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MEDICAL ETHNOMUSICOLOGY AND ITS APPLICATIONS
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A THESIS APPROVED FOR THE
SCHOOL OF MUSIC

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DEDICATION

This thesis is dedicated to Charles Anthony – my Grandpa. He was a soldier, a hard worker, a singer, a guitar player, a square dancer, a traveler, and a loving grandpa. Thank you for supporting me. I miss you and love you!

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ABSTRACT

In this study of Native American flute, West African drumming, and toning to realign chakras, I argue that these music healing practices treat the root cause of disvalued states because they include in their performance process the production and dissemination of the cultural values of connectivity to and balance between a community of people, the surrounding environment, and the self. Through participant-observation fieldwork, self-study as a performer and patient, and secondary scientific research I show that these cultural values manifest as reflections of community relationships, environmental awareness, and the whole person (body, mind, and emotions). I focus on how sound and participant's intent affects the mind emotionally and through thought processes. These changes, called cognitive flexibility, affect the physical body producing changes such as lowered pulse, blood pressure, and pain perception; alleviation of negative feelings; increased attention span.

This thesis provides music therapists evidence to illustrate that these indigenous healing practices are valuable therapeutic tools for promoting physical, mental, and emotional health. In addition, these healing practices can demonstrate how the medical community, as a whole, can incorporate consciousness, thought processes, and emotions into their medical models. Implementing indigenous healing practices must include an understanding of the cultural values and meaning from which they originate. It is from these that the music practice's structure, performance, and context of production elicit healing effects. By familiarizing western music therapists with terminology,

ideas, and beliefs, with which specific cultures organize their own music healing practices, music therapists, can implement indigenous music therapies more effectively.

CHAPTER 1
MEDICAL ETHNOMUSICOLOGY AND WESTERN MUSIC THERAPY

Western music therapy has been practiced in the United States since 1929. Music therapy practices were implemented on a national scale after both World Wars to relax and calm patients (Schmidt Peters 2000: 35, 37). By 1944 its acceptance as effective therapy was evidenced by the first program for a Bachelors of Music Therapy (BMT) degree at Michigan State University. In addition, by 1969 the *Journal of Music Therapy* was published (Gioia 2007: 134). However, a lack of ethnographic music therapy studies to this day illustrates Western classical and folk music's domination in music therapy practices (Stige 2005: 392). This thesis seeks to illuminate the validity of Native American flute, West African drumming[1], and toning to realign chakras with the intention of providing Western music therapists theoretical models and practical implementations of these indigenous therapies.

During the 1990s, music therapists Joseph Moreno and Edith Hillman Boxill began exploring, practicing, publishing, and lecturing about multicultural music therapies (Boxill 1992, Moreno 1995 and 1998). Despite these music therapist's endeavors, indigenous music healing practices are still considered fringe methods which are relegated as "alternative" therapies (Koen 2009: 17, Stige 2005: 394). Unfortunately, therapies labeled as alternative tend to be seen as untested and unpublished without quantifiable or explainable results (Balcom 2013: Drum Circle). Therefore, presenting information about how

[1] West African drumming or African drumming throughout this thesis refers to the drumming practices of Guinea and Liberia, West Africa as taught by Damon Frazier at University of Oklahoma, and described in Ruth Stone's *Music in West Africa* (2004).

cultural values expressed within indigenous music healing practices elicit recordable physical results to Western music therapy can provide them with the hard data they need to implement these practices.

Throughout this thesis I refer to illness or disease as disvalued states. I chose the phrase disvalued state to refer to a more holistic concept than disease, as it links the individual, his or her lived experience, cultural orientation, and social environment. According to the 2009 textbook, *Medical Anthropology,* disease refers to the outward, clinical manifestations of altered physical function or infection; whereas illness encompasses the human experience and perceptions of alterations in health, as informed by its broader social and cultural dimensions. My chosen term, disvalued state, encompasses both these definitions (Wiley & Allen 2009: 10-19).

Music therapy in the U.S. focuses on treating disvalued states and symptoms of disvalued states, instead of the root cause of those disvalued states. Specifically,

> Music Therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program. Music therapy interventions can be designed to: promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication, and promote physical rehabilitation. (American Music Therapy Association Website 2013)

I hope to provide music therapists, hospitals, and health care decision-makers evidence to illustrate that Native American flute, West African drumming, and toning to realign chakras are valuable therapeutic tools for promoting physical,

mental, and emotional health. These indigenous therapies all address the root cause of disvalued states – obstacles or incongruences between the patient and their community, environment, and self (body, mind, and emotions).

Many symptoms such as hypertension, depression, and anxiety disorders are treated in the U.S. with allopathic medication alone, partly, because insurance companies cover drugs more often than therapies (Conrad 2007: 15). Consequently, pharmaceutical overuse is common in the U.S. and produces rising insurance costs, antibiotic resistant strains of pathogens, and the medicalization (treating non-medical problems with medication) of behavioral and mental problems (Conrad 2007: 17, 134, 142). Thus, the American profit-oriented health care system has not fully incorporated indigenous music healing therapies, in part, because they cannot be bottled and sold.

Incorporating Native American flute, West African drumming, and toning to realign chakras (all of which involve connectivity and balance) can potentially alleviate some of these financial and medical problems. However, implementing indigenous music healing practices must include an understanding of the cultural values, meaning, and context from which they originate because it is from these factors that the music practices elicit healing effects. By reviewing the history of medical ethnomusicology and music therapy I hope to facilitate dialogue between medical ethnomusicology and music therapy and provide a culturally appropriate framework for understanding and applying Native American flute, West African drumming, and toning (sound) to realign chakras

into Western music therapy. This dialogue can begin by highlighting, comparing, and contrasting the principles of effective music therapies in various cultures. As I show in this thesis, this dialogue may find that there are principles and processes that underlie many indigenous music therapies such as connectivity and balance. Therefore, to successfully implement these music healing practices within Western music therapy it is necessary to understand the underlying cultural values of connectivity and balance expressed through the musical structure, performance, and context of production.

The shared values within indigenous music healing practices demonstrate how emotions and thought processes enable the mind to affect bodily functions such as blood pressure, pulse, and pain perception. By addressing these values, indigenous therapies can treat the root cause of disvalued states – disconnect and imbalance. This challenges the American medical system's way of understanding and interpreting medical evidence. Instead of relying solely on measurable physical results, Native American flute, West African drumming, and toning to realign chakras demonstrate how the medical community can incorporate consciousness, thought processes, and emotions into their medical models.

My first case study explains how playing Native American flute can reduce pulse and blood pressure, and alleviate negative feelings associated with anxiety disorders, depression, and grief. Many Native Americans believe that four aspects; spirituality, community, environment, and self are all linked (Portman 2006: 453). Disvalued states occur when one or more of these

relationships are out of proportion (Portman 2006: 456). Many Native American myths describe sacred sounds (such as chanting, singing, and flute music) as having the ability to alleviate disvalued states (Portman 2006: 458, Wiand 2001: 2, 38).

The second case study considers how West African drumming can reduce pain perception, increase focus, alter states of consciousness, promote social unity, and alter brain and body chemistry to promote healthier immune systems. West African drumming's structure (interlocking facets), performance (repetition), and context (collective participation) demonstrate the underlying cultural values of connectivity and balance which are explicitly expressed through the combined arts of dance, drum, and song.

The third case study shows how chakras can be realigned through toning. Chakras means "wheel" in Sanskrit and the chakra system represents seven energy centers in the body, which start at the base of the spine and proceed upward to the top of the head. Each chakra is associate with major organs and glands within the body. They are "vortices of vibration" or the junction points of energy meridians and can vibrate too slowly or too fast and become misaligned (Goldman 2005: ix). This unevenness manifests as physical or mental symptoms of a disvalued state. Toning uses the human voice to create sounds that help to re-balance chakras and thus resolve the disvalued state. Most toning sessions involve making vowel sounds and exhalations with consonant beginnings and endings. The actual sound

vibrations created by toning, and the intent of the person toning calibrates chakras that are out of alignment.

The concept of connectivity and balance permeate all three of these case studies. This thesis engages centrally with the cultural and medical concepts of connectivity and balance possible through music on three levels: social or community (between music participants), environment (between the music participant and the surrounding physical environment), and self (between the music participant and their physical body, mind or consciousness, and emotion). The act of participating in music making bonds individuals to each other through shared experience. "Music is understood as an exchange, as a form of transactional communication…It is within the communicative act that the efforts of music clearly function as a medical intervention" (Barz 2006: 58). This transactional communication allows people to interact with each other in a safe way. Emotions and thoughts that one may be hesitant to express in words can be physically expressed in music making and promote holistic health.

The inability to express emotion can lead to mental and physical disvalued states. It stands to reason that the road to health begins with releasing pent-up emotion. By sharing this expulsion of pent-up emotion with others we interface, not only with our own self (body, mind, and emotions) but with each other. People have more ways to contact each other than ever before in the history of the world via technology, but that transactional communication that exists between people through non-verbal interactions is more limited – the very interaction that helps to maintain a healthy being.

Making music together treats the social disease of disconnect between people holistically along with the physical disease.

When we make music with others we develop a relationship with them through our shared experience (Titon 2008: 33). For example, a group of people making music can experience “inner time” when the music and mood of the group melds into one consciousness and all other distractions fall away (Stone 2005: 89). Shared and focused group consciousness or intent creates an environment in which transactional communication can emerge. When we make music together we are not alone and that realization gives us power. The power of combined effort, intent, and focus toward a common goal allows us to address issues of personal identity and group affinity at the same time. The individual performers make the choice to play the music; affinity brings them together with other performers, and the state of belonging follows (Slobin 1992: 225-226).

One of the goals of this thesis is to analyze how group music practices promote cognitive flexibility - changes in thought processes and the brain, which signals positive changes (like lowered blood pressure and pain reception) in the physical body (Koen 2009: 20). Some physical changes can be traced back to specific musical elements such as frequency, rhythm, and timbre. However, mental and emotional changes are harder to quantitatively measure. Physical, mental, and emotional changes are a result of not just the music, but also the transactional communication exchanged through the music making process between participants.

Therefore, using an inclusive method that takes into account more than just the music elements such as ethnomusicologist Jeff Todd Titon's hermeneutical phenomenology, will provide a way of consciously "being-in-the-world[2]" (music making) that incorporates perception, meaning, and experience from all participants (Titon 2008: 38). We come to know the people we make music with through transactional communication, which consists of non-verbal cues, expressed through facial expressions, body movement, and of course, the sound itself. It is through this shared transactional communication that each participant is empowered to make changes in their thought processes and consciousness.

Another significant level of connectivity and balance is the music participant's relationship to their surrounding physical environment (plants, animals, eco-system, etc…). Making music that awakens our senses to the world around us helps us consciously engage with the environment. How we interact with our environment reveals balance or imbalance. For instance, if the nature of our relationship with the environment is one of reciprocity, we recognize that we are part of something larger than ourselves - balance. However, if the nature of our relationship with the environment is one of ignorance or dominance we only recognize our own needs, effectively living as if we are the center of the universe – imbalance. By bringing the environment into our consciousness, group music making allows us to adjust our relationship

[2] Jeff Todd Titon uses the phrase "being-in-the-world" to explain how we "perform" in the world. The culmination of all the things we do in a day makes up how "we are in the world." It can illuminate how we interact with the people, environment, and circumstances in our lives. In this case I am describing what it means to musically "be-in-the-world" of the group music therapy practices (Titon 2008: 27).

to the world. For example, the Garfish song sung by many Native American tribes in Eastern Oklahoma is an offering to the fish, and in return the fish allow the Native Americans to catch them for sustenance, a reciprocal relationship in the minds of these tribal members (Jackson and Levine 2002: 291).

Finally, the last aspect of connectivity and balance with which this thesis engages is the music participant's awareness of her own body, thought processes, and emotions. Scientific research show that lowered immune function, increased stress response, and heightened pain perception result from imbalances within the body such as hypertension (high blood pressure) and insufficient or excessive chemicals such as serotonin and cortisol (Bittman 2001, Maxfield 1994, Turner 1992). In all of these studies, blood pressure and brain chemicals changed after participants played music together. A study conducted in 2001 by neurologist Barry Bittman, tested several groups with different levels of interaction ranging from drumming with no interaction, to drumming with open communication between participants and facilitator (Bittman 2001: 39). The music itself helped lower blood pressure through entrainment,[3] however, the group music making contributed to community building and revealed changes in brain and blood chemistry (Bittman 2001: 43). These brain and blood chemistry changes were not as profound in the groups that had little to no interaction (Bittman 2001: 44). Therefore, physical and

[3] Christian Huygens, a Dutch mathematician, observed that when two pendulum clocks of the approximate same size were mounted next to each other they began to swing in synchrony after a period of time. When the vibrations of one object change those of another, they are entrained. This principle is used often in music therapy to change body rhythms such as blood pressure, pulse, and brain waves (Goldman 2008: 14).

mental disvalued states can emanate from a real or perceived detachment from or disassociation between one's self, one's community, and the physical environment.

In this study of Native American flute, West African drumming, and toning to realign chakras, I argue that these music healing practices treat the root cause of disvalued states because they include in their performance process the production and dissemination of the cultural values of connectivity to, and balance between, a community of people, the surrounding environment, and the self. Through participant-observation fieldwork, self-study as a performer and patient, and secondary scientific research, I show that the cultural values of connectivity and balance manifest within the structure, performance, and context of these music practices as reflections of community relationships, environmental awareness, and the whole person (body, mind, and emotions). I focus on how sound (specifically the elements of frequency, timbre, and rhythm) and participant's intent affects the mind emotionally and through thought processes, which therefore, affects the physical body, resulting in lowered pulse, blood pressure, and pain perception. I also show how the alleviation of negative feelings associated with grief, anxiety, and depression through music practice increase attention span and promotes unity between group participants.

I have a very personal interest in indigenous therapies because I take a significant amount of medication to treat my disvalued states of systematic lupus erythematosis (chornic autoimmune disease) and lupus nephritis

(degenerative kidney disease). I experience symptoms of edema (swelling), hypertension (high blood pressure), anemia (which causes exhaustion and weakness), joint pain, headaches, and fever. Some of these symptoms are constantly present like edema, hypertension, and anemia. However, joint pain, headaches, and fevers occur periodically and are called flares. Sunlight, lack of sleep, and stress can induce flares. Therefore, I decided to incorporate self-study as one of my methods. Because Native American flute, West African drumming, and toning to realign chakras can help lower blood pressure and stress levels, they can be very helpful to patients suffering from any type of autoimmune disease or cancer. This has been true in my self-study.

Besides the usual scientific research conducted with secondary resources, I invested many hours of field experience and interviewing practitioners. For my Native American flute research, I successfully completed seven credit hours of Native American Music courses at the University of Oklahoma, four of which focused specifically on Native American flute. I attended the Native American flute circle meetings at the Jacobson House Native Art Center in Norman, Oklahoma for the past three years, interviewed Tlingit-Haidi flutist Morgan Fawcett who currently uses Native flute as a way to manage his fetal alcohol spectrum disorders, and attended the 2012 Native American flute festival at Medicine Park, OK. I also attended Native American flute concerts featuring Native flutists – Cherokee flutist Tommy Wildcat, Comanche flutists Calvert and Timothy Tate Nevaquaya, Kiowa flutist Terry

Tsotigh, Kiowa-Comanche flutist Thomas Mauchahty-Ware II, and Lakota flutist Kevin Locke.

To test my hypothesis that Native American flute playing lowers blood pressure, I conducted an experiment on myself which measured my blood pressure and pulse before and after playing the Native American flute for ten minutes per day for a period of thirty days. At the end of my experiment my results showed that playing Native American flute lowered my blood pressure an average of eight points systolic and five points diastolic. These findings will be discussed in greater length in chapter two.

To complete my research for West African drumming I successfully completed the graduate World Music class, at the University of Oklahoma, which spent one quarter of the semester on West African Music. I also graded for an undergraduate African American Music class at the University of Oklahoma, in which one-third of the class focused on West African music. I attended African drumming classes taught by Damon Frazier at the University of Oklahoma, and I hosted a drumming circle therapy session at the University of Oklahoma conducted by board certified music therapist Todd Balcom, who is a percussionist and specializes in facilitating drum circles.

To conduct research on toning to realign chakras I attended yoga lessons taught by Ted Cox and Martha McQuaid at Spirit House Yoga in Oklahoma City, Oklahoma. I also attended toning sessions to realign my chakras with energy healer Joious Melodi in Oklahoma City, Oklahoma. In addition, I conducted a 30 day self-experiment much like my Native American

flute experiment. I toned for 10 minutes every day, took my blood pressure and pulse before and after toning, and also kept a journal recording my thoughts and feelings before, during, and after toning. These results will be discussed further in chapter four.

HISTORY OF MEDICAL ETHNOMUSICOLOGY

Because music and medicine (cultural beliefs and practices associated with disvalued states) are both an integral part of many cultures, ethnomusicologists have studied and written about the relationship between music and healing for decades. However, the subfield of medical ethnomusicology has only recently emerged as evidenced by the formation of the Medical Ethnomusicology Special Interest Group within the Society for Ethnomusicology (Society for Ethnomusicology: 2010). Medical ethnomusicology closely resembles medical anthropology. Both sub-disciplines study health and illness through cultural beliefs and practices. The previous studies in ethnomusicology did not specifically focus on a culture's use of music to treat disvalued states. Therefore, medical ethnomusicology focuses solely on health and illness as they relate to musical practice and performance within culture (Barz 2006: 60, Wiley 2009: 28). Thus, by familiarizing Western music therapists with terminology, ideas, and beliefs with which specific non-Western cultures organize their own music healing practices, music therapists can implement indigenous music therapies more effectively.

Early publications in ethnomusicology that focused on music were written from an ethnomedical viewpoint (understanding music and healing from within the indigenous culture) (Densmore 1927, Chernoff 1979, Nettl 1956, Radin 1948). For example, ethnomusicologist Frances Densmore's 1927 article, "The Use of Music in the Treatment of the Sick by American Indians," was the first ethnomusicological publication, according to my research, that specifically explained how Native American belief that all living creatures have an internal power that affects the positive or negative outcome of their healing vocal songs (Densmore 1927: 555). This was fundamentally important for the field of ethnomusicology because the healing effects of any indigenous music healing practices can be better understood when viewed through the cultural values of that society.

Another early publication and presentation involving indigenous music healing practices was ethnomusicologist Bruno Nettl's paper entitled, "Aspects of primitive and folk music relevant to music therapy," delivered at the 1956 National Association of Music Therapy. Although ethnomusicologist John Chernoff's book, *African Rhythm and Sensibility* (1979), does not focus specifically on music and healing, he gives an intimate picture of West African life through their musical practices. As a participant-observer Chernoff explains that African music is not an entity unto itself, but it is woven into every aspect of life – work, play, birth, death, and healing. Therefore, music also plays a part in health for West Africans. In fact the music provides an example of how cultural values support a healthy environment. The interlocking facets (small motifs

played separately that fit together) within West African rhythms mirror the culture's emphasis on collective participation and equality (Chernoff 1979: 51). Equal participation in drumming provides collective identity and belonging, both of which contribute to mental and physical health.

According to my research, medical ethnomusicological publications appeared to decrease during the 1970s and 1980s except for an article by Carol E. Robertson-DeCarbo in *The Journal of Ethnomusicology* in 1974 titled, "Music As Therapy: A Bio Cultural Problem." However, literature in the field increased in the early 1990s (Maxfield 1990, Roseman 1991, Janzen 1992, Turner 1992, and Laderman 1996). Melinda Maxfield (1990) and Edith Turner (et al 1992) employed a biocultural method by recording physical results of music healing performances, as well as considering cultural context and the contribution of their cultural values.

Maxfield is a specialist in cross-cultural healthcare methodologies and researcher on the effects of percussion. Her dissertation measured changes in brain wave activity of twelve participants when exposed to various drumming patterns (shamanistic, I ching, and free drumming) associated with shamanistic trance (Maxfield 1990: v). While studying drumming associated with the African healing rituals such as Gnoma, anthropologist Edith Turner discovered that the brain perceives less pain when inundated with repetitive low-frequency drumming[4] (Turner 1992: 197).

[4] For instance, on several occasions I experienced relief from significant joint pain which lasted the rest of the day when I participated in West African drumming classes (Spring 2011).

In her 1991 book, *Healing Sounds from the Malaysian Rainforest*, ethnomusicologist and anthropologist Marina Roseman gives a thorough analysis of Temiar beliefs and daily practices; specifically those related to health and illness. Temiar are a Senoic group, one of nineteen Orang Asli groups of Malaysia. They live on the fringes of the rainforest. Musical transcriptions, audio recordings, and pictures enhance her descriptions of Temiar illness etiology, categorization, and how treatments are administered through singing ceremonies (Roseman 1991: 181). While Roseman's research was not directly intended to promote implementation of Temiar healing practices into Western medicine, it does ask the reader to think about healing and illness from a critical viewpoint (Roseman 1991: 11-13). Critical medical anthropologists argue that healing practices are culturally constructed in every culture, including within biomedicine in the West (Brown 2009: 9). For example, medical professions in the west have a traditionally strict mind/body dichotomy. If a patient experiences physical problems they are sent to biomedicine professionals until a diagnosis and/or treatment is found. If no diagnosis or treatment can be found, then the patient may be sent to a mental health professional. Although our consciousness and thought processes are not physically observable like our human brain, they do affect how our brain operates, and what signals the brain sends to the body. If medical professionals can acknowledge the already embedded cultural beliefs in Western medicine, they may be more open to incorporating indigenous music

healing methods because they recognized the values they carry such as connectivity and balance, which are vital to holistic healing.

Two more books focusing on music healing within cultural contexts published in 1996 are Steven Friedson's *Dancing Prophets: Musical Experience in Tumbuka Healing*, and Carol Laderman and Marina Roseman's *The Performance of Healing*. Friedson's book describes the healing practices in Malawi that use drumming, singing, dancing, and community participation. Laderman's (et al) book delineates healing as performance (which often involves music) from four theoretical perspectives: performance as an event, a genre, an act, and rhetoric (Laderman 1996: 2). The first dissertation in ethnomusicology found in my research, that focused solely on indigenous music healing practices is Devon Emerson Hinton's "Musical Healing and Cultural Syndromes in Isan" completed at Harvard University in 1999; which explores musical healing rituals in Northeastern Thailand. These publications encourage studying the group music healing practice as a whole, taking into account not only the musical elements, but the personal interactions between the participants themselves. It is from the transactional communication within the personal interactions that music healing takes place.

The term medical ethnomusicology was first used in a publication by ethnomusicologist Gregory Barz in an article within the 2002 anthology titled *The a Wake Project: Uniting Against the African AIDS Crisi*s." This article and his 2006 book *Singing for life: HIV/AIDS and Music in Uganda*, depict how the people of Uganda, Africa use music, dance, and drama to convey HIV/AIDS

education and awareness through localized knowledge which reaches the people in a way that Western volunteers and doctors cannot. The musical performances also help those living with HIV to manage their symptoms and live positively. Barz convincingly argues that the efficacy of healing is not just from music itself, but from the indigenous cultural beliefs expressed within the music (Barz 2006: 58).

Publications on music and healing research in the early 2000s strived to bridge the gap between modern science and indigenous healing experiences. Psychologist Joyce Beverly Lounbserry's 2001 dissertation "The Power of the Drum," examined the physical, psychological, and spiritual effects of drumming on eight women drummers from culturally diverse backgrounds. In addition, in his 2003 dissertation, "Devotional Music and Healing in Badakshan,Tajikistan: Preventative and Curative Practices," ethnomusicologist Benjamin Koen employed a holistic methodology using "ethnomusicological techniques and physiological experiments" (Koen 2003: ii).

Similarly, in 2004, ethnomusicologist Judith Becker published the book, *Deep Listeners: Music, Emotion, and Trancing*, in which she explored the relationship between physical manifestations of religious trance with cognitive changes and how music facilitates these events (Becker 2004: 4). Her research strives to provide quantifiable evidence of existential experiences in an effort to make indigenous healing practices more palatable to Western music therapy and medicine. By recording brain wave function during indigenous music making practices, researchers have been able to provide quantifiable

evidence of how and when thought processes and consciousness changes. Most medical ethnomusicological publications after 2005 incorporate multi-disciplinary studies such as science, psychology, ethnomusicology, and religion, and will be discussed later in this chapter. These studies open up a dialogue between ethnomusicology and Western music therapy. However, the applications of indigenous music healing practices within Western music therapy are not often addressed. By illuminating the processes and principles of connectivity and balance within indigenous therapies that address the root cause of disvalued states, this thesis seeks to provide models and methods of implementing these cultural values within Western music therapy practices.

HISTORY OF WESTERN MUSIC THERAPY

Western music therapy was first practiced in the U.S. in the early 20th century by Eva Vescelius and Isa Maud Ilsen to help mental patients and humanize factory worker conditions. The first music therapy courses were offered in New York City in 1919. Western music therapy practices were implemented on a national scale after both World Wars to relax and calm patients suffering from what is now diagnosed as post-traumatic stress syndrome disorder. Western hegemony in curriculum and the structure of the music academy insured that classical music was most often used in music therapy, although the type of music used is infrequently referenced in the literature (Schmidt 2000: 33-37).

In 1944 Michigan State implemented the first program for a degree in music therapy. The National Association for Music Therapy was founded in 1950, and by 1969 the first *Journal of Music Therapy* was published (Gioia 2007: 134-135). In 1971 The American Association for Music Therapy was formed, and the Certification Board for Music Therapists began in 1983. The most recent landmark was the unification of NAMT and AAMT to form The American Music Therapy Association in 1994 (Schmidt 2000: 37-40).

In music therapy texts published from 1950 to 2004 only two chapters reference multicultural therapy. Even then, the texts mostly refer to helping the multicultural patient maintain their identity while assimilating with Western culture. There is no mention of incorporating indigenous music healing practices (Pavlicevic 2004: 249-266). In addition, at the 10th Annual World Congress on Music Therapy conference in 2002, only five of the eighty papers presented engaged with the use of multicultural music therapy through indigenous music healing practices (Fachner 2002).

The lack of multicultural music therapy studies published in journals and books illustrates Western classical and folk music's domination in music therapy practices (Stige 2005: 392). For example, in a survey of articles from *The Journal of Music Therapy* from 1971 to 1994, there were no articles associated with indigenous healing practices (Gioia 2006: 124). However, by the 1990s multicultural music therapy was promoted by some professional music therapists in the U.S., most notably by music therapists Edith Hillman Boxill and Joseph Moreno (Boxill 1992, Toppozada 1995, Moreno 1988, 1995).

In addition, in 2001, the online journal, *Voices: A World Forum for Music Therapy* was formed. Their vision statement says that the forum

> intends to support discursive practices of music therapists around the world by producing a free first class online international forum…because culture has an important role in music and music therapy, we will encourage contributions that find their source in the cultural influences of each continental region. (Voices 2013)

Similarly, academics from medical ethnomusicology and medical anthropology fields began research and writing from a multi-disciplinary approach. For instance, *Music Healing in Cultural Contexts*, edited by Penelope Gouk in 2000, includes articles from many in medical ethnomusicology and anthropology fields, including music therapists. Since the beginning of the 21st century many publications about music and healing have been written from a multi-disciplinary approach incorporating scientific studies, ethnomusicology, music therapy, psychology, and religion. While no specific underlying themes are addressed across the literature, this thesis argues that cultural values of connectivity and balance permeate indigenous healing therapies, and can be applied within Western music therapy to address the root cause of disvalued states. This thesis is multi-disciplinary in that I have tried to incorporate cultural values and beliefs, psychological and cognitive behavioral studies, as well as scientific research employing allopathic Western methods of testing.

MULTI-DISCIPLINARY STUDIES IN HEALING

Music therapists use entrainment (for definition see footnote 2) to calm patients by lowering pulse and blood pressure, and alter moods (Lawlis 1988: 143). The implications of entrainment within medical ethnomusicology were addressed by Martin Clayton (et al) in the article "In Time with the Music: The Concept of Entrainment and its Significance for Ethnomusicology" (2005). The term entrainment is most often associated with Western music therapy. However, Clayton argues that entrainment is a universal principle in all music healing practices, and therefore is an essential principle within indigenous music healing. For example, African drumming is uniquely suited for entrainment because of its repetitious nature. The repetitious nature of African drumming can be used to entrain our bodily rhythms and put them in sync with others. By exposing a patient to drumming rhythms that are slower paced than his heart rate his blood pressure may be reduced (Nunez 2006: 13-14).

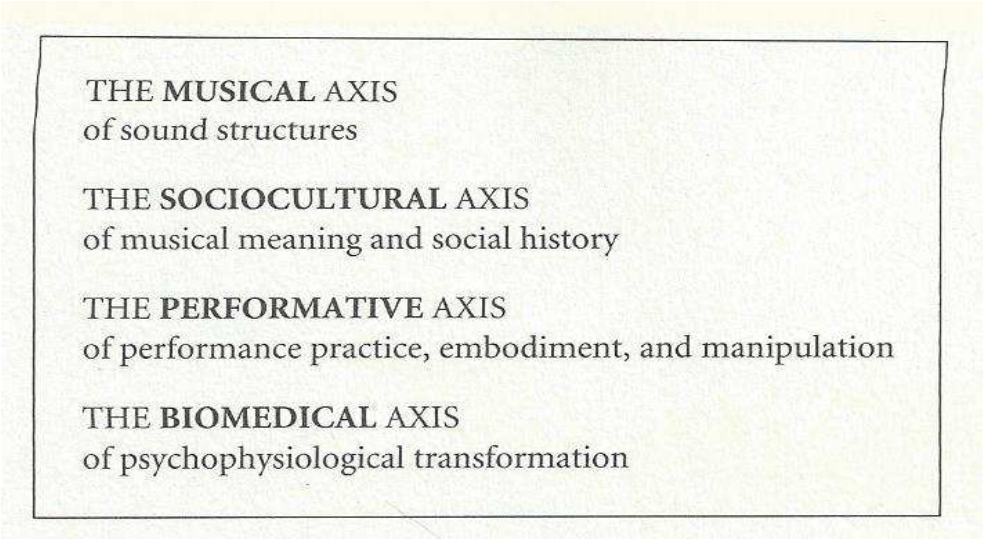
Musician and author Ted Gioia's 2006 book, *Healing Songs*, gives a detailed history of Western music therapy, indigenous music healing practices, and alternative healing methods that incorporate methodologies from music therapy and indigenous therapies. Gioia describes a dichotomy between music healing traditions, which seem to be delineated along the same dichotomy of Western music and world music; where Western music is appropriate for use in Western music therapy, and all other musics can potentially be used in alternative therapy (Gioia 2006: 107). Gioia's book calls for more testing of

alternative music therapies including indigenous music healing practices upon which medical decision-makers can incorporate these methods of healing within Western music therapy (Gioia 2006: 156-157).

Music therapist Kristen Chase notes that indigenous music healing practices have an overwhelming number of cultural factors involved – religion, psychology, biology, anthropology, etc… (Chase 2003: 85). How does one determine which factors or combinations affect healing? In *The Oxford Handbook of Medical Ethnomusicology* published in 2008, Roseman's article, "A Fourfold Framework for Cross-cultural, Integrative Research On Music and Medicine" provides a clear starting point. She suggests approaching research and field work from four main branches: musical, sociocultural, performative, and biomedical (Roseman 2008: 20). In addition, the following sectors overlap and influence the four main branches: gender, politics, economics, religion, kinship, and subsistence techniques (see Figure 1).

FIGURE 1: Framework for analyzing indigenous healing practices

Fourfold Framework (Roseman 2008: 25)



Overlapping Sectors

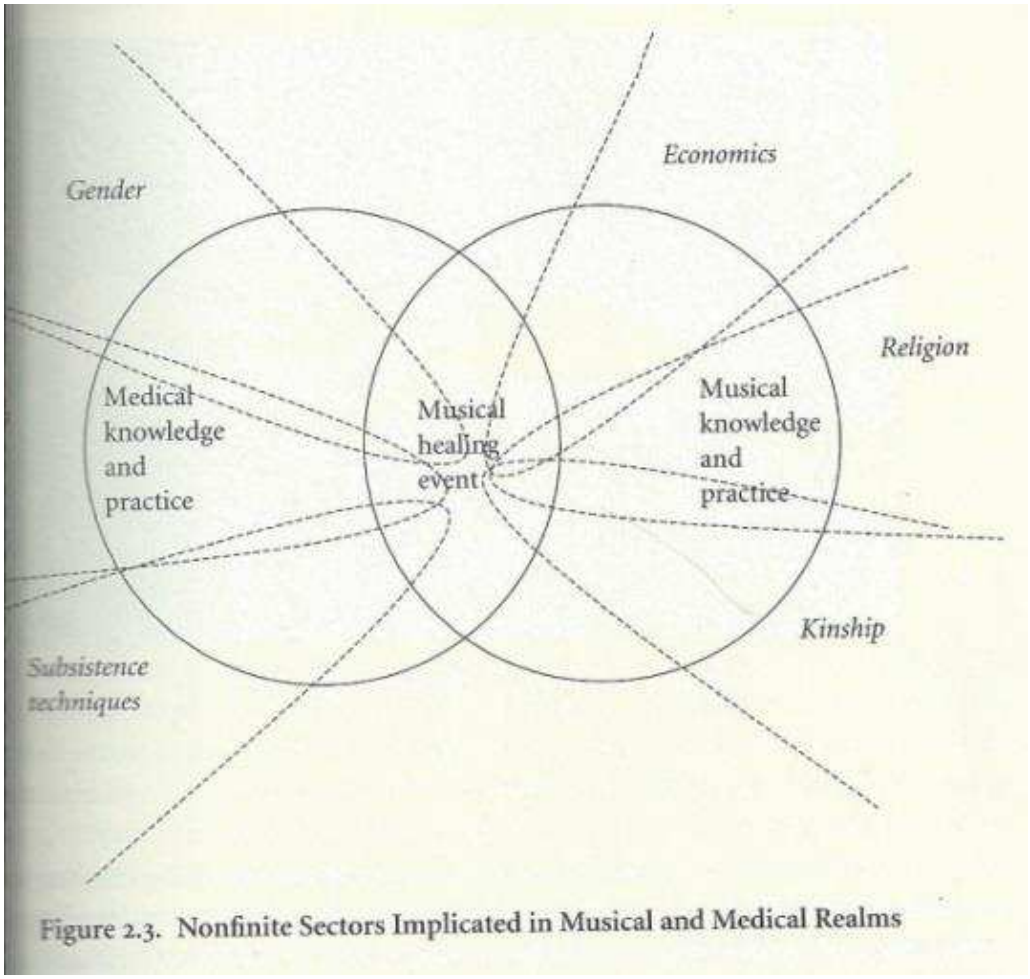


Figure 2.3. Nonfinite Sectors Implicated in Musical and Medical Realms

(Roseman 2008: 29)

The Oxford Handbook of Medical Ethnomusicology includes twenty-one articles written by leading scholars in ethnomusicology, anthropology, and music therapy. Amrita Rose Brummel-Smith's article "Music and the Meditative Mind: Toward a Science of the Ineffable," explores the importance of intent when aligning chakras with sound, and opens a dialogue between music therapy and energy healing, which I will expound upon in chapter four of this

thesis. Also in 2008, University of Maryland egraduate May May Chiang wrote a thesis titled, “Research on Music and Healing in Ethnomusicology and Music Therapy” which contains a useful review of literature that overlaps both fields.

As alternative or indigenous healing practices have gained popularity in the U.S. due to increasing publications, another field of therapy and medical practice has emerged referred to as ICAM (integrative, complementary, and alternative medicine) (Koen 2009: 4). For more information about ICAM see Appendix 13. A seminal publication incorporating ICAM and medical ethnomusicology is Koen’s 2009 book, *Beyond the Roof of the World: Music, Prayer, and Healing in the Pamir Mountains*. Koen writes from a participant-observer perspective demonstrating a model for incorporating ICAM into Western medical practice using the case of the people and culture of Badakhshan Tajiksistan. He explores the role of prayer and faith within music healing practices (Koen 2009: 6).

Western doctors and music therapists may also be reluctant to incorporate indigenous music healing practices because the efficacy of these practices stem, in part, from participants’ expectations of a positive outcome; like a cultural placebo effect (Lounsberry 2001). Because the patients have faith or belief in the music healing practice itself (or the power the ritual represents), the brain triggers the needed chemicals (endorphins, etc…) to facilitate physical changes in the body (be it lowered blood pressure or perceived less pain) (Becker 2004). American or western patients may not have a belief in these alternative cultural practices and thus, their use may not

provide this placebo effect. Further, by showing how indigenous music healing practices elicit healing effects in a quantitative manner, Western music therapists will be more likely to convince health care decision makers and their patients to incorporate these methods.

SUMMARY

Medical ethnomusicology studies health and illness through the lenses of culture and music healing practices (Brown 2009). Most medical ethnomusicology studies borrow theoretical perspectives from medical anthropology (Roseman 1991, Wiley 2009). Ethnomedicine (studying health and illness from the indigenous culture's point of view) dominated most early medical ethnomusicology studies until the late twentieth century (Densmore 1927, Radin 1948, Nettle 1956, DeCarbo 1974, Chernoff 1979). By the 1990s scholars began to interpret data from a biomedical viewpoint recording quantifiable physical, mental, and spiritual changes from indigenous music healing practices which helped raise awareness of these indigenous therapies within Western medicine (Lawlis 1988, Lounsberry 2001, Maxfield 1990, Turner 1992).

Although Western classic art and folk music have dominated the field of music therapy in the U.S. and Europe since the early 1900s, a few music therapists began to promote multicultural music therapy (Boxill 1993, Moreno 1995, Toppozada 1995). By the 21st century academics in both

ethnomusicology and music therapy began using an interdisciplinary approach incorporating theoretical perspectives from anthropology, ethnomusicology, psychology, religion, medicine and science (Becker 2004, Gouk 2000, Koen 2003, 2008, 2009, Roseman 2008, Stige 2005). However, because multicultural therapy is still regarded as a fringe discipline, health care professionals need to better understand the efficacy of indigenous music healing practices in order to properly embrace and incorporate them (Chase 2003, Fachner 2002, Gioia 2006, Pavlicevic 2004). The first step towards implementing indigenous music healing practices is to understand the underlying cultural values in various indigenous music healing practices, which with little medical risk can have a significant impact to a patient's total well-being.

In this thesis I focus on the underlying cultural values of connectivity and balance, which manifest within Native American flute, West African drumming, and toning to realign chakras as community relationships, environmental awareness, and the whole self (body, mind, and emotions). I show it It is within the expression of these cultural values that healing occurs. Thus, this thesis provides music therapists with an understanding of the socio-cultural context of each of these therapies as well as presenting quantitative scientific study results and models for application, which supports the efficacy of Native American flute, West African drumming, and toning to realign chakras. In addition, this thesis shows how principles and processes based on the cultural

values of connectivity and balance transcend cultural boundaries and can be applied to any music healing activity.

Chapter two begins with a brief history of the Native American flute and its use as a healing instrument within Native American practices. Anecdotal evidence supports the Native flute's use as a therapy tool used by Native Americans and non-Natives for the past 25 years. An in-depth interview and short biography of Tlingit-Haidi flutist Morgan Fawcett demonstrates how the Native flute can help those suffering with Fetal Alcohol Syndrome and Fetal Alcohol Spectrum Disorders (FAS/FASD) manage their symptoms and improve their quality of life. A scientific study by Miller and Goss (2012), and self-study show how playing and listening to the Native American flute can lower blood pressure, pulse, and heart rate variability.

Chapter three considers how West African drumming practices in particular support and enhance drum circle therapy. While drumming circles are employed by Western music therapists within the U.S., understanding the cultural values of connectivity and balance expressed within West African drumming practice can help them implement more effective drumming for healing. I draw on multiple scientific studies, as well as field experience, and participation in a music therapist-led drum circle to support the potential effects of West African drumming.

Chapter four elucidates how toning can realign chakras to promote health and wellness. Chakras are elucidated within their original context in India, via Hindu sacred texts. Further, the existence of chakras, and their use in

energy healing are explained through scientific theories such as Einstein's unified field theory and quantum physics. A review of toning literature, self-practice, and field experiences are interpreted through the cultural values of connectivity and balance.

Chapter five shows that principles of connectivity and balance and processes (such as intent, cognitive flexibility, and curative practices) transcend cultural boundaries and can be applied to any music healing process. Several methods of implementation and additional sources are suggested for Native American flute, drumming circles in general, and toning to realign chakras.

CHAPTER 2
TAKE ONE FLUTE AND CALL ME IN THE MORNING: NATIVE AMERICAN FLUTE AND HEALING

Although known primarily as a courting instrument, Native American flute frequently provides therapeutic relief to players and listeners alike. Many musicians, psychologists, therapists, and lay people use the Native American flute to treat high blood pressure, post-traumatic stress disorder, grief, depression, anxiety, and attention deficit disorder (DeMaria 2001: 25, Jones 2010, Metzger 2006: 144, Miller 2012, Rybak 2009, and Wiand 2001). This chapter focuses on the use of Native American flute as a tool for improving physical, mental, and emotional health in order to bring attention to the Native American flute's cultural importance as a healing instrument and encourage further dialogue between music therapy and medical ethnomusicology.

Much of this chapter sketches a biography of Tlingit-Haidi flutist Morgan Fawcett. Through Fawcett's biography, interviews with other Native American flutists, my self-experimentation, and anecdotal and scientific evidence I argue that the cultural values of connectivity and balance manifest within the structure, performance, and context of Native American flute music as reciprocity, environmental imitation, and personal expression. It is through the practice of connectivity and balance within Native American flute music that one experiences healing effects. These cultural values are evident within the structure of Native American flute music through the musical elements of pitch, rhythm, timbre, and melody. This chapter presents several methods for implementation of the Native American flute as physical, mental, and emotional

therapy, which I hope will provide alternatives for implementation of Native American flute in Western music therapy in the U.S.

Although primarily known for its use as a Native courting instrument, a means to move the emotions, significant evidence supports the use of Native American flute for mental and physical healing as well. Three origin stories in particular relay the use of the Native American flute as a tool for healing. Kokopelli (the Anasazi flute player pictograph which originated in the southwest) appears in the "Emergence" myth of the Mimbres Indians (New Mexico area) in the form of a Locus. Towards the end of the story Kokopelli heals himself from a stab wound by playing music on his flute (Joyce 1996: 32). The Tohono O'dham Nation (previously known as Papago located in southWestern Arizona) has a story of a young man who lost his wife through infidelity. To relieve his grief and depression he played a flute which soothed his broken heart (Joyce 1996: 87).

There is also a Comanche origin story about a husband and wife who rode out to battle together. However, during the course of the battle the wife was killed and every night the husband cried for his wife in his teepee. One day he heard a beautiful sound which occurred when wind blew through holes a woodpecker had drilled into an old cedar tree. The sound soothed his soul. The spirit told him to take a branch and make a flute; then to go to his tent every night and play the flute instead of crying. The spirit told him this flute playing would be a blessing for him and his people. The man did what he was told and he and his people were prosperous (Birdshead 2012: Interview). All three of

these stories support the Native American flute's use as a tool for physical, mental, and emotional healing.

Some Native American tribes continue to use the Native flute for healing purposes. Published academic sources also relay that the Apache, Kiowa, and Iroquois use the Native American flute for healing and relaxation (Wilson 1994: 51, Burton 1998: 5, Conlon 1983: 198). However, it is difficult to find detailed information about this use because of the sacred nature of healing ceremonies. Comanche flutist and artist, Doc Tate Nevaquaya commented that "most of these healing flute songs died with their last player" (Wilson 1994: 51). In addition, much information about the Native American flute's use for healing faded away because of the forced removal of Native American tribes, and laws forbidding them from practicing their native music well into the 1960s (Crawford 2001: 3-4).

However, researchers report that Plains area tribes use the flute to "overcome sorrow…and as an aid to meditation" (Burton 1998: 198). In this sense, the flute functions as a spiritual communicator to "speak with the gods…what we now call meditating, or altering consciousness, the ancient Native American accomplished with his flute playing which helped him summon spirits" to ask for wisdom, blessing, or healing (Price 1990: 4). According to a survey of World Music Traditions Report in 1983, Native Americans use music (including the Native American flute) as therapy in North America (Boxill 1993: 400).

Tlinget-Haidi flutist Morgan Fawcett continues this practice of using Native American flute to treat physical, mental, and emotional problems. Morgan is Tlingit and of the Eagle Moiety[5]. He is Kaagwaantaan from the Box House. His Tlingit name is Sheens and his English name is Morgan Fawcett. Fawcett's early childhood in Juneau, Alaska was devoid of structure because of drug and alcohol dependence in his home. As long as he got approval from his father he could do whatever he wanted – eat pancakes and ramen, hang around downtown Juneau, and play video games (Harrison 2012: 13). Fawcett experienced a drastic life change when he left Juneau to live with his adoptive grandparents Sue and Roy Hempell in Oregon.

Suddenly he had an extremely structured household, his diet changed from boxed food to food made from scratch, and he moved from a big city to a small town. He had just left an abusive home and was sullen and depressed. He usually relied on playing video games as an escape, so much so that he was addicted to them. His grandmother thought it best that he not play video games anymore so she destroyed them and also enrolled him in co-dependency counseling. These changes were very hard for a young emotionally troubled pre-teen and he became increasingly angry and depressed (Harrison 2012: 13). However, after a few weeks he began to adjust and then something came into his life that would change it forever.

His family stopped at The End of the Trail Museum in the Redwood National Park while on vacation. A museum worker let Fawcett play a Native

[5] Tlinget's are from the Pacific Northwest Coast of the United States. Tribal members belong to one of two Moiety's. Each Moiety is then divided into Houses.

American flute from their collection and assumed he was a longtime musician after hearing him play only five minutes (Indian Health Board 2012). On the family's return trip through the same park, Fawcett's great-grandfather Tommy Joe Redmond gifted Fawcett this flute for his 14th birthday (Fawcett 2007: liner notes).

As Fawcett played the Native American flute, he noticed that it had a profound effect on his emotions. Fawcett says that, "when I first started playing the flute it was a relief. I played anytime I had a significant feeling (happy, depressed, and angry) using the flute as a coping mechanism" (Harrison 2012: 13). At this point Morgan had not yet been diagnosed with Fetal Alcohol Spectrum Disorder (FASD), but he had poor memory and learning problems in school which caused him a lot of frustration and stress (Indian Health Board 2012).

Most people with FASD look normal but are undiagnosed or often misdiagnosed as ADHD, bi-polar, oppositional defiant, or conduct disorder (Indian Health Board 2012). FASD describes a range of disabilities that can occur as a result of maternal consumption of alcohol during pregnancy. Fetal Alcohol Syndrome (FAS) is a diagnostic term that details four areas of criteria which include central nervous system damage, growth deficiencies, facial features, and functional deficiencies. A person diagnosed with FAS will deal with FASDs their entire life (Fawcett 2012: Interview).

Fawcett's FASD symptoms are vast. He suffers from short-term memory loss, ADHD, cognitive impairment, and sensitivity to light (Fawcett 2011: Video).

He experiences fatigue and delay in his muscles, and extreme susceptibility to addiction (Keeker 2012). He also suffers from spina bifida, scholiosis, sub-mucus cleft palate, and deformed hips. Fawcett's eyes focus at two separate times, he has the cognitive skills of a four-year old, and the overall brain development consisting of an eleven-year old (Fawcett 2012: Living with FASD).

All of these symptoms are different types of disvalued states (physical, mental, or emotional illness). Fawcett says, "with FASD, you could have ADHD; but instead of being on Ritalin, I play the flute" (Indian Health Board 2012). The soothing notes and rhythmic playing of flute music helps some people with FASD settle and regulate themselves to handle challenges that are just minor hassles for those without FASD.

Because the Native American cultural values of connectivity and balance stem from a basic belief in the combining of four aspects of reality: spirituality, community, environment, and self (Portman 2006: 453), a disvalued state occurs when there is disharmony between these elements (Portman 2006: 456). The Medicine Wheel is often used by tribes to depict connectivity visually (see Appendix 2 for a picture of a medicine wheel). The Medicine Wheel is represented in many tribes by a circle divided into four parts. The circle symbolizes the interaction of all things. Each of the inner four parts corresponds to directions, emotions, life cycles, and specific beliefs within each tribe. Despite the uniqueness of individual tribe's Medicine Wheels, many agree it is each person's responsibility to keep themselves at equilibrium.

Sound (in the form of spoken prayers or chants, songs, and flute music) is often used restore this balance (Portman 2006: 458).

Native American traditions frequently describe the creation of the world as being “sung into existence by sacred songs” (Wiand 2001: 38). For example, in the Hopi Flute Ceremony, reed flutes are played during a reenactment of emergence which symbolizes creation and renewal (Payne 1993: 18). Sound, in the form of prayers and music, is used to restore wholeness and balance (Wiand 2001: 2).

The material and construction of Native American flutes forges a bond between the maker and/or player and his environment. Native flutes are most often made out of wood – a living thing (Jones 2010: 38). Aromatic cedar (a symbol for healing and renewal) is the most popular wood used (Popper 1997). The material of the flute itself engages the player’s sense of touch and smell.

> Wolf’s Mourn (Native flute maker and player) - Every tree has a soul, every soul a song. Every time you hold a piece of wood in your hand, let the tree know you appreciate its gift. Gaze deep into its grain, touch it, smell it, listen for a whisper of its song. Give honor and thanks for the tree’s life and your skill to play the wind song once more through its wood. (Herman 2004: 18)

The heart or center of the cedar is removed to make the flute, and the player has the “obligation to restore the heart of the cedar with his own heart” (Ashmore 2007: 7). Making and playing Native flute demonstrates the Native American cultural value of reciprocity, much like Eastern Oklahoma tribes sing the Garfish song as an offering to the fish before they catch them (Jackson 2002: 291). The cultural values of connectivity and balance are also evident

within the musical elements of pitch, rhythm, timbre, and melody in Native American flute music

MUSICAL STRUCTURE

PITCH

The pitches played on Native American flutes can help restore balance within our bodies. Many believe (energy healers in particular) the entire universe is governed by vibrations (our bodies, environment, and the cosmos), which exert frequencies (although not all of them are audible to the human ear). For instance, Pythagoras believed each planet creates a specific frequency determined by its revolution and velocity (Gioia 2006: 94). Based on Hindu philosophy, many forms of energy healing use specific pitches (frequencies) to realign chakras (energy centers in the etheric body – see Chapter 4).

Similarly, some Native Americans believe that one can restore the haromny (physical, mental, and emotional) in their life by re-aligning the frequencies of our body with the environment and cosmos (Kahonroterón:ni 2011) through playing Native flute music. For example, Sakoieta' Widrick of the Mohawk Wolf Clan (Onkwehonwe or Iroquois), asserts that "all things in the universe vibrate at their own individual frequency" (Kahonroterón:ni 2011). Therefore, playing in certain keys or sustaining certain notes can help one attain balance with the universe. Widrick's website lists body organs, planets, chakras, and bodily functions along with labels of the frequency at which they vibrate (see Appendix

3). By playing or hearing pitches played on the Native American flute one can realign their body rhythms (pulse and blood pressure).

RHYTHM

The rhythm of Native American flute music is often slow and/or irregular or rubato (free flowing with no distinct consecutive beats). For example, of 50 Native American flute songs I sampled, 42 of them have a tempo slower than 80 beats per minute or no discernible rhythmic cycle (Appendix 4). Consequently, listening to and/or playing the Native American flute can significantly lower heart rate in many cases, as well as calm anxiety. Almost as soon as Tlingit-Haidi flutist Morgan Fawcett began playing Native American flute, he noticed changes in his ability to handle stress. "When I play the flute, it lowers my blood pressure and eases stress away," says Fawcett. For instance, Fawcett's heart rate drops so low when he plays for concerts and workshops that he must take breaks to keep from becoming too relaxed when performing (Fawcett 2010: Interview).

As mentioned in the introduction, I take a significant amount of medication for hypertension because of kidney disease. I performed an experiment to discover whether or not playing Native flute would help lower my blood pressure and allow me to lower my medication dosage. For thirty days I played the Native flute for ten minutes per day. I took my blood pressure and pulse before and after each playing session.

My results showed that playing Native American flute lowered my blood pressure an average of eight points systolic and five points diastolic[6] (from 152/95 to 144/89 on average). In comparison it takes me at least twenty to thirty minutes exercising to achieve the same drop in blood pressure, which is not always feasible because of energy and joint problems I have related to lupus. Based on my experience I conclude that playing Native American flute can be a realistic alternative for people who need to lower their blood pressure but cannot always physically handle exercising.

In addition, Dr. Eric Miller (adjunct professor of music therapy at Montclair State University) and Dr. Clint Goss (a recording artist, performer, and music workshop facilitator with a PhD in computer science) recently conducted a pilot study to measure the physiological effects of the Native American flute. They chose fifteen Native American flute players from the 2009 Flute Haven Native Flute School in Phoenixville, PA to participate. The subjects listened to three pieces of music: "Canyon People" by R. Carlos Nakai (1993), "Lost" by Ball (2002), and a cello composition "Prayer for Compassion" by Darling (2009), as well as playing two Native flutes themselves (one low-pitched flute (between A_3-E_5 or 220.0-329.6 Hz) and one high-pitched flute (between G_4-E_5 or 329.0-659.3 Hz) (Miller 2012: 8-9).

Miller and Goss recorded subjects electroencephalographic brainwaves (EEG), heart rate, electrodermographic activity (EDG), blood volume pulse (BVP), and electromyogenic (EMG) activity (Miller 2012: 7). The results

[6] Systolic is the pressure present in the veins while the heart is contracted. The diastolic pressure is present when the heart relaxes in between beats.

showed that heart rate variability (HRV) increased significantly during flute playing as opposed to just listening to flute music or the cello piece. Increased heart rate variability is an integral part of treatment for "clinical conditions such post-traumatic stress syndrome (PTSD), asthma, chronic obstructive pulmonary disease (COPD), recurrent abdominal pain, hypertension, anxiety, fibromyalgia, and major depressive disorder (Miller 2012: 29). Therefore, playing and listening to Native American flute not only lowers blood pressure and pulse, but promotes a healthier heart function which is integral to overall health.

TIMBRE

Timbre, the quality of sound, of a Native American flute has also been reported to help alleviate negative emotions. The timbres of Native American flutes differ according to construction, materials, and player's individuality. However, because most Native flutes are made out of wood they have a mellow, relaxed, and smooth timbre. Therefore, some psychologists also use the Native American flute in their therapy sessions with patients suffering from anxiety disorders.

Clinical psychologist and West Florida Adjunct Professor, Dr. Michael B. DeMaria uses Native American flute on a consistent basis with his clients. He says, "The Native American flute is one of the most effective instruments in soothing the listener and player, inducing altered states of consciousness that help establish the relaxation response, and helping individuals who have a difficult time accessing and expressing

their feelings" (DeMaria 2001: 25). His website is listed in Appendix 10. Tim "Wind Walker" Crawford (flute maker and player) also notes that Native American flute music relaxes those suffering from posttraumatic stress syndrome (Crawford 2001: 165).

Some people use the Native American flute music to help manage feelings of grief and loss. For instance, Morgan Fawcett's "Savannah Song" the eleventh track on his *Ancestral Memories* CD (2007) was very comforting to me when I was dealing with the death of my Grandfather in 2012. It is played on an F-sharp flute made by Vance Pennington. It sounds very mournful with fast pulsating vibrato[7] although the tempo is slow. He also employs bends[8] on the end of most of the phrases. The timbre of this flute is woody, almost as if you can hear the air moving over the grains in the wood, and the piece is played at a soft to medium volume. The slow tempo combined with the timbre of the flute soothed my melancholy emotional state, and therefore helped me express and release my grief (See Figure 2).

[7] Vibrato is a Native flute ornamentation that is produced when the player uses the speed of their breath to oscillate the pitch slightly above and below the fingered note in alternation.

[8] An ornamentation in Native flute playing when the player lets the breath die away during the playing of a note to achieve a slight pitch and dynamic drop at the end of the said note.

FIGRE 2: Transcription of “Savannah Song” *Ancestral Memories* (2007) Morgan Fawcett composed by Morgan Fawcett

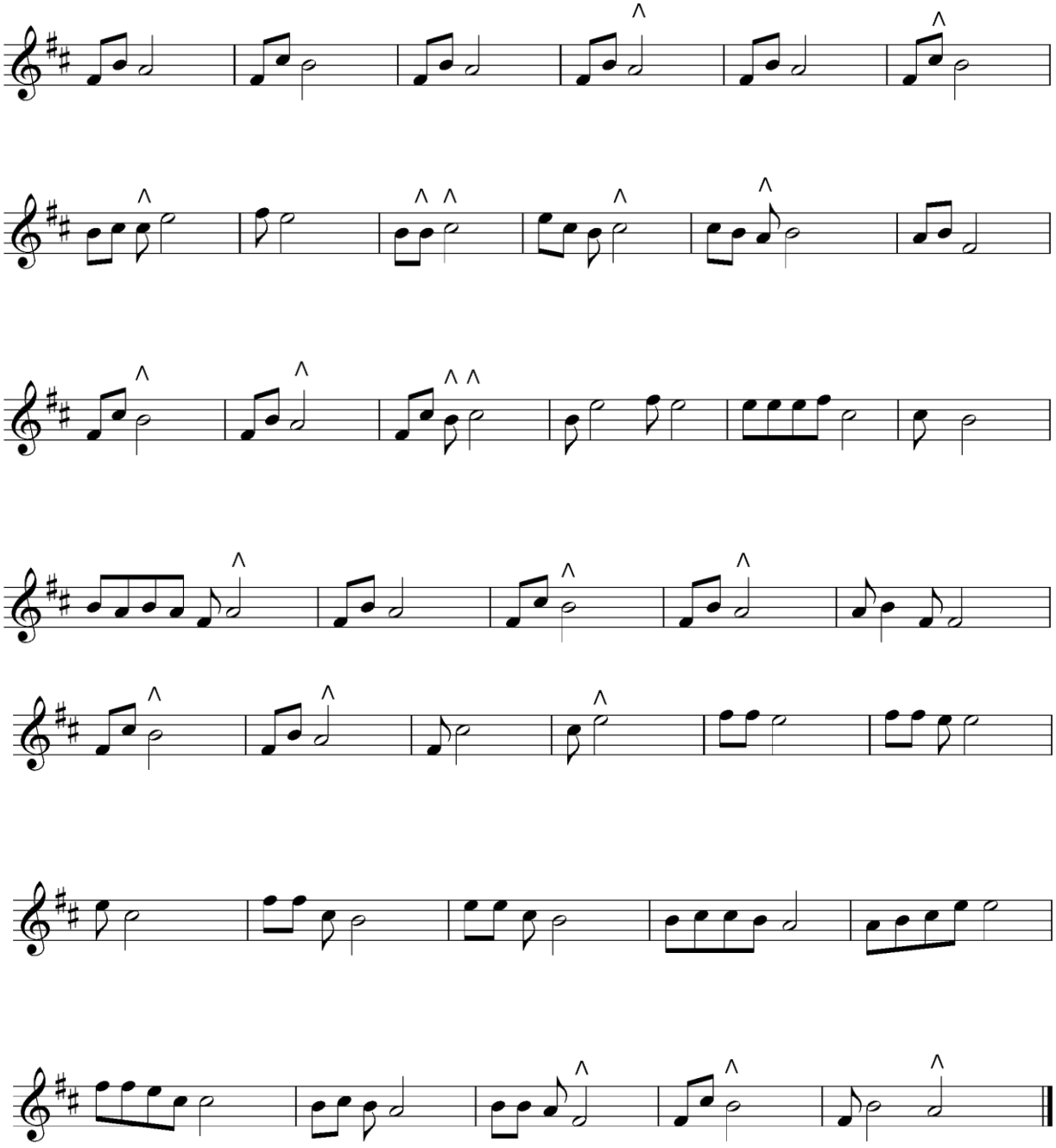
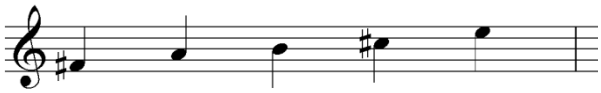



FIGURE 2 Continued:
Transcription of “Savannah Song” *Ancestral Memories* (2007) Morgan Fawcett

PITCH/SCALE Pentatonic (five note scale)

The key of D major is used only for ease of reading the transcription.

ORNAMENTATIONS

^

The marking represents an ornamentation called “the flip,” which indicates for the player to raise and lower one or more fingers off the tone holes quickly. The symbol is indicative of the relative pitch change during a flip ornamentation.

As indicated above all long notes have vibrato, and all long notes end with a bend (slight decay/descent) of volume and pitch).

TEMPO/METER

The tempo of this piece is 56 beats per minute. However, there is no set rhythmic cycle meter. Eighth notes indicate faster notes, and the half notes indicate longer notes held out anywhere from three to six beats. The bar lines indicate phrases with plenty of time in between for a leisurely breath.

DYNAMICS

The entire song is played softly with occasional increase and decrease of volume.

MELODY

Melodies played on Native flutes can also affect one's mood. The descending motion at the end of most phrases in, "Savannah Song," evokes relaxing imagery and can help soothe patients suffering from anxiety disorders or post-traumatic stress syndrome (Figure 2). It is possible that descending slow melodies help boost one's mood because they trigger serotonin release in the brain. However, testing this is beyond the scope of this thesis. Of course, not all Native American flute melodies are slow and pensive. Fawcett says his style of playing depends on his mood. When he is happy he plays pieces that have faster tempos and more disjunct (skipping) melodies, when he is sad he plays slower pieces with more conjunct (step-wise) melodies (Fawcett 2012: Interview).

An example of one of his joyful compositions is "Children Dance," the third track on his *Tears of Our Father's* CD (2008). This piece is played on a double E flute.[9] Played at a loud volume, this piece is bouncy and exuberant (about 110 beats per minute). He does not use one of the double chambers as a drone, as is often done. Instead he creates different harmonies and uses both chambers to facilitate the skipping melody. He uses a dog bark (or pop)[10]

[9] A double flute has two adjacent air chambers which can be played at the same time, usually with one chamber played as a drone.
[10] Dog bark or pop is a Native flute ornamentation in which the player plays from a lower note to a much higher note quickly and the high note is short and cut off, which usually indicates the end of a phrase or song.

at the end of most phrases and uses no vibrato in “Children Dance” except for on the occasional long note at the end of some of the phrases. The tempo, skipping melody, and bright timbre of “Children Dance” is ideal for lifting one out of a depressed mood.

PERFORMANCE

The performance of Native American flute does not have to be a highly stylized craft like one hears from professional Native flute players such as Tlignit-Haidi Morgan Fawcett, Aleut-Seminole Mary Youngblood, and Navajo-Ute R. Carlos Nakai. The ease with which one can learn to play the Native American flute makes it even more valuable for healing. No special training is needed. There are many resources (books, teachers, flute makers) readily available for anyone interested. Playing the Native American flute provides a safe and creative outlet for expressing emotions. While music education is not referred to as music therapy, its therapeutic results cannot be ignored. While students do not always have access to a public education music program, Native American flute classes and workshops can equip students with an alternate creative outlet for expression.

Besides Fawcett’s three released CDs (all on his own label), *Ancestral Memories* (2007), *Tears of Our Fathers* (2008), and *Legacy* (2010), he has contributed greatly to awareness of Fetal Alcohol Syndrome and Fetal Alcohol Spectrum Disorders. In April of 2005, he began a non-profit foundation, One

Heart Creations, to raise awareness for FAS/FASD. Through this organization Fawcett has traveled all over the US presenting workshops and concerts at schools, community events, and hospitals. He teaches people how to use the Native American flute to manage physical, emotional, and mental difficulties as an alternative to drugs, alcohol, and video games. He has gifted over 650 flutes to youth in the last four years (Fawcett 2005). Through his flute performances Fawcett not only treats his own disvalued states, but allows others to experience the healing effects of flute with him, which facilitates social unity and affinity when he presents programs in Native American schools.

Another way the performance of Native American flute elicits healing effects is through the simple act of breathing. Playing the Native American flute requires an awareness of breath which relates to the wind and often symbolizes a spirit. "It is the wind which gives the flute its voice" (Ashmore 2000: 9). Neuroscientist and educator Alan Watson has shown that playing Native flute is beneficial for those with childhood asthma (Watson 2009: 153).

Playing Native flute may also stimulate brain activity by increasing the oxygen level in one's body which leads to better memory capacity and retrieval. Fawcett noticed that in school he could retain and recall information better, especially in the afternoon, when he played his Native American flute every day during lunch (Harrison 2012: 13). In fact, he raised his grade point average from a 1.57 at age thirteen to a 4.0 at age nineteen (Keeker 2012, Fawcett 2012: Living with FASD). Fawcett attributes his ability to function so well, even

with fetal alcohol syndrome disorders, to playing the Native American flute (Fawcett 2012: Interview).

While there are composed pieces within the Native flute repertoire, the final and essential aspect of performing Native flute is individual expression through improvisation and ornamentation. It is through this freedom of self-discovery and proclamation that one finds balance in the world through sharing a unique and valuable viewpoint. For instance, playing the Native American flute helped Fawcett build up his self-esteem because he wrote his own music. People enjoyed it and expressed appreciation for his playing. He said, "That experience helped shape my life and changed how I saw myself as a person…a part of a community" (Fawcett 2012: Interview). The flute also helped him to develop more meaningful relationships with other people and express himself through photography, and, even more recently, through writing short stories and poetry (Harrison 2012: 13).

CONTEXT

The context of Native American flute playing allows one to interact with themselves, their environment, and their community. In solitary situations Native flute music can help one express or experience emotions that otherwise seem overwhelming. For instance, soon after the release of his first compact disc, flute maker and player Tim "Windwalker" Crawford was contacted by a flute dealer in Michigan, WI who sold his music to a customer. The customer

had recently lost a loved one. She relayed that “the only way she could deal with the overwhelming stress created by her loss was to sit in a darkened room, on the floor, listening to her music of the Native American flute” (Crawford 2001: 164).

In addition, when one is faced with a stressful situation playing flute can help trigger physical changes in our bodies to calm us. For example, Fawcett says that playing the Native American flute calms him and allows his brain to operate more clearly so that he can communicate eloquently during his presentations and concerts (Fawcett 2005). Fawcett says that it helps slow down his brain and levels the chemicals in it so that he is clear and concise (Harrison 2012: 14). In addition, hospice workers like Kay Metzger often employ the Native American flute for pain management with terminally ill patients (Metzger 2006: 144).

Some people have also used Native flute music to help hospital patients. Flute player Crawford was contacted by the same flute dealer in Michigan, WI again. The flute dealer sold Crawford’s music to a woman whose son was seriously injured in a car accident. When she played the CD for her son while he was in the hospital his doctor was amazed at her son’s reduced blood pressure and reduced heart rate (Crawford 2001: 163).

Also noted by Crawford, neuroscientists believe that music can strengthen and create new synaptic activity within the brain which can benefit those with learning disabilities (Crawford 2001: 165). While this correlation deserves more research and discussion it is beyond the scope of this thesis.

However, many therapists who work with the learning disabled use the Native American flute. In fact, Chris Ti Coom Flutes designs the Crane Flute Series specifically for this purpose. The wood used for making Crane Flutes is blessed in a pipe ceremony before being carved in order to dedicate the flute to the specific healing goals of the owner. Many clients who purchase the Crane Series Flutes use them in therapy programs with autistic and asthmatic children and hospice work (Chris Ti Coom Flutes 2010).

One of the most popular trends in recent years is the formation of Native flute circles. Participating in flute circles brings people together and creates a spiritual bond. Flutes are played in many North American Indian tribes. Therefore, opening flute circles to anyone interested appeals to the masses without appropriating any particular ceremonies or rituals from specific tribes. For example, musician and author Mary Jane Jones's thesis indicates that within many flute circles it is "readily acceptable that flute playing is a spiritual act, but leaving the individual to define that spirituality is considered the best way to ensure that all feel comfortable and welcome in meetings" (Jones 2010: 29). The flute circle context allows one to bond with others through a shared activity although the significance of Native American flute music may differ from individual to individual.

In Fawcett's case, playing Native American flute (along with relocating with his Grandparents) encouraged him to learn more about his ancestral roots. Fawcett comes from a long ancestral line of Matriarchs of Alaskan Royalty. Fawcett is the grandson of Lillian Fawcett Marvin of Raven Nest House (Raven

Frog) and Harvey B Marvin Eagle Box House (Eagle Wolf), grandson of Mrs. Katherine White, of the Wassketon Shark Clan (the first people of Juneau). His other grandmother is Leona Bean, Eagle Wolf of Wrangle, AK, and he is the great-great grandson of Aaron Bean Raven Devil Fish, (first people of Kake) (the cover picture on the Ancestral Memories CD). His mother Valerie Fawcett is full Tlingit and his father James Strong is ½ Tlingit, leaving Morgan a ¾ Tlingit (Fawcett 2007: CD liner notes).

By gaining a sense of belonging in his community and with the support of family members, Fawcett became more interested in his Tlingit heritage. He learned about Tlingit culture from conversations with elders and by listening to the stories they share when the family gets together (Fawcett 2012: Interview). Morgan says, “Just because I wasn’t raised in it doesn’t mean that I don’t have those profound connections…those feelings of coming home, and being able to identify those connections fills up that canyon of emptiness in my life” (Harrison 2012:13). Native American flute can offer patients a way to create social and spiritual community with others through flute circles, even if they do not come from a Native American heritage. The creation of a spiritual and social bond treats the root cause of disvalued states, and thus supports a more holistic and healthy lifestyle.

Since the Native American flute’s emergence into American popular culture in the 1980s it has also been associated with energy healing and the New Age Movement. One can go into any store in North America that sells compact discs and find at least a few CDs labeled New Age that contain Native

American flute music. However, the integrity of the intent behind these publications may not always coincide with Native American healing philosophy.

Therefore, when discussing the Native American flute's use inside and outside Native culture, authenticity and intellectual property rights become important issues to Native Americans, even more so when non-Native cultures appropriate the Native American flute specifically for the purpose of music healing therapy. As noted earlier, the lack of detailed information about Native American's use of the flute for healing is due, in part, to its sacred nature.

Is it appropriate for non-Native cultures to implement the Native American flute for healing? In her article "The Contemporary Native American Flute: Bending or Breaking Tradition?," Ethnomusicologist and Native American specialist Paula Conlon stipulates that Native American flutists such as Doc Tate Nevaquaya and Kevin Locke have been "generous in sharing their knowledge of Native culture with Native and non-Native groups, but there was never a question as to who was native and who was not" (Conlon 2010: 25). Ownership of Native American flute music does belong to Native Americans, but many people, Native and non-Native, may find a sense of identity by listening to and playing Native American flute music. Discovering the healing nature of the Native American flute and incorporating it into your life and the lives of others should be done with respect for the Native American culture, which requires an effort to learn about Native American history, tradition, and beliefs. Using the Native American flute for healing purposes with an effort to respect its cultural heritage potentially educates the world about the importance

of Native American culture and the wisdom of healing held in these communities.

Consequently, Morgan Fawcett's use of Native American flute to treat disvalued states and bring attention to FAS/FASD while maintaining the integrity and respect of his ancestry provides an excellent example of implementation. In fact, in 2011, State Legislature granted Fawcett the 2011 NOFAS Leadership Award (NOFAS 2012). The National Organization on Fetal Alcohol Syndrome (NOFAS) is the leading voice and resource for the Fetal Alcohol Spectrum Disorders community. It was founded in 1990, and is the only international non-profit organization committed solely to offering FASD primary prevention, advocacy, and support (NOFAS Article 2012). Also in 2011, Fawcett was recognized by President Obama at the White House in Washington D.C. as a Champion of Change for all his work to raise awareness of FAS/FASD (The White House Blog). Morgan Fawcett's use of Native American flute to manage physical, mental, and emotional difficulties provides concrete evidence of how Native American flute music can be used to help people achieve a holistic healthy lifestyle defined by connectivity and balance to one's self, environment, and community.

SUMMARY

The Native American flute, while very important in Native American culture as a courting instrument, also holds a significant place in Native healing

traditions of the past and present. Native Americans worldview consists of a four-fold framework, in which all parts influence and are influenced by each other. In many tribes this philosophy is depicted by a medicine wheel. The circle represents unity, equality, and connectivity. The inside of the circle is divided into four sections representing different aspects of the environment, humanity, and community (Dubé 2006: 36, Portman 2006: 453, Rybak 2009: 336). Native American flutes and Native flute music mirror the different parts of the Native American worldview. Native flutes and flute music provide a way for the flute maker, player, and/or listener to treat disvalued states. These disvalued states are caused by imbalance between the inner elements of the medicine wheel which represent all the elements of life.

The flute itself represents nature and the environment because of its source material (wood – usually from cedar trees) (Jones 2010: 38, Portman 2006: 459, Rybak 2009: 335). The player's breath represents wind and spirit. The song played on the flute represents the player's emotions and is a form of communication directed towards family, community, ancestors, and the Great Spirit (Dubé 2007: 126, Jones 2010: 22, 27, Price 1990: 4). These manifestations of connectivity and balance in Native American flute music can lower blood pressure and pulse; alleviate negative emotions associated with anger, stress, depression, and grief; and provide patients with a positive group experience (flute circles) with which they can develop a sense of individuality and belonging.

Native American flute music treats the root cause of detachment and disharmony, rather than treating symptoms alone. Bodily functions (like blood pressure and heart rate) can be measured, recorded, and tangibly presented, providing scientific validity that is often required of soft science for them to be considered legitimate therapies. Bringing attention to successful implementation of Native American flute as therapy, with careful acknowledgement of the heritage associated with it, will supply medical professionals with the hard data they require of therapies before these techniques are accepted.

Music therapy practices throughout the rest of the world include "the neural, psychological, emotional, cognitive processes, socio-cultural dynamics, spirituality, belief, and the metaphysical as central concerns that play critical roles in achieving and maintaining health" (Koen 2008: 7). Because this holistic approach to healing is not yet a dominantly accepted practice in Western medicine, the new sub field of medical ethnomusicology has an important role in providing academic research and writing incorporating many and varied world healing practices. Much like Native American flute, chapter three illuminates how the underlying cultural values of connectivity and balance manifest within West African drumming as collective participation, social unity, and equality.

CHAPTER 3
THESE ARE DRUMS, THIS IS YOUR BRAIN ON DRUMS, ANY QUESTIONS? WEST AFRICAN DRUMMING AND HEALING

> For many years I have thought about the healing power of the drum, and the philosophy I have come to is that the drum is a kind of trinity. The body of the drum, which comes from a tree, contains the living spirit of that tree. Great care is taken to make sure that the wood of the drum is alive. And the same is true of the skin; whether it is the tanned hide of a goat or a buffalo, it also contains a spirit that is still alive. And when you join these two spirits with that of the person playing the drum, the result is an irresistible force, a trinity, a balance that gives the drum its healing power – Babatunde Olatunji. (Hart 1990: 214)

Nigerian drummer and virtuoso West African percussionist, Babatunde Olatunji illustrates the underlying values of connectivity and balance within West African drumming through the interaction of the drummer with the spirits of the environment. He shares himself in the process, which extends to the community in most West African contexts (Christopher 2006). As an alternative or supplement to medical and psychological support, African drumming circles are increasingly popular in community and music therapy contexts in the US. However, if the cultural values of collective participation and equality that underlie West African drumming were better understood by music therapists, the medical community could implement its use in therapy more effectively enabling participants relate to other people and develop a sense of belonging and community identity, which contributes to holistic healing (Neher 1962: 152). Belonging and identity enhance the patient's physical health by decreasing stress response in the body.

African drumming's interlocking facets, timbre, repetition, inner time, and performance practice of collective participation, illustrate the African cultural values of connectivity and balance (Chernoff 1979, Stone 2004). Understanding how these cultural values expressed through African drumming promote physical, mental, and emotional health can provide a clearer link between quantifiable physical results and the aforementioned elements of African drumming. Through self-study as a performer and patient, and secondary scientific research, I show that participating in drum circles can alter brain waves, body chemistry, blood pressure, and pulse which facilitate increased immune function, focus, relaxation, and assists pain management. African drumming also leads to greater group unity (Achterberg 1985, Bittman 2001, Janzen 1992, Maxfield 1999, Nunez 2006, and Redmond 1997).

To learn the practice and as a means to study my own physical responses, I attended African Drumming classes at the University of Oklahoma and hosted a drumming circle facilitated by board certified music therapist Todd Balcom. The purpose of this research was to demonstrate how West African drumming can be effectively implemented in community and music therapy contexts, and to illustrate the underlying values of connectivity and balance within West African drumming's structure, performance, and context.

To encourage implementation of West African drumming as a viable therapy in medicine and psychology, one must address the history of Western hierarchical musical values. This discourse originated in the idea of orientalism, "a Western style for dominating, restructuring and having authority over the

Orient," which stemmed from early 19th century colonialism (Said 1978: 3). Colonialists viewed everything about "Eastern" and African cultures as inferior, including their music. Thus, in the Western musical hierarchy harmony (considered the pinnacle of Western music) resides at the top, melody (associated with Asia) in the middle and rhythm (associated with Africa and Native Americans) at the bottom (Sherinian 2010: Personal Communication).

The instruments associated with melody and rhythm in these marginalized countries and the people who play them are sharply contrasted to the Western instruments and musicians associated with harmony. "Masculine, civilized, and refined" often describe melodic instruments; "feminine, primal, and in touch with the ecstatic" frequently describe drums and other idiophones (Gioia 2006: 74). Ted Gioia notes that many music therapists and music therapy textbooks require that

> The music therapy area be sound-proofed so that sounds produced inside the room will not penetrate to the halls. This admonition not only negates the sound of the music, it's very essence, but also delegitimizes the communal aspect that is such a critical part of music-making in traditional cultures and, one suspects a major contributor to its efficacy in healing in these settings. For the music therapist, drums may be allowed, but please don't play them too loudly. (Gioia 2006: 132)

In addition, many Western doctors and therapists view healing associated with drums as shamanistic practices; while therapies administered with instruments of higher frequencies and an emphasis on melody are seen as legitimate music therapy practices because even though the age of colonialism has passed the values of Western musical hierarchy linger (Gioia 2006: 107). The assumption that drums are not melodic instruments reveals a major flaw in

this world-view. African languages are tonal; inflections of pitch and timbre delineate changes in meaning. African drumming imitates speech and each drum is made with a specific timbre in mind (Chernoff 1979: 75). To help dispel music therapy's aversion to drumming, and encourage more effective implementation of drumming circles in Western music therapy this chapter shows how connectivity and balance are expressed within the structure, performance, and context of West African drumming.

MUSICAL STRUCTURE

INTERLOCKING FACETS

In West African drumming ensembles each person plays a facet (short motif or phrase) that interlocks with the other parts to create a polyrhythmic composition (Stone 2005: 85). Facets allow each member to have self-identity while simultaneously experiencing group unity. For example, I played a short four beat phrase on my *djun djun* drum in my drumming class which locked with the other medium range and higher parts over a span of 32 units (Example 1). Because this was a class designed for students with no musical experience our example of interlocking rhythms is quite simple compared to rhythms typically played in West Africa**.** However, the basic principle of interlocking facets was present. I felt a sense of autonomy by playing an individual part, but I also felt like a part of something larger than myself by hearing how my facet fit into the overall sound of the drumming ensemble.

TABLE 1: Rhythm played in African Drumming Class

I = Improvisation R = Rim stroke

Break Rhythm = only played by master drum to signal rhythm changes and endings.

Djembe pitches:
Y = open stroke (high pitch)
X = slap stroke (middle pitch)
0 = bass stroke (low pitch)

BREAK RHYTHM----------

Feli/*Kriti* (master drum)	X		X	X		X		X	X		X		X				I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Djembe	Y	Y	Y	Y	Y				X	X	X	X	X				0	0	0	0	0				0				0			
Kenkeni (baby)	X		R		X		R		X		R		X		R		X		R		X		R		X		R		X		R	
Sangba (dad)	X		X		X				R				R				X		X		X				R				R			
Djun djun (mom)	R				R				X		X		X		X		R				R				X		X		X		X	

Each box represents one unit of time. This particular rhythmic cycle contains 32 units. The shading divides the units into groups of four. The thick boxes divide the units into groups of 16.

In addition, in West African drumming rhythms there is no inherent downbeat or stressed beat (as in Western metrical concepts). The rhythm defines itself by the relationships of each individual part to the others (Chernoff 1979: 51). This relational view of individual parts reflects the interface West Africans perceive between each other within their communities. John Chernoff says,

> This may help explain why African drumming in particular is helpful for mental, physical, and spiritual healing because of the internalized rhythmic relationships, and because there is no stressed beat it can accommodate more than one person at a time and allow for individuality while still promoting solidarity and unity. (Chernoff 1979: 51)

Music therapy resources and efficiency can benefit from West African drumming's ability to accommodate the therapeutic needs of more than one patient at a time. Patients in the drumming circle can experience unity, while individuals play facets within in the texture to express their individuality.

By experiencing individuality and belonging because of the faceting within a drumming circle, participants negative thought processes and perceptions change. For example, when I first began attending my drumming class I felt isolated and unqualified because I was the only graduate student in the class and I had never played an African drum before. However, by the end of the first class I already felt more at ease with everyone around me and was confident I could play my facet on my drum. I believe this is a direct result of drumming with a group of people because we did not talk to each other or share anything about ourselves. We just played drums together and that was enough to make me feel a part of the group and be confident about the part I had to

play. My mood, perception, and thought processes were always more positive at the end of drumming class. I conclude that these mental and emotional changes allowed physical changes, such as serotonin release to improve my overall health.

One academic study in particular seems to correlate my theory by purporting that West African drumming can affect brain and blood chemistry. Neurologist Barry Bittman recorded changes in biochemistry through his 2001 study of "The effects of group drumming on cortisol production and natural killer cell activity". In his study, blood pressure and brain chemicals changed after participants played music together. Bittman tested four drum circle groups, each with different levels of interaction ranging from drumming with no interaction to drumming with open communication between participants and facilitator (Bittman 2001: 39). The group with the most communication between participants and music therapist created space for individual expression and group unity (Bittman 2001: 43). His results showed decreased stress response in those drumming circle participants, which indicates changes in brain and blood chemistry. These changes along with increase of natural killer cell activity boost immune function (Bittman 2001: 43). From these results, I surmise that transactional communication occurring within the music between participants elicits healing effects, and not just the music itself.

REPETITION

Repetition is another musical element of West African drumming, and may promote changes in blood pressure and pulse. For example, in the previously noted rhythm performed in my West African drumming class (Table 1 bottom four rows) each part, except for the master drum, produced an ostinato (repeating) rhythm or time line. Every West African drumming performance contains a time line of some sort usually played on a bell or with a shaker (Stone 2004: 81). The time line highlights "the rhythmic tension that characterizes a particular beat…the power of cross-rhythms is magnified by repetition" (Chernoff 1979: 112). The repetition inherent in West African drumming is a catalyst for changes in blood pressure and pulse.

Many music therapists use the law of entrainment to achieve changes in blood pressure and pulse in their patients (Lawlis 1988:143). Entrainment (discovered in 1665 by Dutch scientist Christian Huygens) states that "if two rhythms are nearly the same, and their sources are in close proximity, they will always entrain…nature is efficient and it takes less energy to pulse together than in opposition" (Balcom 2013, Goldman 2008: 14). Entrainment implies synchronicity between two or more rhythms. Repetition is necessary to produce synchronization, and West African drumming is uniquely suited for this task.

As a result of entrainment from repetition, Hal Nunez suggested that because "the drum resonates and its skin and hollowness are analogical to the ventricles and chambers of the heart," it has power to affect blood pressure and

pulse (Nunez 2006:13-14). I recorded my blood pressure and pulse before and after each West African drumming class. Six of the ten sessions my blood pressure lowered 3 to 4 points and my pulse rose 4 points. The other four sessions my blood pressure rose 4 to 5 points and my pulse dropped 4 points. The sessions that resulted in higher blood pressure were the days I had lupus fares, which can contribute to high blood pressure.

While my self-study cannot be conclusive because of extraneous factors such as carrying drums up and down the stairs before and after playing and my medical condition, it does provide some insight and basis for further research with a larger, more controlled group. Heart disease is the leading cause of death in the U.S.; and high blood pressure is one contributing factor. Besides diet and exercise, participation in drumming circles is a safe, medication free therapy. Patients may not be able to completely substitute West African drumming for the blood pressure medication, but it may allow them to lower their dosage.

PITCH & TIMBRE

The pitch and timbre of West African drums may also affect brain wave patterns, which can facilitate increased focus and attention span. The West African environment provides wood and skin for drums. Makers carefully select materials and craft each drum to resonate with certain pitch ranges and timbres, which produces the inherent melodic and thickly textured sound of African drumming circles (Chernoff 1979: 75, Stone 2005: 19). The varied pitches and

timbres also represent the West African culture's value of collective participation and equality. Although many West African drums used in drumming circles in the U.S. are produced from synthetic materials, makers strive to retain the same pitch, timbre, and resonance of their West African counterparts (Nunez 2006:13-14).

The African drumming classes I attended used the djembe and *djun djun* drums common in Guinea, West Africa. The goblet-shaped djembe produces three distinct pitch ranges with a dry focused timbre that dissipates quickly. The *djun djun* bass drum set includes three sizes: small – *kenkeni* (the baby), medium – *sangba* (the daddy), and large – *djun djun* (momma). These drums are referred to as family unit, which illustrates the importance of familial and community relationships in West Africa (Frazier 2010: Interview). *Djun djun* drums are barrel-shaped with two heads. One head rests on the floor and the other head is played with sticks. The *djun djun* bass drums (especially the momma drum, which I played) deliver a dark booming timbre which resonates longer than the djembe's (see Appendix 5 for photographs of drums).

Before several of these drumming classes, I had lupus flares which caused a headache and joint pain in my shoulders, back, hips, and knees. After each of these drumming classes I felt refreshed, energized, and my joint pain was significantly lower. The West African drumming sessions proved to be effective pain management which lasted the rest of the day. My experience seemed to correlate with other published studies about drumming and reduced pain perception.

Anthropologist Edith Turner and psychologist Andrew Neher (1962) both ascertained that because mixed sounds (more than one frequency at a time) transmit along more than one nerve pathway in the brain, drumming (which contains many low frequencies or pitches) is more likely to "transmit energy to the brain than other" stimuli (Turner 1992: 198). Melinda Maxfield, PhD specialist in cross-cultural healthcare methodologies and researcher on the physical effects of percussion agrees.

> Because the auditory tracts of the ears pass directly into the reticular activating system of the brain stem, which coordinates sensory input, strong repetitive neuronal firing in the auditory pathways and the cerebral cortex, such as would be experienced from drums, can theoretically…filter out other stimuli…including pain (Maxfield 1994: 159).

Thus, incoming stimuli such as drumming override the pain signals coming from other parts of the body. Therefore, the brain perceives less pain when inundated with repetitive low-frequency (pitched) drumming.

PERFORMANCE

EXTENDED PLAYING SESSIONS

Because of the inherent repetition present in West African drumming, most drumming experiences involve extended playing sessions. During my fieldwork, playing sessions lasted anywhere from 5 to 20 minutes. I did not experience any change of consciousness while drumming. However, I did experience increased focus. Before one of my drumming classes I tried to solve a personal problem, but I was so stressed out about other responsibilities

related to work and school, I could not focus. During drumming class, I tried not to think about anything but the facet I was playing and how it fit into the overall composition. Then after a few minutes I did not even have to focus on that action anymore, my hand and arms just continued to play without prompting from my mind. We played for two 20 minute sessions that day. By the time I got home from class (five minute drive from campus), I had easily come up with a solution for my personal problem, as if it had just been waiting for me to clear out all the other distracting thoughts. From this experience I conclude that drumming for an extended playing time does help increase focus and provide clarity of thought.

Several studies corroborate African drumming's ability to increase focus. One of the first medical studies published about African drumming explore how the body enters a trance state. In 1961 psychologist Andrew Neher found that

> Prolonged attention to rhythms increased the Alpha and Theta brainwaves associated with deep states of relaxation or meditation. Even so-called hyper vigilant individuals – selected for study because they could not achieve Alpha wave states – were shown to produce them during their first drumming session after only twenty to thirty minutes. (Neher 1961: 449)

John Janzen, a medical and socio-cultural anthropologist, who studied healing practices in Africa associated with Ngoma (a widespread form of ritual and healing in Central and Southern Africa), theorized that brainwave synchronization can be attained by the administration of repetitive music from extended playing sessions (Janzen 1992: 127).

Additionally, in his 2006 dissertation "Effects of Drumming on Anxiety in Latino Male Youth," clinical psychologist and creator of the medicinal Drumming

Praxis program in San Francisco Sal Nunez, confirmed that once both hemispheres of the brain synchronize, participants experienced a “sense of clarity and heightened awareness” which increased focus and attention span. To achieve this synchronization, participants had to play for at least 20 minutes (Nunez 2006: 66). The extended playing sessions due to repetition in West African drumming can increase participants focus and attention span. Therefore, extended drumming sessions, based on the West African performance element of repetition, can benefit patients suffering from ADHD, behavior disorders, and for those who experience “brain fog” or “fuzzy thinking” because of medication side effects.

INNER TIME

Inner time is another shared experience that results from not only the repetition common in West African drumming, but the solidarity and unity experienced when each facet played fits perfectly into the overall rhythm or groove of the group. There were times I experienced inner time playing with my classmates in African drumming class. For example, sometimes during a session I found myself having to count and pay attention in order to continue playing my facet at the right time, otherwise it felt as if I had lost the beat. Conversely, other times I felt as if I intuitively knew when and what to play because all the other parts seemed so solid and tight. It was in these latter sessions that I experienced inner time. Not only was the overall rhythmic composition pleasing, but the silence or spaces created between the drumbeats

produced a euphoric state (or high) for me. It was obvious all our parts were interlocking precisely because there were no stray drumbeats in the silences. I experienced a new level camaraderie and respect toward my classmates because of this musical achievement, which also increased the bond I had formed with my classmates.

Similarly, Sal Nunez found during his study of the effects of drumming on Latino youth, that during extended playing sessions participants experience inner time; where they encounter a "flow" or "high" that gave them a "new awareness of the event" (Stone 2004: 89). This shared perspective creates solidarity not only between the players, but also with the audience or community at West African drumming events. In drumming therapy groups each participant is both a participant and an audience member. Experiencing inner time provides patients with a sense of accomplishment and helps them develop a sense of community within a group.

CONTEXT

COLLECTIVE PARTICIPATION

The most important aesthetic value in West Africa is collective participation, without it "there is no meaning" (Chernoff 1979: 23). Involvement in the music making process requires participation from performers and the audience. Audience members participate through clapping, dancing and singing. Therefore, anyone present during African drumming becomes part of the performance itself. West African drumming derives its correlation to

healing, “at least in part from its ability to involve the entire community in the medical process” (Gioia 2006: 33). Therefore, the practice of collective participation can provide a sense of belonging, one of humanity’s most basic needs. Psychological anguish can affect the body physically; therefore, finding a group of people with whom one can create strong relationships can be integral in maintaining good health.

I had a mixed experience of belonging in my West African drumming class. Out of the 12 students enrolled 4 were apathetic in their attendance and participation. These students often quit playing in the middle of a session for no apparent reason, and they often texted while the teacher spoke. This greatly reduced the feeling of belonging on days they were present. During the three classes when these students were absent, playing sessions lasted much longer, I experienced inner time more often, and they were three of the sessions where my recorded blood pressure was lower at the end of class. “The healing force of African drumming stems from two relational elements: one stretching out into the community and surrounding environment and the other reaching into the body itself” (Gioia: 2006: 42). These apathetic students exemplify the Westerner’s problem of not “recognizing the meaning and purpose of one’s relationship to the music as an event” (Chernoff 1979:33). To receive the full benefits of African drumming a participant needs to understand the respect many African’s hold for each other and their value of community partnership, which requires consistent committed participation (Chernoff 1979: 35).

Two scientific studies also support the idea that African drumming's collective participation can help patients develop a sense of belonging and group identity. Nunez' drum circle "participants reported feeling "good, relaxed, tranquil, and at peace" after the African drumming sessions (Nunez 2006: 113). The Western world often views drumming as "barbaric and disruptive to group cohesion" (Gioia 2006:161). However, social practices around the world and particularly in Africa reveal that "social integration is promoted by highly rhythmic sounds…the drums' "throbbing heart-beat sound attracts and unifies" (Gioia 2006:162).

In addition, neurologist Barry Bittman's 2001 study revealed that increased immune function was higher in groups that interacted with each other verbally, visually, and physically, than in groups which only played with no interpersonal communication (Bittman 2001: 45). In this study, four groups were tested: the first with 50% instruction and 50% participation, the second with 20% instruction and 80% participation, the third with 100% drumming, and the fourth led by a music therapist that emphasized camaraderie, group acceptance, light-hearted participation, and non-judgmental performance. The latter experienced the most change in "classic stress response" which resulted in increased immune function (Bittman 2001: 46). Although all four groups drummed together, a facilitated group achieved better physical responses than the other three groups. The facilitator in the fourth group encouraged a specific intent for the drumming session – one of interaction and camaraderie. Because

the participants held this intention in mind, I believe their musical communication created stronger physical changes.

Increased immune function is valuable not only for healthy individuals but especially for those who have chronic diseases such as HIV/AIDS, lupus, and various forms of cancer. Participating in drumming circles can help these individuals maintain their health without extra medication, and provide important personal interaction to counteract depression, a frequent side effect of chronic disease.

Collective participation can also allow patients to learn to trust each other. An example of this occurred during the drum circle session I attended led by licensed music therapist Todd Balcom. He began our session by asking us to stand in a close circle facing inward. We extended our left hand palm up in front of us and placed an egg-shaped shaker in the palm of our left hand. In synchronization, we picked up the shaker with our right hands and placed the shaker into the palm of the person on our right. We continued this motion and gradually increased the speed.

The sounds of the shakers moving created a cyclical rhythm pattern. Next, Todd asked us to close our eyes and continue passing the shakers with one exception: if anyone dropped a shaker they could not pick it up, they had to keep their hand motions going even if there was no shaker to pass. Soon after we closed our eyes, there were intermittent sounds of shakers hitting the ground followed by laughter. Finally, all of the shakers had fallen and we

continued the hand motions, only now instead of the shakers creating the rhythm, the sound of our hands clapping together sustained the rhythm.

After this exercise, Balcom led us in a discussion about the musical and non-musical things that occurred during the exercise. One participant said, “It was hard to continue the actions once I dropped the egg shaker. I wanted to stop and pick it up.” Balcom remarked that his favorite thing about this exercise was that “it teaches the drum circle participants that it is okay to make mistakes” (Balcom 2013: Drum Circle). The coordinated cooperation required for this exercise incorporated the cultural value of connectivity as group trust. Each of us had to trust that our neighbors hand would be there even though our eyes were shut. Within this context a participant learned to shift her normal thinking pattern of fault or regret and thus react differently. Her changed reaction led her to feel a sense of belonging and community even when she did not perform as well as she expected or hoped (Garner 2013: Questionnaire).

DIVERSITY

Many West Africans acknowledge and value heterogeneous sound within drum, dance, and song**.** This is evident in the different shapes and timbres of the drums played in my African drumming class, as well as in the drumming therapy session I hosted. Besides the djembe and *djun djun* drums described earlier, my drumming class also used a feli and *kriti*. The instructor and master drummer Damon Frazier improvised over the student’s timeline to produce the cross-rhythmic patterns and tension (see Table 1 master drum first

line). Frazier played a goblet-shaped drum called a *feli* (basically a djembe) with oval pieces of metal with rings (called *csing csing*) fastened to the rim of the drum. The *csing csing* provided a snare-like timbre and increased the drums sustain. Damon also played the *kriti* with sticks. It is made out of a hollowed piece of wood with three different length slits cut into it that produced at least three different pitch ranges.

The master djembe with *csing csing* generated a sharp tinny timbre with a higher pitch and longer resonance than the student's djembe's. The *kriti* supplied a bright, cutting timbre to the ensemble. These improvisational instruments produce a polyrhythmic texture against the constant ostinato of the other djembe's and *djun djun*'s. Therapists can utilize this timbral diversity to help incorporate individual expression and group cohesion at the same time.

SUMMARY

Drumming circles in West Africa can facilitate personal and group transformation from a disvalued state to a holistically healthy state through incorporation of West African cultural values of collective participation and equality. West African dance, drum, and song do not exist as separate mediums from each other (Stone 2005: 15). They are integrated into their daily practices as much as breathing, sleeping, and eating. Every work task, art form, and even recreation, reflect the West African cultural values of connectivity and balance (Chernoff 1979: 154, Stone 2005: 39).

West African drumming's interlocking facets and collective participation demonstrates a perceived association between group members. Each participant in the West African drumming circle has a short repetitive facet that interlocks with everyone else's part creating a rich polyrhythmic texture, in which no one part is more important than another (Stone 2005: 28-30). This cooperative composition allows for equality and personal expression. Each participant has a significant and personal contribution, when combined together creates a composition that is larger than the sum of its parts (Chernoff 1979: 159). Because African drumming circles allow for the equal participation of all community members, participants can experience healing transformation through the cooperative effort of all the members of the community (Chernoff 1979: 51).

This perceived bond between group members can alter body chemistry and brain chemicals resulting in increased immune function (Bittman 2001, Chernoff 1979). West African drumming's collective participation also encourages equality and a sense of belonging where each person's individual playing is important and part of the whole (Gioia 2006, Nunez 2006). Results from many studies show that the timbre of African drumming can affect brain waves. Brain wave changes signal changes in consciousness, reduce pain perception, and increase focus and attention span (Neher 1061, Turner 1992, Nunez 2006). The variations of timbres available from a variety of drums can also facilitate individual identity and group affinity (Turner 1992).

Additionally, African drumming's repetitious nature can change blood pressure and pulse by altering the player's internal biological rhythms (Lawlis 1988, Stone 2004, Nunez 2006). Repetition in African drumming also leads to extended playing sessions. Extended playing sessions can increase focus and promote unity through the shared experience of inner time (Janzen 1992, Nunez 2006). These quantifiable mental and physical outcomes demonstrate the viability of African drumming as an effective therapy for physical, mental and emotional disvalued states. In addition, experiencing music together, such as in African drumming circles, reminds us that we all have something unique and valuable to contribute to this world.

Chapter four continues with the theme of connectivity and balance, but moves the focus from the outward external communal body the internal individual body by examining how toning to realign chakras can promote connectivity and balance within a single person. In this sense the community becomes the person, and the individual members become the different aspects of a person: body, mind, and emotions.

CHAPTER 4:
EXPLORING THE PHENOMONOLOGY OF SELF:
TONING TO REALIGN CHAKRAS

Know thyself. This phrase permeates history through philosophers, writers, scientists, and scholars since its inscription in the outer court of the Temple of Apollo at Delphi in 330 B.C. As with most alternative healing methods, finding healing or wholeness requires one to know themselves. This implies not only understanding how our physical body works, but how our thoughts and emotions affect the body. Knowing how our relationships with external stimuli (people, animals, and environment) affect the body is best described as connected knowing (Wright 2000: 1).

The term “chakra” is often associated with New Age philosophy in the U.S.. However, the chakra system originates from Hindu religion and yogic philosophy, particularly those Hindu treatises which focus on the practice of tantric yoga. Chakra means “wheel” in Sanskrit. There are seven main chakras that start at the base of the spine and proceed upward to the top of the head. Chakras are described as “wheel-like spinning vortexes,” points of intersection between various planes - physical, emotional, mental and spiritual (Avalon 1974: 2-3, Judith 1988: 13, Leadbeater 1927: 4-5). They are also “vortices of vibration” or the junction points of energy meridians (Goldman 2005: ix). Energy flows through our bodies along pathways similar to the central nervous system called *nadis* and if any of the seven chakras are too open or closed, there is a disruption of energy. This energy blockage manifests as a disvalued

state (Avalon 1974: 73-74, Judith 1988: 16, Leadbeater 1927: 41, Parkhurst 1998: 34).

The chakra system provides a bridge between the physical self and the etheric self. The etheric self refers to a field of energy that exists beyond the physical matter of the human body. The etheric body is often referred to as an aura, and this etheric body or aura can provide vital information such as where a disvalued state may emanate from (Brennan 1998: 32, Hunt 1996:24, 27). It is the belief of most students of chakra study that all life contains energy…it is in us and around us at all times – the etheric self exerts energy just like our physical body but is not visible to most people. Not all forms of energy are visible to the physical eye (Parkhurst 1998: 24, Scelba 1998: 6). For example, the wind is a very powerful source of energy but it cannot be seen – although it can be measured, felt, and exert force on objects we can see. The etheric body is similar in the way that it exerts force on physical systems in our body. Some scientists have been able to measure the electromagnetic activity believed to be our etheric body – it too can be measured, felt, and exert force (Goldman 2008: 96, Hunt 1996: 15, 20, 22). Our physical bodies are the densest form of our energy and therefore visible to everyone. The other more subtle energy form (our etheric body) that surrounds our physical bodies is not visible to most people. The chakras described above are similar in density to the etheric or auric body. While chakras affect physical systems (namely the nervous system and adrenal glands) they do so by transferring energy from

their less dense energy field to the physical body's more dense energy field (Leadbeater 1972: 49, Parkhurst 1998: 29, Mercier 2007: 8).

Because each chakra resides in close proximity to major organs, nerve ganglia, and endocrine glands within the body, one can treat a disvalued state by balancing or aligning the chakras related to the patient's distinct problem – whether it is physical, mental, or emotional. By using sounds, colors, elements, or yoga positions that correspond to each of the seven chakras one can unblock the chakras as needed (Judith 1988: 24). Focusing on the chakras while participating in a physical activity like toning or yoga, allows the patient to recognize the link between physical action and emotional or mental health.

American medical practices and music therapy tend to treat disvalued states and symptoms of disvalued states instead of the core problem (American Music Therapy Association 2013). Perhaps because the core problem behind many disvalued states are often mental or emotional obstructions or disproportion. While Western medicine and music therapy have begun to incorporate some indigenous therapies, energy healing like toning to realign chakras can provide a way for patients to develop connected knowing. Understanding how their emotions and thought processes affect their physical and mental well-being can help patients pinpoint areas of discrepancies and imbalance to alleviate disvalued states.

Understanding the physiology of our bodies can provide valuable information, but to understand how our mind (consciousness or thought processes), emotions, and body interact with each other we must find a system

that can incorporate internal connected knowing. The Indian chakra system can facilitate an understanding of how our body, mind, and emotions transact with each other. “When the chakras are understood, opened, and connected together we have bridged the gulf between matter and consciousness, understanding that we, ourselves, are the bridge” (Judith 1988: 4). Realigning chakras is about understanding how our consciousness can affect matter. In this case, the matter involves bodily functions such as pulse, blood pressure, and brain and blood chemistry that affect our overall health.

This chapter focuses on using toning to realign chakras. Toning refers to any sound that the human body can make with the intention of restoring balance to one’s system. A patient can tone for themselves or have a practitioner tone for them. Toning is not singing. There is no aesthetic value attached to the sounds created, rather the goal is to create the right vibration (frequency and resonance), and vocable to affect the chakra with which one is working. Sometimes this manifests as making vowels sounds, and sometimes it manifests as inhalations and exhalations with consonant beginnings and endings.

Focusing on one’s chakras and participating in a physical activity, such as toning or yoga, allows the patient to make an association between physical action and emotional or mental health. The relationship between breathing in yoga and toning is similar as well. Therefore, to gain a better understanding of chakras and their origins in yogic practices, I studied hatha yoga with Ted Cox & Martha McQuaid at Spirit House Yoga in Oklahoma City, OK. To experience

how toning works to realign chakras and thus treat the core problem of disconnect and imbalance, I attended toning sessions conducted by energy healer Joious Melody in Oklahoma City, OK. I practiced toning by myself with the help of toning literature and CDs, and instructions from energy healers Joious Melodi and Malabika Shaw (owner of Vision Holistic in Newton, MA). I argue that cultural values of connectivity and balance manifest within the structure, performance, and context of toning as a reflection of connected knowing, a mental awareness and realization of one's whole self (body, mind, and emotions), and the relationship between these parts. Through my field experiences and secondary scientific and anecdotal research I focus on how frequency, resonance, and conscious intent can affect the physical, mental, and emotional body and promote connected knowing to allow the patient to address the core problems of disconnect and imbalance.

Just like the practice of yoga in America is often extracted from its Hindu roots, toning to realign chakras can be abstracted from its religious roots as long as the principles of connectivity and balance remain core to the practice. Toning requires no religious study and employs no foreign languages…only seed vowel sounds are used (see Table 5). "Vowel sounds hold no offensive or obtrusive suggestions to the commoner Westerner" (Goldman 2005: 13, 98). In fact, Western music therapists already employ methods in which elements of music (rhythm, pitch, and timbre) affect physical cycles in the body such as pulse, blood pressure, and brain chemistry. For example, music therapists use

music with a slow rhythmic pulse to help lower patients pulse and blood pressure.

THE CHAKRAS

While there are more than just seven chakras (many minor ones are recognized as well) this chapter will focus on the seven main chakras (Maxwell 2009: 808, Starcher 1999: 133). The first chakra, *Muladhara* (root), located at the perineum (base of the spine) is associated with survival, grounding, firmness, and stability and is in close proximity to sciatic nerve. The sciatic nerve basically functions as a root for the entire nervous system (Catalfo 2006: 61, Judith 1988: 60-62, Maxwell 2009: 810, Parkhurst 1998: 95, Rippentrop 2009: 233, Schneider 2004: 26, Starcher 1999: 141, Wauters 2010: 31). The second chakra, *Svadhisthana* (sweetness), located in the lower abdomen in close proximity to the sacral vertebrae and sacral plexus (which hooks into the sciatic nerve), is associated with circulation, urinary elimination, sexuality, and reproduction (Catalfo 2006: 62, Judith 1988: 112, 117, Maxwell 2009: 810, Rippentrop 2009: 231, Schneider 2004: 29, Starcher 1999: 149, Wauters 2010: 45).

The third chakra, *Manipura* (lustrous gem), located in the solar plexus over the adrenal glands is associated with the power of life, vitality, and equilibrium (Catalfo 2006: 62, Leadbeater 1927: 20, Maxwell 2009: 810, Parkhurst 1998: 72, Rippentrop 2009: 231, Schneider 2004: 31, Starcher 1999:

159, Wauters 2010: 59. Some regard the third chakra as the main *nadi* (channels through which energy flows to and from the chakras in the body). Therefore, to have an open and healthy third chakra one must do the following:

> Break the cycle of fear and withdrawal…by reconnecting with the self in a loving and accepting way. If we are not in touch with our ground, our bodies, our passions and pleasures, desires and unions, we have no fuel for our fire (the third chakra). If we do not love ourselves, giving ourselves room to breathe, to explore, to make mistakes, then we have no air for the fire to burn. (Judith 1988: 166, 172, 176)

The representation of the chakras unity illustrates the very definition of connected knowing. For our bodies to operate in a healthy balanced manner one must pay attention to emotions, thoughts, and physical activities as a whole unit. It follows, therefore, that one must take into account each of these aspects of the self as a whole when diagnosing and treating disvalued states.

The fourth chakra, *Anahata* (unstruck), located at the heart, is associated with compassion and love. The chakras are often divided into upper and lower chakras. Lower chakras are related to physical things and upper chakras are related to spiritual things like thought and consciousness. The heart chakra divides the upper and lower chakras and belongs to both (Catalfo 2006: 63, Maxwell 2009: 810, Rippentrop 2009: 231, Schneider 2004: 37, Starcher 1999: 171, Wauters 2010: 73. "The task of chakra four is to integrate and balance the realms of mind and body; in so doing, it brings a radiant sense of wholeness to the entire organism and realization that we are an exquisite interpenetration of both spirit and matter" (Judith 1988: 212). The theme of connectivity and balance continues to permeate the philosophy behind the chakra system and

equips one with the ability to lead a healthy and whole life without being completely dependent on others to control one's course of treatment.

Chakra five, *Visuddha* (purification), located near the throat, is associated with communication, creativity, sound, vibration, and self-expression (Catalfo 2006: 64, Maxwell 2009: 810, Mercier 2007: 78, Rippentrop 2009: 165-166, Schneider 2004: 39, Starcher 1999: 180, Wauters 2010: 87). Part of opening this chakra requires purification (a release of all emotions and thoughts usually with sound (speaking, singing, or toning). Everything in nature has a vibration and sound can change that vibration, sound can even change the cellular structure of matter (Judith 1988: 266, Jenny 1967: 12, 13, 133). Therefore, using sound to release one's repressed thoughts and emotions can unblock chakras and allow energy to flow through the body as is necessary to maintain health.

Chakra six *Anja* (to know or perceive), located at the center of the head between the eyes close to the pineal gland influences endocrine and central nervous systems. The *Anja* chakra is associated with the "third eye an etheric organ of psychic perception" (Catalfo 2006: 65, Judith 1988: 316,319, Maxwell 2009: 810, Rippentrop 2009: 231, Schneider 2004: 45, Starcher 1999: 190, Wauters 2010: 101). Chakra seven, *Sahasrara* (thousand fold), located at the top of the head, is associated with consciousness , thought processes, and spirituality (Catalfo 2006: 66, Judith 1988: 368, Maxwell 2009: 810, Rippentrop 2009: 233, Schneider 2004: 49, Starcher 1999: 199, Wauters 2010: 115).

Besides Hinduism, the idea of energy centers within the body are found in various religions and philosophies, for example, “the Indian (Asiatic) Shastra and American-Indian Maya scripture of the Zunis called the Popul Vuh” (Avalon 1974: 3). However, the term chakra and most of the information circulating in the U.S. today about chakras has its origins in Hinduism. The Veda’s (sacred Sanskrit texts dated as early as 2000 BC, comprised of four books: Rgveda, Yajurveda, Samaveda, and Atharvaveda) discuss chakras as one of the official items Vishnu (a major Indian male deity) held in his arms as he descended to earth (Griffith 1899: 309, Judith 1988: 9).

Most specifically the chakras and their use as meditation centers are contained in the sixth chapter of *Shritattvachintamani*, titled “Chat-chakra-nirupani” (Description of and Investigation into the Six Bodily Centers) written by Indian yogi Tantrik Purnananda Syami in 1577 (Avalon 1924: v,vii). “Chat-chakra-Nirupani” was translated into English by K. Narayanaswami Aiyar and published with comments by Arthur Avalon in 1924 (Leadbeater 1927: 95). This tantric yoga system teaches how to harness energies that exist within and without the human body to attain pureness in all aspects of being. Through conscious control of mind and emotions one also becomes enlightened physically and spiritually (Avalon 1924: 183, 186, Leadbeater 1927: 115, Mercier 2007: 22-23).

CHAKRAS AND YOGA

Many forms of meditation around the world incorporate the idea of chakras to facilitate connected knowing – understanding the body, mind, and emotions as a whole. The Western view of yoga tends to emphasize physical fitness (McQuaid 2012: Interview). However, the word yoga itself means "balance." Yoga practitioner Martha McQuaid says that, "Yoga is intended to tone the mind and emotions as well as the body" (McQuaid 2012: Interview). The Brahma Yogatattva Upanishads from the Vedic texts were adapted in Tibetan Buddhism's Vajrayana theory. This theory states that through meditation oneness can be obtained in one lifetime (Mercier 2007: 22-23). In addition, psychotherapist and psychiatrist Carl Jung promoted the Western "understanding of kundalini" (a type of yoga) as a way to "develop higher consciousness" (Mercier 2007: 24).

Yoga's *asanas* (poses) are, in fact, designed to activate and balance the chakras. Many people report feeling a "rush of emotion" during certain poses (Catalfo 2006: 63). On November 21, 2012, I participated in a private yoga session with Martha McQuaid, a yoga professor and professional Western classical musician. The session focused on two or three poses related to each chakra. We started with *Muladhara* (first chakra) and worked our way up to Sahasrara (seventh chakra) (see Appendix 6 for example of *asanas* related to each chakra). At first, it seemed just like every other yoga class I had attended. The stretching poses were relaxing, the hero and warrior poses (knee bends)

worked my leg muscles hard, but then we did back bends to open up *Manipura* (the fourth chakra located near the heart). These poses were very uncomfortable for me. Although the stretch felt good, I felt extremely exposed and vulnerable. When I mentioned this to my instructor Martha McQuaid, she said, “Part of yoga is allowing yourself to be uncomfortable and stay in the pose” (McQuaid 2012). This struck a chord with me because I recently started psychotherapy, which has also required me to experience uncomfortable emotions I would rather ignore. The experience of allowing myself to be uncomfortable in some yoga poses, yet still hold them, gave me courage to allow myself to experience uncomfortable emotions instead of avoiding or repressing them. Yoga focused on the chakras provided a mental link for me between physical action and emotional health. I realized that if I could feel safe being uncomfortable physically, I could be safe being uncomfortable emotionally. I trusted the potential benefits of connectivity between my physical, mental, and emotional processes.

Another example of connective knowing occurred Saturday September 16, 2012, during my beginning yoga class. I experienced frustration when trying to perform a deep knee bend against the wall using a block. I was so frustrated I almost started crying. I could hold the pose just fine when I performed the deep knee bend away from the wall using my own balance. Later when I was writing my field notes, I recalled feeling scared that I would hurt my knee because I did not trust that the wall and block would hold me up. After realizing why I felt frustrated and upset, I recognized a parallel in my

emotional life with my physical experience in yoga. I have a hard time trusting others because I fear emotional hurt, so I often do things for myself to avoid trusting others. However, by practicing yoga my physical body was able to help my mind recognize an emotional problem. It is this kind of experience that leads to connected knowing – living with a consciousness that recognizes our physical, mental, and emotional parts as a whole, and the importance of being in trusting communities, relationships with others, and one's self.

These experiences suggest there may be a correlation between yoga, chakras, and emotional health. Western music therapy is mostly based upon psychological effects of music that, in turn, elicit physical changes (Leeds 2010: 162). By showing music therapists how toning to realign chakras develops connected knowing (understanding how one's thought processes and emotions physically affect the body) this chapter provides a model and modes of implementation for music therapists to incorporate into their practices. But before the structure, performance, and context of toning is explained, I present evidence from scientific studies that explain and demonstrate the existence of the etheric body and chakras. These scientific studies are important because many music therapy programs have to be approved by a board of directors who require scientific data to support the efficacy of the proposed therapy.

THE SCIENCE BEHIND CHAKRAS

To date etheric bodies and chakras have been photographed, recorded electromagnetically, and explained through proven scientific theories such as Einstein's unified field theory (Goldman 2005: 28, Judith 1988: 13, Hunt 1996: 41-43, 46-47). The etheric body (sometimes referred to as the subtle energy field or aura) is important because chakras reside in the same energy space. This will be further explained through the following scientific studies. Charles Webster Leadbeater, a theosophist and author of the 1927 book *The Chakras*, first developed the idea that the etheric body and chakras can be seen by a clairvoyant (Mercier 2007: 26-27). In 1939, Russian electrical engineers Semyon and Valentina Kirlian developed pictures of auras by using photographic film placed on top of a conducting plate while another conductor was attached to the object to be photographed (hand, leaf, etc…). Next, they exposed both conductors to a high-frequency electrical field which allowed the film to capture the shadow of the object as well as a glow surrounding the object itself (See Appendix 7). While many parapsychologists and most energy healers (toning for example) maintain that the glow surrounding the shadow is a picture of the etheric body or subtle energy field (aura), other scientists argue that there are too many factors such as moisture in the object itself, moisture in the air, and negative ions present that may skew these results (Goldman 2005: 28, Judith 1988: 13). However, the results still show that something causes a

glow to be photographed extending beyond the objects visible physical body and it cannot be disproved that this is the etheric body.

Valerie Hunt a research scientist, author, lecturer and Professor Emeritus of Physiological Science at UCLA, discovered during her research in the 1970s at UCLA that the human body emits bioelectrical energy even when all muscles are at full rest. She explained that the body has two electrical systems: one involving the nervous system, brain, neurons, and nerves, which cause muscle contraction, nerve transmission, glandular secretion, and sensation; and the other is the electrical system she recorded when the body is at rest, which probably emanates from atoms and cells. This recorded electromagnetic energy is referred to as an aura by many energy healers but she described it as a human energy field (Hunt 1996: 20). However, her book is written in layman's terms so that the average reader can understand. This may be why I could find no mention of her study or discoveries outside of the parapsychology, energy healing, and biofeedback communities.

In addition to recording the human energy field that extends beyond the physical body, Hunt received a grant to conduct an experiment to study emotions, human energy field, and neuromuscular effects of Rolfing (healing sessions focused on loosening joints and connective tissue). Physicians, scientists, and aura readers were present. Electromagnetic readings were taken from each of the main chakra areas and the entire human energy field as well. The readings by the aura readers and the electromagnetic equipment corroborated. When the aura readers saw the chakra field opening, the

electromagnetic equipment recorded an increase in amplitude in the area of the specified chakra. Similarly, before a participant's heart rate responded to stimuli by increasing or decreasing, a change in the electromagnetic reading of the body energy field near the organ (heart) was recorded (Hunt 1996: 24-25). This evidence shows that changes in the physical body seem to be preceded by changes in the human energy field (aura or etheric body). Subsequently Hunt says, "by manipulating the energy field we can refine and encourage coherency in all tissues and biological systems; this approach could produce results more rapidly and dramatically than could any other known medical, psychological, or educational approach" (Hunt 1996: 36). Therefore, it is the theory of most authors, teachers, and practitioners of toning that since the chakras reside in the human energy field, rebalancing them with toning may help to not only rebalance one's physical, emotional, and mental disvalued states, but alter cellular mass as well (D'Angelo 2005: 110, Goldman 2005: ix, Hunt 1996: 77, Judith 1988: 16, 24, Leeds 2010: 163, Mercier 2007: 80, Rigby 1998: 142, Rippentrop 2009: 228, Scelba 1998: 6, Speed 2009: 103, Wauters 2010: 14). In effect, toning could potentially eradicate errant cellular masses such as cancer. But, how does toning (using frequencies and vocables) affect physical changes through the auric body and the chakras?

Einstein's unified field theory states that all matter is organized energy. Everything that has matter has an energy field. There are no firm boundaries with fields like there are with dense material substances (such as the human body). But the human energy field (like all other energy fields) is an open

dynamic system than can constantly and selectively transact with all environmental fields (Hunt 1996: 46-47). Since any field can transact with any other field, fields can exert force on each other (Brennan 1988: 22). Thus, sound such as toning can exert force on our own human energy field or another's human energy field. Although sound is not dense material physical to the human eye, it does manifest as matter in the form of waves and vibrations. Therefore, it has an energy field with which to interact. Hence, sound can affect chakras because they exist in the human energy field. But, how are chakras related to specific parts of the physical body?

Although chakras reside in the human energy field as opposed to the physical body, they correspond to nerve ganglia, organs, and endocrine systems as mentioned previously. Theosophist Society member Alice Bailey and Leadbeater (author of *The Chakras*1927) were some of the first to "associate the chakras with particular endocrine glands and the sympathetic nervous system" (Mercier 2007:27). The Theosophical Society was founded in 1875 and its international headquarters are at Adyar in Madras, India. They study Eastern religions, particularly Hinduism. Because of Bailey's and Leadbeater's initial interest, many energy healers have drawn conclusions based on the original Hindu texts as to which glands and nerve systems correlate to which chakra (see Table 2).

Table 2: Correlation of chakras to physical organs and body systems

CHAKRA	**ORGANS/LOCATION**	**NERVE GANGLIA**	**ENDOCRINE SYSTEM**
7, *Sahasrara*	Crown	Sympathetic	Pituitary
6, *Ajna*	Third Eye	Superior cervical	Pineal
5, *Vishuddi*	Throat	Cervical spinal	Thyroid
4, *Anahata*	Heart	Thoracic spinal	Thymus
3, *Manipura*	Solar Plexus	Lumbar spinal	Adrenals
2, *Svadhisthana*	Sacral	Sacral spinal	Pancreas
1, *Muladhara*	Perenium (base of spine)	Sciatic nerve, Coccygeal spinal	Adrenal cortex

(Judith 1988: 18**,** Parkhurst 1998: 33, Scelba 1998: 9)

Although it is not known exactly how chakras transmute energy from the human energy field (etheric body or aura) "to a usable form within the human structure, …they seem to function as energy transformers" translating less dense energy to more dense energy. The energy then "translates into hormonal, physiologic, and ultimately cellular changes throughout the body" (Parkhurst 1998: 29). Richard Maxwell, a neuroscientist, postulated a theory in a 2009 article in *Zygon: Journal of Religion & Science* that links chakra activity to a physical corollary via gap junction mechanisms (electrical communication between cells at certain growth points along the spine). Maxwell stipulates that with appropriate forms of concentration – such as toning (sound/music), color therapy, or yoga – patients can stimulate gap junction cell function to influence the central nervous system and glandular functions of their own body. The electrical activity of the gap junctions can be measured and compared to physiological responses such as hormonal secretions and changes in brain

waves and pain perception through the central nervous system (Maxwell 2009: 818-819).

TONING

The term “voice toning” was first used by Laurel Elizabeth Keyes. In the 1960s Keyes was a teacher and author of comparative religions and philosophy who taught and practiced toning at Restorium, a retreat house in Denver, Colorado (Rigby 1998: 130). Toning is the use of self-created sounds (elongated vowels, inhalations and exhalations sometimes with consonants at beginning, sighing, humming, and moaning) to resonate with physical body parts and with the human energy field in order to restore balance (Leeds 2010: 163).

Toning is an innate and natural act. For example, think about the sounds that a baby makes – soft murmurings, babbling excited speech, yawns, cries, screams, coos – inborn tendencies to produce sound to affect the outcome of some feeling whether it is an emotion, thought, or physical sensation. Babies make sounds to initiate change in their lives – feeding, diaper change, soothing, entertainment, and of course communication (Keyes 2008: 27).

Toning to realign chakras develops a transactional communication between the body, mind, and emotions. This connected knowing allows a patient to treat the core problem of imbalance between these different aspects of being from which disvalued states emanate. The transaction of sound with

the human energy field (where chakras reside) enables energy to be transferred to the physical body. This energy can then treat disvalued states such as emotional blocks, pain, “anxiety states and phobias, stress related symptoms, depression, obsessive/compulsive conditions, and various forms of addictive behavior” (Rigby 1998: 139, Rippentrop 2009: 228).

Because chakras reside within the human energy field, disvalued states manifest as blockages of energy within certain chakras (Parkhurst 1998: 81. Toning can realign and open blocked chakras so that energy from the etheric body (human energy field or auric body) can transfer to the physical body and facilitate the integration of psychological, mental, and physiological process, which in turn, can treat the aforementioned disvalued states (Goldman 2008: 97, 112, Rigby 1998: 130-131). The following music analysis provides music therapists with the specific elements, tools, and choices that will support the successful implementation of toning to realign chakras as therapy.

MUSICAL STRUCTURE

There are seven musical elements within the structure of toning that contribute to the development of connected knowing: frequency (pitch), vocables, volume, duration, timbre, rhythmic pattern, and harmony (if more than one voice is toning at the same time) (Rigby 1998: 131). Because my field experience did not include group toning, the use of drums, or other rhythmic instruments all variables except harmony and rhythmic pattern are present.

However, four of the five toning sessions analyzed for this chapter have an additional element of background music played from a CD.

Everything in the universe vibrates, although it may not be audible to the human ear. Frequency is the number of wave cycles completed per unit of time (Leeds 2010: 16). Sound travels in compression waves, and frequency (measured in Hz) is the number of times air molecules compress into each other per second. (Goldman 2008: 4, Leads 2010: 16). Every vibrating object has its own frequency as was described above in relation to auras (Goldman 2005: 18, Goldman 2008: 7, Leeds 2010: 15). Therefore, sound is an effective medium for exerting change within the auric body and the physical body (Goldman 2008: 9, Scelba 1998: 6, Waters 2010: 20). How does one determine which pitches to use?

FREQUENCY (PITCH)

To treat a disvalued state with toning one must create a pitch with a frequency that resonates with the chakra where the disvalued state emanates. For instance, my lupus caused kidney damage and degenerative disease. Not all sources agree which chakra relates to kidneys, but all agree it is either the first, second, or third chakra (Judith 1988: 18, Parkhurst 1998: 33, Scelba 1998: 9). In addition, adrenal glands are located directly above the kidneys and they are related to the first and third chakras. Therefore, when I tone at home I always spend time focusing on my first three chakras. The frequencies I most

often make to focus on these chakras are between 349.23 Hz and 440 Hz[11] (Western pitches F_4 to A_4). Similarly, during my toning session with Joious Melodi, she felt drawn to work with my third chakra for 30 minutes of our one hour session using frequencies between 347 Hz and 395 Hz (slightly below F_4 to slightly above G_4).

There are two ways a frequency can resonate with another frequency: free resonance occurs when an object begins to vibrate only when it comes into contact with a frequency that exactly matches its own, and forced resonance occurs when one vibrating source produces vibrations in another object even though those two objects may not share the exact same frequency. Forced resonance is generally referred to as entrainment in music therapy and alternative healing circles (Goldman 2008: 8, 14; Leeds 2010: 49). This implies that perfect frequency match is not required to rebalance chakras, but finding a close enough match for forced resonance to occur is necessary. Therefore, therapists employing toning in their practices do not have to worry about finding the exact frequency. Intent for achieving connectivity and balance through visualization and positive thoughts is the most important element for implementation of toning, and will be addressed in detail later in this chapter.

Some sources about toning purport that each chakra is related to specific pitches and or a group of frequencies with specific intervals (scale, mode, or raga) (Parkhurst 1998: 95, Rigby 1998: 158, Rippentrop 2009: 235, Wauters

[11] All frequencies listed to correspond to the tempered (Western) scale and notes in this thesis were obtained from the chart on Michigan Technical University's Physics website http://www.phy.mtu.edu/~suits/notefreqs.html

2010: 14). For example, these sources argue that *Muladhara* (first chakra) responds to the Ionian mode beginning on Western pitch C.

TABLE 3: Chakras and Pitch Correlation

Chakra	*Muladhara*	*Svadhistana*	*Manipura*	*Anahata*	*Vishuddha*	*Anja*	*Sahaswara*
Western Note/Key	C	D	E	F	G	A	B

(Parkhurst 1998: 95, Rigby 1998: 158, Rippentrop 2009: 235, Wauters 2010: 14)

Of the four live toning sessions I analyzed Joious Melodi (toning practitioner) used pitches C_4 and G_4 for a majority of the session (see Table 4). While this could seem to implicate that these toning sessions were conducted centered around the Western Ionian or Lydian mode beginning on C (corresponds to the South Indian ragas Sankarabharanam or Kalyani). Melodi asserts that she does not think about frequencies or pitches while toning**. "**If I go to my head to determine what note to use then it takes me out of my connection with an inner part of me that guides me… it's more of an intuitive sound, one that just comes naturally" (Melodi 2012: Interview). However, I assert that the frequencies and their intervals are culturally influenced, even if they are not conscious decisions. The method for pitch selection reinforces the importance of unity and symmetry between our mind, body, and emotions. It demonstrates the melodic or scale material one feels most comfortable with and will thus use. During toning, one must spontaneously respond to emotional and physical urges vocally without using the mind as a filtering device. This allows there to be equality between mind, body, and emotions without the mind dominating what is allowed to be expressed.

TABLE 4: Reduction of toning sessions

My toning session with Joious Melodi. The frequencies indicated for each chakra/body position are the most frequently used in relation to those chakra/body positions.

Chakras/ Body Position*	Hz	Pitch+	Vocable	Volume pp= 40-55 dB p= 56-70 dB	Duration	Background CD Pitch
Feet	365-391	F#4 – G4	Wooshing "oo"	p/Soft	12 sec	Indiscernible
Knees, & 3rd chakra	394	G4	"oo" w/ oscillation	p/ Soft	13 sec	Indiscernible
1st, 2nd, & 3rd chakras	348-392	F4 – G4	"oo"	p/ Soft	15 sec	C4/5, G4/5 soft waves
3rd & 4th chakras	395	G4	Exhalations "oo"	p/ Soft	17 sec	C4/5, G4/5 soft waves
Fifth	520	C5	"oh"	p/ Soft	12 sec	C4/5, G4/5 soft waves
Sixth	390, 521	G4, C5	"oo", "oh"	p/ Soft	16 sec	C4/5, G4/5 soft waves
Seventh	585	D5	"ah"	pp/ Very soft	20 sec	D4/5, G4/5

+Pitches are the closest match to the frequency, but not always exact
*Because Joious works with both her hands (often in different positions on the body) it is difficult to separate exactly which chakra is being worked on, therefore the positions indicated are the positions both hands were during the toning session.

Three other audio recorded* toning sessions performed by Melodi on her other clients.

Client	Hz	Pitch	Vocable	Volume p = 50-70dB mp = 71-89 dB	Duration	Background CD Pitch
A	261, 393	C4, G4	"oo"	mp/ Medium Soft	13 sec	Indiscernible
B	390	G4	"oo" Ah	p/ Soft	16 sec	C Major
C	260, 348	C4, F4	Wooshing "oo"	p/ Soft	14 sec	No key/note center

*because these were audio recorded there is no indication of which chakra was being worked on with which pitch. In addition, these were massage and craniosacral therapy sessions with toning added, but not sessions for toning alone.

Intuitive pitch selection while toning supports the arguments of many sources that each person has their own individual frequencies (D'Angelo 2005: 111-112, Hunt 1996: 65-66, Keyes 2008: 55, Leadbeater 1927: 97, Melodi 2012: Interview, Tiller 1971: 58). For example, not every patient's *Muladhara* (first chakra) will resonate with the frequency of 261. 63 Hz (C_4). These sources emphasize that since we are all "unique vibratory beings" our organs and chakras will resonant at different frequencies. In addition, the resonance of our chakras can change in response to different physical, emotional, and mental activities (Goldman 2008: 99). Out of the five toning CDs (See Appendix 8) that I analyzed, many different pitches and key centers were used although no CDs advertised using specific pitches for specific chakras. Albeit this is a very small sample, it would seem to indicate that pitch selection is not stagnate for each chakra, further supporting my argument that toning to realign chakras allows one to develop connected knowing specific to their own body, emotions, and mind. For example, the same pitch may not affect everyone's *Muladhara* chakra. Therefore, a patient must learn to listen to their own body.

All toning sources I researched agreed that the lowest pitches should resonate with the *Muladhara* (first chakra) and continue to higher pitches as one continues up to *Sahaswara* (chakra seven) (Goldman 2005: 99, Rippentrop 2009: 233). Author and toning practitioner Jonathan Goldman says that "using the C major scale to tone up the chakras is probably common in the U.S. because it is culturally familiar and easy to play on a keyboard." However, he endorses using any notes or scale that works (Goldman 2005: 49, 90). I

contend that the sonic landscape of one's culture or environment influences not just pitch selection, but more importantly, the intervals between pitches. For example, Joious Melodi (quoted above) tends to use pitches most closely related to the Ionion and Lydian modes beginning with the Western pitch C_4 when toning specifically for chakras. She is a classically trained musician at the university level in America where Ionian mode is hegemonic. I have not had the opportunity to analyze any toning sessions by non-Americans. But I theorize that their intervals will align with the soundscape to which they have been culturally exposed to the most.

VOCABLES

There are several vocable variants used in toning: seed vowel sounds (see Table 5), OM (Ruiter 2005: 42), AH (Goldman 2005: 54), sighing, humming, moaning, and articulated exhalations (Melodi 2012: Interview, Rigby 1998: 131). The seed vowel sounds (see Example 4) are derived from the Sanskrit letter that is depicted on the center of the lotus flower for each chakra (see Appendix 9). These seed vowel sounds are also used in Bija chanting to realign chakras (Avalon 1974: 83-84). However, in toning the vowels are elongated to sustain a desired pitch to resonate unbalanced chakras (Keyes 2008: 56).

Table 5 – Seed Vowel Sounds

Chakras	**Goldman**	**Rippentrop**	**Mercier**	**D'Angelo East**	**D'Angelo West**
Muladhara	Uh	Lang	Larm	Lam	Lum
Swadhisthana	Oo	Vang	Varm	Vam	Voom
Manipura	Oh	Rang	Rarm	Ram	Raum
Anahata	Ah	Yang	Yarm	Yam	Yam
Vishuddha	Eye	Hang	Harm	Ham	Haim
Ajna	Ay	Om	Om	Om	Sim
Sahasrara	Ee	Nng/silence	Om	Mm	Keem

Some toning practitioners encourage using the seed vowel sound associated with each chakra (D'Angelo 2005: 115, Goldman 2008: 98, Mercier 2007: 81, Rippentrop 2009: 231). However, many practitioners feel the main goal during toning is to listen to one's body (body, mind, and emotion) and try to produce whatever sounds one feels are needed (Melodi 2013: Interview). By allowing one's mind, body, and emotions to be heard audibly balance is restored between each of these aspects of self.

Other toning practitioners use the OM vocable in its extended form. The vocable OM originates from its Sanskrit symbol *sri yantra,* and is often used as a mantra for concentration and meditation. OM is represented by five distinct sounds: A O U M N. To tone using OM one begins with the A vowel and proceeds through to O U M N blending all vowels and consonants into one long sustained pitch (Mercier 2007: 78, Ruiter 2005: 42-59).

Toning can be performed alone or in a group. Often in group toning the vowel AH is used. For instance, a co-meditation technique of Tibetan Buddhism uses corporate chanting of the AH sound so that the group can resonate with each other. "It seems that the heartbeat, respiration, and brain

waves of two or more people entrain through breathing or sounding AH together" (Goldman 2005: 54). AH is also the seed vowel sound for the fourth (heart) chakra (See Example 4). I find myself toning the syllable AH most of the time. AH is a sound Americans make often – when we see something cute, when we see something amazing we say, "Awesome." Ah is perhaps the best syllable with which to begin toning because it is already so engrained in our life experiences.

Other vocables that may be used while toning include humming, sighing, moaning, whining and exhalations with consonant beginnings. For instance when toning at home by myself I often find that groaning and moaning seems to release any tension or stress I might be feeling so that I can focus on my body and listen to it. During my field experience with toning practitioner Joious Melodi she often used exhalations with consonant beginnings as a way to clear out energy blockages. For example, she was drawn to work with my third chakra (solar plexus) and made 20 exhalations and hand-waves during the one hour session as if she was moving away bad or blocked energy from my third chakra. Similarly, when I tone at home by myself I often feel a lot of heat and pressure in my third (solar plexus) and fourth (heart) chakras. I make a lot of exhalations, as if releasing tension and it does ease the heat in those areas.

VOLUME

In all my field experiences and toning sessions at home I found that I never feel the need to be very loud. Even producing the quietest sound still

allows the frequency to resonate. In the four toning sessions conducted by Joious Melodi all sounds were below 80 dB (measured with a SL-814 digital sound level meter) indicated as a mp (medium soft) on the toning reduction charts (Table 4) . Laurel Elizabeth Keyes (toning instructor and practitioner) says, “There is no need to be loud because toning heals from the inside out” (Keyes 2008: 59). The audible sound produced while toning may be pleasurable or not, but it is the vibrations from the sounds that entrain the chakras to re-balance. The emphasis is not on performance, but on healing and focusing on one’s body as the community and reception. Technically, one could produce the vibration without making the audible sound by just vibrating their energy. This will be discussed further in the performance of toning section.

DURATION & SILENCE

In my toning session performed by Joious Melodi, she held vowel sounds a median of 15 seconds. Toning pitches (frequencies) are maintained for an extended time allowing a particular chakra or organ to resonate for a sustained time; “it is this length of time which allows for healing to take place” (Rigby 1998: 142). In addition to the duration of sound, perhaps even more important, is the duration of silence between sounds. In my toning session Melodi paused in between vocalizations anywhere from ten seconds to five minutes. Author and toning practitioner Jonathan Goldman says,

> Silence allows the sound to penetrate the physical body, making shifts and changes on molecular levels, affecting our cells, our

> DNA – everything that is physical. Silence also enables the frequency shifts in our subtle body, creating the space for the sound to permeate our chakras, aura, and all our subtle bodies. (Goldman 2005: 57)

In my field experience, it was during the silence that I sensed emotions and statements emanating from my body. For example, during my session when Joious Melodi taught me how to tone myself, as I focused on my heart pumping blood I sensed how tired it was from working so hard all the time. This mirrored how I felt emotionally drained. In response I toned some comforting loving sounds to myself focusing on my heart chakra. I used the AH seed vowel sound and produced several sounds between 348 Hz and 392 Hz (approximately F_4 and G_4). In addition, I sensed that my kidneys were tired of me being angry with them. My lupus (an autoimmune disease) has damaged my kidneys resulting in degenerative kidney disease. During those moments of intense concentration focused on my body I realized how angry I was that they have betrayed me by not working properly. I had been aiming all that anger at my own body. Instead, I realized my kidneys are doing the best they can, and the energy I was using to be angry with their performance could be used in a more positive manner, even perhaps to heal them.

TIMBRE

In my toning session with Joious Melodi, she used two types of timbres. When she used sustained vowel sounds they were clear and piercing, but also delicate. These timbres evoked an image of pinpoint accurate laser surgery, a

non-painful piercing of an outer shell. When she used exhalations, timbre's varied in range from ethereal and gentle to percussive and heavy. Many of these exhalations were accompanied by hand waves (as if fanning away smoke). They evoked an image of release, clearing, and peacefulness. When I tone by myself I often use moans and groans with a guttural, gravely timbre to release irritation and anger. I use exhalations with a hissing, feathery timbre to release pain and heat. I use seed vowel sounds ah, oh, and oo with a clear, vibrant timbre to resonate with my third through seventh chakras. Differing timbres provide a way for us to understand our body more because they inspire mental imagery. Mental imagery helps a patient focus their intentions for healing towards a more concrete goal. Instead of just wanting to "feel better," a patient can visualize walking with a bounce in their step or completing their daily tasks with plenty of energy.

BACKGROUND MUSIC/SOUNDS

The last element of music that was present in in my toning session with Melodi was background music played on a CD (*Sleeping Angels* by Jenny James 2004). The CD consisted of two tracks. The first track was thirty-five minutes, and consisted of synthesized strings and voices. The frequencies sustained for most of the piece were 130. 81 Hz, 261.63 Hz, 523.25 Hz (C_3, C_4, C_5), 196 Hz, 392 Hz, and 783.99 Hz (G_3, G_4, G_5). These pitches are important because I believe they influence which pitches Melodi produced during her sessions. A clear bell-like female voice sang a frequency of 161.63 Hz (C_4) with

the vocable “Aum” over the accompaniment. The second track was eighteen minutes and began with a synthesized guitar playing frequencies 293.66, 369.99, and 440 Hz (a D major arpeggio in Western music) and very soft synthesized strings playing sustained chords (D major as well) in the background. The same female voice sang “Om” on a frequency of 293.66 Hz (D_4) over the instrumentals. My toning session lasted an hour. Melodi toned frequencies that fit into the Ionian and Lydian modes beginning on C for most of the session. She started this CD 15 minutes into the session. Therefore, about the time the second track began (centered around the Western pitch D) Melodi shifted her tone center to D as well. This may explain why Melodi tends to tone in Ionian or Lydian mode beginning with C (Melodi 2012: Interview). This supports my hypothesis that the choice of scale, mode, or pitch is not as important as the intention of the patient and/or healer during toning. It seems only natural that patients will tone using familiar sounds from their environment.

PERFORMANCE

Connectivity and balance manifest within the performance of toning as a conversation between the physical body, thought processes, emotions, and subtle body where the chakras reside. One can tone anywhere anytime. However, finding a safe quiet place will help one shut out any stimuli not coming from one’s own body, mind, or emotions. I attended a toning session with Joious Melodi to learn how to tone myself. She used a system developed by

David Sawyer (licensed psychotherapist and founder of the Integrative Aquatic Therapies) to help guide me through a toning session. This model takes patients through different levels of consciousness by asking them to focus on individual body systems (see Table 6). She asked me to begin by being aware of my breathing and to find a relaxed seated position in a chair in the corner of the toning room with soft light. This is the "thinking self" level of consciousness where one can control their nervous system and feel relaxed and awake. While focusing on my nervous system and breathing, she asked me to make any sounds I felt rising up. I had none at this point.

TABLE 6: Potency-A Developmental Model by David Sawyer, LPC

Consciousness	**Physical Body**	**Awareness**	**Body Rhythm**
Thinking Self	Nervous System	Relaxed & Awake	Breathe
Empowered Self	Muscle Potency	Energetic Support	CRI Tide
Emotional Self	Fluid & Organ Potency	Sensual	Fluid Tide
Soul	Cellular Breathing	Expansion	Ground Swell
Spirit	Cellular Consciousness	Vibration	Active Stillness

To help draw me into a deeper concentration on my body, Melodi led me through the next level of consciousness in this model,the "empowered self." This level asks one to focus on muscles by moving slightly or contracting and releasing muscles one group at a time starting with the toes. As I did this, Melodi asked me to make any sounds that happen to come to mind. I noticed that from my third chakra (solar plexus) and up I felt heat inside my body. I often have this feeling; I usually attribute it to lupus inflammation, which causes heat. So I toned several exhalations, ha, kah, ah, and oh for 10 to 15 seconds

each with about 5 to 7 seconds of silence in between. Afterwards, there was no more sensation of heat, I just felt very relaxed.

The "emotional self" is the next level of consciousness in this model. Melodi asked me to focus on the fluids in my body. This is when I had an experience with my heart and kidneys. I felt that my heart was tired of working so hard, much like I felt emotionally exhausted. I made some cooing and Ah (the seed vowel sound for the fourth (heart) chakra) sounds just as if to pay tribute to or recognize these feelings physically and emotionally. I had a conversation with Melodi about how it sometimes feels like my kidneys hurt, but the doctor's tell me that kidneys do not have nerve endings and cannot hurt. As I reviewed my field video footage I repeated "kidneys cannot feel hurt" four times and then felt my kidneys say, "Hey! We do hurt because you have been angry with us for a long time." When I realized I had been using energy to be angry with my kidneys, I made some sustained vowel sounds on "oh" (the seed vowel sound for third chakra) with frequencies 150 Hz, 147 Hz, and 131 Hz (close to the Western pitches E-flat$_3$, D$_3$ and C$_3$) with the intent of nurturing my kidneys instead of being angry at them.

The next two consciousness levels are "soul and spirit" when one focuses on expanded one's soul or spirit beyond one's space and cellular vibration. One way to transition to cellular vibration is to sustain a pitch several times and feel where in your body it resonates. Melodi had me do this several times until I could feel that resonance in my body without creating the audible

pitch. C.W. Leadbeater, a Theosophist and author of *The Chakras* says that in laya yoga (a form that uses chakras as a form of meditation)

> The yogi tries to pass inward from the sound as known to us and uttered by us, to the inner quality and power of that sound, and thus it is an aid to the passage of his consciousness from plane to plane…we are exhorted to listen to the song of life, and to try to catch its hidden or higher tones. (Leadbeater 1927: 105)

The performance of toning helps one not only understand themselves more fully, but also allows recognition of our interaction with all things through the production of vibrations, whether they produce audible sound or not.

CONTEXT

The context of toning differs greatly due to changes in our mood, health, thought processes, and environment. Connectivity and balance manifest within the context of toning as individuality and malleability. Since the human energy field transacts with many other energy fields, our etheric body is always changing just like our physical body, thoughts, and emotions. Hence, the musical elements of toning (pitch, vocable, volume, duration, and timbre) that help to realign my chakras on Monday may not be the same combination as the musical elements I use to balance my chakras on Tuesday. Resonance of vibratory objects can and do shift "depending on any number of elements, including our physical, emotional, and mental activities before and after" toning (Goldman 2005: 84-85). For example, I usually make a sustained AH sound

between frequencies 220 – 329.63 Hz (A_3 and E_4) when toning my fourth (heart) chakra. However, I noticed that when I am particularly sad or upset I make a sustained “oo” vowel sound between 392-523.25 Hz (G_4 and C_5) instead. This probably emanates from the tension in my body when I am upset.

Focused intent is perhaps the most important element of any therapeutic music activity. Our thoughts, visualizations, and feelings travel with the sounds we make “and is perceived energetically by the people receiving (hearing) the sound,” whether that be another person or just ourselves (Goldman 2005: 37, Mercier 2007: 80, Parkhurst 1998: 67). Our positive thoughts actually exert power for healing change to take place.

Quantum physics can help explain how our conscious intent creates space for healing. On the subatomic level of the particle, mass is immeasurable and appears as energy without dense form, until it is observed; at which point it becomes a particle or a wave depending on how it is observed (Hunt 1996: 41). The observer, by mere consciousness alone, becomes part of the field of interaction. Therefore, our thoughts have an effect on the human energy field and can “catch a ride” so-to-speak on the vibration of the sounds we make while toning.

A kinesiology study by Dr. John Diamond (medical doctor & psychologist) and Dr. David Hawkins (psychiatrist) (Goldman 2005: 39-40) provides an example of focused conscious intent embedded within recorded sounds. They created an experiment using recorded ocean sounds. The time of day and place of the recordings were all the same. However, the first was

recorded while a group of people sat together on the beach and consciously focused their thoughts on positive affirmations. The second recording was made while a group of people sat together on the beach and consciously focused their thoughts on negative things. The third recording was made with no one on the beach at all.

Applied kinesiology is a method for testing the strength of human muscles that respond "to an external input in such a way that those stimuli which are beneficial to us (anything from food to music) cause muscles to become strong (Goldman 2008: 33-34). Dr. John Diamond M.D. specializing in psychological medicine and Dr. David Hawkins psychiatrist and physician conducted a kinesiology experiment. They had test subjects extend their arm horizontal to the ground. Diamond and Hawkins pushed down the test subjects arms and measured the amount of resistance to establish a baseline. The test was then repeated while each of the three ocean recordings was played. It was a double blind study, neither the doctors nor the test subjects knew which version of the recording was played.

The results of this experiment showed that when the third recording was played (no people on the beach at all) text subject's strength remained the same as the baseline or slightly stronger. However, when the second recording played (the one with negative thoughts) test subject's strength response was weaker. When the first recording was played (positive thoughts) the tests subject's strength was stronger. It appears that conscious focused intent can not only "catch a ride" on live sounds, but be embedded within recordings of

those sounds as well. From these scientific studies and publications I surmise that intent of the patient and practitioner is of paramount importance in order to implement toning to realign chakras as viable therapy.

SUMMARY

The chakra system stemming from Hindu yogic philosophy provides a model for patients to develop connected knowing within their own body by helping them become internally conscious of and attend to bodily functions, thoughts, and emotions through sound, and thus treat the core problem of detachment and discrepancies that causes disvalued states. In this sense the community becomes the person, and the individual members become the different aspects of a person: body, mind, and emotions. Focusing on one's chakras and participating in a physical activity, such as toning, allows the patient to make an association between physical action and emotional or mental health.

Toning to realign chakras focuses on directing energy into and through the individual much like Indian tantric yoga philosophy. Scientists have also incorporated explanations such as Einstein's unified field theory and quantum physics to explain how toning helps realign chakras and treat disvalued states (Brennan 1988: 22-24, Hunt 1996: 41-44, Parkhurst 1998: 52). Toning seeks to harness or direct the energies within the human body towards each individual chakra to realign or balance those chakras so that energy can flow freely. By

allowing energy to flow freely into and through the chakras, one transitions from a disvalued state to a physically, mentally, and emotionally healthy state (Goldman 2008: 97, Parkhurst 1998: 34, Rippentrop 2009: 228). However, because intent plays a large role in the effectiveness of toning, one must acquiesce to the idea of energy healing within the context of their worldview or personal beliefs (Goldman 2005: 12-13, Rigby 1998: 153). Toning to realign chakras can help patients listen more attentively to their bodies and thus treat symptoms like tension, high blood pressure, and exhaustion before they trigger more serious disvalued states. Toning can also help patients release pent-up emotions, which often lead to physical disvalued states.

Toning to realign chakras offers a model for music therapists that will help their patients learn new ways to recognize and respond to physical, mental, and emotional problems. Based on the scientific explanations of vibration, frequencies, resonance, human energy field, and field interaction toning can re-balance or realign chakras that are blocked. Chakras become blocked because of physical, mental, or emotional problems that are either being ignored or have not been dealt with addressing the root cause. Toning can give the patients a way to release pent up thoughts and emotions. Releasing these emotions and thoughts free the physical body to function more properly because energy from the etheric body can now flow freely through the chakras. By learning how to “tune-up” one’s own body, the patient not only develops connected knowing, but can take back their own power to affect change in their lives.

Toning refers to any sound the human body can make with the intention of restoration or healing. The cultural values of connectivity and balance manifest within the structure, performance, and context of toning as a reflection of connected knowing, a mental awareness and realization of one's whole self - including body, mind, and emotions, and the relationship between these parts. I focused on how frequency, resonance, and conscious intent can help patients understand how their emotions and thought processes affect their physical and mental well-being by pinpointing areas of division and disproportion within themselves. Toning can help patients lower their blood pressure, pulse, and pain perception; alleviate negative feelings associated with anxiety disorders, depression, and grief; and perhaps even change their cellular matter.

CHAPTER 5
CONCLUSION

The practices of Native American flute, West African drumming, and toning to realign chakras facilitate processes of individual and/or group transformations from a disvalued state to a holistically healthy state. Despite the specific socio-cultural practices of these three case studies, certain principles and process transcend their cultural boundaries, namely the principles of connectivity and balance (Koen 2009: 6). All three case studies stress the importance of connectivity to the environment, the community, and one's self. For instance, playing Native flute and African-type drums allows one to interface with the environment through physical senses of touch, smell, and hearing – particularly when these instruments are made from wood and animal skin.

Intent is another process that transcends cultural and philosophical boundaries, therefore contributing greatly to healing music practices. Whatever intention a person holds in their thoughts or speaks aloud will either add to or take away from their music healing experience. While intent was not discussed in the context of Native American flute music and West African drumming, the explanations and examples of intention within the context of toning to realign chakras can be applied to any music healing activity.

According to Einstein's unified field theory, all objects with matter also have an energy field that extends beyond their visible form, and all energy fields can transact with each other (exert force and/or change upon each other). Further, quantum physics purports that one's consciousness (thought activity)

exerts a creative force upon that which one focuses (Hunt 1996: 46-47 & 49, Koen 2009: 33-34). As a result of these scientific theories, some scientists, psychologists, and music healing practitioners believe that one's thoughts can carry and/or project energy. The projected energy can then transact with any aforementioned energy field (Goldman 2005: 38, Goldman 2008: 31-34, Hunt 1996: 93, Koen 2009: 35, Mercier 2007: 80). Whatever intention the patient holds in their minds will affect the results of their music therapy, whether it be Native American flute, West African drumming, or toning to realign chakras.

Therefore, by harnessing the power of one's thoughts (focused intent upon the task at hand); one can effectively alter the outcome of a music healing session (see example of kinesiology experiment in chapter 4). In this manner, positive thinking is much more than an attitude adjustment. Conscious focused intent during any music healing activity can boost the positive physical, mental, and emotional benefits one receives.

Another aspect of intent is the goal of music healing practices. In Western music therapy within the U.S. the most common goals are preventing disvalued states and treating symptoms of disvalued states (Leeds 2010: 136). In contrast, because of the underlying cultural values of connectivity and balance, the practice of Native American flute, West African drumming, and chakra toning aims not only to address symptoms of disvalued states, but also attempts to treat the root cause – a disconnect or imbalance between the patient and their environment, community, and/or their own aspects of self (Bittman 2001: 45-46, Jones 2010: 41, Leeds 2010: 162, Portman 2006: 458,

Neher 1962: 187-188, Núñez 2005: 13-14, Wiand 2001: 2). Therefore, by addressing issues of connectivity and balance at the root of the patient's problems, Western music therapy can improve the quality and outcomes of any music therapy practice used.

Cognitive flexibility - changes within the brain and mind (thought processes and/or consciousness) which result in a changed perception of and reaction to the environment, community, and self is another process that transcends cultural and philosophical boundaries (Koen 2009: 19-21). The patient's ability to adapt thinking patterns can help improve his overall state of health. Consequently, the music therapist must find a way to help the patient change his pattern of thinking and reaction to stressful stimulus in the patient's life.

Participation in flute and drum circles have become increasingly popular in the last two decades and can help patients change their pattern of thinking and reacting through individual expression and group identity. No physician referral is needed to participate in most flute and drum circles. For example, a patient living in Oklahoma can take advantages of the community flute and drum circles. There are at least four Native American flute circles that meet on a regular basis in Edmond, Norman, Tahlequah, and Lawton (Goss 2012: flutopedia.com). There are seven drum circles that meet regularly in Oklahoma City, Tulsa, and Tahlequah (Ratigan 2013: drumcircles.net). Neither playing the Native American flute nor participating in drum circles requires an adherence to Native American and/or West African worldviews or philosophical beliefs.

However, my observations show that participating in flute or drum circles allows one to experience a sense of community and belonging, and creates a space where each individual can offer a meaningful musical and verbal contribution. In addition, the symbolism of the circle itself promotes equality and balance. If these values of equality and balance are consciously implemented, the patients will be able to address issues of individuality and group affinity.

While toning to realign chakras also promotes connectivity and balance, these values manifest as relationships between each individual person's body, mind (thoughts), and emotions. In this sense, the entire being is the community and the different aspects of that being are its individual members (McQuaid 2012: Interview). Therefore, to sustain a healthy being each individual aspect of that being (body, mind, and emotions) must be expressed without overpowering any other aspects. Practicing yoga and/or toning on a regular basis can provide patient's with a reliable source of therapy without physician referral.

Through observations of myself in these case studies I discovered that my body and emotions rarely if ever speak through my voice because I do not allow my mind to let them. Toning helped me learn to listen to my body and emotions, and allowed those aspects of my being to be heard through my voice without restrictions from my mind. Toning can help patients develop connected knowing by teaching them to listen to each aspect of their being and allowing those aspects to be heard. Connected knowing helps the patient function in balance and harmony.

IMPLEMENTATION SUGGESTIONS

NATIVE AMERICAN FLUTE

Native American flute can be implemented in three ways: playing alone, playing for others, and playing with others. First and foremost, Native American flute can be used by an individual for personal therapy. Most flutes are relatively easy to transport and one can easily pause during the day to play a flute when needed. In addition, Native flutes are user-friendly for beginners. All a patient needs is a flute and the ability to breathe to produce a pleasing sound. I suggest that patients who suffer from stress, anxiety, or high blood pressure should keep a flute near them for ready access. For instance, if a patient is having a particularly difficult day at work, they can easily go to their car or any other free space during a break and play their flute for a few minutes. I have shown through my 30 day self-study that just ten minutes of playing Native flute each day can lower blood pressure and pulse, and calm those with anxiety related disorders.

Tlingit-Haidi flutist Morgan Fawcett provides a good example of personal therapy implementation. He often played Native flute during his lunch period which helped calm him and re-focus his mind for the afternoon classes (Harrison 2012: 13). Taking five to ten minutes out of a stressful day can rejuvenate and re-shape one's attitude for the next tasks at hand. Some psychologists and music therapists use this implementation with their patients not only for stress relief, but also to combat anxiety related disorders,

depression, and grief (DeMaria 2001: 25, Kaminski 2013: Finger Lakes website).

Second, Native American flute can be played for others, live or recorded. Native American flute is well suited for implementation in hospitals. Most other music therapies produce music that is too loud for most hospital environments. However, most Native American flutes are not loud, and most have a soothing, calm, and gentle timber.[12] Flute music can be played for hospitals, hospice care, and nursing home patients (Crawford 2001: 165, Metzger 2006: 144). People can also be exposed to the Native flute's healing properties through workshops and/ or concerts. For example, although Tlingit-Haidi flutist Morgan Fawcett's main goal in workshops is to raise awareness for FAS/FASD and promote Native culture, he does so by using the flute and explaining how it has had a healing effect in his life (NOFAS 2012).

Playing the Native American flute with others offers a third method of implementation for music therapy practices. While flute circles are very popular, only some are advertised as therapy groups. However, the flute circle represents an ideal therapy situation. Based on my experience in the Norman, Oklahoma flute circle, I have observed that all members sit in a circle representing equality. Although we often have a guest or member present something specific about Native flutes, all members and guests present are allowed to speak and play their flutes through a process of taking turns around

[12] For a hospital setting one should not use a Native American flute that is very short (small). The smaller the flute the higher frequencies it will play. It is probably best to use a Native flute that is pitched at F-sharp or lower. This means that when all the tone holes are covered the flute produces the Western pitch F-sharp. These flutes are usually about 3 feet long.

the circle. Appreciation and respect was shown to everyone through attentive listening and encouraging words.

The flute circle model, with the incorporation of a trained facilitator, would provide an excellent procedure for implementation of Native American flute in Western music therapy. I suggest a group of 10-15 patients with one trained music therapist to serve as facilitator. Tying a leather strip that covers the third tone hole down from the mouthpiece on six-holed flutes creates a five-tone pentatonic scale that makes it easy to improvise. The facilitator should allow the patients to all play on their flutes at the same time for a few minutes so they can get familiar with the sounds the flutes make. The first way to structure the playing session involves each patient playing by themselves one at a time, with everyone else clapping for them at the end. The facilitator should emphasize that the goal of the session is to freely express whatever the patients are feeling, i.e. there are no wrong notes. The pentatonic scale has no leading tone, so there is no aural push to find a "correct" note to land on. Another way to structure the playing session involves all patients playing continuous long tones on their flutes with all the tone holes covered, while they each take a turn improvising. Woodwind specialist John Vames' book and CD *The Native American Flute: Understanding the Gift* (2003) is an excellent guide to further explore the Native flute.

In addition to flute circles, Native American flute is beginning to emerge in the elementary classroom. While most of these programs are not focused on using Native flute for healing purposes that does not mean that healing cannot

occur. Classroom settings provide a slightly different model for implementation of Native flute in therapy, particularly if the therapist is working with a younger age group.[13] Therapists should watch for changes in flute participants pulse and blood pressure, as well as mood changes. If properly implemented patients should lower their pulse and blood pressure, and lower their stress level.

WEST AFRICAN DRUMMING

Drumming circles are quite common throughout the U.S. within and outside of Western music therapy. However, for those who do not have experience drumming or facilitating drumming circles, some of the following suggested implementations may help facilitate better physical responses such as lowered pulse, blood pressure, and pain perception. In addition, patients participating in a well facilitated drum circle should experience personal expression and group affinity. First of all, not all drumming circles are West African drumming circles. West African drumming is a culturally specific genre, style, and practice. However, the underlying cultural values of collective participation and equality illustrated within West African drumming circles in this study can be incorporated into any drumming circle – no matter what kind of drums or rhythms are played.

While drumming alone may provide positive therapeutic effects and changes in consciousness through repetitive low-frequencies, I argue that the

[13] For more information about implementing Native American flute based on a classroom setting see Appendix 10.

most effective way to implement African drumming into Western music therapy is within a group context such as community, corporate/workplace, classrooms, and therapy circles. An excellent source with multiple models of implementation is a book by renowned percussionist and drum circle facilitator Arthur Hull entitled *Drum Circle Spirit: Facilitating Human Potential through Rhythm* (1998).[14] His models of implementation are based on community rhythm circles open to anyone who want to participate (Hull 1998: 12). While this can be applicable in a music therapy situation, I propose that music therapists may want to divide drum circle's into different groups according to the patient's needs. While one of the goals of drum circle therapy is for everyone to express themselves individually and experience belonging, it may be difficult for some patients to do this in a widely varied group of people. Hull includes a chapter about facilitating drum circles in specific populations such as kids, challenged persons, and the elderly (Hull 1998: 95-122).

The facilitator's most important job is to convey the cultural values of collective participation and equality. That means the facilitator should not dominate the circle with talking or playing. A few of Hull's rules of etiquette for drum circles convey these principles of connectivity and balance:

- Sit in the circle so you can see everybody, and so that you are not blocking anyone's view.
- Ask permission before playing someone else's drum.
- Listen to what is going on in the circle musically.
- Support the fundamental groove or beat.
- Leave rhythmical space for other people in the circle to express themselves. (Hull 1998: 30)

[14] See Appendix 11 for other resources related to drumming circle implementations.

The patient's develop a sense of community through the drum circle by listening and finding the fundamental groove or beat. Then they are able to express their individuality by playing their own rhythm within the overall beat. Leaving space for others to play their rhythms allows all the patients room to find their own voice through drumming. In addition, patients should experience many positive physical results. The repetitive low-frequency sounds of the drums will reduce patient's pain perception. The extended playing sessions (at least 20 minutes) will help increase focus and attention span. The transactional communication experienced through group music making will trigger serotonin and endorphin releases, which result in lowered stress response.

TONING TO REALIGN CHAKRAS

Toning to realign chakras can be implemented in three ways: toning alone, toning for others, and toning with others. There are three ways to learn how to tone: read toning literature, listen to toning CDs, and/or learn from a toning practitioner. I used all three of these approaches by reading and listening to several toning sources (Appendix 8), and by studying with an energy healer and toning practitioner, Joious Melodi. While everyone may not have access to energy healers or toning practitioners, toning literature and websites are very accessible (Appendix 12).

Toning for others does not require a license or certification, but if one plans to charge for their services some type of training is recommended. My toning practitioner, Joious Melodi discovered toning while attending the Barbara

Brennan School of Healing (for more information see website listed in Appendix 12). Melodi found that during her practice of energy healing, she often felt an urge to make sounds. Melodi then researched toning and learned most of her information from well-known author, teacher, and toning practitioner Jonathan Goldman's texts (listed in bibliography) (Melodi 2012: Personal Interview).

From my experience the best way for a patient to learn to tone is to read the literature and listen to the accompanying CDs. While speaking and working with toning practitioners in person was helpful to my experience, it is not necessary if a patient wishes to tone by themselves. There are many variables of toning available to a patient. However, I recommend that if a patient wants to learn to tone alone, they should begin by finding a quiet place where they can focus on their body, thoughts, and emotions. Then, when they are comfortable, patients should make a sound, and do so as naturally as possible. However, if this is too unfamiliar for some patients, they can tone along with CDs until they feel comfortable enough to tone by themselves.

Toning can also be performed with others. Jonathan and Andi Goldman's book, *Chakra Frequencies: Tantra of Sound* (2005) focuses on group toning with couples, families, and other types of groups. This particular model is well equipped to fit into existing music therapy contexts which are often conducted in small groups. To have two patients tone together, they should sit or stand in a comfortable position facing each other. One of the patients can begin making sounds. Eventually these sounds will focus on the

same frequency and vowel sound, and then when one patient is ready they will change their frequency and vowel sound.

Malabika Shaw (toning practitioner) conducts many group toning sessions at her business Vision Holistic in Newton, Massachusetts, and she says that,

> Without any instruction groups of 15 or more people will end up toning (making sounds) that produce a beautiful harmony. But it moves in waves, the group will make a beautiful harmony than everyone will go their own way and it's cacophonous for a while, and then the harmony returns again. I've never had to tell a class it was time to stop toning, they just all quiet down about the right time, because their body is righted and balanced for the time being. (Shaw 2013: Interview)

Her experience with group toning indicates a transactional communication between participants. Making sounds (music) together creates a group intuition or consciousness that needs no verbal directions.

Native American flute, West African drumming, and toning to realign chakras provide practical models for Western music therapists to implement within their practices. The cultural values of connectivity and balance manifested within the structure, performance, and context of these indigenous therapies address the root cause of disvalued states. When disconnect and imbalance between the patient and his community, environment and self (root cause) are addressed through these indigenous therapies, the patient's disvalued states will transform into a healthy and balanced state. Therefore, it is through the expression of these cultural values of connectivity and balance that Native American flute, West African drumming, and toning to realign chakras can lower blood pressure and pulse; change blood and brain chemistry

which boosts the immune system; and alleviate negative feelings that contribute to stress, anxiety-disorders, depression, and grief.

Indigenous therapies such as Native American flute, West African drumming, and toning to realign chakras treat the root cause of disvalued states – working towards cures and prevention. Western music therapy, which tends to treat symptoms of disvalued states, stands to benefit from incorporating indigenous therapies. Not only do these case studies address disconnect and imbalance - the root cause of disvalued states, they provide quantifiable evidence of their efficacy. Even more important, these indigenous therapies are readily available to patients without physician referral. Patients can take control of their health care choices.

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APPENDICES

APPENDIX 1: IRB Approval Letter

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Expedited Review – AP01

Date: October 24, 2012

IRB#: 1315

Principal Investigator: Jennifer S Davis, BA

Approval Date: 10/23/2012

Expiration Date: 09/30/2013

Study Title: Medical Ethnomusicology and Its Applications within Western Music Therapy

Expedited Category: 6 & 7

Collection/Use of PHI: Yes

On behalf of the Institutional Review Board (IRB), I have reviewed and granted expedited approval of the above-referenced research study. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Obtain informed consent and research privacy authorization using the currently approved, stamped forms and retain all original, signed forms, if applicable.
- Request approval from the IRB prior to implementing any/all modifications.
- Promptly report to the IRB any harm experienced by a participant that is both unanticipated and related per IRB policy.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Promptly submit continuing review documents to the IRB upon notification approximately 60 days prior to the expiration date indicated above.
- Submit a final closure report at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Aimee Franklin, Ph.D.
Chair, Institutional Review Board

IRB Final Report – Inactivation Letter

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Final Report – Inactivation

Date: April 30, 2013 **IRB#:** 1315

To: Jennifer S Davis, BA **Inactivation Date:** 04/30/2013

Study Title: Medical Ethnomusicology and Its Applications within Western Music Therapy

On behalf of the Institutional Review Board (IRB), I have reviewed the Final Report for the above-referenced research study. You have indicated that this study has been completed and should be inactivated. This letter is to confirm that the IRB has inactivated this research study as of the date indicated above.

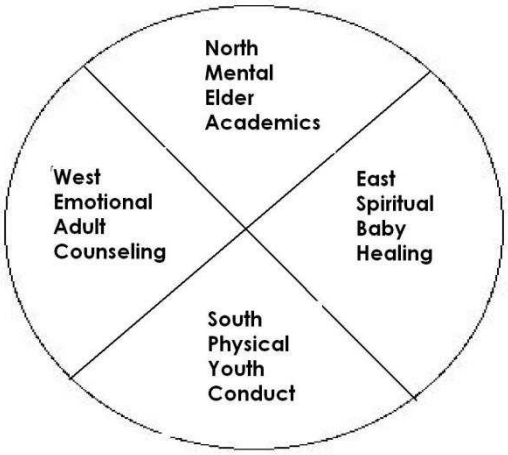
Note that this action completely terminates all aspects and arms of this research study. Should you wish to reactivate this study, you will need to submit a new IRB application.

If you have questions about this notification or using iRIS, contact the IRB at (405) 325-8110 or irb@ou.edu.

Cordially,

Aimee Franklin, Ph.D.
Chair, Institutional Review Board

APPENDIX 2:
Medicine Wheel
(Dubé 2007: 107)



APPENDIX 3:
Sakoieta' Widrick Web Page Information (Gives frequencies related to body organs, planets, etc…)

Mother Earth's heartbeat frequency is F# or 378.5 hz

Notes and Frequencies of the Body Organs

Organ	**Frequency/ Note**
Blood	321.9/ E
Adrenals	492.8/ B
Kidney	319.88/ Eb
Liver	317.83/ Eb
Bladder	352/ F
Intestines	281/ C#
Lungs	220/ A
Colon	176/ F
Gall Bladder	164.3/ E
Pancreas	117.3/ C#
Stomach	110/ A
Brain	315.8/ Eb
Fat Cells	295.8/ C#
Muscles	324/ E
Bone	418.3/ Ab

Orbits and Spins of Our Planets

Planet	Orbit	Spin
Earth Note	272.2 (C#)	378.5 (F#)
Sun Note	332.8 (E)	497.1 (B)
Moon Note	421.3 (Ab)	None
Mars Note	289.4 (D)	389.4 (G)
Mercury Note	282.4 (D)	421.3 (A)
Jupiter Note	367.2 (F#)	473.9 (Bb)
Venus Note	442 (A)	409.1 (G#)
Saturn Note	295.7 (D#)	455.4 (A#)
Uranus Note	414.7 (G)	430.8 (Ab)
Neptune Note	422.8 (Ab)	310.7 (Eb)
Pluto Note	280.5 (C#)	486.2 (B)

Chakra Energy Centers of Our Bodies

Chakra	**Frequency/ Note**
Transpersonal	273 (1:15) C# (Earth Orbit 272)
Crown	480 (15:1) B
Unknown	445 (1:9) Bb (Venus Orbit 442)
Third Eye	448 (14:1) A
Psychic Center	416 (13:1) Ab (Uranus Orbit 415)
Unknown	410 (1:10) Ab (Venus Spin 409)
Unknown	372 (1:11) G# (Earth Spin 378)
Throat	384 (12:1) G
Thymus	352 (11:1) F#
Heart	341 (1:12) F
Solar Plexus	320 (10:1) Eb
Diaphragm	315 (1:13) D#
Polarity	288 (14:1) D (Mars Orbit 289)
Root	256 (1:1) C

Comparison of Parts of the Body Based on the Speed of Sound

Through Each Organ to the Above Chart (1996)

Function of the Body	**Note**	**Frequency**
Lungs	A	220*
Stomach	A	110*
Bone	Ab	418.3
Spleen	B	492
Adrenals,Thyroid, Parathyroid	B	492.8*
Personality	C+	264
Circulation, Sex	C#	586
Small Intestines	C#	281.6*

Pancreas	C#	117.3
Fat Cells	C#	295.8
Kidney	Eb	319.88*
Liver	Eb	317.83*
Blood	Eb	321.9
Muscles	E	324
Gall Bladder	E	164.3*
Bladder	F#	352*
Colon	F#	176*

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APPENDIX 4:
Native American Flute CDs and songs analyzed for tempo/rhythm

#	CD	Song	Artist	Tempo/Rhythm
1	Desert Dance	Mountain Blue Bird Calling	R. Carlos Nakai	66
2	Desert Dance	Yellow Eagle-Feather Dance	R. Carlos Nakai	63
3	Understanding the Gift	Lakota Courting Song	John Vames	104
4	Understanding the Gift	Zuni Sunrise	John Vames	76
5	Understanding the Gift	Kiowa Love Song	John Vames	52
6	Understanding the Gift	Sioux Chant	John Vames	66
7	Understanding the Gift	Medicine Song	John Vames	88
8	Understanding the Gift	Lonesome Flute song	John Vames	72
9	Understanding the Gift	Prayer	John Vames	60
10	Understanding the Gift	Koko's Lament	John Vames	58
11	Understanding the Gift	Childs Play	John Vames	76
12	Earth Spirit	Lakota Wedding Song	R. Carlos Nakai	71
13	Earth Spirit	Star Chant	R. Carlos Nakai	66
14	Native American Flute	Big Lake Song	Jody T. Gaskin	69
15	Native American	Water Relatives	Jody T.	No definite

	Flute		Gaskin	tempo
16	Native American Flute	Northern Lights	Jody T. Gaskin	No definite tempo
17	Native American Flute	Thunder Beings	Jody T. Gaskin	72
18	Native American Flute	My Love Across the Lake	Jody T. Gaskin	No definite tempo
19	Native American Flute	Summer Sky	Jody T. Gaskin	76
20	Native American Flute	Winter Cloud	Jody T. Gaskin	No definite tempo
21	Native American Flute	The First Blade of Grass	Jody T. Gaskin	112
22	Native American Flute	Blue Sky	Jody T. Gaskin	70
23	Changes Vol. 1	10/18/82	R. Carlos Nakai	66
24	Changes Vol. 1	11/11/82	R. Carlos Nakai	90
25	Changes Vol. 1	11/20/82	R. Carlos Nakai	80
26	Changes Vol. 1	12/13/82	R. Carlos Nakai	72
27	Changes Vol. 1	12/13/82	R. Carlos Nakai	72
28	Changes Vol. 1	12/20/82	R. Carlos Nakai	80
29	Ancestral Memories	Winter Sleep	Morgan Fawcett	66
30	Ancestral Memories	Memories	Morgan Fawcett	63
31	Ancestral Memories	Raven	Morgan Fawcett	60
32	Ancestral Memories	Mendenhall Ice	Morgan Fawcett	66
33	Ancestral Memories	Light By Fire	Morgan Fawcett	72
34	Ancestral Memories	Gooch (Wolf)	Morgan Fawcett	70
35	Ancestral Memories	Grandfathers	Morgan Fawcett	60
36	Ancestral Memories	Pride	Morgan Fawcett	66
37	Ancestral Memories	Woodpecker	Morgan Fawcett	72
38	Ancestral	Home	Morgan	63

	Memories		Fawcett	
39	Ancestral Memories	Savannah Song	Morgan Fawcett	60
40	Ancestral Memories	At Yatx'I (Children)	Morgan Fawcett	69
41	Ancestral Memories	Sunrise	Morgan Fawcett	72
42	Ancestral Memories	Sunset	Morgan Fawcett	72
43	Ancestral Memories	Stumbling	Morgan Fawcett	No definite tempo
44	Ancestral Memories	Zion	Morgan Fawcett	No definite tempo
45	Tears of Our Fathers	Children Dance	Morgan Fawcett	144
46	Tears of Our Fathers	Memories	Morgan Fawcett	58
47	Tears of Our Fathers	Tent Town	Morgan Fawcett	62
48	Tears of Our Fathers	Ancient Ones	Morgan Fawcett	63
49	Tears of Our Fathers	Passage	Morgan Fawcett	94
50	Tears of Our Fathers	Story Tellers Melody	Morgan Fawcett	66

APPENDIX 5: Drums used in African Drumming Class

Djembe with *csing csing*

Kriti (log drum)

Djun djun Family

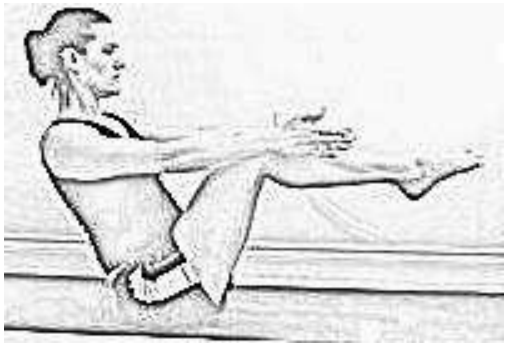
Sangba *Djun djun* *Kenkeni*

APPENDIX 6:
Yoga *Asanas* (poses) related to each chakra (there are many poses applicable for each chakra that I practiced in my session with Martha McQuaid)

Muladhara – First Chakra
Tadasana – Mountain Pose

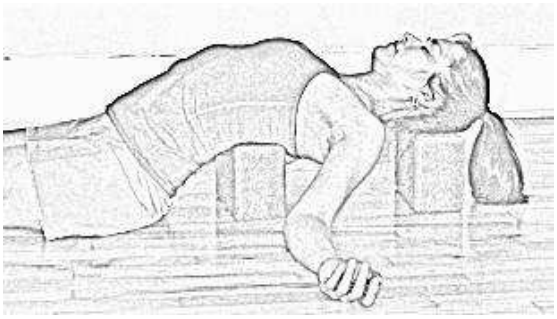
Svadhisthana – Second Chakra
Eka Pada Kapotasana – Pidgeon Pose (modified as seated)

Manipura – Third Chakra
Ardha Navāsana – Half-boat



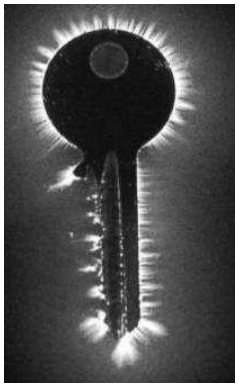
Anahata – Fourth Chakra and
Visuddha – Fifth Chakra
Backbends – modified with blanket

Modified backbend with blocks



Anja – Sixth Chakra and *Sahaasra* – Seventh Chakra
Sasanga – Rabbit Pose

APPENDIX 7:
Kirlian photography of metal key



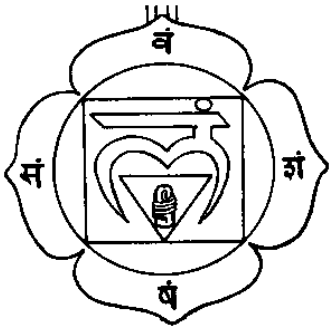
From Kirlian Photography website: http://mujige.com/812

APPENDIX 8: Toning CDs

CD Title	Artist/Compiler	Release Date	Key/Note Center
Sleeping Angels	Jenny James	2004	C Major & D Major
Peaceful Journey	Jonathan Goldman	2005	B-flat Major
Sounds Llike Om	Dick D. Ruiter	2005	Varying keys – Major and Minor
The Creative and Healing Power of the Voice	Laurel Elizabeth Keyes	2008	No key/note center
Tantra of Sound	Jonathan Goldman	2008	No key/note center

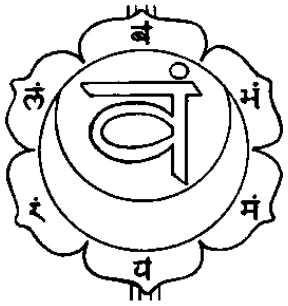
APPENDIX 9: Chakra Lotus with Seed Vowel Sounds

MULADHARA (FIRST CHAKRA)
Seed Sound: Lang

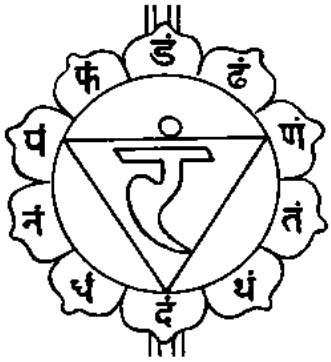


SWATHISTANA (SECOND CHAKRA)

Seed Sound: Vang



MANIPURA (THRID CHAKRA)
Seed Sound: Rang



ANAHATA (FOURTH CHAKRA
Seed Sound: Yang

VISHUDDA
(FIFTH CHAKRA)
Seed Sound: Hang

AJNA
(SIXTH CHAKRA)
Seed Sound: OM

SAHASRARA
(SEVENTH CHAKRA)
Seed Sound: Mm or Nn

APPENDIX 10 - Native American Flute Therapy Resources

- Access Music Therapy – Ojibwe Music with a Purpose http://musictherapyinduluthsuperior.wordpress.com/
- Cancer survivors group flute circle http://beaconnews.suntimes.com/lifestyles/10352153-423/native-american-flute-circle-breath-of-fresh-air-to-community.html
- Chris Ti Coom Flutes http://www.christicoom.com/
- Encinitas Educational Foundation: Native American Flutes Program http://www.encinitaseducationalfoundation.org/school-programs/school-programs-2/indian-flutes
- Flute Haven Native Flute School http://www.flutehaven.com/
- Flutopedia Encyclopedia for the Native American Flute http://www.flutopedia.com/index.htm
- Native Flute School http://zioncanyonnativefluteschool.com/about.htm
- One Heart Creations Website (Morgan Fawcett) http://morganfawcett.vpweb.com/?prefix=www
- Voices and Visions: Michael B. Demaria http://voicesandvisions.skybleedsscorpio.com/html/dr__demaria.html
- *Voice of the Wind: Native American Flute Songs* by Bryan Burton and Maria Pondish Kreiter (World Music Press Danbury, CT: 1998) is a guide for music educators to present a unit on Native American flute music in the music or general education classes.
- Dubé dissertation 2007 (see bibliography) presents a way to implement Native American flute curriculum for indigenous students in an indigenous school

APPENDIX 11 – Drumming Circle Therapy Resources

- Afrobeat: The Science of Drumming http://afrobeat.com.au/The_Science_of_Drumming.php
- Arthur Hull's website Village Music Circles http://drumcircle.com/
- Benefits of Traditional Drumming in Music Therapy http://musictherapydrumming.com/benefits-of-traditional-drumming-in-music-therapy/
- Drum Therapy: Creative Education and rehabilitation http://drumtherapy.co.uk/sitemap
- Drumming Therapy http://www.alternativedepressiontherapy.com/drumming-therapy.html
- Jahruba drum teacher located in Norman, OK http://www.jahruba.com/
- USA & Global Drum Circle Finder http://drumcircles.net/#circles

APPENDIX 12 – Toning Therapy Resources

- Barbara Brennan School of Healing http://www.barbarabrennan.com/
- Chakra Balancing and Toning Class http://www.facebook.com/events/443660245660618/

- Healing & Abundance: Sound Healing for Health http://marguerita.com.au/sound-healing/toning/
- Innerstillness http://www.innerstillness.com/5.html
- Joious Melodi (Joyce Eels) Massage and Energy Bodywork http://heartcenteredbodywork.com/
- Jonathan Goldman: Healing Sounds http://www.healingsounds.com/
- Nirvana Wellness Center http://www.nirvanawellnessnj.com/chakra-resonance-and-toning.html
- Socrates Healing http://socrateshealing.com/my-personal-blog/vocal-toning-the-chakras.html
- Sophia Songhealer http://www.songhealer.net/workshop.htm
- Sound Healing Sessions for Animals http://www.soundhealingangelcoaching.com/AnimalCommunicationSoundHealing.html
- Through a Dog's Ear http://throughadogsear.com/why-do-dogs-howl-interview-with-joshua-leeds/
- Using Vocal Toning to Open and Balance Chakras http://www.the-energy-healing-site.com/chakra-tones.html

APPENDIX 13 - Music Therapy Websites

- American Medical Student Association ICAM (Integrative, Complementary, and Alternative Medicine) http://www.amsa.org/AMSA/Homepage/About/Committees/StudentLife/ICAM.aspx
- American Music Therapy Association http://www.musictherapy.org/
- Complementary and Alternative Medicine Meetings & Conferences http://www.researchraven.com/conferences/category/complementary-and-alternative-medicine.aspx
- Music Therapy in Oklahoma http://www.facebook.com/pages/Music-Therapy-in-Oklahoma/101259253280357
- Music Therapy, Vibrational Medicine, Sound Therapy, Meditation Music, and Entrainment http://www.peacefulmind.com/music_therapy.htm#Entrainment
- National Center for Complementary and Alternative Medicine http://www.nccam.nih.gov/
- National Standards Board for Therapeutic Musicians http://www.therapeuticmusician.com/
- The Certification Board for Music Therapists http://www.cbmt.org/
- The Music for Healing and Transition Program Inc.(How to Become a Certified Music Practitioner) http://www.mhtp.org/