample size, it provides promising support of the incorporation of DBT and music therapy.

Chwalek (2013) investigated the use of DBT in music therapy in her thesis. Within a mixed methods approach, board certified music therapists working in mental health settings were surveyed to analyze their use of DBT in music therapy. The researcher also interviewed two music therapists whom she selected because they incorporated DBT elements into their music therapy practice. Results from the survey indicated that music therapists implement elements of DBT in music therapy but not the entire DBT protocol. Approximately 40% of the survey respondents indicated they studied DBT on their own, 43.8% indicated they were not familiar with Linehan's skills training book (1993b), and 42.2% felt incapable of effectively implementing DBT. Approximately 49% of participants noted they addressed mindfulness from a DBT approach and 50% indicated they focused on emotion regulation from a DBT approach in music therapy (Chwalek, 2013). Results from the interviews indicate that there are limited sources on DBT in music therapy but expressed that DBT in music therapy can be beneficial because it provides time for clients to practice the skills. These results highlight the need for

training in DBT for music therapists, as well as the need for more research on DBT in music therapy (Chwalek, 2013).

Chwalek and McKinney (2015) continued to discuss this gap in the literature in their published article indicating there are no research articles that address the use of DBT by music therapists in the United States. The results from the survey and interviews, conducted by Chwalek (2013) as part of the researcher's thesis, noted that less than half of music therapists are implementing DBT components in their practice. Participants responded that they typically used music listening, music and imagery, and music improvisation for interventions based in DBT. Therefore, with DBT-focused mindfulness becoming a popular practice in mental health settings, there is a need to research the implementation of DBT in music therapy to determine the efficacy of the combination.

**Music and mindfulness.** There is limited research on the use of music and mindfulness to address specific therapeutic outcomes, especially with particular diagnoses. Eckhardt and Dinsmore (2012) proposed an intervention, *Mindful Music Listening*, in which individuals diagnosed with depression implement mindfulness skills while listening to music. Clients would be encouraged to identify, explain, and discover how to regulate their emotions while participating in *Mindful Music Listening*. Within the protocol, it is up to the client to decide who would select the music (counselor or client). The researchers note the need to be mindful of the emotions that are associated with the piece as well as the music elements. Once the music has been chosen, the client begins the next step of *Mindful Music Listening*. The researchers suggest that the client listens to some or all of the music selection while being aware of anything happening physically or any thoughts or emotions that occur during the music selection. Once the music has ended, the counselor and client discuss what the client experienced throughout the

music. The music can act as a bridge to identify emotions through the mindfulness practice of acknowledging the emotions without judgment. The discussion that follows the listening can allow the client to better understand their emotions and promote self-regulation. Due to this protocol being implemented by a counselor versus a board certified music therapist, issues may arise in the implementation including emotional distress if the client selects music that may cause overstimulation instead of regulation. While this protocol appears to be grounded in research, it has not been implemented with actual clients; however, it is an approach that incorporates mindfulness and music.

Diaz (2013) conducted a study to examine the effects of a short mindfulness meditation on observed attention, aesthetic response, and flow (i.e., degree of engagement in a task that promotes a feeling of joy) of university students while listening to music. Results from the questionnaire indicated participants felt an enhanced sense of attention during the music listening, yet did not attribute it to the mindfulness task. Results from the questionnaire also indicated that participants reported the mindfulness task had altered their music listening experience by helping them focus on the music. While further research needs to be conducted on the use of mindfulness and the relationship it has with music experiences, this study is promising in its use of mindfulness.

**Music therapy and mindfulness.** Mika (2014) provided an awareness of the use of mindfulness within the practice of music therapy. The researcher surveyed music therapists to identify if mindfulness was used within the field and how useful it was, as a therapist, within a clinical setting. Although there was a small sample size ( $N= 7$ ), results of the survey indicated that the therapists were familiar with mindfulness and noted that the music therapists utilized mindfulness practices before, during, and after sessions. The idea of mindfulness that was

conceptualized by the therapists and defined by the researcher was that it is the music therapist's intentional awareness within a non-judgmental frame of mind in a session to a client's musical and/or non-musical communication (i.e., breath or body movements). This study contributes to the research on music therapy and mindfulness. However, there is still a need for more research with a larger sample size and a focus on the implementation of mindfulness in music therapy in a clinical setting.

While there are limited published studies regarding the use of music therapy and mindfulness, Fidelibus (2004) provided insight on the concept of mindfulness within clinical improvisation in his dissertation. The researcher proposed a model in which mindfulness, or a direct experience of the music, helps create a sense of musical self-awareness. A therapist must use the practice of mindfulness to be present and attentive to all experiences within a clinical improvisation setting including what the client is producing musically, what the therapist is creating, and each moment of the music. While this research promotes the idea of mindfulness within a music therapy setting, it does not necessarily utilize a specific mindfulness intervention. The researcher also did not include any quantitative or qualitative data to demonstrate the effect of mindfulness within a music therapy setting. However, the concept of being mindful during instrumental improvisation may be applicable for music therapists to incorporate with various populations and in different settings.

Robarts (2009) discusses a similar concept in which music can be used to promote the renewal of meaning within the life of a child who was sexually abused. The researcher discusses the need to listen and attend to the music during clinical improvisation to be mindful of the client's responses and creations and to respond accordingly within a musical relationship.



Robarts explains that within a music relationship, a therapist and client can build rapport, trust, and express and regulate emotions that may be present in our psyche.

Tomaselli (2014) examined the effects of mindfulness-based music listening on anxiety symptoms and mindful awareness with older adults living in an assisted living facility in her dissertation. The researcher provided live music accompaniment during a mindfulness body scan script. Participants engaged in this task two times during one week. Results from the study indicated that there was a decrease in anxiety symptoms from pre- to post-test within the experimental group. However, the results also demonstrated that there was not a significant difference between the experimental and control wait-list group or between pre-to post-test for either with mindful awareness. Further research needs to be conducted between the use of mindfulness-based techniques in combination with music therapy and the effect on anxiety and mindfulness.

Lesiuk (2015) conducted a pilot study to implement a mindfulness-based music therapy (MBMT) intervention to determine the efficacy of its affects on attention and mood distress with women diagnosed with breast cancer. Lesiuk (2016) explained the development of the MBMT program, which consisted of various music experiences including music listening, instrument playing, and music-assisted relaxation. The program was based in the mindfulness program of Mindfulness-based Stress Reduction (MBSR) and addressed four out of the seven mindfulness attitudes from the program (i.e., non-judging, beginner's mind, suspending judgment, and acceptance and letting go). Results from Lesiuk (2015) indicated that attention improved over time and mood states improved as well. Future research needs to continue to examine the implementation of specific interventions within mindfulness-based music therapy.

### **Mindfulness-based Music Therapy Protocol**

Due to the lack of literature in DBT and music therapy, specifically the incorporation of DBT core mindfulness skills, this study is proposing the implementation of a mindfulness-based music therapy protocol stemming from a DBT-informed approach. The study will be from a DBT-informed approach because the facility in which the study will be conducted already incorporates DBT programs. The interventionist is also not DBT trained but has gained knowledge and insight through reading Linehan's (2015) Skills Training Manual and workbook and intensively researching articles related to DBT, mindfulness, mindfulness in DBT, music, and music therapy and therefore, has become DBT informed. Within this study, interventions from the protocol will be placed in three categories, which were created by Dr. Abbey Dvorak (2015a): music as a focus for psychophysiological connection, music as a focus for mindful listening, and music as a focus for mindful active engagement. These interventions within the protocol, fitting under the categories created by Dvorak (2015a), have been based upon literature relevant to the music components and the core mindfulness skill(s) being addressed within the intervention.

**Music as a focus for psychophysiological connection.** Music as a focus for psychophysiological connection is use of music specifically designed, composed, or selected, based on the best available research, to support internal and external responses for mindfulness meditation practice (Dvorak, 2015a). Interventions implemented within this category will address the body and mind including diaphragmatic breathing, progressive muscle relaxation, and guided imagery. The music element of tempo is a crucial factor to consider when addressing physiological symptoms (Gadberry, 2011; Tan, Yowler, Super & Fratianne, 2012). Gadberry (2011) conducted a study in which she examined the effect of a steady beat on state anxiety with

healthy participants. The steady beat was 66 beats per minute and played on a bass tone bar for two-minutes. Results of the study indicated that there was a significant difference between listening to the steady beat versus silence on the decrease of state anxiety. The tempo, specifically a steady beat, will be important in guiding diaphragmatic breathing and progressive muscle relaxation. Other music elements that need to be considered in this category include rhythm, timbre, and dynamics. The tempo will need to be slow to moderate (i.e., at or below resting heart rate, 72 bpm or less) (Holbrook & Anand, 1990; Robb, Nichols, Rutan, Bishop, & Parker, 1995) with repetitive and simple rhythms (Gaston, 1951; Knight & Rickard, 2001). The timbre must be pleasant (i.e., the natural sound waves created by the instrument is a single frequency or group of frequencies that have a mathematical relationship) (Radocy & Boyle, 2003; Voss et al., 2004) and the dynamics must remain constant (Robb et al., 1995; Thaut & Davis, 1993). For specific intervention information, please see the intervention manual in Appendix A.

**Music as a focus for mindful listening.** Music as a focus for mindful listening is the act of listening to music one-mindfully, observing sounds and silences, and paying attention to specific musical elements present in the moment (Dvorak, 2015a). Mindful music listening is frequently recommended within the literature (Diaz, 2013; Eckardt and Dinsmore, 2012; Kabat-Zinn, 1990; Linehan, 2015). Interventions employed within the mindfulness listening category will contain two types of mindful music listening: awareness and identification of specific music elements within a listening exercise based upon Diaz (2013) and mindful music listening to gain insight in emotions and provide opportunities for self-expression and self-regulation of emotions as proposed by Eckhardt and Dinsmore (2012). For specific intervention information, please see the intervention manual in Appendix A.

**Music as a focus for mindful active engagement.** Music as a focus for mindful active engagement is participating in playing, singing, moving, or creating music while incorporating mindfulness skills such as observe, describe, and/or participate one mindfully (Dvorak, 2015a). In other words, concentrating your attention on the present moment and on the task at hand (Linehan, 2015). Interventions in this category will include Orff-based instrument play (Silverman, 2015), instrumental improvisation (Ansdell & Meehan, 2010; Fidelibus, 2004; Mossler et al., 2011), facilitated drumming (Matney, 2007; Watson, 2002), movement and music (Spiegel, 2010), and art based music tasks (Silverman, 2015). While there are no research articles that specifically address the use of Orff-based music therapy in mental health, Silverman (2015) suggested the applicability of Orff within mental health due to the Orff areas of musical development (Colwell, Pehotsky, Gillmeister, & Woolrich, 2008). These areas include exploration, imitation, improvisation, and creation (Colwell et al., 2008). Instrumental improvisation, implemented with Mossler et al. (2011) addressed mood state, social interactions, and overall mental state. Ansdell and Meehan (2010) utilized improvisation with individuals with chronic mental health diagnoses. Fidelibus (2004) discussed the use of improvisation to become aware of one's self. Another intervention placed within this category, facilitated drumming, can be used as in the research conducted by Watson (2002) to provide opportunities for self-expression. Matney (2007) provides a handbook for the implementation of drumming within music therapy to highlight interventions applicable to a music therapy setting. Spiegel (2010) promotes the use of movement and music to address mindfulness and provides the example of one individual creating a movement that everyone repeats together. Each person takes a turn adding a movement on as they chain a sequence of movements together. Silverman (2015) addresses the use of art based music interventions in mental health by engaging in

scribble art. Scribble art can be used to introduce the incorporation of art into music by providing a non-judgmental environment.

**Feasibility study.** Due to the lack of existing music therapy literature addressing the combination of music therapy and mindfulness as well as an emphasis for evidence-based practice in the field, the current study was conducted as a feasibility study. A feasibility study focuses on whether or not the interventions employed in the study is acceptable and can be recommended for efficacy testing (Bowen et al., 2009). Bowen et al. (2009) noted there are eight main areas of focus in feasibility studies. These include acceptability, demand, implementation, practicality, adaptation, integration, expansion, and limited-efficacy testing. The current study will focus on implementation and limited-efficacy testing in order to determine whether the intervention can be carried out as projected and have an effect on participants.

### **Purpose and Research Questions**

The purpose of this research study was to determine the feasibility of a mindfulness-based music therapy protocol for people with a combined serious mental illness and chronic illness. The research questions include: To what extent was the mindfulness-based music therapy protocol delivered as intended to participants (feasibility component-implementation)? Did this six-week mindfulness-based music therapy protocol affect (a) emotional, psychological, and social well-being and/or (b) increase mindfulness (feasibility component-limited-efficacy testing)?

## Chapter 3: Method

### Recruitment and Informed Consent

The Human Subjects Committees of the university and the study site, a behavioral health center, approved the study. Participants were recruited through Health Connections, the health home program established at this facility as part of the Affordable Care Act to address individuals diagnosed with a serious mental illness and chronic health conditions. Individuals enrolled in Medicaid in this Midwest state are eligible for the Health Connections program; however, participants did not have to be enrolled in the Health Connections program to participate in this study. Participants were also recruited from flyers placed around the mental health facility (Appendix B) and emails sent to staff members for client referrals (Appendix C). The majority of participants met as a group with the researcher prior to the first session to read and sign the informed consent (Appendix D) and complete the assessment survey (Appendix E). The remainder of the participants who were unable to meet with the group, met with the researcher one on one to sign the informed consent and complete the assessment survey prior to the first group. The researcher asked the participants as a group if they would like the researcher to highlight the main parts of the forms or to read the form in its entirety. The researcher reviewed the consent form with the participants who then signed if they chose to participate.

### Participants

Participants ( $N=9$ ) were adult females ( $n=3$ ) and males ( $n=6$ ), ranging in age from 23-70 years old ( $M=47$ ,  $SD=16.61$ ) diagnosed with a serious mental illness (SMI) and a chronic illness (CI). Participants were eligible for the study if they were over the age of 18, diagnosed with an SMI and CI, and could speak and understand English. Participants were excluded from

the study if they did not speak English due to the communication requirements of the group and to meet the IRB requirements of informed consent.

Participants self-reported their diagnoses on the assessment survey, with primary diagnoses of severe depression ( $n=2$ ) and attention-deficit hyperactivity disorder (ADHD) ( $n=2$ ); other reported diagnoses included bipolar ( $n=1$ ), traumatic brain injury ( $n=1$ ), depression ( $n=1$ ), obsessive compulsive disorder ( $n=1$ ), and autism ( $n=1$ ). Self-reported medical diagnoses included hypertension ( $n=1$ ), diabetes ( $n=1$ ), seizures ( $n=1$ ), and unreported ( $n=6$ ). Participants reported their education as college ( $n=4$ ), high school ( $n=2$ ), graduate school ( $n=1$ ), GED ( $n=1$ ), and unreported ( $n=1$ ). Participants reported race as Caucasian ( $n=7$ ), other ( $n=1$ ), and unreported ( $n=1$ ); employment history as previous employment ( $n=4$ ), employed ( $n=3$ ), unemployed ( $n=2$ ), and other ( $n=1$ ); and marital status as single ( $n=5$ ), divorced ( $n=3$ ), and other ( $n=1$ ).

### **Study Approach and Design**

In order to assess the possible implementation of a mindfulness-based music therapy protocol, the researcher chose to administer a feasibility study. By using a feasibility study, it can be determined if a mindfulness-based music therapy protocol is able to undergo additional testing and research (Bowen et al., 2009). A feasibility study is helpful in determining the factors within the protocol that can remain the same and those that need to be adjusted. Feasibility studies are typically carried out when a researcher has found a small number of prior research studies addressing the subject matter or the intervention (Bowen et al., 2009). The area of focus for this research study included implementation and limited-efficacy testing. Implementation focuses on how and if the intervention(s) can be implemented as intended. Limited-efficacy testing indicates that the feasibility study may use a convenient sample, which may result in limited statistical power (Bowen et al., 2009). In order to address implementation feasibility, the

researcher tracked treatment fidelity and noted any changes from the written protocol to actual facilitation in the group. The researcher used a one-group pretest- posttest design to determine limited efficacy of the mindfulness-based music therapy protocol.

## **Measurements**

**Mental Health Continuum-Short Form (MHC-SF).** The Mental Health Continuum (MHC-SF) measures well-being (Keyes, 2009). The original long form (MHC-LF) (Keyes, 2009) includes 40 items to address (a) emotional well-being using Bradburn's (1969) affect balance scale and one item developed from Cantril's (1965) self-anchoring elements, (b) psychological well-being using Ryff's (1989) six dimension model, and (c) social well-being using Keyes' (1998) five dimension model. The MHC-SF consists of 14 items deemed most representative of emotional well-being, psychological well-being, and social well-being (Keyes, 2009). The tool includes three items for emotional well-being, six items for psychological well-being, and five items for social well-being. The MHC-SF measures the frequency that individuals experience the items during the past month on a six-point Likert-type scale (Keyes, 2009) using responses of never, once or twice, about once a week, about two or three times a week, almost every day, or every day. An example includes: "During the past month, how often did you feel satisfied with life?" The tool demonstrates high internal (> .80) and moderate test-retest reliability, good convergent validity, and good internal consistency (Lamars, Westerhof, Bohlmeijer, Klooster, & Keyes, 2011).

**Mindful Attention Awareness Scale (MAAS).** The Mindful Attention Awareness Scale (MAAS), (Brown & Ryan, 2003) measures mindfulness. This measurement tool contains 15 items to assess dispositional mindfulness (i.e., how responsive and considerate an individual is of what is happening in the present). Participants respond to the items with almost always, very



frequently, somewhat frequently, somewhat infrequently, very infrequently, and almost never.

An example includes: “I find it difficult to stay focused on what’s happening in the present.”

Brown and Ryan (2003) analyzed the tool using an exploratory factor analysis and confirmatory factor analysis (CFA), which indicated that the MAAS is a sufficient and valid tool for young adults and adults in the general public. The results from the study also noted that mindfulness is linked to an increase in self-knowledge, which is a factor in self-regulation and can be related to elements of well-being.

### **Procedure**

After signing the informed consent form and prior to the first music therapy session, all participants completed the assessment demographic survey, MHC-SF (Keyes, 2009) and MAAS (Brown & Ryan, 2003). See Appendix E for the assessment demographic survey (Dvorak, in review) used in this study. The researcher facilitated six weekly group sessions lasting 60 minutes using the researcher-designed mindfulness-based music therapy protocol. Participants then completed the post-test MHC-SF (Keyes, 2009) and MAAS (Brown & Ryan, 2003), as well as a follow-up questionnaire at the conclusion of their final session. See Appendix F for the researcher-designed follow-up questionnaire used in this study.

The risks in the study were minimal. Participants were informed that they might experience an emotional response to a song or topic being discussed during the session. The researcher would then talk through the emotional response with the participant, if the occasion arose. If further discussion or counseling would be needed, the participant would be encouraged to be in contact with their treatment team. The participant may also be referred for additional therapy services if the conversation of music frequently brings up concerns or desires to engage

in an active therapy process. The participants were always given the option of not discussing their feelings or emotions, if they were not comfortable with the music or topic.

**Mindfulness-based music therapy group protocol.** The mindfulness-based music therapy group protocol is titled, Mindfulness-based Music Intervention to Promote Well-Being (See Appendix A). The mindfulness-based music therapy protocol included a variety of listening, composing, re-creating, and improvising music experiences from three mindfulness-based intervention categories: music as a focus for psychophysiological connection, music as a focus for mindful listening, and music as a focus for mindful active engagement (Dvorak, 2015a) (See Appendix A). The researcher, a board certified music therapist, used a DBT-informed approach focusing on the concepts of wise mind (i.e., combining rational and emotional mind), “what” skills (i.e., observing, describing, and participating), and “how” skills (i.e., nonjudgmentally, one-mindfully, and effectively) (Linehan, 2015). The researcher designed the music therapy interventions based on the best available research and literature that addressed specific music elements and the interventions used in music therapy within a mental health population. The researcher incorporated DBT-informed skills into the protocol to the extent possible as a music therapist, being conscious of the Standards of Clinical Practice and Scope of Practice for music therapy.

Each session began by discussing the DBT mindfulness skill (i.e., wise mind, observe, describe, participate, non-judgmental, one-mindful, and effective) supported within that session and reviewed any previous skill covered in the group if applicable. Participants experienced music therapy interventions designed to support mindfulness practice within a DBT-informed approach. See Appendix A for task analyses and notation of all interventions for each session. Each session ended with the researcher summarizing the DBT mindfulness skills addressed,

discussing with clients how the skills combined with music can be transferred to everyday life, and thanking everyone for coming to the session.

The researcher used a variety of instruments, materials, and equipment during the music therapy interventions. Instruments included: Orff instruments (i.e., Studio 49 G subcontra bass bar, Studio 49 alto and soprano xylophones, and mallets), handheld percussion instruments (cabasa, rain stick, egg shakers, paddle drums, mallets, buffalo drums, claves, and ocean drums), drums (djembes, tubanos, frame drums, paddle drums, and mallets), and guitar (Martin D15M). The materials included creative art supplies (individual printed mandalas, easel pad and colored pencils) and the equipment included a Bose SoundLink Mini Bluetooth and iPod with recorded songs.

The group was held once a week for six weeks with each session lasting one hour. The groups were held at the behavioral health center in a private room. The room contained tables set up in the middle of the room with chairs around them forming an oval. The door was closed once the group began to preserve the privacy of the group.

Following the guidelines of music intervention reporting (Robb, Carpenter, and Burns, 2010), the researcher attempted to provide a thorough reporting of the Mindfulness-based Music Intervention to Promote Well-Being (See Appendix A). Robb, Carpenter, and Burns (2010) suggest including intervention theory, intervention content, the person selecting the music, music used, how the music was delivered, intervention materials, intervention strategies, intervention delivery schedule, interventionist information, fidelity strategies, setting, and unit of delivery when reporting on music interventions. Therefore, the researcher included in the intervention reporting the why, what, who, how, and where aspects of intervention facilitation.

## **Data Analysis**

All participants completed the MHC-SF (Keyes, 2009) and MAAS (Brown & Ryan, 2003) prior to the first session and within two weeks following the final session. The researcher used descriptive statistics to compare the pre- and post-test results on the MHC-SF and MAAS. In addition, open-ended responses from the follow-up questionnaire were analyzed. Changes or modifications to the mindfulness-based protocol were tracked throughout the study to examine the feasibility of implementation. The researcher took extensive notes following each session on the (a) accuracy of the protocol implementation, (b) changes, if any, that needed to be made, (c) client responses to the protocol, and (d) researcher responses and modifications made to address client responses (e.g., what, how, why).

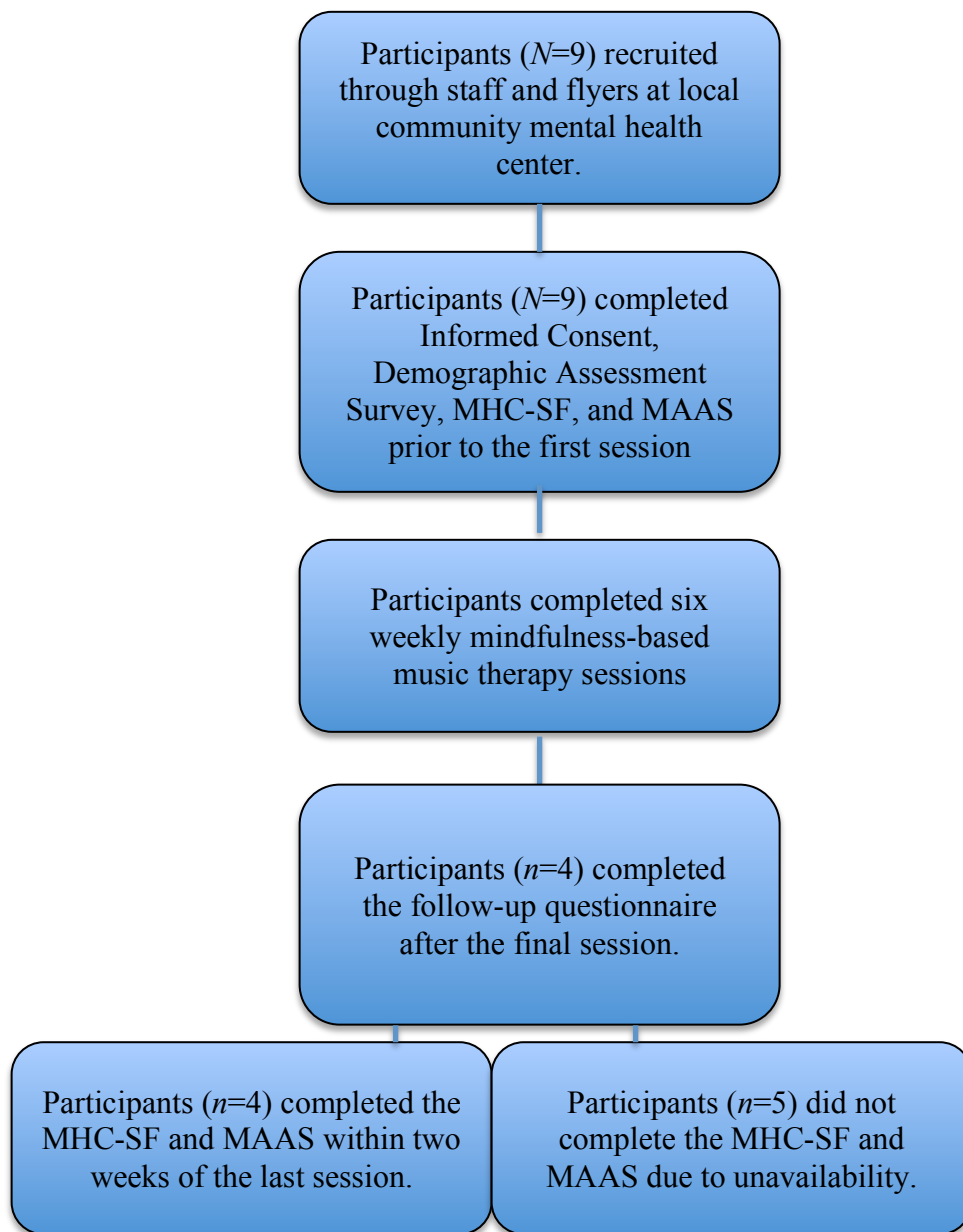


Figure 1: Mindfulness-based music therapy recruitment, testing, timeline, and group protocol.

## Chapter 4: Results

*To what extent was the mindfulness-based music therapy protocol delivered as intended to participants?*

Although attendance was sporadic, the structure of reviewing the skills each week and building onto skills previously learned allowed the researcher to follow the protocol predominately as intended. Table 2 displays the attendance through the protocol. In order to examine the feasibility of implementation, the researcher tracked modifications to the mindfulness-based protocol. Table 1 tracks the minor intervention modifications to the protocol. The researcher took extensive notes following each session on the (a) accuracy of the protocol implementation, (b) changes, if any, that needed to be made, (c) client responses to the protocol, and (d) researcher responses and modifications made to address client responses (e.g., what, how, why). Table 3 displays the results of the follow-up questionnaire completed by four of the participants.

Table 1: Intervention Fidelity of the Mindfulness-based Music Therapy Group Protocol

Session	Intervention	Modifications
1 (12-8-16)	<ul style="list-style-type: none"> <li>• <u>Instrument Play: Handheld Percussion</u></li> <li>• <u>Mindful Listening</u></li> <li>• <u>Movement and Music: Stretching and Movement Sequence</u></li> <li>• <u>Psychophysiological Scan</u></li> </ul>	<ul style="list-style-type: none"> <li>• Time was added at beginning of group to allow participants to introduce themselves to the group</li> <li>• Material was written out on poster board</li> <li>• Instrument play sequence was repeated 2x (observe touch, observe personal sound, observe group's sound or own instrument sound)</li> <li>• Participants were encouraged to observe group's sound or individual sound for final part of observing sequence</li> <li>• As is</li> <li>• Participants were encouraged to modify movements if needed</li> <li>• Some movements were repeated more so than others</li> <li>• Bpm changed from 66 to 60 due to volume of the clock in the room</li> <li>• Headphones and phone were used to maintain steady beat by listening to metronome on phone app</li> <li>• G subcontra bass bar was used instead of C due to difficulty of transportation</li> <li>• Lights were turned off in room but still had natural light</li> </ul>
2 (12-15-16)	<ul style="list-style-type: none"> <li>• <u>Instrument Play: Handheld Percussion</u></li> <li>• <u>Music Listening</u></li> </ul>	<ul style="list-style-type: none"> <li>• Material written out on poster board</li> <li>• After each person played one by one, the person playing described their sound then the group was allowed to describe the person's sound</li> <li>• Discussion was led on the music created after playing as a group</li> <li>• As is</li> </ul>

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3 (12-22-16)	<ul style="list-style-type: none"> <li>• <u>Movement and Music: Stretching and Movement Sequence</u></li> <li>• <u>Psychophysiological Scan</u></li> </ul>	<ul style="list-style-type: none"> <li>• Participants were encouraged to modify as needed</li> <li>• Stretching of legs was removed from movement sequence</li> <li>• Modified marching was removed from movement sequence</li> <li>• Bpm changed from 66 to 60</li> <li>• Headphones and phone were used to maintain steady beat</li> <li>• G subcontra bass bar was used instead of C due to the difficulty of transportation</li> <li>• Lights were turned off in room but still had natural light</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Instrument Play: Drumming</u></li> <li>• <u>Movement and Music: Personal Tai Chi</u></li> <li>• <u>Art-Based Music: Mandala</u></li> <li>• <u>Psychophysiological Scan</u></li> </ul>	<ul style="list-style-type: none"> <li>• Material written out on board</li> <li>• Question was posed on how to incorporate mindfulness into daily life</li> <li>• As is</li> <li>• Each person repeated movements 8x or more depending on the flow of the group</li> <li>• Music was repeated 2x</li> <li>• Bpm changed from 66 to 60</li> <li>• Headphones and phone were used to maintain steady beat</li> <li>• G subcontra bass bar was used instead of C due to the difficulty of transportation</li> <li>• Lights were turned off in room but still had natural light</li> </ul>
4 (12-29-16)	<ul style="list-style-type: none"> <li>• <u>Instrument Play: Drumming</u></li> </ul>	<ul style="list-style-type: none"> <li>• Material written out on poster board</li> <li>• For echo portion: MT-BC led, participant led, then MT-BC led again</li> </ul>

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	<ul style="list-style-type: none"> <li>• <u>Movement and Music: Personal Tai Chi</u></li> </ul>	<ul style="list-style-type: none"> <li>• Group was not given specific number of times to repeat movement</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Art-Based Music: Mandala</u></li> </ul>	<ul style="list-style-type: none"> <li>• Music was repeated 3x</li> <li>• Other options were provided including creating own mandala or creating mandala related to theme of mindfulness</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Psychophysiological Scan</u></li> </ul>	<ul style="list-style-type: none"> <li>• Bpm changed from 66 to 60</li> <li>• Headphones and phone were used to maintain steady beat</li> <li>• G subcontra bass bar was used instead of C due to the difficulty of transportation</li> <li>• Lights were turned off in room but still had natural light</li> </ul>
5 (1-5-17)	<ul style="list-style-type: none"> <li>• <u>Instrument Play: Orff</u></li> </ul>	<ul style="list-style-type: none"> <li>• Material written out on poster board</li> <li>• 2 tone chimes added (C &amp; G bordun part)</li> <li>• Instructions were provided on how to play tone chimes</li> <li>• Followed protocol as is</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Blues Songwriting</u></li> </ul>	<ul style="list-style-type: none"> <li>• Did not have time for during this session</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Psychophysiological Scan</u></li> </ul>	<ul style="list-style-type: none"> <li>• Bpm changed from 66 to 60</li> <li>• Headphones and phone were used to maintain steady beat</li> <li>• G subcontra bass bar was used instead of C due to the difficulty of transportation</li> <li>• Lights were turned off in room but still had natural light</li> </ul>
6 (1-12-17)	<ul style="list-style-type: none"> <li>• <u>Instrument Play</u></li> </ul>	<ul style="list-style-type: none"> <li>• Material written out on poster board</li> <li>• Discussion with group was held regarding practicing mindfulness during the week</li> <li>• MT-BC demonstrated chant and bordun x2 to review with participants</li> <li>• Group then joined in</li> <li>• MT-BC then demonstrated sound color with chant and bordun x2 to review</li> </ul>

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- Group then joined in
  - Group was divided to designated parts
  - Participants were encouraged to do what would work best for them
  - MT-BC prompted group to recall speech ostinato
  - Group was split for chant and speech ostinato
  - Final time through (2x)
  - No new chant was created
- Blues Songwriting
    - Introduction of blues
    - Explanation of AAB
    - Examples given of lyrics for AAB
    - Brainstorming and writing down of ideas
    - Group worked together to create lyrics
    - Lyrics written down 2x (1 given to participants to look at)
    - MT-BC sang through lyrics 1x and asked for thoughts or feedback
    - Group sang song together 1x
- Psychophysiological Scan
    - Bpm changed from 66 to 60
    - Headphones and phone were used to maintain steady beat
    - G subcontra bass bar was used instead of C due to the difficulty of transportation
    - Did not discuss what participants would take away from group due to limited time
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Table 2: Attendance of Participants for Music Therapy Sessions

Session	Participants Present	Participants Absent & Reason for Absence
1 (12-8-16)	1, 2, 3, 5, 6, 7, 8, 9	4- unknown reason
2 (12-15-16)	1, 3, 7, 8, 9	2- work 4- unknown reason 5- personal reason 6- unknown reason
3 (12-22-16)	3, 7	1- unknown reason 2- work 4- symptomatic 5- unknown reason 6- unknown reason 8- unknown reason 9- unknown reason
4 (12-29-16)	7	1- unknown reason 2- unknown reason 3- personal reason 4- symptomatic 5- confirmed then cancelled 6- case manager unable to contact 8- personal reason 9- sick
5 (1-5-17)	1, 3, 4 (entered briefly and exited), 5, 7	2- work 6- work 8- weather 9- weather
6 (1-12-17)	3, 5, 7	1- unknown reason 2- work 4- symptomatic 6- work 8- personal reason 9- symptomatic

Table 3: Follow-up Questionnaire Responses

Question	Participants' Responses
<b>1.) What was your favorite experience in the group?</b>	<p>P1: "After the third time we did the mindfulness exercise with the marimba tone, I got sort of a "transported back to reality" feeling. That was the most interesting thing that happened, so I'll put it down as my favorite."</p> <p>P3: "Playing various instruments."</p> <p>P5: "All of it was great fun."</p> <p>P7: "My favorite experience was the observing of the instruments and coloring."</p>
<b>2.) What was your least favorite experience in the group?</b>	<p>P1: "Nothing was particularly unfavorable."</p> <p>P3: "Waiting for everybody to finish."</p> <p>P5: "Its (sic) over"</p> <p>P7: "Not applicable"</p>
<b>3.) How can we improve the group?</b>	<p>P1: "I can't think of any valid suggestions."</p> <p>P3: "Make it longer"</p> <p>P5: "Make longer"</p> <p>P7: "Give ideas to group participants"</p>
<b>4.) What will you take away from this group experience?</b>	<p>P1: "How focus on music can elevate my pulse an (sic) heart rate."</p> <p>P3: "Possible friend(s)."</p> <p>P5: "Every thing mindfulness"</p> <p>P7: "Use coping skills, breathing"</p>

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**5.) Has this experience affected your life and lifestyle? If so, how?**

P1: "I took a few moments in the evening to listen to music 'mindfully.' Whether or not this will persist, I can't quite say."

P3: "Of course it has- I love people and interacting w/ them!"

P5: "More relaxed"

P7: "This experience has affected my life pretty well. Helps increase my overall happiness."

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*Did this six-week mindfulness-based music therapy protocol affect (a) emotional, psychological, and social well-being and/or (b) increase mindfulness?*

The researcher used a one-group pre-test- post-test design within the feasibility study for limited-efficacy testing. Due to the small sample size, the researcher used descriptive statistics to analyze the change from pre-test to post-test. Pre-test to post-test differences for emotional, psychological, and social well-being, as assessed by the MHC-SF (Keyes, 2009), demonstrated a decrease in overall well-being scores, while pre-test to post-test difference for mindfulness, as assessed by the MAAS (Brown & Ryan, 2003), demonstrated an increase in overall scores. Therefore, the results suggest that the six-week mindfulness-based music therapy protocol decreased well-being scores and improved mindfulness scores. Table 4 displays the pre-test and post-test scores for the MHC-SF (Keyes, 2009) and MAAS (Brown & Ryan, 2003) as well as the percent change from pre-test to post-test for both.

Table 4: Pre-test, Post-test, and Percent Change Scores for MHC-SF and MAAS

Participant #	MHC-SF Pre-test Score	MHC-SF Post-test Score	Percent Change	MAAS Pre-test Score	MAAS Post-test Score	Percent Change
1	2.7	2.5	-7.89%	3.8	4.1	8.76%

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2	1.9			3.9		
3	4.5	1.9	-57.11%	3.3	3.4	2.10%
4	2.2			3.1		
5	2.9	2.1	-29.11%	2.3	2.7	20.80%
6	3.4			5.2		
7	4.9	4.3	-11.83%	2.2	2.7	20.91%
8	3.6			3.7		
9	3.9			4.4		

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## Chapter 5: Discussion

The purpose of this research study was to determine the feasibility of a mindfulness-based music therapy protocol for people with a combined severe mental illness and chronic illness. The research questions included: To what extent can the mindfulness-based music therapy protocol be delivered as intended to participants? Does this six-week mindfulness-based music therapy protocol affect (a) emotional, psychological, and social well-being and/or (b) increase mindfulness? The results of this feasibility study suggest continued investigation of mindfulness-based music therapy interventions for people with SMI and CI.

### Implementation

**Protocol.** The protocol was implemented as intended with minor changes, which are noted above in Table 1. The minor changes varied each session and were made to address the needs of the participants in the moment. During the first session, changes included repetition during instrument play with handheld percussion instruments. This occurred to allow participants time to become comfortable with the instruments. To provide an option for the participants during this same intervention, participants were encouraged to observe the group's sound or their individual sound for the final observation. This differs from the original intervention description in which they were simply instructed to observe their own instrument sound. During the movement and music stretching intervention, participants were encouraged to modify movements if needed which was not included in the original protocol. This was added to allow participants to do what would work best for them in the moment. Repetition occurred in the stretching and movement sequence, differing from the original, to meet the needs of the group. During the psychophysiological scan, the bpm changed from 66 to 60 due to the volume of the clock ticking in the room, which still met the criteria of being less than 72 bpm (Robb et al.,

1995) to be at or below resting heart rate. Headphones and a phone app with a metronome were not originally printed in protocol but were used in order for the researcher to maintain a steady beat. A G subcontra bass bar was used instead of a C subcontra bass bar due to the large size of the C subcontra bass bar that caused difficulty when transporting instruments from one building to another. These modifications to the psychophysiological scan intervention also occurred in session 2,3,4,5, and 6.

During session two in the instrument play with handheld instruments, instead of having each participant play one by one and then describe their sound once everyone was finished, the participants were encouraged to describe after they played and then the group was allowed to describe the person's sound. This allowed for immediate practice in the moment of observe then describe for both the individual and the group. During the stretching and movement sequence, due to time limits stretching of the legs and modified marching were removed from the sequence.

During session three in the personal tai chi intervention, the slight modification was to allow each person the option of repeating their personal movement, as they felt comfortable even though the instructions were given as written in the protocol. This change was made due to the small group that was present and to have some flexibility within the intervention. During the art-based mandala work, the music was repeated two times which is noted in the protocol but was mentioned in the changes to stress the importance of playing the music two or three times.

During session four in the facilitated drumming, due to the small group the researcher led the echo, then a participant led, and then the researcher led again. During the personal Tai Chi, participants were not given a specific number of times to complete their movement. Music during the art-based mandala was played three times during the fourth session to allow participants more time to complete their mandalas. Participants were also given the option, if



they needed an idea, to focus their mandala on the theme of mindfulness or music therapy and mindfulness.

During the fifth session for the Orff instrument play, two tone chimes (C and G) were added as options for instruments to provide a variety of instruments. Participants were instructed on how to properly play the tone chimes. The blues songwriting intervention was not implemented during the fifth session due to spending more time on the Orff instrument play during the session. The same changes were made during the psychophysiological scan in session five.

For the sixth session the Orff instrument play had minor changes. Instead of reviewing the chant and bordun parts separately, the researcher combined them due to the participants expressing that they recalled the majority of the parts. The sound color part was then added to the other two parts followed by the group joining in and then being divided into designated parts. The group recalled the speech ostinato and then completed all parts together two times. Due to limited time a new chant was not created. For the blues songwriting intervention, the protocol was slightly modified in that the group was only able to write one verse due to not getting to the intervention in the previous week. Instead of having the participants repeat the lyrics after the researcher, the researcher wrote down the lyrics on a large piece of paper for the participants to follow along with. Due to limited time handheld percussion instruments were not added. The same changes were made during the psychophysiological scan in session six except that due to being in a different room than the previous sessions, the lights were not turned off since there were no windows to allow natural light to come in.

The participants who completed the study measurements were participants 1,3,5, and 7. Participant 1 and 5 attended three out of the six sessions, participant 3 attended five out of the six

sessions, and participant 7 attended all six sessions. When participants 1,3,5, and 7 attended the group they were actively engaged throughout all interventions and joined in on the group discussions. When participant 2 was present, the participant was actively engaged. However, due to a work commitment, participant 2 was unable to attend the remainder of the groups. When participant 4 was present, which was briefly during session 5, participant appeared symptomatic, anxious, and confused. Participant 6, who was present during the first session, appeared quiet and slightly guarded during the first session, but due to work commitments was unable to attend the remainder of the sessions. Participants 8 and 9 engaged during the first and second sessions; however, both participants appeared withdrawn and slightly superficial as indicated by their comments and some hesitation with various interventions. Overall, the sessions appeared to meet the participants' expectations as all nine participants indicated on the assessment demographic survey that they had previous mindfulness training.

It is important to note how valuable the reviewing of skills at the beginning and end of each group was for the participants. By providing the opportunity to review and discuss the skills at the beginning and end, participants who were not present at previous sessions were able to catch-up. However, this review took time, especially if participants had questions regarding the skills. Therefore, modifications could be made to the protocol to either review the concepts musically through a chant, Orff instrument play, or within a song. Although the majority of music therapy sessions in mental health last approximately 45 minutes (Silverman, 2010a; Silverman & Leonard, 2012; Silverman & Marcionetti, 2004) to one hour (Grocke et al., 2009; Grocke et al., 2014), modifications could also be made to the length of the sessions to increase the duration to 90 minutes.

The follow-up questionnaire provided insight into the participants' overall thoughts on the protocol and the group as a whole. The responses from question one, what was your favorite experience in the group, noted various favorite experiences including the psychophysiological scan, playing the instruments, observing the instruments, and the art-based music interventions. The preference of playing and observing of the instruments and art-based music intervention, which are categorized under music as a focus for mindful active engagement (Dvorak, 2015a), is consistent with the literature, specifically with Silverman and Leonard's (2012) indicating that individuals with severe mental illnesses favor active versus passive interventions.

For question two, what was your least favorite experience from the group, responses included that the group was over, waiting for everyone to finish, and nothing. The comment noting that the group being finished indicates that the participant wanted the groups to continue. The comment, waiting for everyone to finish, is slightly vague but may be talking about waiting for others to be done with the follow-up questionnaire. Two participants noted that they did not have a least experience in the group.

Question three, how can we improve the group, had various responses including make the group longer, provide ideas to the participants, and no suggestions to improve on the group. Although it is uncertain on whether the participants wanted the groups to be longer in time duration or continue on for more weeks, the fact that two participants wrote this response, indicates the need for more time with the groups. The recommendation from participants for more time and more sessions was also noted in Grocke et al. (2014) with participants with severe mental illnesses.

**Attendance.** Attendance was not consistent except for participant 7. Overall, participants 1, 3, 5, and 7 appeared more invested as indicated by attending more sessions and being actively

engaged while present in a session. Participants 1, 3, 5, and 7 all marked three or more categories for music experience, which differed from participants 2, 4, 6, and 9 (participant 8 also marked more than three). Participants 1, 3, 5, and 7 also all marked that they had previous music therapy experience which differed from participants 2, 6, and 9 who marked that they did not have previous music therapy experience. These previous music and music therapy experiences may have had an effect on their desire to attend the weekly group. In the future, should music therapists want to implement the protocol, they should be mindful of how they create their groups specifically focusing on providing ample time for recruitment and time for the protocol to be implemented during a non-holiday time of the year. Music therapists should also remember to support and reinforce participants when they come back to the group.

There were a number of factors participants identified as reasons for absence. Participant 2 appeared very eager to attend the group sessions, but expressed at the end of the first session that there may be a conflict with the time due to a recent job opportunity. Although this was unfortunate for the group, it is a positive for the participant's well-being especially in the long run as work can provide structure and support for the participant. With participant 6, it was unknown for three sessions why the participant was absent. However, once the case manager was able to contact the participant, the case manager learned that the participant had started a new job with a time conflict preventing the participant from attending the group. Participant 4 appeared symptomatic during the initial group meeting prior to the first session. When participant 4 entered briefly into the group during the fifth session, the participant again appeared symptomatic. Participant 8 and 9 appeared to be friends and when one participant was unable to come the other would not come as well. Overall, with the timing of the group during the holidays

and the community setting with clients who have serious mental illnesses and chronic illnesses, it is to be expected that attendance would vary.

There were two case managers who were the main contacts of the researcher and who attended each group with the participants. The case managers were extremely helpful and were very open to the group. The case managers would call all participants the day prior to the session to confirm the participants' attendance. The case managers also organized transportation for the participants who needed rides to and from the group. The group met in a community room within the mental health building. All meetings were held in one room except for the last group, which was held in a separate room due to the community room being booked for another event.

### **Limited-efficacy Testing**

**Mindfulness.** The results from the mindfulness pre- and post-test indicate that even with only three to six sessions, depending on the participant, mindfulness scores improved. This may suggest that participants would benefit from a short-term mindfulness-based music therapy session. This mindfulness-based music therapy protocol could assist in providing instantaneous effects similar to Silverman and Marcionetti's (2004) single music therapy session with individuals with serious mental illnesses. Therefore, a focused group on mindfulness and music therapy could be provided to support clients in the community even if they are unable to attend all sessions of the protocol.

Within the follow-up questionnaire, participants incorporated the DBT vocabulary into their responses, which may indicate that the participants were actively processing and understanding the DBT terms. Some examples, with the DBT vocabulary bolded, include "My favorite experience was the **observing** of the instruments", "I took a few moments in the evening to listen to music '**mindfully**'", and "how **focus** on music can elevate my pulse." Participant 1

had noted that they had previously been a part of a DBT skills group and mindfulness training. Participant 3 indicated previous mindfulness training but had not been a part of a DBT skills group. Participant 5 noted previous mindfulness training but was not familiar with the term DBT. Participant 7 indicated previous mindfulness training but no DBT skills training. Therefore, from the participants who attended the majority of the group, only one participant had previous DBT training, which may indicate that the vocabulary included on the follow-up questionnaire was learned during the music therapy protocol.

Changes that may make the protocol more effective would be including a home practice component. At the end of every group, participants were encouraged to go home and try some of the techniques used during the session. However, there was no tangible homework or materials for the participants to use at home. Therefore, it may be beneficial to create recordings of music for mindful listening at home or a recording of some of the psychophysiological scan scripts with the bass bar underneath. Then at the beginning of the following session, participants could discuss how their experience was trying the interventions at home.

There were multiple examples of anecdotal evidence to support the effectiveness of the protocol. At the beginning of the group when the researcher would define and review DBT skills, multiple participants would write down notes. At the end of the group when the researcher would review the skills learned, multiple participants would provide responses on how these skills could be transferred to their daily lives. After each psychophysiological scan, participants would typically express how relaxed they felt. Overall, participants were receptive to the protocol and appeared willing to try out the skills during the session.

Participants' perception of well-being declined from pre- to post-test when analyzing the trend in the data. It is important to note that in the follow-up questionnaire participants expressed

that they would like the group to go on longer which may be connected to the decrease in well-being. These comments are similar to Grocke et al. (2014) in which the participants expressed that they wanted more time and sessions. In the future, groups could continue to be offered for longer periods of time, potentially 8-10 weeks, on a rotating basis to support continued practice and/or on a continuous basis so clients are able to attend and practice skills and others could join.

Although well-being scores, as measured by the MHC-SF, decreased from pre- to post-test, participants' comments from the follow-up questionnaire indicate possible beneficial outcomes in psychological, social, and physical well-being. From the comments, psychological well-being benefits may include coping skills, breathing, mindfulness and increasing overall happiness. Silverman and Mancionetti (2004) noted that with a single group music therapy session participants also reported an effect on coping and self-esteem. Social well-being benefits that may have occurred, as noted in the follow-up questionnaire comments, are possible friendships and positive interactions with people. Physical well-being benefits may have included elevated pulse and heart rate while focusing on music and feeling relaxed.

### **Limitations**

Limitations are influences that are out of the researchers control (Simon, 2011). One of the biggest limitations of the study was participant mortality, i.e. participants leaving the study due to recent employment, becoming symptomatic, and dealing with personal situations. When working with clients in a clinical setting or clinical research, especially when the clients are both mentally and physically ill, participant mortality can occur. It is inherent in the nature of the work. However, it is important to note that there were four participants that participated in the majority of the study. In future studies it may be beneficial to fully assess and identify participants that may benefit most from this kind of group.

Environmental limitations also played a factor in the study. There were two changes in the protocol due to the environment. These changes included the decrease in bpm's of the psychophysiological scan steady beat from 66 to 60 to match the clock in the room. Another environmental change was the instrument use for the psychophysiological scan from a G to a C subcontra bass bar. The researcher made this change due to limited space and time for transporting instruments. The C subcontra bass bar was more feasible for transporting from one building to another. The final environmental limitation was working at a facility in which the researcher does not have personal experience prior to implementing the study. It can be difficult as a researcher to enter into a facility and conduct research without full knowledge of the day-to-day aspects of the facility and how that may effect participation.

Weather was another limitation that had an effect on the study. Since the study was conducted during December and January in the Midwest, there was some inclement weather during the study. Transportation was taken care of through the facility. Drivers were set-up by the caseworkers for pick-up to the group and drop-off at the participants' homes afterwards. During the inclement weather, conditions were still drivable but caused issues with transportation of the participants. Issues arose with the weather and transportation due to the time it took getting from one place to another with the snow and ice conditions. Some participants were also hesitant coming out to the facility during this weather due to the cold.

### **Delimitations**

Delimitations are identified confines of the study that are controlled by the researcher (Simon, 2011). One of the delimitations was that the researcher was also the interventionist. The researcher/interventionist is a graduate equivalency music therapy student with an undergraduate degree in psychology. During graduate school the researcher/interventionist focused on



researching music therapy in mental health. However, in future studies it may be beneficial to separate the interventionist and researcher to eliminate possible bias.

Another delimitation was the limited timeframe for the interventions. The group was started around a major holiday season, which can be difficult for clients with a mental health disorder (National Alliance on Mental Illness, 2014). For future studies, the researcher would suggest avoiding starting a new group on holidays altogether. This would provide the participants with the opportunity to learn the skills and participate in the group during a time in their life where they may have more of a routine. However, future researchers could also start the group several weeks before a holiday to support the clients in using mindfulness as they approach the holiday season.

The final delimitation was that the researcher chose to focus on working with participants with SMI and CI due to the research indicating possible benefits with this population. However, this protocol could be expanded to other populations within mental health. It could be implemented in an inpatient setting in which attendance may be easier for the participants and the skills could be practiced more regularly. The protocol could also be expanded within the mental health community setting to other groups who receive services.

### **Clinical Implications**

There are many modifications that could improve this protocol for future research endeavors. The mindfulness-based music therapy protocol could be implemented with other populations. However, the protocol would need to be modified to fit the population's needs. This could include the language/vocabulary used (depending on higher or lower functioning) as well as more or less verbal prompting. Another modification would be to extend the sessions to an hour and a half for populations that would be able to remain engaged for this duration and still be

able to benefit from the materials addressed each session. It also may be valuable to extend the group to eight to 10 weeks. The allotted time of six weeks was chosen for this protocol due to Linehan (2015) suggesting five to seven weeks for each DBT module. However, Linehan (2015) also expressed that each module could be covered up to one year as the material can be complex. Therefore, if the group occurred over a greater period of time clients would have more time to practice the skills and process the material.

### **Future Research**

A future recommendation is to incorporate a larger sample size and include two groups, experimental and a wait-list control group. A larger sample size would help to better examine the feasibility of the protocol with the recommended measurement tools because the researcher was unable to examine the entire group's pre- and post-test scores. A larger group would also help when attendance is low. A wait-list control group would provide researchers with the ability to study the differences between pre- and post-test well-being and mindfulness with and without the music experiences. With a larger study a mixed methods approach would be beneficial to take into account the various aspects of the protocol. This could also help in examining well-being since the pre-post measurement tool results suggested a decrease in well-being but the comments in the follow-up questionnaire included some that appeared to address a positive or increase in well-being. Overall, there is a need for more investigation regarding the mindfulness-based music therapy protocol.

Another future recommendation is to examine the effects of specific interventions implemented in the music therapy protocol to better understand if there is a definitive intervention that may have more effect than the other interventions. Silverman (2008) found that there is no difference between types of music therapy interventions utilized; other research

studies with patients in mental health have also noted no statistically significant difference between interventions (Cevasco et al., 2005; Silverman & Marcionetti, 2004). However, there may be a difference when the practice of mindfulness is included and/or with a particular population.

In conclusion, the current study demonstrates a positive increase in mindfulness as a result of the mindfulness-based music therapy protocol. Future research on mindfulness within a DBT approach and music therapy should consider lengthening the protocol either over the course of time and/or in the duration of each group. Other recommendations include incorporating a larger sample size to examine the feasibility of the effect the protocol has on the measurement tools. One implication of the current study is that using this comprehensive mindfulness-based music therapy protocol leads to an increase in mindfulness in participants diagnosed with a severe mental illness and chronic illness.

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## Appendix A

### Mindfulness-based Music Intervention to Promote Well-Being

#### Session 1: Wise Mind & “What” Skill: Observing

##### Introduction:

- Introduction of self
- Brief overview of six week course
  - Build upon skill sets each week based upon mindfulness skills

##### Mindfulness:

- Brief overview of mindfulness
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
        - Rational mind is filled with facts and logic
        - Emotional mind is acting the way you feel; impulsive
        - Therefore, wise mind is an active integration of emotion and rational mind to create a centered calm state of mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment
    - “How” skills: non-judgmental, one-mindfully, & effectively
  - “We will address these skills over the course of our 6 weeks together.”

#### 1. Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Instrument Play Based Upon Observing

- a. Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in instrument play based upon the first “what” skill of mindfulness-observing. Instrumental improvisation (Mossler et al., 2011; Ansdell & Meehan, 2010; Fidelibus, 2004) will promote observing by instructing participants to observe the instrument and how their hand(s) feel on the instrument. Instruments included will be hand-held percussion instruments with a variety of textures and timbres.
- b. What:
  - i. Materials: Variety of handheld percussion instruments- cabasa, rain stick, egg shaker, paddle drum, buffalo drum, claves, & ocean drum
  - ii. Procedure:
    1. Researcher will present each instrument to group

2. Researcher will provide brief background on each instrument and how to play instrument
  3. Researcher will inform participants that you do not need to be a musician to play instrument or that you do not need experience with instruments; any sound is a positive sound
  4. Participants will be allowed to select one instrument
  5. Introduction of Observation-Senses: Touch
    - a. "I would like you to attend to what you are feeling in your hand as you hold your instrument(s)."
    - b. "Simply observe the feeling in your hand. There is no need to describe the feeling, simply attend to the texture."
  6. Observation- Senses: Sound (Individual Timbres)
    - a. "One by one we are now going to play our instrument. I would like you to observe the sounds each instrument makes."
    - b. Allow for each participant to play instrument
  7. Observation- Senses: Sound (Group)
    - a. "We are now going to play together as a group. I will begin and you come in playing your instrument whatever way you would like."
    - b. "While we are each playing, I would like you to observe the sound your instrument is making. There is no need to label your sound or describe it. Simply notice the sound your instrument is making."
    - c. Begin instrument play
      - i. Allow time for individuals to come in
      - ii. Lead the group in playing
      - iii. End playing by fading out
  8. Transition: Collect instruments from participants
- c. Who Provided: Researcher
  - d. How: Face-to-face group intervention with live instrumental music
  - e. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Listening (Dvorak, 2015a): Observing

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in mindful listening based upon the first "what" skill of mindfulness-observing. Mindful listening will include being aware of specific music elements within a listening exercise (Diaz, 2013; Linehan, 2015). Adults and older adults prefer listening to music that they heard as young adults, typically between the ages of 18 to 25 (Bartlett & Snelus, 1980). The two differentiating pieces were selected from Silverman's (2009) research on frequently used songs in the mental health setting for lyric analysis. The songs selected from this list were chosen due to being released during the dates 1975-1995 (to fit the criteria of being heard during participants' young adulthood for participants ranging from 40s-60s) and are from various genres with contrasting and similar musical elements. The



songs include “Landslide” by Fleetwood Mac (released 1975) for session one and “Three Little Birds” by Bob Marley (released 1977) for session two. Only one song will be played during session one.

- b) What:
- i. Materials: Bluetooth speaker, iPod with recorded songs: “Landslide” by Fleetwood Mac
  - ii. Procedure:
    1. “We will now listen and observe one selection of music.”
    2. “I would like you to quietly sit and observe this selection. If you feel your mind wandering, gently push your distractions aside and return your attention to observing the music.”
    3. “Allow each experience to encompass you including your thoughts, emotions, or any responses you have to the music.”
    4. “Simply observe the changes in the music and your personal reactions to each.”
    5. Researcher will then play this week’s selection: “Landslide”
    6. Discuss with group the ability to observe music versus wandering minds
      - a. Observing requires controlling action (Linehan, 2015)
      - b. You don’t have to act on whatever comes to your mind (Linehan, 2015)
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

### 3. Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Observation of Movement

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in movement based music task based upon the first “what” skill of mindfulness-observing. Movement based music (Spiegel, 2010) will promote observing by instructing participants to observe how their body feels within each stretch and movement.
- b) What:
- i. Materials: Bluetooth Speaker, Recorded Music by Janalea Hoffman-Biofeedback II
  - ii. Procedure:
    1. “We will now observe our body during a movement task. Focus your mind on the experience. Acknowledge any thoughts, feeling, or sensations that come to mind. However, do not give in or judge them. Simply experience and allow them to come and go throughout the movements.”
    2. “I would like you to imitate my movements while following my instructions for observing.”
    3. Play music softly in the background
    4. “We will begin by sitting up tall in our seat.”
    5. “Focus how your feet feel on the floor.” (Pause)

6. “Focus on how the backs of your legs feel against the chair.”  
(Pause)
  7. “Focus on how your torso feels upright.” (Pause)
  8. Engage Stretching Sequence:
    - a. Shrug shoulders
    - b. Arm circles
    - c. Arm reach up
    - d. Roll shoulders
    - e. Stretch one leg at a time with toe flexed
  9. Engage Movement Sequence:
    - a. Raise arms to above head (hold) then release x4
    - b. Lift arms from the front x4
    - c. Reach stretch to each side x4
    - d. Lift legs in modified march x8
  10. End Song
    - a. Turn off music
    - b. Discuss with group difficulty of focusing attention on the sensations of each movement (Linehan, 2015)
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

#### 4. Music as a Focus for Psychophysiological Connection (Dvorak, 2015a): “Focusing the Mind”

##### & Introduction to Wise Mind

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the first “what” skill of mindfulness-observing as well as “wise mind.” Music as a focus for psychophysiological connection (Dvorak, 2015a) will promote observing by instructing participants to observe their breath and acknowledge their wise mind. The music will be 66 beats per minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011).
- b) What:
- i. Materials: C Subcontra bass bar and mallet, script
  - ii. Procedure:
    1. Read through script below to guide participants through task
    2. “We will now begin our final exercise to address wise mind and observing. Breathing is an inherent process that we will always have that you can readily observe. This will take practice each week.”
    3. Begin playing bass bar
    4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. If not, simply close your eyes. We are now going to observe our breath. Allow yourself to breathe naturally and comfortably. Notice the sensations of your breath in.... and out.... in.... and out... Place

your attention in your center... at the bottom of your breath. Wise mind is at the center of this point as you breathe in... and out... Observe this sensation at the center of this point... Continue to observe your breath... in... and out... Remember to keep your breath normal... in and out... observe your breath at the center... at the bottom of your breath... in... and... out... in... and out... observe your stomach as you inhale.... and exhale... in... and out.... in... and out... let us take 3 final breaths... 1... (pause)....2....(pause)... 3...(pause) When you are ready, open your eyes and begin to observe the room around you or bring your focus back to the center.”

5. End bass bar
  6. Discuss participants’ experiences
- c) Who Provided: Researcher  
 d) How: Face-to-face group intervention with live music  
 e) Where: Community room in mental health facility

### Conclusion:

- Brief summary of mindfulness techniques addressed
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment
    - “How” skills: non-judgmental, one-mindfully, & effectively
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for coming

## Session 2: “What” Skill: Describing

### Review of Mindfulness & Addition of New Skill(s):

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
      - Rational mind is filled with facts and logic
      - Emotional mind is acting the way you feel; impulsive
      - Therefore, wise mind is an active integration of emotion and rational mind to create a centered calm state of mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
  - “How” skills: non-judgmental, one-mindfully, & effectively

### 1.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Instrument Play Based

#### Upon Observing Then Describing

- a. Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in instrument play based upon the first “what” skill of mindfulness-observing followed by the second “what” skill of mindfulness-describing. Instrumental improvisation (Ansdell & Meehan, 2010; Fidelibus, 2004; Mossler et al., 2011) will promote observing by instructing participants to observe the instrument and how their senses are affected by it. Instruments included will be hand-held percussion instruments with a variety of textures and timbres. After observing the instruments through their senses, participants will then engage in describing the instrument play including the instruments themselves, the sensations in their body as they are playing, the sound of the instruments, and the process as a whole.
- b. What:
  - i. Materials: Variety of handheld percussion instruments- cabasa, rain stick, egg shaker, paddle drum, buffalo drum, claves, & ocean drum
  - ii. Procedure:
    1. Researcher will present each instrument to group
    2. Researcher will review brief background on each instrument and how to play instrument
    3. Researcher will remind participants that you do not need to be a musician to play instrument or that you do not need experience with instruments; any sound is a positive sound

4. Participants will be allowed to select one instrument
5. Observation-Senses: Touch
  - a. “I would like you to attend to what you are feeling in your hand as you hold your instrument(s).”
  - b. “Simply observe the feeling in your hand.”
  - c. “I would now like you to describe how the instrument feels in your hand.”
6. Observation- Senses: Sound (Individual Timbres)
  - a. “One by one we are now going to play our instrument. I would like you to observe the sounds each instrument makes.”
  - b. Allow for each participant to play instrument
  - c. “I would now like you to describe your instrument sound. Does it have a bright sound? Or dark? Is it loud? Is it soft?”
7. Observation- Senses: Sound (Group)
  - a. “We are now going to play together as a group. I will begin and you come in playing your instrument whatever way you would like.”
  - b. “While we are each playing, I would like you to observe how you feel throughout playing. We will describe and share our observations afterwards.”
  - c. Begin instrument play with a steady beat
    - i. Allow time for individuals to come in
    - ii. Lead the group in playing by continuing steady beat
    - iii. End playing by fading out
  - d. Discussion with group regarding what they observed during the music experience
8. Transition: Collect instruments from participants
- c. Who Provided: Researcher
- d. How: Face-to-face group intervention with live instrumental music
- e. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Listening (Dvorak, 2015a): Observing Then Describing

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in mindful listening based upon the first “what” skill of mindfulness-observing. Participants will then engage in the second “what” skill of mindfulness- describing. Mindful listening will include being aware of specific music elements within a listening exercise (Diaz, 2013; Linehan, 2015). Adults and older adults prefer listening to music that they heard as young adults, typically between the ages of 18 to 25 (Bartlett & Snelus, 1980). The two differentiating pieces were selected from Silverman’s (2009) research on frequently used songs in the mental health setting for lyric analysis. The songs selected from this list were chosen due to being released during the dates 1975-1995 (to fit the criteria of being heard during participants’ young adulthood for participants ranging from 40s-60s) and are from various genres with contrasting and similar musical elements. The

songs include “Landslide” by Fleetwood Mac (released 1975) for session one and “Three Little Birds” by Bob Marley (released 1977) for session two. Only one song will be played during session two.

b) What:

- i. Materials: Bluetooth speaker, iPod with recorded song: “Three Little Birds” by Bob Marley
- ii. Procedure:
  1. “We will now listen, observe, then describe 1 piece of music.”
  2. “I would like you to quietly sit and observe this music selection. If you feel your mind wandering, gently push your distractions aside and return your attention to observing the music.”
  3. “Allow this experience to encompass you including your thoughts, emotions, or any responses you have to the music.”
  4. “Simply observe the changes in the music and your personal reactions to each.”
  5. Researcher will then play this week’s selection: “Three Little Birds”
  6. Allow time for processing once piece is finished
  7. “Can anyone describe one thing they heard in the music?”
    - a. Allow time for responses
  8. “Can anyone describe what they were feeling or any thoughts while listening to the selection?”
    - a. Allow time for responses
  9. Review with group the ability to observe music versus wandering minds
    - a. Observing requires controlling action (Linehan, 2015)
    - b. You don’t have to act on whatever comes to your mind (Linehan, 2015)
  10. Review with group that describing is putting words on our experiences (Linehan, 2015)
    - a. Observing is sensing without words; describing is using words to label what is observed (Linehan, 2015)

c) Who Provided: Researcher

d) How: Face-to-face group intervention with recorded music

e) Where: Community room in mental health facility

### 3.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Observation of

#### Movement Then Describing

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in movement based music task based upon the first “what” skill of mindfulness-observing. Participants will then engage in the second “what” skill of mindfulness-describing. Movement based music (Spiegel, 2010) will promote observing by instructing participants to observe how their body feels within each stretch and movement.

Participants will then be encouraged to describe how their body feels within each stretch and movement.

- b) What:
- i. Materials: Bluetooth Speaker, Recorded Music by Janalea Hoffman-Biofeedback II
  - ii. Procedure:
    1. “We will now observe our body during a movement task. Focus your mind on the experience. Acknowledge any thoughts, feeling, or sensations that come to mind. However, do not give in or judge them. Simple experience and allow them to come and go throughout the movements.”
    2. “I would like you to imitate my movements while following my instructions for observing.”
    3. Play music softly in the background
    4. “We will begin by sitting up tall in our seat.”
    5. “Focus on how your feet feel on the floor.” (Pause)
    6. “Can anyone describe how your feet feel on the floor? Are they heavy or light?”
    7. “Focus on how the backs of your legs feel against the chair.” (Pause)
    8. “Do your legs feel steady or are they moving about?”
    9. “Focus on how your torso feels upright.” (Pause)
    10. Engage Stretching Sequence:
      - a. Shrug shoulders
      - b. Arm circles
      - c. Arm reach up
      - d. Roll shoulders
      - e. Stretch one leg at a time with toe flexed
    11. Engage Movement Sequence:
      - a. Raise arms to above head (hold) then release x4
      - b. Lift arms from the front x4
      - c. Reach stretch to each side x4
      - d. Lift legs in modified march x8
    12. End Song
      - a. Turn off music
      - b. Discuss with group difficulty of focusing attention on the sensations of each movement (Linehan, 2015)
      - c. Open group up for discussion on describing how the movements felt and any thoughts or feelings they had throughout the experience
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

#### 4. Music as Focus for Psychophysiological Connection (Dvorak, 2015a): Observing Then

##### Describing

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the first and second “what” skills of mindfulness-observing then describing. Music as a focus for psychophysiological connection (Dvorak, 2015a) will promote observing by instructing participants to observe their breath and acknowledge their wise mind. The music will be 66 beats per minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011). Participants will be encouraged to internally describe their breath (Linehan, 2015).
- b) What:
- i. Materials: C Subcontra bass bar and mallet, script
  - ii. Procedure:
    1. Read through script below to guide participants through task
    2. “We will now begin our final exercise to address wise mind and observing. Breathing is a process that we will always have that you can readily observe. This will take practice each week. After observing your breath we will also be internally describing to ourselves our breath process. I will guide you through it.”
    3. Begin playing bass bar
    4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. If not, simply close your eyes. We are now going to observe our breath. Allow yourself to breathe naturally and comfortably. Notice the sensations of your breath in... and out... in... and out... Place your attention in your center... at the bottom of your breath. Wise mind is at the center of this point as you breathe in... and out... Observe this sensation at the center of this point... Continue to observe your breath... in... and out... Remember to keep your breath normal... in... and out... observe your breath at the center... at the bottom of your breath... in... and... out... in... and out... observe your stomach as you inhale... and exhale... in... and out... in... and out... Now within each breath say to yourself, “I am inhaling.” (pause) and when you naturally need to exhale, tell yourself, “I am exhaling.” (pause) Continue to remind yourself and be aware of what your body is doing. “I am inhaling.” (pause) “I am exhaling.” With our last 3 final breaths continue to internally be aware of what you are doing. I am inhaling and I am exhaling... 1...(pause)...2...(pause)... 3...(pause) When you are ready, open your eyes and begin to observe the room around you or bring your focus back to the center.”
    5. End bass bar
    6. Discuss participants’ experiences
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with live music



e) Where: Community room in mental health facility

Conclusion:

- Review mindfulness techniques covered
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment
      - Describing: putting into words our experiences, labeling what we observe
    - “How” skills: non-judgmental, one-mindfully, & effectively
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for coming

### Session 3: “What” Skill: Participate

#### Review of Mindfulness & Addition of New Skill(s):

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
    - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
  - “How” skills: non-judgmental, one-mindfully, & effectively

#### 1.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Facilitated Drumming

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in drumming based upon the third “what” skill of mindfulness- participating. Facilitated drumming (Matney, 2007; Watson, 2002) will promote participating by instructing participants to fully engage within the exercise. The researcher will provide a rhythmic grounding (Bruscia, 1987) or a simple pulse to provide structure within the experience. Due to the majority of percussion instruments not having a fixed pitch (Matney, 2007) participants will be encouraged to play in various styles and not be embarrassed to play a “wrong note.” Instruments included will be a variety of drums including frame drums, djembes, tubanos & paddle drums.
- b) What:
- i. Materials: Variety of drums: frame drums, paddle drums, djembes, tubanos, & mallets
  - ii. Procedure:
    1. Researcher will present each instrument to group
    2. Researcher will provide brief background on each instrument and how to play instrument
    3. Researcher will remind participants that you do not need to be a musician to play instrument or that you do not need experience with instruments; any sound is a positive sound
    4. Participants will be allowed to select one instrument
    5. Echo
      - a. “I will now play a beat on my drum and I would like you to echo it back to me.”
        - i. Researcher will play simple rhythmic patterns

- ii. When group appears comfortable with drums, researcher will transition out of leader role
  - b. Participant as Leader
    - i. Ask participants if anyone would like to lead the group
    - ii. Echo with participant creating rhythmic patterns
- 6. Improvisation
  - a. “I will now give you a simple pulse and when you feel comfortable, you may begin playing. Remember to fully engage yourself in this task. Be mindful of the leader and what may occur within the experience.”
  - b. Researcher will begin simple pulse (rhythmic grounding) on drum
  - c. Make eye contact and allow participants to enter in
  - d. If able, manipulate group through increasing or decreasing tempo and/or increasing or decreasing dynamics
  - e. End experience
  - f. Participant as Leader
    - i. Allow participant(s) to lead group
- 7. Discuss with group ability to fully participate within task
- 8. Transition: Collect instruments from participants
- b. Who Provided: Researcher
- c. How: Face-to-face group intervention with live instrumental music
- d. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Mindful Movement

### Based In Participation (Personal Tai Chi, Dvorak, 2015b)

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in movement based music task based upon the third “what” skill of mindfulness-participating. Movement based music (Linehan, 2015; Spiegel, 2010) will promote participating by instructing participants to fully engage in the movements performed (Linehan, 2015). Recorded music will be used to provide participants with visual prompts for motor movements.
- b) What:
  - i. Materials: Bluetooth Speaker, Recorded Music by Janalea Hoffman: Musical Acupuncture
  - ii. Procedure:
    1. Form a circle (if chairs are not already placed in position)
    2. Request participants to sit up tall in their chairs (if able)
    3. “I would like each of you to think of one activity that you most enjoy.”
    4. “Now think of a movement that would depict this activity.”

5. “One by one we are going to go around the circle demonstrating our movement.”
  6. “After we have performed our movement 4 times, the rest of the group will repeat the movement with us 4 times.”
  7. “Let us practice one example.”
  8. Researcher will demonstrate example (reading a book)
  9. Play music softly in the background
  10. Engage in Personal Tai Chi
    - d. Allow each participant to demonstrate movement and mirror other participants’ movements
    - e. Turn off music once group has finished
  11. Once each group member has taken a turn, discuss with the group their ability to fully engage in each movement
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

### 3.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Art-Based Music

#### (Mandala)

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in art-based music task based upon the third “what” skill of mindfulness-participating. Participants will be encouraged to be fully participating within an art-based music task (Silverman, 2015) mandala drawing, which requires mindful concentration in the moment (Linehan, 2015). To inspire creativity and promote mindfulness, the piece of music, *Air from Orchestra Suite #3*, from the album *Bach Favorites*, was selected from a list of relaxation pieces most frequently used by music therapists (Tan et al., 2012). This piece was chosen from the list due to the literature support of using classical music and imagery within the creative arts (McKinney, 1990; Wagner, 2012). While relaxation is not the goal of this intervention, this piece was selected because of its adagio tempo, slight change in dynamics, and moderate pitch range providing predictability for the listener (Tan et al., 2012).
- b) What:
- i. Materials: mandalas from <http://www.printmandala.com/>, colored pencils, iPod with recorded song: *Air from Orchestra Suite #3*, and Bluetooth speaker
  - ii. Procedure:
    1. Pass out mandala sheets & colored pencils
    2. “We will now engage in an art-based task. I would like you to fully engage within this task, being very mindful of your concentration which should be on your drawing.”
    3. “We will be working with mandalas. Mandala means center (Wagner, 2012). Each mandala is different and will look different

to each person. Remember, there is no right or wrong way to approach coloring it.”

4. Begin playing piece
  5. Allow time for drawing (approximately 10 minutes; will need to play piece 2x)
  6. End piece
  7. Discuss with participants their ability to fully participate in task
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with live music
- e) Where: Community room in mental health facility

#### 4.) Music as a Focus for Psychophysiological Connection (Dvorak, 2015a): Participate with

##### Awareness

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the third “what” skill of mindfulness-participating. Music as a focus for psychophysiological connection (Dvorak, 2015) will promote participating by promoting awareness of their self and experience in regards to their unity with the universe (Linehan, 2015). The music will be 66 beats per minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011). Participants will be encouraged to internally describe their breath (Linehan, 2015).
- b) What:
- i. Materials: C Subcontra bass bar and mallet, script
  - ii. Procedure:
    1. Read through script below to guide participants through task
    2. “We will now begin our final exercise to bring our awareness to ourselves and our unity with the happenings around us in our world.”
    3. Begin playing bass bar
    4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. If not, simply close your eyes. Focus your attention on the ground beneath your feet... Notice how your feet feel resting on the floor... Now focus your attention to the chair underneath you... notice how your body feels resting within the chair... Now focus your attention to the room around you... how does it make you feel... Know that this is a secure place for you... Notice what you can within this space... know that each item is here to service you... Each item is connected to you in some way to provide you with a secure place... remember this feeling of awareness... let us now take 3 breaths. 1...2...3... and when you are ready, open your eyes and observe the room around you or bring your focus back to the center.”
    5. End Bass Bar

## 6. Discuss participants' experiences

- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with live music
- e) Where: Community room in mental health facility

Conclusion:

- Review mindfulness techniques covered
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment
      - Describing: putting into words our experiences, labeling what we observe
      - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for coming

## Session 4: “How” Skill: Non-Judgmental

### Review of Mindfulness & Addition of New Skill(s):

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
    - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
  - “How” skills: non-judgmental, one-mindfully, & effectively
    - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)

### 1.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Facilitated Drumming in a Non-judgmental Frame of Mind

- a. Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in drumming based upon the third “what” skill of mindfulness- participating and incorporating the first “how” skill” of mindfulness- non-judgmentally. Facilitated drumming (Matney, 2007; Watson, 2002) will promote participating by instructing participants to fully engage within the exercise. Participants will be provided an opportunity to fully participate and practice a non-judgmental viewpoint within the exercise. The researcher will provide a rhythmic grounding (Bruscia, 1987) or a simple pulse to provide structure within the experience. Due to the majority of percussion instruments not having a fixed pitch (Matney, 2007) participants will be encouraged to play in various styles and not be embarrassed to play a “wrong note.” Instruments included will be a variety of drums including frame drums, djembes, tubanos & paddle drums.
- b. What:
  - i. Materials: Variety of drums: frame drums, paddle drums, djembes, tubanos, & mallets
  - ii. Procedure:
    1. Researcher will present each instrument to group
    2. Researcher will review background on each instrument and how to play instrument

3. Researcher will remind participants that you do not need to be a musician to play instrument or that you do not need experience with instruments; any sound is a positive sound
4. Participants will be allowed to select one instrument
5. “Throughout this experience I would like you to fully participate and leave out any comparison to your peers, any judgments, and any assumptions to promote a non-judgmental practice. This is a safe place.”
6. Echo
  - a. “I will now play a beat on my drum and I would like you to echo it back to me.”
    - i. Researcher will play simple rhythmic patterns
    - ii. When group appears comfortable with drums, researcher will transition out of leader role
  - b. Participant as Leader
    - i. Ask participants if anyone would like to lead the group
    - ii. Echo with participant creating rhythmic patterns
7. Improvisation
  - a. “I will now give you a simple pulse and when you feel comfortable, you may begin playing. Remember to fully engage yourself in this task. Be mindful of the leader and what may occur within the experience.”
  - b. Researcher will begin simple pulse (rhythmic grounding) on drum
  - c. Make eye contact and allow participants to enter in
  - d. If able, manipulate group through increasing or decreasing tempo and/or increasing or decreasing dynamics
  - e. End experience
  - f. Participant as Leader
    - i. Allow participant(s) to lead group
8. Discuss with group ability to fully participate within task and ability to not judge themselves or others
9. Transition: Collect instruments from participants
- c. Who Provided: Researcher
- d. How: Face-to-face group intervention with live instrumental music
- e. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Mindful Movement

### Based In Participation & Non-Judgmental View (Personal Tai Chi, Dvorak, 2015b)

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in movement based music task based upon the third “what” skill of mindfulness-participating as well as the first “how” skill- non-judgmentally. Movement based music



(Spiegel, 2010; Linehan, 2015) will promote participating by instructing participants to fully engage in the movements performed (Linehan, 2015). Participants will be provided an opportunity to fully participate and practice a non-judgmental viewpoint within the exercise. Recorded music will be used to provide participants with visual prompts for motor movements.

b) What:

- i. Materials: Bluetooth Speaker, Recorded Music by Janalea Hoffman Musical Acupuncture
- ii. Procedure:
  1. Form a circle (if chairs are not already placed in position)
  2. Request participants to sit up tall in their chairs (if able)
  3. “Last week, we each chose an activity that we enjoyed. This week, I want you to think of another that you enjoy.”
  4. “Now think of a movement that would depict this activity.”
  5. “One by one we are going to go around the circle demonstrating our movement.”
  6. “After we have performed our movement 4 times, the rest of the group will repeat the movement with us 4 times.”
  7. “Remember we are practicing how to nonjudgmentally view those around us as well as ourselves within this experience.”
  8. “Let us practice one example.”
  9. Researcher will demonstrate a new example (cooking)
  10. Play music softly in the background
  11. Engage in Personal Tai Chi (Dvorak, 2015)
    - a. Allow each participant to demonstrate movement and mirror other participants’ movements
    - b. Turn off music once group has finished
  12. Once each group member has taken a turn, discuss with the group their ability to fully engage in each movement and their ability not to judge themselves or others

c) Who Provided: Researcher

d) How: Face-to-face group intervention with recorded music

e) Where: Community room in mental health facility

### 3.) Music as a Focus For Mindful Active Engagement (Dvorak, 2015a): Art-Based Music

#### (Mandala)

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in art-based music task based upon the third “what” skill of mindfulness-participating as well as the first “how” skill- non-judgmentally. Participants will be encouraged to be fully participating with a non-judgmental viewpoint within an art-based music task (Silverman, 2015) mandala drawing, which requires mindful concentration in the moment (Linehan, 2015). To inspire creativity and promote mindfulness, the piece of music, *Air from Orchestra Suite #3*, from the album *Bach Favorites*, was selected from a

list of relaxation pieces most frequently used by music therapists (Tan et al., 2012). This piece was chosen from the list due to the literature support of using classical music and imagery within the creative arts (McKinney, 1990; Skaggs, 1997; Wagner, 2012). While relaxation is not the goal of this intervention, this piece was selected because of its adagio tempo, slight change in dynamics, and moderate pitch range providing predictability for the listener (Tan et al., 2012). To provide novelty, this week participants will be given a blank piece of paper instead of a pre-set mandala design. A theme will be given (Ireland & Brekke, 1980) to participants- experience in music therapy and mindfulness group, if participants are uncomfortable with the blank sheet.

b) What:

- i. Materials: blank sheets of paper, colored pencils, iPod with recorded song: *Air from Orchestra Suite #3*, and Bluetooth speaker
- ii. Procedure:
  1. Pass out blank sheets & colored pencils
  2. “We will now engage in a mandala creation. I would like you to fully engage within this task, being very mindful of your concentration, which should be on your drawing. Remember, to let go of the concept of ‘good’ and ‘bad.’ Try your best to get rid of any evaluations of your work.”
  3. “This week, you have a blank sheet of paper. With this blank sheet of paper, you are able to create your own mandala. Remember, there is no right or wrong way to approach it. If you feel uncomfortable with this blank sheet, think of this music therapy and mindfulness group experience as your theme.”
  4. Begin playing piece
  5. Allow time for drawing (approximately 10 minutes)
  6. End piece
  7. Discuss with participants their ability to fully participate in task and ability to let go of judgments
  8. Discuss what the participants drew within their mandala if they are willing to share

c) Who Provided: Researcher

d) How: Face-to-face group intervention with live music

e) Where: Community room in mental health facility

4.) Music as a Focus for Psychophysiological Connection (Dvorak, 2015a): Participate with

Awareness in a Non-judgmental Way

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the third “what” skill of mindfulness- participating as well as the first “how” skill- non-judgmentally. Music as a focus for psychophysiological connection (Dvorak, 2015a) will promote participating by promoting awareness of their self and experience in regards to their unity with the universe (Linehan, 2015) in a non-judgmental way. The music will be 66 beats per

minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011). Participants will be encouraged to internally describe their breath (Linehan, 2015).

- b) What:
- i. Materials: C Subcontra bass bar and mallet, script
  - ii. Procedure:
    1. Read through script below to guide participants through task
    2. “We will now begin our final exercise to bring our awareness to ourselves and our unity with the happenings around us in our world.”
    3. Begin playing bass bar
    4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. Focus your attention on the ground beneath your feet... Notice how your feet feel resting on the floor... Now focus your attention to the chair supporting you... notice how your body feels resting within the chair... Now focus your attention to the room around you... how does it make you feel... Know that this is a safe place for you... Notice what you can within this space... know that each item is here to support you... Each item is connected to you in some way to provide you with a safe place... remember this feeling of awareness... let us now take 3 breaths. 1...2...3... and when you are ready, open your eyes and observe the room around you or bring your focus back to the center.”
    5. End bass bar
    6. Discuss participants’ experiences and ability to let reality be as it is (Linehan, 2015)
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

### Conclusion:

- Review mindfulness techniques covered
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment
      - Describing: putting into words our experiences, labeling what we observe

- Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
- “How” skills: non-judgmental, one-mindfully, & effectively
  - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for coming

## Session 5: “How” Skills: One-Mindfully & Effectively

### Review of Mindfulness Skills & Addition of New Skill(s):

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
    - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
  - “How” skills: non-judgmental, one-mindfully, & effectively
    - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)
    - One-mindfully: is being present of that moment and of what exactly we are doing (Linehan, 2015)
    - Effectively: is doing what works best for you (Linehan, 2015)

### 1.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Orff-based Instrument

#### Play

- a. Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in an Orff-based instrument play based upon the second “how” skill” of mindfulness- one-mindfully and the “third”- effectively. Orff is applicable within the mental health field (Silverman, 2015) due to the areas of development (Colwell, Pehotsky, Gillmeister, & Woolrich, 2008), which include exploration, imitation, improvisation, and creation. The tempo will range between 60-75 bpm to induce resting heart rate (Tan et al., 2012). The dynamics will remain consistent at a mp or mf level with no dramatic changes (Robb, 2000). A steady downbeat of two half notes accenting the 1 and 3 in 4/4 time will be played on the alto xylophone (Gadberry, 2011). The text within the chant will be used to promote a mindful state of being that can be transferred outside of the session.
- b. What:
  - i. Materials: Alto xylophones, soprano xylophones, score (see below) and mallets
  - ii. Procedure:
    1. Researcher will present each instrument to group
    2. Researcher will review background on each instrument and how to play instrument

3. Researcher will remind participants that you do not need to be a musician to play instrument or that you do not need experience with instruments
4. Participants will be allowed to select one instrument
5. “Throughout this experience I would like you to be mindful of this one task you are doing. Being aware of this activity.”
6. Researcher will begin to play a chord bordun in C pentatonic (C and G) on Alto xylophone
7. Group will be instructed to play any notes in any pattern
8. After short duration of time or once participants appear comfortable, vocalize to stop in “3-2-1-stop”
9. Instruct participants to place instruments aside for the time
10. Inform that we will now learn a chant
11. Teach Chant (notated as melody on C but not sung)
  - a. Speak through entire chant while patsching
  - b. Break chant into 2 bar phrases
  - c. For every 2 bars, instruct participants to repeat after me
  - d. Piece together chant till it is complete
  - e. Repeat till participants are comfortable with the part
12. Teach Bordun Part
  - a. Teach bordun part on the body first (patsching) while chanting
  - b. Instruct participants to join in (even if they do not have AX)
  - c. Repeat till participants are comfortable with part
  - d. Transfer to the instruments
  - e. Place all parts together (chant and bordun)
13. Teach Sound Color
  - a. Teach sound color on the body first (snapping) while chanting
  - b. Instruct participants to join in
  - c. Repeat till participants are comfortable with part
  - d. Transfer to the instruments
  - e. Instruct participants to play designated parts: SX (sound color) or AX (bordun) while all chant
  - f. Place all parts together
14. Teach Speech Ostinato
  - a. Speak speech ostinato on loop while patsching
  - b. Instruct participants to join in
  - c. Repeat till all participants are comfortable with part
  - d. Split participants in half and instruct one side to chant while the others speak the speech ostinato
  - e. Place together
15. Final Play Through (x2)
  - a. Instruct that we will now put all parts together (chant, bordun, sound color, and speech ostinato) for final 2x

- b. Split participants in half and instruct one side to chant while the others speak the speech ostinato
- c. Remind designated parts (AX: bordun & SX: sound color)
- d. Instruct participants to watch for cues to fade out parts on second time through
  - i. Non-verbally, parts will be individually cued to stop, leaving the speech ostinato repeating for 8 extra measures leading to a group diaphragmatic breath at the end
- e. Remind participants of mindfulness skills
  - i. Instruct participants to be one-mindful of one element of the music for the first time through and another element a second time through
  - ii. If participants are unable or overwhelmed, instruct to be one-mindful of part they are capable of
  - iii. Remind participants that they should do whatever works best for them to be effective
- f. Cue to begin
- g. Repeat for final time
  - i. Cue parts to stop after 2<sup>nd</sup> time through besides speech ostinato
  - ii. Non-verbally instruct those with speech ostinato to continue, cue diminuendo of ostinato
  - iii. Cue speech ostinato to stop after 8 measures
  - iv. Take a moment, and non-verbally signal deep diaphragmatic breath in silence

16. Discuss with group ability to be mindful of task

17. Discuss with group ability to transfer chant outside of session

18. Open up discussion of other chants that could be applicable for outside of session (particular scenarios; particular chants)

- a. What may be effective for one person may be different for another

19. Transition: Collect instruments from participants

- c. Who Provided: Researcher
- d. How: Face-to-face group intervention with live instrumental music
- e. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Blues Songwriting

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a blues songwriting task based upon the second “how” skill” of mindfulness- one-mindfully and the “third”- effectively. Songwriting (Baker, Wigram, Stott, & McFerran, 2008; Baker, Wigram, Stott, & McFerran, 2009) is a common intervention utilized in a mental health setting (O’Callaghan & Grocke, 2009; Silverman, 2007; Silverman, 2011a, Silverman, 2011c, Silverman, 2013) to

promote various goals. Within this intervention, participants will be given the choice to have the theme of the song be about mindfulness and music or their group experience. Each question and component of the song will be addressed individually to promote “one-mindfully.” The structure of the songwriting intervention will be within a 12-bar blues progression due to it providing more structure (Silverman, 2015).

b) What:

- i. Materials: Guitar, markers, & easel pad
- ii. Procedure:
  1. Researcher will present intervention to group
    - a. Remind participants to focus on this one task (promoting one-mindfully)
    - b. Brief overview of history of blues and structure
      - i. Blues form began in the late 19<sup>th</sup> century and is common in rock ‘n’ roll and jazz
      - ii. AAB indicates that it is made up of 3 4-bar phrases with the first A making a statement and being repeated followed by a second statement (B) which is typically a response to the A (Kirkland, 2013)
    - c. Creation of the song’s theme will be decided upon by the participants. Researcher will provide 2 options for participants: mindfulness and music (initial thoughts, current thoughts, and what they learned) or the group experience (initial thoughts, current thoughts, and what they learned)
      - i. Verse 1 A: Initial thoughts regarding mindfulness and music and/or group experience; Verse 2 A: Current thoughts regarding mindfulness and music and/or group experience; Verse 1 & 2 B: What we have learned regarding mindfulness and/or group experience
  2. Researcher will then present question to promote conversation regarding the first verse “What were your initial thoughts regarding mindfulness and music OR group experience?”
  3. Researcher will write down all responses on blank easel pad
  4. From responses, researcher will work with participants to incorporate and connects similar statements and emotions as well as contrasting ideas to write the first verse
    - a. Verse 1: AAB
    - b. Verse 2: AAB
  5. Researcher will then present question to promote conversation regarding the B of both Verse 1 & 2: “What have we learned about mindfulness? OR the group experience?”
  6. Researcher will write down all responses on blank easel pad
  7. From responses, researcher will work with participants to write B line



8. Depending on time, researcher will either end after the creation of Verse 1 or continue with Verse 2
    - a. (If Group Has Time):
      - i. Researcher will then present question to promote conversation regarding the second verse “What are your current thoughts regarding mindfulness and music OR group experience?”
      - ii. Researcher will write down all responses on blank easel pad
      - iii. From responses, researcher will work with participants to incorporate and connects similar statements and emotions as well as contrasting ideas to write the second verse
  9. Discuss with the group ability to participate one-mindfully, focusing on the task at hand
  10. Transition: Clean up supplies
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with live instrumental music
- e) Where: Community room in mental health facility

### 3.) Music as a Focus for Psychophysiological Connection (Dvorak, 2015a): Awareness of One-Mindfully

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the second “how” skill- one mindfully. Music as a focus for psychophysiological connection (Dvorak, 2015) will promote one-mindfully by bringing the participants into awareness of their breath followed by a body scan. Participants will be instructed to be aware of each section of the body scan step by step to promote one-mindfulness (Linehan, 2015). The music will be 66 beats per minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011).
- b) What:
  - i. Materials: C Subcontra bass bar and mallet, script
  - ii. Procedure:
    1. Read through script below to guide participants through task
    2. “We will now begin our final exercise to bring our awareness, one-mindfully, to our breath, then to a progressive sequence through our body.”
    3. Begin playing bass bar
    4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. If not, simply close your eyes. Begin to settle in to your chair. Acknowledge any thoughts that come to mind... Any emotions you are feeling right now...Any physical sensations...Simply acknowledge them... We

are now going to focus our attention on our breath... Allow yourself to breathe naturally and comfortably... Notice the sensation of your breath in... and out...in... and out... simply be aware of the physical sensation of your breath...(pause)... We are now going to bring awareness to our feet... simply notice how they feel... your toes... the tops of your feet... the soles of your feet... your ankles... notice and simply be aware... are your feet cold?... are your feet experiencing the weight from the tops of your shoes?... Let this part fade from awareness... We are now going to bring awareness to our legs... simply notice how they feel... your calves... your knees... your quads... notice and simply be aware... notice what your legs are experiencing... do they feel support from the chairs... Acknowledge what you are experiencing in your legs... Let this part fade from awareness... We are now going to bring awareness to our hips... simply notice how they feel... what are your hips experiencing... is there discomfort... or do they feel supported... acknowledge what you are experiencing in your hips... Let this part fade from awareness... We are now going to bring awareness to our torso... simply notice how it feels... acknowledge any physical sensations you are having... Let this part fade from awareness... We are now going to bring awareness into our shoulders... simply notice how they feel... notice your arms... into your hands... how do your fingers feel?... Let this part fade from awareness... We are now going to bring awareness to our head... simply notice how your face feels... your ears... the top of your head... how does it feel?... Let this part fade from awareness... Now feel how each part of your body is connected... your head connected to your neck... connected to your shoulders... connected to your torso... connected to your hips... connected to your legs... connected to your feet... be aware of your wholeness... you are whole... you are mindful... centered by your breath... take 3 final deep breaths naturally and comfortably... 1...2...3... (pause) When you are ready, open your eyes or bring your focus back to the center.”

5. End bass bar
  6. Discuss participants’ experiences and ability to be one-mindful of their breath and throughout the body scan (Linehan, 2015)
  7. Discuss how they can apply the body scan to outside the session
- c) Who Provided: Researcher  
d) How: Face-to-face group intervention with recorded music  
e) Where: Community room in mental health facility

### Conclusion:

- Review mindfulness techniques covered

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
    - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
  - “How” skills: non-judgmental, one-mindfully, & effectively
    - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)
    - One-mindfully: is being present of that moment and what exactly we are doing (Linehan, 2015)
    - Effectively: is doing what works best for you (Linehan, 2015)
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for coming

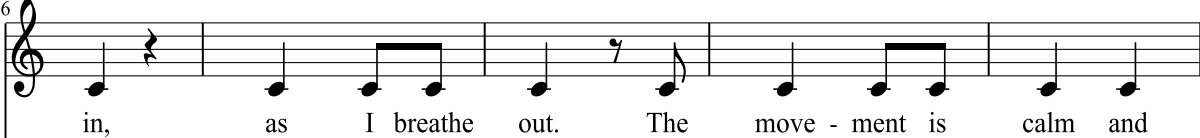
## Orff Breath Chant

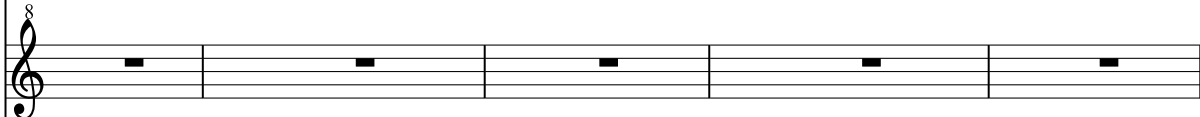
Voice 
  
 May I be mind - ful of my breath. As I breathe

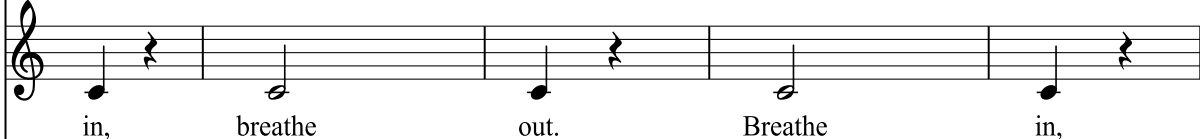
Orff Soprano Xylophone 

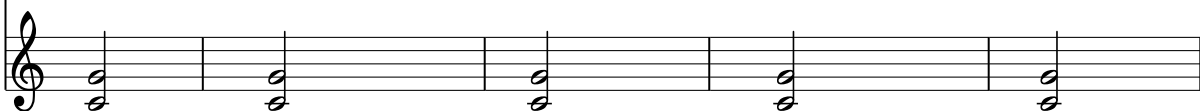
Voice 
  
 Breathe in, breathe out. Breathe

Orff Alto Xylophone 

Vo. 
  
 in, as I breathe out. The move - ment is calm and

O. S. Xyl. 

Vo. 
  
 in, breathe out. Breathe in,

O. A. Xyl. 

11

Vo.   
stead - y. As I breathe in, as I breathe out.

O. S. Xyl.

Vo.   
breathe out. Breathe in, breathe out.

O. A. Xyl.

Detailed description: This musical score is for page 116. It consists of four staves. The top staff is for a vocal part (Vo.) with lyrics: "stead - y. As I breathe in, as I breathe out." The second staff is for a xylophone (O. S. Xyl.) with a melodic line. The third staff is for another vocal part (Vo.) with lyrics: "breathe out. Breathe in, breathe out." The bottom staff is for another xylophone (O. A. Xyl.) with a harmonic accompaniment. The score is written in treble clef and includes various musical notations such as notes, rests, and slurs.

## Session 6: Culmination of Mindfulness Skills

### Review of Mindfulness Skills:

- Mindfulness is:
  - Intentionally living with awareness in the present moment (Linehan, 2015)
  - Without judging or rejecting the moment (Linehan, 2015)
  - Without attachment to the moment (Linehan, 2015)
- 3 sets of skills make up mindfulness practice (Linehan, 2015):
  - Wise mind
    - Combination of reasonable mind and emotion mind
  - “What” skills: observing, describing, & participating
    - Observing: paying attention to the present moment
    - Describing: putting into words our experiences, labeling what we observe
    - Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
  - “How” skills: non-judgmental, one-mindfully, & effectively
    - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)
    - One-mindfully: is being present of that moment and what exactly we are doing (Linehan, 2015)
    - Effectively: is doing what works best for you (Linehan, 2015)
  - “I would like you to be aware of these skills that we learned throughout the previous groups. If necessary, only focus on one skill such as participating or nonjudgmental.”

### 1.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Orff-based Instrument

#### Play

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in an Orff-based instrument play based upon the second “how” skill” of mindfulness- one-mindfully and the “third”- effectively. Orff is applicable within the mental health field (Silverman, 2015) due to the areas of development (Colwell, Pehotsky, Gillmeister, & Woolrich, 2008), which include exploration, imitation, improvisation, and creation. The tempo will range between 60-75 bpm to induce resting heart rate (Tan et al., 2012). The dynamics will remain consistent at a mp or mf level with no dramatic changes (Robb, 2000). A steady downbeat of two half notes accenting the 1 and 3 in 4/4 time will be played on the alto xylophone (Gadberry, 2011). The text within the chant will be used to promote a mindful state of being that can be transferred outside of the session.
- b) What:
  - i. Materials: Alto xylophones, soprano xylophones, score (see below), and mallets
  - ii. Procedure:

1. Researcher will present each instrument to group
2. Researcher will review background on each instrument and how to play instrument
3. Researcher will remind participants that you do not need to be a musician to play the instruments or that you do not need experience with instruments
4. Participants will be allowed to select one instrument
5. “Throughout this experience I would like you to be mindful of this one task you are doing. Being aware of this activity.”
6. Review Chant
  - a. Speak through entire chant while patsching
  - b. Repeat till participants are comfortable with the part
7. Review Bordun Part
  - a. Review bordun part on instruments
  - b. Repeat till participants are comfortable with part
  - c. Place all parts together (chant and bordun)
8. Review Sound Color
  - a. Review sound color on the body first (snapping) while chanting
  - b. Repeat till participants are comfortable with part
  - c. Transfer to the instruments
  - d. Instruct participants to play designated parts: SX (sound color) or AX (bordun) while all chant
  - e. Place all parts together
9. Review Speech Ostinato
  - a. Review speech ostinato on loop while patsching
  - b. Instruct participants to join in
  - c. Repeat till all participants are comfortable with part
  - d. Split participants in half and instruct one side to chant while the others speak the speech ostinato
  - e. Place together
10. Final Play Through
  - a. Instruct that we will now put all parts together (chant, bordun, sound color, and speech ostinato)
  - b. Split participants in half and instruct one side to chant while the others speak the speech ostinato
  - c. Remind designated parts (AX: bordun & SX: sound color)
  - d. Cue to begin
  - e. Repeat for final time
    - i. Cue parts to stop after 2<sup>nd</sup> time through besides speech ostinato
    - ii. Non-verbally instruct those with speech ostinato to continue, cue diminuendo of ostinato
    - iii. Cue speech ostinato to stop after 8 measures

- iv. Take a moment, and non-verbally signal deep diaphragmatic breath in silence
- 11. New Chant Created By Group (If there's time)
  - a. Instruct group to come up with new chant
    - i. Topics: Breath, Mindfulness, Music, Empowerment, etc.
  - b. Go through steps 6-10 with similar process with new chant
  - c. Allow creativity from group to decide parts
- 12. Discuss with group ability to transfer chant outside of session
- 13. Open up discussion of new chant created (if time) that could be applicable for outside of session (particular scenarios; particular chants)
  - a. What may be effective for one person may be different for another
- 14. Transition: Collect instruments from participants
- b. Who Provided: Researcher
- c. How: Face-to-face group intervention with live instrumental music
- d. Where: Community room in mental health facility

## 2.) Music as a Focus for Mindful Active Engagement (Dvorak, 2015a): Blues Songwriting

- a) Why: To introduce the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a blues songwriting task based upon the second “how” skill” of mindfulness- one-mindfully and the “third”- effectively. Songwriting (Baker, Wigram, Stott, & McFerran (2008); Baker, Wigram, Stott, & McFerran, 2009) is a common intervention utilized in a mental health setting (O’Callaghan & Grocke, 2009; Silverman, 2007; Silverman, 2011a, Silverman 2011c, Silverman, 2013) to promote various goals. Within this intervention, participants will be given the choice to have the theme of the song be about mindfulness and music or their group experience. Each question and component of the song will be addressed individually to promote “one-mindfully.” The structure of the songwriting intervention will be within a 12-bar blues progression due to it providing more structure (Silverman, 2015).
- b) What:
  - i. Materials: Guitar, markers, easel pad, & handheld percussion instruments
  - ii. Procedure:
    - 1. Researcher will review intervention to group
      - a. Brief overview of history of blues and structure
        - i. Blues form began in the late 19<sup>th</sup> century and is common in rock ‘n’ roll and jazz
        - ii. AAB indicates that it is made up of 3 4-bar phrases with the first A making a statement and being repeated followed by a second statement (B) which is typically a response to the A (Kirkland, 2013)



2. If the group did not get to Verse 2 previous week then follow steps 3-5, if song is complete skip to step 12
  3. Researcher will then present question to promote conversation regarding the second verse “What are your current thoughts regarding mindfulness and music OR group experience?”
  4. Researcher will write down all responses on blank easel pad
  5. From responses, researcher will work with participants to incorporate and connect similar statements and emotions as well as contrasting ideas to write the second verse
    - b. Verse 1: AAB
    - c. Verse 2: AAB
  6. Once song is complete, researcher will read through to make sure group approves of all lyrics
  7. Researcher will sing each part of AAB of verse 1 and instruct participants to repeat after me
  8. Piece together till first verse is complete
  9. Researcher will sing each part of AAB of verse 2 and instruct participants to repeat after me
  10. Piece together till second verse is complete
  11. Piece together whole song
  12. Sing song together
  13. Add handheld percussion instruments if participants want to add color to song
  14. Discuss with the group ability to participate one-mindfully, focusing on the task at hand
  15. Discuss with the group ability to work together on song
  16. Transition: Clean up supplies
- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with live instrumental music
- e) Where: Community room in mental health facility

### 3.) Music as a Focus for Psychophysiological Connection (Dvorak, 2015a): Awareness of One-Mindfully with a focus on Empowerment

- a) Why: To review the skill sets of mindfulness practice (Linehan, 2015) participants will engage in a psychophysiological task based upon the second “how” skill- one mindfully. Music as a focus for psychophysiological connection (Dvorak, 2015a) will promote one-mindfully by bringing the participants into awareness of their breath followed by a body scan. Participants will be instructed to be aware of each section of the body scan step by step to promote one-mindfulness (Linehan, 2015). Participants will then be led into a theme of empowerment to promote transfer into scenarios outside of session. The music will be 66 beats per minute (Gadberry, 2011) and played on a bass tone bar (Gadberry, 2011).
- b) What:
  - i. Materials: C Subcontra bass bar and mallet, script

ii. Procedure:

1. Read through script below to guide participants through task
2. “We will now begin our final exercise to bring our awareness, one-mindfully, to our breath, then to a progressive sequence through our body, followed by a recognition of emotions and focus on empowerment.”
3. Begin playing bass bar
4. “Find a comfortable position in your chair. If you are able, keep your eyes open and find a place to rest your eyes. If not, simply close your eyes. Begin to settle in to your chair. Acknowledge any thoughts that come to mind... Any emotions you are feeling right now... Any physical sensations... Simply acknowledge them... We are now going to focus our attention on our breath... Allow yourself to breathe naturally and comfortably... Notice the sensation of your breath... in... and out... in... and out... simply be aware of the physical sensation of your breath...(pause)... We are now going to bring awareness to our feet... simply notice how they feel... your toes... the tops of your feet... the soles of your feet... your ankles... notice and simply be aware... are your feet cold?... are your feet experiencing the weight from the tops of your shoes?... Let this part fade from awareness... We are now going to bring awareness to our legs... simply notice how they feel... your calves... your knees... your quads... notice and simply be aware... notice what your legs are experiencing... do they feel support from the chairs... Acknowledge what you are experiencing in your legs... Let this part fade from awareness... We are now going to bring awareness to our hips... simply notice how they feel... what are your hips experiencing... is there discomfort... or do they feel supported... acknowledge what you are experiencing in your hips... Let this part fade from awareness... We are now going to bring awareness to our torso... simply notice how it feels... acknowledge any physical sensation you are having... Let this part fade from awareness... We are now going to bring awareness into our shoulders... simply notice how they feel... notice your arms... into your hands... how do your fingers feel?... Let this part fade from awareness... We are now going to bring awareness to our head... simply notice how your face feels... your ears... the top of your head... how does it feel?... Let this part fade from awareness... Now feel how each part of your body is connected... your head connected to your neck... connected to your shoulders... connected to your torso... connected to your hips... connected to your legs... connected to your feet... be aware of your wholeness... you are whole... you are mindful... centered by your breath... we are now going

to take a moment to reflect on your journey through these past 6 weeks... think back to when you first began... and where you are now... what have you learned... about yourself... about mindfulness and music... about group work... about your body... think about your thoughts that you have had concerning this program... did you experience joy... surprise... sadness... fear... frustration... grief... pride... acknowledge all of your thoughts and emotions... you have learned and experienced a lot these past weeks... remember how you observed... instruments... music... then described them... remember how you participated wholly during instrument play... movement... art... and how you took on a non-judgmental approach... remember how you one-mindfully attended to each activity as they came... and know that effectively means that what works for one person may be different for another... acknowledge all that you have learned... you have come so far... what are you feeling now?... joy... impatience... fear... anticipation... acknowledge your emotions and thoughts... remember that you are a unique being... you can use the tools you learned here in your day to day life... observe your breath while walking down the street... or guide yourself through a body scan before bed... know that you are empowered... you are supported... be mindful of wise mind... take 3 final deep breaths naturally and comfortably... 1...2...3... (pause) When you are ready, open your eyes or bring your focus back to the center.”

5. End bass bar
6. Discuss what the participants will take with them from the 6-week program

- c) Who Provided: Researcher
- d) How: Face-to-face group intervention with recorded music
- e) Where: Community room in mental health facility

### Conclusion:

- Review mindfulness techniques covered
  - Mindfulness is:
    - Intentionally living with awareness in the present moment (Linehan, 2015)
    - Without judging or rejecting the moment (Linehan, 2015)
    - Without attachment to the moment (Linehan, 2015)
  - 3 sets of skills make up mindfulness practice (Linehan, 2015):
    - Wise mind
      - Combination of reasonable mind and emotion mind
    - “What” skills: observing, describing, & participating
      - Observing: paying attention to the present moment

- Describing: putting into words our experiences, labeling what we observe
- Participating: entering wholly into an experience; ultimate goal of mindfulness (Linehan, 2015)
- “How” skills: non-judgmental, one-mindfully, & effectively
  - Nonjudgmentalness: is letting go of evaluating and judging reality (Linehan, 2015)
  - One-mindfully: is being present of that moment and what exactly we are doing (Linehan, 2015)
  - Effectively: is doing what works best for you (Linehan, 2015)
- Discuss how we can transfer these to every day tasks
- Promote practicing skills outside of sessions and combining with music
- Thank everyone for participation
- Pass out follow-up questionnaire



## Appendix C

### Email to Staff Members

Subject: Mindfulness-Based Music Therapy Group

Dear INSERT NAME,

I am a board certified music therapist and graduate student at the University of Kansas. I am currently working on my thesis, which examines a mindfulness-based music therapy protocol with individuals diagnosed with a serious mental illness and chronic illness. I am currently looking for individuals who meet these criteria and/or who are a part of the Health Connections program. If you have any clients who fit this description would you be able to send them information regarding this group? I would greatly appreciate your help.

Individuals will be asked to participate in a 6-week music therapy group that meets for one hour weekly. Participants will also be asked to meet individually with the researcher twice to fill out forms. Eligible participants are over the age of 18, speak and understand English, and are diagnosed with a serious mental illness and chronic illness.

If you have any questions regarding the group, please see the flyer attached or contact me at [m0911861@ku.edu](mailto:m0911861@ku.edu) or 308-380-6449. Thank you for your time and consideration and have a wonderful day!

Sincerely,

Marie Lesiak, MT-BC  
308-380-6449  
[m0911861@ku.edu](mailto:m0911861@ku.edu)

(INCLUDE FLYER ATTACHMENT)

## **Appendix D**

### **Informed Consent Statement**

#### Mindfulness-Based Music Therapy Protocol

##### **INTRODUCTION**

The Music Education and Music Therapy at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

##### **PURPOSE OF THE STUDY**

The purpose of this research study is to determine the feasibility of a mindfulness-based music therapy protocol for individuals diagnosed with a serious mental illness and chronic illness.

##### **PROCEDURES**

You will take part in a twelve-week mindfulness-based music therapy program, with six weeks consisting of music therapy sessions and six weeks consisting of no music therapy sessions. After signing this consent, if you so choose, you will be randomly assigned to a music therapy group from week one to week six or from week seven to week twelve. If you decide to consent to this experiment, you will also complete an assessment survey. Everyone involved in the program will complete two measurement tools addressing your emotional, psychological, and social well-being as well as mindful attention. During your designated 6 weeks of music therapy group, you will participate in various music therapy interventions including instrument play, music listening, and psychophysiological scans.

All information discussed during the group sessions will be kept private. Names will never be placed on written documents. Direct identifying information will be destroyed after the data has been collected.

##### **RISKS**

The risks of this study are minimal, but you may have an emotional response to a song or topic being discussed. For example, you may recall having heard a song that brings tears to your eyes, or reminds you of a happy or sad time. If this happens, the researcher will talk with you about your response. If further counseling is needed, you agree to be in contact with your treatment team or BNC crisis services in the ACCESS Center. You could also be referred for additional therapy services if talking about music seems to consistently bring up concerns or desires to engage in an active therapy process. In addition, you always have the option of not discussing your feelings or emotions if you are not comfortable with the topic.

##### **BENEFITS**

It is unknown if you will benefit from being in this study. However, it is hoped that you will receive benefit from experiencing various mindfulness-based music practices into your daily life include a higher quality of life, wellness, and the awareness of personal emotion regulation.

##### **PAYMENT TO PARTICIPANTS**

You will not be compensated for your participation in this research study.

#### PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researcher will use a study number rather than your name. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form you give permission for the use and disclosure of your collected data for purposes of this study at any time in the future. However, due to the nature of group activities, confidentiality may not be able to be preserved. Participants will be reminded that what is disclosed in the group must remain in the group.

#### INSTITUTIONAL DISCLAIMER STATEMENT

In the event of injury, the Kansas Tort Claims Act provides for compensation if it can be demonstrated that the injury was caused by the negligent or wrongful act or omission of a state employee acting within the scope of his/her employment.

#### REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.

#### CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You may disengage from the study at any point by verbally notifying the researcher. You also have the right to cancel your permission to use and disclose further information collected about you, verbally or in writing, at any time, by emailing your written request to: Marie Lesiak, MT-BC, m091l861@ku.edu. If you cancel permission to use your information, the researcher will stop collecting additional information about you. However, the researcher may use and disclose information that was gathered before they received your cancellation, as described above.

#### QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher listed at the end of this consent form.

#### PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email irb@ku.edu.

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

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Type/Print Participant's Name

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Date



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Participant's Signature

---

Type/Print Researcher's Name

---

Date

---

Researcher's Signature

RESEARCHER CONTACT INFORMATION: Marie Lesiak, MT-BC, Principal Investigator  
(308) 380-6449, [m091l861@ku.edu](mailto:m091l861@ku.edu)

FACULTY SUPERVISOR CONTACT INFORMATION: Abbey Dvorak, PhD, MT-BC, Faculty Supervisor, (785)864-9636, [dvorak@ku.edu](mailto:dvorak@ku.edu), The University of Kansas, 1530 Naismith Drive, Lawrence, KS, 66045

## Appendix E

Assessment Survey for Mindfulness-Based Music Therapy (adapted from Dvorak, in review)

Thank you for signing up to participate in the mindfulness-based music therapy group. Below is a brief survey to find out information regarding your demographics and music experience. There are no right or wrong answers when filling out this form. All information will be kept confidential.

### Demographics

Date of Birth or Age:	
Gender:	Female <input type="checkbox"/> Male <input type="checkbox"/> Transgender <input type="checkbox"/> Other <input type="checkbox"/> _____
Mental Health Diagnosis:	
Medical Diagnosis:	
Ethnicity:	African American <input type="checkbox"/> Asian <input type="checkbox"/> Latino <input type="checkbox"/> Native American <input type="checkbox"/> Caucasian <input type="checkbox"/> Other <input type="checkbox"/> _____
Marital Status:	Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed <input type="checkbox"/> Other <input type="checkbox"/> _____
Ability to Read	Yes <input type="checkbox"/> No <input type="checkbox"/>
Highest Education Completed:	Elementary <input type="checkbox"/> Middle School <input type="checkbox"/> High School <input type="checkbox"/> College <input type="checkbox"/> Graduate School <input type="checkbox"/> Other <input type="checkbox"/> _____
Employment History:	Employed <input type="checkbox"/> Unemployed <input type="checkbox"/> Previously Employed <input type="checkbox"/> Other <input type="checkbox"/> _____
Current Living Situation:	

### Music Experience

Previous Music Therapy Experience:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Preferred Genre (Mark all that apply):	Blues <input type="checkbox"/> Classical <input type="checkbox"/> Country <input type="checkbox"/> Christian <input type="checkbox"/> Hip-Hop/Rap <input type="checkbox"/> Oldies <input type="checkbox"/> Pop <input type="checkbox"/> Rock <input type="checkbox"/> Other <input type="checkbox"/> _____
Music Experience (Mark all that apply):	Elementary School <input type="checkbox"/> High School Choir <input type="checkbox"/> High School Band <input type="checkbox"/> College Choir <input type="checkbox"/> College Band <input type="checkbox"/> Church Music <input type="checkbox"/> Community Music <input type="checkbox"/> Music Career <input type="checkbox"/> Private Music Lessons <input type="checkbox"/> Play An Instrument <input type="checkbox"/> Other <input type="checkbox"/> _____
How You Use Music (Mark all that apply):	Relaxation <input type="checkbox"/> Exercise <input type="checkbox"/> Background Music <input type="checkbox"/> Listen to Music <input type="checkbox"/> Other <input type="checkbox"/> _____

**Mindfulness & DBT**

Previous Mindfulness Training:	Yes <input type="checkbox"/> No <input type="checkbox"/> I do not know what mindfulness is <input type="checkbox"/>
Previous DBT Skills Group:	Yes <input type="checkbox"/> No <input type="checkbox"/> I do not know what DBT is <input type="checkbox"/>
Do you practice mindfulness?	Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> I do not practice mindfulness <input type="checkbox"/>

Please direct any questions or concerns to Marie Lesiak at [m0911861@ku.edu](mailto:m0911861@ku.edu). Thank you.

**Appendix F**

## Follow-up Questionnaire for Mindfulness-Based Music Therapy Group

Thank you again for participating in the mindfulness-based music therapy group. Below is a brief questionnaire to find out information regarding your experience in the group. There are no right or wrong answers when filling this out. All information will be kept confidential.

1.) What experience in the group was the most helpful?

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2.) What experience in the group was the least helpful?

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3.) What changes could be made in order to make the group more effective for you?

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4.) How will you use the skills from the group in your everyday life?

5.) Describe your response to the music experiences in the group.

Thank you again for participating in the mindfulness-based music therapy group. Please direct any questions or concerns to Marie Lesiak at [m0911861@ku.edu](mailto:m0911861@ku.edu). Thank you.