Wesleyan University The Honors College

Music Psychotherapy: An Assessment of Research Methods

by

Noah Zinn Heau
Class of 2012

A thesis (or essay) submitted to the
faculty of Wesleyan University
in partial fulfillment of the requirements for the
Degree of Bachelor of Arts
with Departmental Honors in Music

Middletown, Connecticut April, 2012

I - Introduction

When an individual is clinically diagnosed with a mental illness, they are frequently offered the option of receiving therapy as a means of treatment. In Western society, the most commonly practiced forms are Psychodynamic Therapy and Cognitive Behavioral Therapy, which have also been integrated into other types of treatment. However not all forms of therapy are equally efficacious, and many of these so-called "therapies" can actually cause harm (e.g. Critical Incident Stress Debriefing, Attachment Therapy). Throughout history, therapies such as these have been discredited and discontinued by clinical professionals. Music has been used to improve physical, mental & emotional wellbeing for centuries in many cultures worldwide. Currently, sound waves are being tested as a neurological treatment for brain damage and other deficits. But can Music Psychotherapy, as a clinically accepted form of Psychotherapy, be as effective in treating mental illnesses as the more established practices?

As a professional field, Music Therapy (in all its applications) is only 60 years old. Based on our working knowledge of the field, clinicians have determined that it can be an effective form of psychotherapeutic treatment. Researchers have found that patients in a long-term substance abuse rehabilitation center who received Music Therapy tended to rate their experience as more favorable than other forms of psychosocial treatment (Silverman 2008, 478). However, due to the relative newness of clinical Music Psychotherapy, as well as other logistical confounds, there is a dearth of evidence-based research in the field. Having a strong research base is especially important for health insurance purposes, as not all insurance companies

will cover a form of treatment without adequate evidence. In this thesis, I provide an overview of research on the effectiveness Music Therapy, focusing in particular on the distinction between quantitative and qualitative research. Drawing on surveys by Reschke-Hernandez, Silverman, and Brummel-Smith, I argue that specific characteristics of Music Therapy - and of quantitative research itself - will make the process of clinical proof particularly difficult. Although more evidence-based research will be needed for the field of Music Psychotherapy to progress, it is reasonable to expect the progress to be slow. Furthermore, it may not be possible to reliably prove the effectiveness of every single technique used by Music Therapists. (Reschke-Hernandez 2011, Silverman 2008, Brummel-Smith 2008).

II – Definition, Process, and Methods

Before I begin to discuss existing bodies of research, it will be useful to summarize how the field of Music Therapy defines itself. The purpose of creating a definition for Music Therapy is not to identify the field in absolute terms, but to explain its fundamental aspects from a particular perspective. The working definition of Kenneth Bruscia, one of the most respected writers on the subject, is as follows: "Music Therapy is a systematic process of intervention wherein the therapist helps the client to promote health, using music experiences and the relationships that develop through them as dynamic forces of change" (Bruscia 1998, 20). This definition is intentionally vague, as Music Therapy is applied to a wide variety of settings (including Physical Therapy and Palliative Care). But a definition of Music Psychotherapy would be almost equally as unspecific, since it is

often practiced in conjunction with other psychotherapeutic disciplines (e.g. Cognitive-Behavioral, Existential, Humanistic, and Transpersonal)(Bruscia 1998, 11).

Compared to these other classic forms of therapy, Music Psychotherapy is even more complicated to explain, because it is multi-dimensional. The introduction of a third variable – music – creates an additional layer of relationships (between the music and the client, between the client and the therapist in relation to the music, etc.) that classic therapies do not have. Consequently this complicates Music Therapy research experiments, which must account for more variables and relationships than those of classic therapies. Additionally challenging for researchers of Music Psychotherapy is the fact that it integrates a mental health discipline with a performance art. Although works of music, theatre, and dance are generally executed along highly systematic and technical guidelines, they are not traditionally intended to meet empirical goals. The implementation of music into therapy has forced researchers to quantitatively evaluate the effects of a discipline that is not typically evaluated in this manner. Researchers of Music Therapy are therefore working with a limited theoretical and literary base to interpret their data.

The therapy process, as described by Brusica, is divided into three phases: Assessment, Treatment, and Evaluation. During Assessment, the therapist observes the client's engagement in various music experiences, so that he or she can identify any specific needs, impairments, and preferences. The therapeutic goals are often initiated during this phase. During Treatment, the therapist implements change-inducing techniques for the client(s) through carefully programmed sessions.

During the Evaluation phase, the therapist provides a written assessment of the client's social, emotional and occupational improvements. The improvements are cited only if they are 1) clinically significant, and 2) deemed as a result of the therapy process (Bruscia 1998, 27-28, 250). Isolating the therapy process as the cause for improvement is not easy, particularly with Music Therapy treatments, which often integrate techniques from other therapeutic paradigms. This complicates the conclusions derived from Music Therapy experiments, because any clinically significant changes that are observed in Music Therapy could be the result of only its non-musical components. A controlled experiment would need to compare the results of the non-musical therapies in a separate group of subjects from those receiving the Music Therapy. Currently, there are very few Music Therapy studies that include a Control Group of any sort. (I will discuss this further in the context of Silverman's research.)

The theory of Music Therapy both dictates and is dictated by its methods of practice. Music, Medicine, and Psychology all influence the nature of Music Psychotherapy treatment techniques (Bruscia 1998, 29). The four main treatment methods used in Music Therapy are improvisation, re-creation, composition and listening. (There are also specific approaches within each method.) Some clinical goals for these treatment methods include communication, interpersonal intimacy, time-ordered behavior, reality orientation, organization, and relaxation (Bruscia 1998, 14-16). Attempting to clinically prove the accomplishment of these goals has been a challenge, however, since they are somewhat ambiguously defined. It is also unclear which methods are best suited to meet a given therapeutic goal. In Bruscia's

writing there tends to be an inclination towards definitional fluidity, as if to say "every technique can potentially treat any impairment, if administered properly within the correct setting." While Music Psychotherapists in the future will need to delineate their methodology more specifically, Bruscia's rhetoric is acceptable for a practice that is relatively new. The presence of ambiguously defined methodological principles could throw into question whether Music Therapists are adequately trained and educated, but – compared to physiological treatments – therapy is inherently more difficult to reliably perform. Even the most skilled therapist with a strong technical foundation will be unable to reach certain individuals, simply because their personalities are incompatible and a good rapport cannot be established.

Data from a larger body of evidence-based research would be instrumental in matching specific treatment techniques with appropriate therapeutic goals, but the necessity for methodological systematization is less for Psychotherapy than it is for other medical practices – such as Vascular Surgery – where an inappropriate operation can mean the difference between a patient's life and death. Music Therapists have more freedom to utilize techniques as they see fit, even if their unique application does not correspond exactly with their professional training. It may not even be possible to reliably prove the attainment of certain therapeutic goals, such as "Interpersonal Intimacy," which cannot be easily quantified. Because Music Psychotherapy is an inter-disciplinary field with a myriad of goals and techniques, the process of verifying each technique for a set of possible objectives will be long and tedious. In order to determine which therapeutic goals are

impossible to prove, there should be a significant body of research and literature demonstrating their inability to be proven. Music Psychotherapy will be required to demonstrate its efficacy in order to be considered a viable treatment option, but its progress will continue to be gradual.

III – Quantitative and Qualitative Research

While there is good reason to believe that Music Therapy is reliably effective, the scientific proof of its efficacy could be more extensive. Much of what we know about Music Therapy today is based off of anecdotal accounts, rather than controlled experiments. It remains a reality that clinical practices must produce a substantial research base before they can become fully "validated". Ideally, a field of medicine should contain a sizable number of quantitative as well as qualitative studies, which differ in ideology and practice. Kenneth Brusica offers us a clear description of these key differences. In terms of ideology, quantitative research has a "positivist" approach: it assumes that absolute Truth is determined by natural laws and mechanisms, which can be generalized through cause-and-effect relationships. It also assumes that scientific discoveries are "additive" and accumulate to a larger body of knowledge. Contrastingly, qualitative research has "non-positivist" approach: it perceives truth and reality as perceptions constructed by individuals and experiences, which must be understood in context. Discoveries from these studies are therefore "reconstructive", based on value judgments rather than objectivity (Bruscia 1998, 255-256). It is therefore not possible to test for specific

objectives in qualitative research; the researcher is at the mercy of his or her environment.

Because the results of qualitative studies cannot be generalized to larger population bases, they cannot make claims towards the general "effectiveness" or "ineffectiveness" of a particular practice. Thus Music Therapy case studies alone, which are qualitative, are not sufficient for conclusive evidence. However, it is understandable that the literature of a relatively young practice would comprise mostly of case studies, since the information from these anecdotal accounts are the basis for constructing testable hypotheses. In fact, a research proposal for a laboratory experiment would be less convincing if its premise was not derived from formal case studies. The performance of quantitative research is therefore reliant on preexisting qualitative research as a basis for exploration.

Because there exists a sizable amount of Music Therapy case studies, it is not unreasonable to request that more quantitative studies – derived from the findings of the case studies - be conducted. But the positivist ideology that dictates such research is not without its flaws: because this ideology assumes that scientific discoveries are "additive", a quantitative study might be deemed worthless if its initial hypothesis is disproven. This can create a publication bias towards experiments with "successful" results –ones that have something "new" to offer, while the "unsuccessful" experiments remain unpublished. The potential result is that a clinical practice may be perceived as more effective than it actually is, because only the experiments with promising results are published. Meanwhile case studies, which do not require the confirmation of a hypothesis, are more likely to be

published regardless of the outcome. (Hopefully the issue of publication bias affects all clinical fields equally, so that one practice does not suffer unreasonably for presenting situations in which it does not work.)

Another issue with controlled experimentation is that any response observed in an artificial laboratory setting might not generalize to the corresponding stimuli in a natural setting. (I discuss this further in the context of Thaut's Rational-Scientific Mediating Model.) Case studies – which do not have "generalized" results and are conducted in unaltered settings – are unlikely to render conclusions that are misinformed in this respect. While having a strong research base does help medical practices demonstrate a high probability of success, there is clearly no guarantee that even a well-administered set of experiments will yield conclusive evidence. Although health insurance agencies have the ability to dictate the public's access to specific forms of treatment, there may be issues with the methods they use to determine which treatments are likely to succeed.

In addition to being the logistical predecessor for controlled experimentation, case studies are generally easier to perform, as they are less rigid and tend to require less preparation on the part of the researcher. With regards to methodology, quantitative research studies contain three variables: the stimulus (input), the receptor (object receiving the input), and the response (output produced by the object). Predictive relationships between phenomena are made before the experimentation process, which seeks to prove or disprove these hypotheses through data collection. The data is analyzed through statistical techniques, using probability coefficients to determine whether any relationships are causal or

accidental. Qualitative research does not reduce phenomena to variables, and does not generate hypotheses that can be proven or disproven. Research can be conducted on persons, events, materials and experiences, but the researchers are not supposed to intervene or manipulate their settings. Results are inductive rather than deductive, since the hypotheses are formed through the data collection process rather than prior to it (Bruscia 1998, 256-260). Since the performers of a case study do not need to regulate their environment, they generally do not face the organizational hurdles (e.g. formulating a testable hypothesis, obtaining funding, recruiting an appropriate subject base, calculating probability coefficients) that the controlled experimenter faces. These hurdles – along with other confounds that I will discuss in the next section – will ultimately need to be cleared as the field of Music Psychotherapy progresses, but it is not realistic to expect these resolutions to be immediate.

While there is an existing body of quantitative research within the field of Music Psychotherapy, the results of such studies have been somewhat inconclusive. To illustrate examples, I have summarized three surveys: two taken from the Journal of Music Therapy, and one from the Oxford Handbook of Medical Ethnomusicology. Despite evidence in some experiments that the Music Therapy interventions were effective, all three surveys argue that not enough experiments of their focus had been published. The sample sizes of those experiments were also too small, and the diagnostic criteria for the chosen subjects were not always clearly defined. The first study, compiled last year in Kansas City, concerns the Music Therapy interventions that have been historically used in the treatment of children

with Autism. The second study is a comparison of controlled Cognitive Behavior Therapy (CBT) experiments with existing Music Therapy (MT) experiments for adult psychiatric patients. The third study examines experiments that have explored the potential uses of Music Therapy on persons with Alzheimer's Disease. These essays were not controlled experiments themselves, but were comparative analyses of existing experiments. None of the writers expressed doubts concerning the efficacy of Music Therapy, but all stated that it was too early to make any definitive statements.

1 - *History of Music Therapy Treatment Interventions for Children with Autism (Reschke-Hernandez 2011)*

After tabulating the intervention methods cited in literature on the treatment of children with Autism, Reschke-Hernandez found that many of these techniques – most of them over 20 years old – have yet to be clinically proven. A large amount of Music Therapy writings were examined, but many may not have been actual experiments. After giving a historical account of childhood Autism and outlining the current Music Therapy treatment models, this study discusses the limitations of the treatment techniques and suggests ideas for future research. Perhaps this study could have benefited from using more controlled experiments as references, but this was probably due in pat to a lack of published experiments on the subject.

Music treatments for children with Autism have been in practice for nearly 50 years. Although the first diagnosis of "Autism" in a child was in 1799, the clinical diagnosis was not added to the DSM until 1980. Psychiatric hospitals had been hiring Music Therapists to treat children with Autism since 1940, but very few studies were documented. Publications of music for children with Autism appeared

in the '60s, and the approaches became integrated into theory by the '70s (Reschke-Hernandez 2011, 172-174). The primary focus of most treatments was on Communication and Social Skills, but other concerns included perceptual motor skills, behavior & cognition, sensory sensitivities, and emotional needs (Reschke-Hernandez 2011, 176-179).

In order to systematically research Music Therapy, Michael H. Thaut developed the Rational-Scientific Mediating Model (R-SMM) to develop testable hypotheses (Thaut 2000, as cited by Reschke-Hernandez). A researcher using the R-SMM connects a physiological, psychological or neurological response to music (e.g. a child becomes attentive upon hearing a favorite song) with a similar non-musical response (a child becomes attentive upon hearing their name called). A hypothesis is created if the musical response can be generalized to a non-musical setting. Once the hypothesis is developed, researchers can examine treatment interventions that are intended to elicit the specific response that is the subject of the study (Reschke-Hernandez, 190). As noted earlier, a potential complication with this research model is that a non-musical response tested in a laboratory may not occur in a natural setting. To use the aforementioned example, a child who responds to his/her name called by an aide in the experiment may not do so for every stranger in the outside world. A non-musical response that is present in one non-musical setting may not be present in *every* non-musical setting.

Interdisciplinary treatment methods can be researched using the Transformation Design Model (TDM), also developed by Thaut in tandem with the R-SMM. Evidence from TDM research can be used to transform nonmusical

treatments from any discipline into Music Therapy interventions. While the TDM study itself may be sufficient evidence, a randomized control study can justify it by comparing the results of a group receiving a clinically proven nonmusical treatment with its hypothesized Music Therapy equivalent. Using the Transformation Design Model, Brownell adapted Social Stories (an evidence-based nonmusical intervention) into Prescriptive Songs. The Prescriptive Song treatment is now used to influence behavior, self care, independence, and outdoor play among children with Autism (Brownell 2003, as cited by Reschke-Hernandez). Lack of common language (consistent terminology) in the assessment process had become an issue for Music Therapists working with the Autism population (Reschke-Hernandez, 191). Many children with Autism tend to be either nonverbal or have limited communication skills, so it is not surprising that this demographic would be suggested for Music Therapy.

Based on descriptions in preexisting literature, Reschke-Hernandez provides a 7-page table that pairs specific Music Therapy techniques with specific goals in the treatment of children with Autism. It would not be particularly helpful to include the table in this essay, especially since some of the same techniques (e.g. improvisation or re-creation) have been cited for virtually every therapeutic goal. An example of a more narrowly applied technique would be the use of bongo drums as a musical "bridge" to tap out messages or emotions, which has been used to foster Expressive Language. Composition and Receptive Listening methods are cited relatively infrequently. This makes sense, since these methods generally imply less direct interpersonal interactions, and more fully developed levels of communication.

Family Therapy (which can take place outside of an office) and the Music Hut (a playground structure with musical elements) are some of the newer techniques that have been introduced by Music Therapists, but these have yet to be clinically proven as well. It was recommended by this study that more evidence-based research be performed with larger sample sizes, and that existing work on the subject should not remain unpublished (Reschke-Hernandez 2011, 192-194).

2 - *Quantitative Comparison of Cognitive Behavior Therapy Research: A Methodological Best-Practices Analysis to Guide Future Investigation of Adult Psychiatric Patients* (Silverman 2008).

In a thorough analysis of multiple experiments, this study has succeeded in a) identifying components of high quality Cognitive Behavioral Therapy (CBT) research, b) identifying existing variables to analyze elements of Psychiatric Music Therapy (MT), and c) comparing data from the two types of experiments in order to formulate suggestions for future research (Silverman 2008, 457). Although MT is an evidence-based practice that can meet a broad range of objectives, the study found a noticeable dearth of quantitative research within the field. It was also observed that most of the MT experiments were not structured as well as the CBT experiments, due to the absence of a Control Group or a lack of follow-up data. In contrast to Rechke-Hernandez's study (2011), this study gathers data exclusively from controlled experiments without citing accounts by prominent Music Therapists. Because Silverman examines sources that are exclusively evidence-based, his analysis of the problems surrounding Music Therapy research is more detailed.

All of the experiments examined by this study focused on the applications of a basic treatment paradigm. The majority of experiments documented by this study

focused on the treatment of Psychotic symptoms. The effects of various treatment processes in Cognitive Behavioral Therapy and Music Therapy were analyzed in relation to a set of objectives (e.g. improved social functioning, reduced psychotic symptoms, reduced delusional thinking, etc.) (Silverman 2008, 462-467). For the most part, results that were considered statistically significant after six months of follow-up were no longer clinically significant after twelve months. Longitudinal follow-up studies often have difficulty assessing changes after this time period due to confounds of additional treatment and much of attrition. Due to the unreliability of long-term follow-up data, treatment efficacy is generally determined immediately after treatment (Silverman 2008, 481). For psychotherapy "success" is not typically measured by the long-term retention of clinical changes, which are liable to deteriorate after the cessation of treatment. It is the assumption that certain clients – particularly those with severe mental illnesses – will require lifelong therapeutic treatment to ensure the retention of clinical improvements.

Some experiments examined by this study divided their participants into Control and Experimental groups. Those put in the Control Group were not given the treatment type being studied, but instead were given "treatment as usual" or "standard care" which have predictable outcomes. Participants in the Experimental Group received either CBT or MT treatments, for which the outcome on a particular objective is unknown. Most quantitative CBT experiments included separate control/experimental groups, as well as longitudinal follow-up appointments. Few of the MT experiments had either, which makes the data less reliable (Silverman 2008, 467).

Based on the information available, Music Therapy treatments have been successful in addressing the psychiatric symptoms that were the focus of the experiment. Additionally, psychiatric patients tend to rate MT treatment as more pleasurable than other therapies (e.g. Art/Recreation Therapy, Meditation, Group Psychotherapy). Not many of the experiments focused on Group Music Therapy, in which it is difficult to assess individual outcomes. Silverman suggests that more studies be performed on Group MT, since it is a relatively common form of treatment (Silverman 2008, 476-478). Some problems faced by the Music Therapy researchers were their inability to receive adequate funding, and the absence of a working manual on Music Therapy research. The Cognitive Behavioral Therapy researchers were less likely to face these problems, since the National Institute of Mental Health considered CBT to be the "treatment of choice" for mental illnesses. CBT focuses on systematically altering people's thoughts, behaviors and emotions through rigorous conditioning. It is generally thought to be more effective than its counterpart, Psychodynamic Therapy, for which the performance results are mixed (Silverman 2008, 471-475). Psychodynamic Therapy focuses on surfacing unconscious conflicts and defense mechanisms people may have, but it has failed to offer hypotheses that can be easily tested or researched.

3 – *Alzheimer's Disease and the Promise of Music and Culture as a Healing Process (Brummel-Smith 2008)*

This study examined a total of 21 empirical reports that tested Music Therapy interventions and their effects on patients with Alzheimer's Disease. According to the biomedical model, Alzheimer's Disease is categorized as a

deteriorative mental illness which entails symptoms of dementia, aphasia, personality change, impaired executive functions, and decreased social functioning. The primary goals of medical care for persons with Alzheimer's are to maintain their cognition, and control their behavioral symptoms (Brummel-Smith 2008, 186-187). There is theoretical and anecdotal support for Music Therapy as a potential treatment for the emotional disturbances of Alzheimer's patients. Nurses have reported that music has helped to calm down their patients with AD. Furthermore music may affect the hippocampus, a brain region crucial in memory, association and recognition. Brummel-Smith indicates that there is strong potential for the use of Music Therapy on AD patients, but he notes that the small sample sizes used by the experiments were not sufficient for the results to be conclusive.

Data from the experiments (encompassing a net total of 366 subjects) has demonstrated that Music Therapy treatments reduced agitation and the improved mental functioning in patients with AD (Brummel-Smith 2008, 189). Adding music to a spaced retrieval memory task, in some experiments, indicated possible improvements in identity recognition of staff members. Two studies reported that AD patients receiving Music Therapy showed a 46% decrease in aggressive behavior during bathing periods. In a study pairing verbal skills with music interventions, patients receiving the treatment had increased scores in the language subsection of the MMSE (a comprehensive, standardized test for persons with dementia) (Brummel-Smith 2008, 190).

Despite these promising findings, Brummel-Smith noted several problems that compromise the validity the experiments. First, their duration tended to cover a

relatively short time period, usually 18 weeks. Second, the sample sizes of most experiments were relatively small, with only three studies having more than 20 subjects. Third, the clinical attributes of these subjects were unclear: patients were not distinguished based on their level of dementia, and some of the patients with dementia may not have actually had AD. The subjects were also not randomized based on whether or not they received medication, which could affect the treatment outcome of a patient independent of the Music Therapy interventions. (It is difficult to organize patients according to this variable, because their statuses as medicated or un-medicated are subject to change throughout the duration of the experiment.) Furthermore, most of the experiments did not account for the cultural background of the subjects they were studying, and the music with which they are likely to be familiar (Brummel-Smith 2008, 191). Some suggestions offered by this study for future research included the standardization of diagnostic processes used to determine appropriate subjects, larger sample sizes, longer experiment durations, randomized trials that include medication as a variable, and deeper consideration for the cultural background of the subjects (Brummel-Smith, 197).

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As evinced by the previous surveys, there are significant challenges in producing adequate evidence for Music Psychotherapy treatment techniques. Silverman's study offers the most comprehensive description of the limiting factors that have hindered research thus far. One of the most significant problems in the administration and assessment of Randomized Control Studies (RCT's), he asserts, is the lack of reliability in follow-up data. (It is difficult to evaluate clinically significant

changes over time, and track the whereabouts of a large participant base.) Only two published Music Therapy RCT's that he examined contained any follow up data with analyses, and board-certified Music Therapists conducted neither of these. Additionally, the formation of Control & Experimental groups can be considered unethical, since participants in the Control Group are effectively denied treatment. Control Group subjects who receive "treatment as usual" or "standard care" generally do not perform as well as the Experimental Group subjects receiving the new treatment. It is less unethical to wait-list clients in the Control Group for future treatment, but this removes the possibility to compare follow-up data between groups (Silverman, 479-482).

Hopefully, future Music Psychotherapy studies will have access to better funding. Pharmaceutical Companies have funded many CBT studies, in recognition of the positive correlation between psychosocial support and medication adherence. If Music Therapists present well documented, evidence-based research, they may also qualify for pharmaceutical grants. 74% of Masters level Music Therapy clinicians have not conducted quantitative research with persons who are mentally ill (Silverman, 493). The small research base continues to remain an issue for the field of Music Therapy, although the field has gained higher levels of public recognition. It is imperative that the field of Music Psychotherapy moves beyond theoretical and anecdotal support, but the challenges of obtaining scientific proof will make this a long and difficult process.

IV – A Different Perspective

While there is always a push for more concrete evidence within any medical field, researchers are not required to question the importance of scientific proof, or the value systems upon which this ideology was constructed. Indeed, the necessity for such proof is culture-bound: industrialized societies that have adopted Western medical practices are more likely to demand solid proof that their treatment methods are effective. There is less of a demand for evidence in some indigenous and tribal societies, which as Benjamin Koen points out, may not share the same perceptions of medicine. In the *Oxford Handbook,* Koen explains indigenous healing as a gradual incubation that is open to the unpredictable, rather than a linear process with an expected outcome (Koen 2008, 411). Western medicine assumes that there are always specific mechanisms in place that are capable of curing a given illness, but illnesses may be caused in part by imbalances in one's family, community or environment rather than a single malefactor (Koen 2008, 413). If we view medicine from this perspective, mechanisms that target specific symptoms (e.g. surgery, therapeutic care, medication) may not be enough to fully heal a person.

The implications of an alternate perspective to medicine are large. If indeed the healing process is a) non-linear, b) cannot have set outcomes, and c) has roots in life problems that cannot be fixed by a physician, there are sharp limits to the effectiveness of all "mainstream" medical fields, as well as limits to researchers' abilities to prove their effectiveness. Psychotherapy is particularly difficult to empirically evaluate, because the emotional/behavioral symptoms it treats are not tangible and can only be assessed through observation. And again, Music Psychotherapy may be even more difficult to evaluate because the third variable of

music creates an additional layer of relationships, and the nature of music as a performance art does not typically lend itself to measurable goals.

Some nonclinical music practices derived from indigenous cultural traditions have been co-opted by westernized societies. It is not unheard of for persons in the US to own a Tibetan singing bowl, which produces a humming sound when one rotates a wooden mallet around its rim at a particular angle and speed. Producing and sustaining the humming sound can be a reflective and meditative experience. It may be not be easy to determine the exact medicinal contexts in which the singing bowl was originally used, but it has been postulated to allay the symptoms of clinical depression, stress & anxiety, chronic fatigue syndrome and physical discomfort (Mandle 2012). These postulations may not be anywhere close to being proven, but from the alternate perspective that Koen defines, there does not need to be a set of objectives for the healing process to work. If the etiologies of stress and chronic fatigue are too complex to untangle, perhaps users of a Tibetan singing bowl should not expect to allay the symptoms of either, but rather to engage in an exploratory process that may fulfill their lives in ways they did not expect.

The usage of music as a form of healing is also central to many Native American cultures. Music Is Medicine Inc, founded in the Navajo nation by Chucki Bregay and Richard Anderson Jr., is an organization that holds music workshops primarily for Navajo youth. Music appreciation and instrument instruction are combined with lessons about making positive life choices. Students can learn to play acoustic guitar, electric guitar, and drums in different genres they enjoy such as rock, metal, or hip hop (Smith 2012). Anderson and Bregay also recognize that studying

music can positively benefit one's academic performance, but nowhere do they mention enhancing specific academic disciplines with set music techniques. This is different from the empirical ideology of Western medicine. In, fact the goals of Music Is Medicine Inc. are not necessarily focused on the treatment of individuals, as they seem to emphasize community development over individual achievement. This is probably because the music workshops serve a population united by common heritage rather than by mental illness or disability (as is the case with Group Music Therapy). "We want a healthier community, so we want to connect music with healthy communities," states Begay. "We want our children to be healthy, not just physically but mentally too, and music can do that" (Smith 2012).

The linear, goal-oriented perspective of Western medicine may also result in the complete discrediting of a practice that has actually been beneficial for some individuals. If (in theory) future research studies come to the conclusion that Music Therapy practices cannot reliably produce results, the field will be mistakenly conceived as completely ineffective. When the hypothesis of an experiment is not confirmed, its converse (the null hypothesis) is assumed to be the truth. Thus, if a Music Therapy treatment does not meet the quota for being statistically significant, a study will assume that the technique does not work unless further research can prove otherwise. Existing case studies have shown that Music Psychotherapy treatments have the *potential* to create positive change in at least some instances, even if the probability of it creating change is not necessarily high. Yet if these positive changes cannot be attributed to the therapy process (which is not easy to determine), the Scientific Method would render them ineffective. This would

subsequently thwart any technical progress that Music Therapists may have accomplished, however slight.

The mental illnesses addressed by the surveys in Chapter III (Autism, Psychosis, and Alzheimer's Disease) were all featured in Kenneth Bruscia's compilation *Case Studies in Music Therapy*. One New Haven based study describes the progress of a 22-year-old autistic man – "Jerry" – who was given percussion exercises in combination with positive reinforcement training. After one year of learning to imitate complex rhythm patterns, read visual notation and musically engage with others, Jerry stopped throwing temper tantrums, used sign language more frequently, talked verbally on occasion, and was no longer bothered by physical contact (Clarkson 1991, 375-384). Another study based in Rome relates the case of "Mary," a 20-year-old woman with residual schizophrenia (a psychotic spectrum disorder) who did not do well in verbal psychotherapy. She was given a four-stage integrated program that involved rhythm dialogue & piano improvisation, self-referential songwriting, reflective listening and personal goal development. Over time Mary reduced her medication intake, and involved herself in more activities both inside and outside the household (Perilli 1991, 405-415). A third study from a retirement home in Topeka followed the 66-year-old "Mr. O." who was given a probable diagnosis of Alzheimer's Disease. Mr. O. received group Music Therapy that included ensemble playing, rhythm imitation and guitar song accompaniment in an environment that fostered consistency, positive reinforcement and direct engagement. Although Mr. O's condition continued to

deteriorate overtime, he remained interested in the group therapy sessions, being the only stimulus besides food that could hold his attention (Clair 1991, 573-579).

While none of the above case studies can technically qualify as conclusive evidence, the circumstantial evidence they present is strong. Because Jerry had a preexisting interest in sound and music, the therapy treatment offered him a comfortable and engaging way to build interpersonal relationships and new skills. Although Mary experienced fragmented thinking patterns as a result of her residual schizophrenia, the integrated therapy allowed her to realize life problems and set goals for herself in a non-confrontational, artistic manner. Mr. O's group Music Therapy, as explained by his case study, provided him with "sensory stimulation and some level of orientation" sufficient enough to hold his attention (Clair 1991, 579). None of these clients would have been suitable for classic therapy, due either to their limited verbal/cognitive abilities or to the discomfort of a one-dimensional, interrogative therapy setting. An alternate perspective on medicine might argue that it is acceptable for a medical practice (such as Music Psychotherapy) to have spontaneous results, even if they cannot accurately be predicted or completely systematized.

V - Conclusion:

The question of Music Psychotherapy's effectiveness is much more complex than a "yes" or "no" answer. It forces us to critically assess how psychotherapy is defined, how an art form can be integrated with a medical practice, how evidence-based research is conducted, and what the limits of Western medicine are. Since

1950 the field of Music Therapy has gained more public awareness, and there is certainly reason to believe that Music Psychotherapy can be applied to a wide range of mental illnesses. The process of obtaining further evidence for clinical proof will never cease, as long as Music Therapy is not completely discredited. Again, the inherent obstacles in this process are not likely to disappear within the near future, which means that new information will continue to be gathered at a slow rate.

There are also still questions of whether it is actually possible to prove the effect of every technique on every clinical symptom, and whether the Western conception of medicine is misguided in these respects. I do not feel that the evidence-based research process should be discontinued in light of these questions, particularly since the methodologies of many professional fields (e.g. Education, Engineering, Public Administration) are constructed from similar scientific paradigms. It would be hypocritical to criticize one manifestation of scientific methodology without taking apart every single institution whose methods are informed by quantitative and qualitative data. However, it would be useful for researchers and clinicians to be aware of these issues so that judgments about Music Therapy are not based solely on one cultural/ideological perspective.

Even within the constructs of our health care system, there does seem to be a growing level of belief in the prospects of Music Therapy treatments. According to the American Music Therapy Association (AMTA) website, roughly 20% of Music Therapists have received third party reimbursements for their services. Private Insurance agencies such as Blue Cross Blue Shield, Aetna, Cigna and United Healthcare have all paid for Music Therapy services at some point in time. Under

certain conditions, Music Therapy treatments may receive Medicaid funding in Arizona, Indiana, Maryland, Michigan, Texas and Wisconsin. Many state departments of mental health or developmental disabilities are also willing to fund Music Psychotherapy treatments (http://www.musictherapy.org/faq/#51). This indicates that insurance companies are willing, in at least some instances, to accept the evidence presently available that Music Therapy can be effective. But how much longer must Music Therapists perform well for the sake of these insurance agencies to validate their practices? Will Music Psychotherapy ever reach the status of standard mental health treatment? It is quite likely that the field will be able to fully integrate itself, but this should not be expected to happen quickly.

Prior to learning about the practice of Music Psychotherapy, I had not considered the prospect of music as a clinical tool. I was aware that music could be crafted in order to meet certain emotional objectives (such as mourning at funerals, or triumph at baseball games), but it had not occurred to me that it could help cure mental illnesses or disabilities. The implementation of music in altering people's mental and behavioral processes makes logical sense, but I was unsure of the extent to which Music Therapists could verify their methods. Indeed this process of "verification" may be even more complex for Music Psychotherapy than it has been for other forms of therapy, but there has been a steadily increasing amount of literature produced by the field since its inception. It is plausible that some health insurance agencies are sympathetic to the challenges faced by Music Therapy researchers, as well as the limitations of quantitative research. Music Therapy will continue to progress as researchers gradually work through these challenges.

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