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Understanding Physicians' and Non-Physician Practitioners' Recommending Practices, Knowledge, Attitudes, Beliefs and Expectations Regarding Music as a Cost-Effective Complementary and Alternative Medicine Approach

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Regarding Music as a Cost-Effective
Complementary and Alternative Medicine Approach**

By

Paul F. Franco

Dissertation Committee:

Dr. Deborah A. DeLuca, M.S., JD (Chair)

Dr. Terrence F. Cahill, Ed.D., FACHE

Dr. Lee Cabell, Ed.D.

Submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in Health Sciences

Seton Hall University

2016

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Approved by the Dissertation Committee:

 _____ Date 3/17/2016

 _____ Date 3/17/16

 _____ Date 3/17/16

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DEDICATION

This dissertation research is dedicated in memory of my grandparents, Salvatore and Jennie Leto, who both instilled in me as a child the importance of investing time and effort through consistency, as in building a house to live in or the cultivation of a garden, in order to reap the fruits of that labor.

*“For years I have been bringing up the suggestion
to pregnant women to plan what music they
would like to bring with them for labor
but I have no experience with formal music therapy.*

I am unsure if it is available in my rural area.

*Two weeks before her death at age 95,
suffering with dementia,
I sat next to my mother in church and heard her sing
from memory all the verses of a well-known hymn
I remembered from childhood.*

She could not remember her children's names.

This was a profound and wonderful moment for me.

I believe in the power of music to help us all.”

Anonymous Certified Nurse Midwife

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ABSTRACT**UNDERSTANDING PHYSICIANS' AND NON-PHYSICIAN
PRACTITIONERS' RECOMMENDING PRACTICES, KNOWLEDGE,
ATTITUDES, BELIEFS AND EXPECTATIONS REGARDING
MUSIC AS A COST-EFFECTIVE
COMPLEMENTARY AND ALTERNATIVE MEDICINE APPROACH**

Paul F. Franco

Seton Hall University, 2016

Dissertation Chair: Dr. Deborah DeLuca, M.S., J.D.

Background and Purpose of the Study: With the rise in healthcare costs, partly due to an aging demographic (of whom these care-receivers and their informal family member/friend caregivers are experiencing high stress and anxiety levels resulting in an increase in nursing home placement), a need exists for a cost-effective alternative to the traditional medical approach. Specifically, Music Therapy, a form of Complementary and Alternative Medicine (CAM) has been shown to decrease the severity of the problem by alleviating symptoms of an illness and improving overall well-being. The purpose of this study was to create a valid tool entitled "The Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)" and then implement this tool in the population in order to help identify and understand the differences between physicians' (MD, DO) and non-physician

practitioners' (NP, NA, NM, CNS, PA) recommending practices, perceptions of knowledge, attitudes, beliefs and expectations regarding music as a cost-effective complementary and alternative medicine approach.

Methods: This study utilized a quantitative methodology with a descriptive, exploratory, cross-sectional and correlational research design to measure recommending practices, perceptions of knowledge, attitudes, beliefs and expectations of physicians and non-physician practitioners. A sample of 544 healthcare practitioners across seven fields of medicine participated in this study.

Results: Reliability for the GCAMTA on the whole with all five dependent variable factors combined was excellent (Cronbach's alpha $\alpha = .94$). Individually, for each factor of the GCAMTA, the reliability ranged from good to excellent: *Recommending Practices* ($\alpha = .81$), *Perceptions of Knowledge* ($\alpha = .92$), *Attitudes* ($\alpha = .81$), *Beliefs* ($\alpha = .88$), *Expectations* ($\alpha = .87$).

Physicians (MD, DO) were neutral in their recommending practices, perceptions of knowledge, attitudes, beliefs and expectations towards music as a CAM therapy. Non-physician practitioners (NP, NA, NM, CNS, PA) were less conservative than the physicians and, thus, more favorable towards music as a CAM therapy for their patients. As perceptions of knowledge increased for both groups, favorability towards music as a CAM therapy increased as well. Results of the Multivariate Analysis of Variance (MANOVA)

across all five dependent variables were statistically significant ($p = .0001$) at an alpha level of 0.01.

Conclusion: Educational curricula may be the root of the discrepancy in the views between physicians and non-physician practitioners. Teachings in allopathic approaches may need to include teachings in holistic medicine in order for awareness of CAM such as Music Therapy to be obtained. In addition, further evidence-based research and longitudinal studies are needed for increased acceptance and eventual recommendation of these types of complementary approaches by healthcare practitioners in their practice.

Keywords: Music Therapy, Complementary and Alternative Medicine (CAM), physicians, non-physician practitioners, healthcare, Affordable Care Act, recommending practices, wellness, stress, anxiety

Chapter I

INTRODUCTION

Background of the Problem

One of the most important goals of the current state of health care reform is to lower costs while maintaining a high-level quality of care to individuals. Waiting to treat illness until a person is sick as well as an ever-increasing ageing demographic have both contributed to rising health care costs (OPC, 2015). Preventative services, those which seek to foresee negative health conditions of an individual and ameliorate those health conditions before they worsen, are burgeoning in acceptance amongst leaders in health care reform, and this is becoming commonplace within the healthcare community of professionals and their patients.

One particular area of healthcare has the potential to decrease the severity of the problem by offering a cost-effective alternative, which focuses on non-traditional medical techniques aimed to alleviate the burdens or symptoms of an illness and to improve mood and overall well-being of the patient. These non-traditional medical techniques, commonly referred to as complementary and alternative methodologies, are increasingly being employed in the healthcare setting to treat individuals in a variety of health states. Complementary and alternative medicine (CAM), a classification for therapies that are different from and viewed as harmonious with conventional

or allopathic biomedicine, is being assimilated and institutionalized in a variety of settings (Sharf et al, 2012). Complementary medicines are therapies used together with conventional medicine and alternative medicines are therapies used in place of conventional medicine (Yildirim, 2010).

Under the umbrella of Complementary and Alternative Medicine techniques, one modality offered in hospitals and other medical establishments that has shown to be effective for both health and cost-efficiency is music as therapy (Walker, 2012). Music Therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship (AMTA, 2014). Music can be designed to promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication and/or promote physical rehabilitation (AMTA, 2014). The prevalent use of music in healthcare is well documented in the literature to combat the aforementioned problem of stress and anxiety as well as for the use of other mental health and physical states of care-receivers' well being.

Statement of the Problem

This problem of rising health care costs is significant because patients are living longer and this ageing demographic is contributing to an increased need for treatment. Additionally, there is a relationship between the extent of perceived burden of the non-professional caregiver and the nursing home placement of the care receiver (Schindler, 2012). The greater the reported

burden of the caregiver, the more likely the care receiver is to move to a nursing home. A reduction in the amount of care given by family members to care receivers would lead to an increase in public health costs. Therefore, the implications for delaying nursing home placement are great, indicating the need for an accessible, cost-effective strategy that could help family caregivers manage their loved ones at home, while maintaining their own life satisfaction (Hanser, Butterfield-Whitcomb & Kawata, 2011).

Purpose of the Study

The purpose of this study was two-fold. First, the purpose was to create, validate and test for reliability a Principal Investigator created survey instrument. This instrument entitled “The Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)” addresses five key constructs discussed in the literature surrounding the practices of prescribing health care practitioners.

Secondly, the purpose of this study was to use this validated and reliable survey tool in the population in order to help identify and understand the differences between physicians’ (MD, DO) and non-physician practitioners’ (NP, NA, NM, CNS, PA) recommending practices, perceptions of knowledge, attitudes, beliefs and expectations regarding music as a cost-effective complementary and alternative medicine approach.

Variables

The five dependent variables in this study were recommending practices, perceptions of knowledge, attitudes, beliefs and expectations. The independent variables were the type of practitioner (physician or non-physician practitioner).

Research Questions

The overarching research interest framing the dissertation study is as follows:

What are physicians' (e.g. MD, DO), and non-physicians' (e.g. nurse practitioners' (NP), nurse anesthetists' (NA), nurse midwives' (NM), physician assistants' (PA), clinical nurse specialists' (CNS)) recommending practices, perceptions of knowledge, attitudes, beliefs and expectations regarding music as a cost-effective complementary and alternative medicine approach utilizing Empowerment/ Engagement Theory, Wellcare/Obamacare Ideologies, and Prochaska's Theory of Change Behavior as triangulated paradigms?

Broken out by practitioner type, the corresponding research questions and hypotheses are as follows below. The first set of research questions are merely descriptive in nature, and do not have accompanying hypotheses.

These questions are merely based on understanding what each practitioner's understanding is of each of the domains identified.

Research Questions 1 to 5 address the physicians:

RQ1. What are physicians' (MD, DO) ***recommending practices*** regarding music as a cost-effective complementary and alternative medicine approach?

RQ2. What are physicians' (MD, DO) ***perceptions of knowledge*** regarding music as a cost-effective complementary and alternative medicine approach?

RQ3. What are physicians' (MD, DO) ***attitudes*** regarding music as a cost-effective complementary and alternative medicine approach?

RQ4. What are physicians' (MD, DO) ***beliefs*** regarding music as a cost-effective complementary and alternative medicine approach?

RQ5. What are physicians' (MD, DO) ***expectations*** regarding music as a cost-effective complementary and alternative medicine approach?

Research Questions 6 to 10 address the non-physicians (by type of practitioner) along the same domain levels. This allows for the comparison later of two groups (physicians vs. non-physicians) and 5 major domain types.

RQ6. What are non-physicians' (NP, NA, NM, PA, CNS) ***recommending practices*** regarding music as a cost-effective complementary and alternative medicine approach?

RQ7. What are non-physicians' (NP, NA, NM, PA, CNS) **perceptions of knowledge** regarding music as a cost-effective complementary and alternative medicine approach?

RQ8. What are non-physicians' (NP, NA, NM, PA, CNS) **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

RQ9. What are non-physicians' (NP, NA, NM, PA, CNS) **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

RQ10. What are non-physicians' (NP, NA, NM, PA, CNS) **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

Finally, Research Questions 11 to 15 and their corresponding hypotheses address the differences between practitioner types and domains of CAM practice.

RQ11. What is the difference between physicians' and non-physician practitioners' **recommending practices** regarding music as a cost-effective complementary and alternative medicine approach?

H11_a. Non-physician practitioners are more favorable in recommending music as a CAM therapy than physicians.

RQ12. What is the difference between physicians' and non-physician practitioners' **perceptions of knowledge** regarding music as a cost-effective complementary and alternative medicine approach?

H12_a. Non-physician practitioners' perceptions of knowledge regarding music as a CAM therapy are higher than physicians' perceptions of knowledge regarding music as a CAM therapy.

RQ13. What is the difference between physicians' and non-physician practitioners' **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

H13_a. Non-physician practitioners have more favorable attitudes toward music as a CAM therapy than physicians.

RQ14. What is the difference between physicians' and non-physician practitioners' **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

H14_a. Non-physician practitioners have more favorable beliefs toward music as a CAM therapy than physicians.

RQ15. What is the difference between physicians' and non-physician practitioners' **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

H15_a. Non-physician practitioners have more favorable expectations toward music as a CAM therapy than physicians.

Significance of the Study

Because the use of CAM therapies for individuals with medical issues is a fairly new, rapidly progressing set of modalities, little is known as to the encouragement or lack thereof of these services to care-receivers and their caregivers by medical professionals. The literature is more heavily weighted on the positive side for use of these services, suggesting that it would be advantageous for medical professionals to recommend the use of music as a CAM service, but this has not been extensively quantified for evidence-based purposes. As previously stated, music is one of the most inexpensive and readily-available CAM treatments that is shown to be on the rise in healthcare as stated in the literature. Therefore, a study that dissects the physicians' and non-physician practitioners' recommending practices and their knowledge, attitudes, beliefs and expectations regarding music therapy as a cost-effective CAM approach would be highly beneficial and significant.

Operational Definitions

There are four main constructs used in this survey instrument which are identifiable in the literature to survey instruments that are used to evaluate perspectives on a topic. These four constructs are perceptions of knowledge, attitudes, beliefs, and expectations. Perceptions of knowledge refer to what

an individual perceives to know of the subject matter. Specifically, knowledge is defined as the range of one's information or understanding; the sum of what is known (ASA, 2014). A physician's knowledge comes from previous education, experiences and is also obtained through sources such as medical literature, lectures, and conversations with peers. Attitudes are defined as associations between an act or object and an evaluation; the tendency to evaluate a person, concept, or group negatively (Westen, 2003). Beliefs are described as an internal feeling that something is true, even though that belief may be unproven or irrational (Anderson and DeSilva, 2009). Expectations refer to the anticipation of a patient's behavior that is based on a knowledge and understanding of the person's abilities and problems (MMD, 2009).

An additional construct, recommending practices, is also being incorporated into this study because the recommending practices of healthcare professionals with regard to CAM therapies, specifically music as therapy, is the focus of the tool and dissertation study. Recommending practices are a suggestion or proposal as to the best course of action, especially one put forward by an authoritative body (MW, 2015).

In this document, Music Therapy refers to the formalized practice where music as therapy refers to the general practice of using music for therapeutic purposes, not necessarily with the use of a credentialed professional. Additional key words will be operationally defined as the text of this document progresses throughout the next few sections.

Conceptual Framework

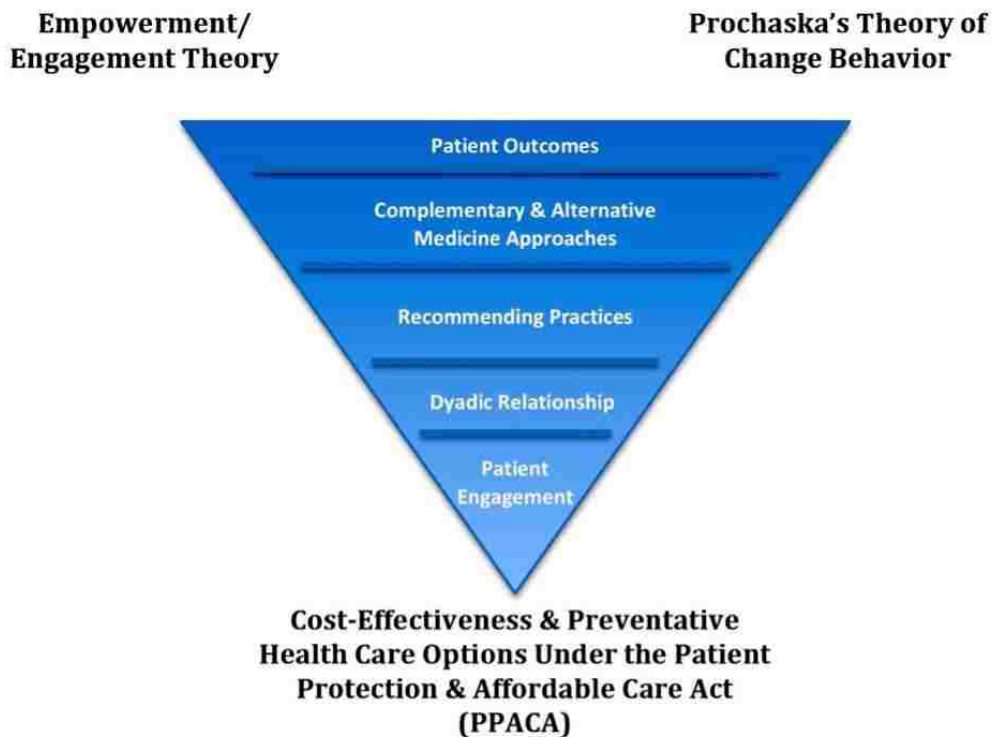
The conceptual framework is understood through a series of steps. Patient engagement refers to the communication among patients, family members, and healthcare professionals from the point of admission, meeting and/or visit (AHRQ, 2014). Engagement with the patient by the provider takes place initially. Dyadic relationship refers to two individuals maintaining a sociologically significant relationship (MW, 2014). The dyadic relationship is revealed in a two-fold way. The dyad between the practitioner and patient is developed and the dyadic relationship between the care-receiver (patient) and his/her informal non-professional caregiver is revealed during the office visit consultation. Subsequently, the practitioner begins to employ his/her recommending practices based on the interaction with the dyad. These recommending practices may not include recommendation of Complementary and Alternative Methodologies (CAM) such as Music Therapy. Patient outcomes refer to the condition of a patient at the end of a therapy or a disease process, including the degree of wellness and the need for continuing care, medication, support, counseling or education (MMD, 2009). Patient outcomes are the result of the recommendation (or lack thereof) of the CAM by the practitioner to the patient (Figure 1).

The major driving force surrounding this study and supporting the five key constructs is Cost-Effectiveness & Preventative Health Care Options under the Patient Protection and Affordable Care Act (PPACA). This driving

force focuses on the Complementary and Alternative Approaches to preventing illness before costs rise from treating diseases that are in late stages. Waiting to treat illness until a person is sick, instead of focusing on prevention, has had a direct effect on the rising health care costs in the U.S. and has caused many Americans to put off seeing a doctor until it's too late due to cost (OPC, 2015).

The main theory, Prochaska's Change Theory (a.k.a. Transtheoretical Model of Health Behavior Change), is aimed at defining the process of change in individuals whereby there are six stages (pre-contemplation, contemplation, preparation, action, maintenance, and relapse) which can be applied to the patient or caregiver (informal or formal healthcare professional) in decision making with regard to new approaches such as CAM therapy (Prochaska, 1997). Therefore, the framework suggests that an individual has certain perceptions of knowledge on a topic as well as attitudes, beliefs, and expectations regarding that topic. Then, when approached with a relatively new factor (e.g. CAM therapies to treat patients) as well as a driving force underlying that new factor (e.g. cost-effectiveness in Obamacare), the individual is left to make a decision and his/her current behavior (e.g. recommending practices) remains unchanged or he/she contemplates and adopts a change and takes action based on Prochaska's Theory (e.g. newly adopted recommending practices) (Figure 1).

Figure 2 is a diagram that was created by the PI as an additional way to illustrate the conceptual framework. The modern healthcare practitioner is confronted with many external forces (in this illustration, particularly, CAM therapies as possible medical approaches). The briefcase represents the recommending practices that are currently held by the practitioner. Possible change to core medical values is represented by Prochaska's Transtheoretical Model of Behavior Change and illustrated in the center of the practitioner's suit. Knowledge, attitudes, beliefs and expectations act as an umbrella to determine whether or not he/she will be swayed to change recommending practices by the incoming weather (i.e. Cam approaches). Walking on the tight rope illustrates external underlying driving forces, specifically cost-effectiveness and preventative health care under the Patient Protection and Affordable Care Act.



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Figure 1. Principal Investigator Self-Developed Conceptual Model of Five Constructs Triangulated by Three Theories. The shape and arrangement of the diagram is purposeful because it demonstrates how the initial “narrow-path” encounter of engagement with the underlying influence of preventative health eventually leads to an opened, broadened range of possibilities of outcomes for the patient.



Figure 2. Principal Investigator self-developed conceptual model of the modern health care practitioner depicting the plausibility for a change in recommending practices based upon practitioner's knowledge, attitudes, beliefs and expectations as the umbrella to the practitioner's contemplation of change represented by Prochaska's Transtheoretical Model of Behavior Change. Practitioner's knowledge, attitudes, beliefs and expectations act as an umbrella to determine whether or not he/she will be swayed by the incoming weather (i.e. Complementary & Alternative Medical Approaches) to change his/her recommending practices. External underlying driving forces are the cost-effectiveness and preventative health care options under the Patient Protection & Affordable Care Act (PPACA).

Chapter II

REVIEW OF RELEVANT LITERATURE

Music Therapy – What Is It?

Complementary and alternative methodologies are increasingly being employed in the healthcare setting to treat individuals in a variety of health states. Complementary and alternative medicine (CAM), a classification for therapies that are different from and viewed as harmonious with conventional or allopathic biomedicine, is being assimilated and institutionalized in a variety of settings (Sharf et al, 2012). Music is one of the CAM therapies – a group that includes massage, aromatherapy, acupuncture and guided imagery that are increasingly being offered in hospitals and other medical establishments (Walker, 2012). Music Therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship. Music therapy interventions can be designed to promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication and/or promote physical rehabilitation (AMTA, 2014). Music is a conduit that has the power to lift, transport and engage attention and response (Magill, 2008). As therapy, music can empower people to find their artistic selves and use their musical expression as a means for exploration and health; music provides the opportunity to communicate that which cannot be spoken (Richardson et al, 2008). Therapists seek to achieve

client/patient goals with music therapy by recognizing the affective, cognitive and sensory attributes of music (Finnerty, 2011).

What Music Therapy Involves

Since the establishment of music therapy as a profession, therapists have been using a wide range of musical interventions to address the physiological, psychological, spiritual and social needs of a variety of clinical populations (Young, L., 2009). Music can be passive whereby individuals can listen to music for calming purposes or to evoke emotions; however, the focus in the literature regarding music as therapy is on the active. Active music therapy deals with specific music selected for a specific patient. It is not limited to listening to live or recorded music, but rather can involve instrument playing, singing, songwriting and improvisation (PEM, 2009). Therefore, it becomes evident that each music therapy session is tailored to the individual receiving the therapy and is dependent on his/her age, learning ability, attention span as well as musical ability. An individual with little to no musical experience may receive the passive form before moving on to the active form of therapy once he/she has acquired enough musical training.

In addition, it is possible that for individuals with music capability, bouncing between active and passive type therapy can occur to accomplish a goal (AMTA, 2014). The instructor would determine this on a case-by-case basis when evaluating what will work best for the individual.

Use of Music Therapy as Treatment

The prevalent use of music therapy in healthcare is well documented in the literature. Music as therapy has been used for many illnesses and health states including, but not limited to: depression in adults, anxiety and stress, surgery, cancer patients, pain management, individuals with disabilities, terminally ill patients and geriatrics. There is an additional area in the literature focusing on therapy for caregivers for patients with the aforementioned conditions.

Depression in Adults. To lift moods and combat depressive characteristics in adults, music therapy has been employed as a non-invasive and inexpensive intervention (Figure 3). Chan et. al (2009) found that music is an effective method of reducing physiological and depression responses arising in a group of older people. It was suggested that music therapy may help nurses build therapeutic relationships with elderly patients, and nurses are encouraged to use music as part of their holistic caring for these patients. Similarly, in a study with a pre-post design involving a music intervention and no intervention and involving patients with depressive symptoms, depression levels showed a significant overall reduction through the use of music therapy services (Myskja, A. & Nord, P., 2008).

| Study | Results |
|----------------------|---|
| Chan (2009) | Statistically significant differences in depression scores, blood pressure, and respiratory rate in music group compared to control group |
| Myskja & Nord (2006) | Pre/post design involving music intervention and control showed significant overall reduction in depression levels through use of music therapy |

Figure 3. Key studies in the literature on music as therapy for depression.

Anxiety and Stress. Arguably the largest area covered in the literature regarding music therapy and healthcare is for purposes of anxiety and stress (Figure 4). In a study analyzing the physiological signs of anxiety in patients receiving mechanical ventilatory support, it was found that respiratory rate and systolic and diastolic blood pressure were significantly reduced after completion of music therapy (Korhan, Khorshid and Uvar, 2011). It was suggested in this study that music has the ability to be used as a therapeutic tool for lowering respiratory rate and systolic and diastolic blood pressure, thereby reducing anxiety levels in critically ill patients. Similarly, in a study aimed to determine the effect of music on biochemical markers and self perceived stress among first line nurses, substantial evidence was found that a music intervention was effective in easing stress in high-stress workers (Lai & Li, 2007). It was suggested that managers should consider the use of music and its ability to induce relaxation in workers, primarily nurses, who care for patients daily. Furthermore, it has been shown that music can calm neural activity in the brain, which may lead to reductions in anxiety, and that it

may help to restore effective functioning in the immune system partly via the actions of the amygdala and hypothalamus (Stuckey & Nobel, 2010).

| Study | Results |
|-----------------------------------|--|
| Lai & Li (2007) | In determining the effects of music on biochemical markers and self-perceived stress among first line nurses, results showed that music interventions ease stress in high-stress workers |
| Stuckey & Nobel (2010) | Music can calm neural activity in the brain, leading to reductions in anxiety. Music may also help restore functioning in the immune system via amygdala and hypothalamus |
| Korhan, Khorshid, and Uvar (2011) | Respiratory rate and systolic and diastolic blood pressure were significantly reduced after completion of music therapy |

Figure 4. Key supportive studies in the literature on music as therapy for stress and anxiety-related symptoms.

In contrast, in a study analyzing pre-procedural state anxiety and music listening, results from the measurement of various pre-procedural physiological parameters failed to reveal any consistent positive changes in patients who had listened to music (Gillen & Allen, 2008) (Figure 5). This calls into question the presumptions that music listening will decrease anxiety levels in individuals. Tseng et al (2010) had similar results in a study aimed to determine the effects of listening to music on postpartum stress and anxiety levels. According to this study, when postpartum women listened to relaxing music chosen from preselected designer music collections on a self-regulated basis in their own home, it did not result in a significant difference in their perceived stress and state anxiety levels.

| Study | Results |
|-----------------------|---|
| Gillen & Allen (2008) | Results from the measurement of various pre-procedural physiological parameters failed to reveal consistent positive changes from music listening |
| Tseng et al. (2010) | No significant difference in postpartum women's anxiety and stress levels from listening to relaxing music |
| Wakim et al. (2010) | Music does not appear to have major detrimental effects on the patient. Outcomes on future studies will be either positive or unchanged. |

Figure 5. Key non-supportive and neutral studies in the literature on music as therapy for stress and anxiety-related symptoms.

With surgery. The majority of literature surrounding the use of a music intervention to treat anxiety levels involves pre and/or post-operative patients (Figure 6). Because anxiety levels are high prior to a surgical procedure, music therapy has been suggested for use to lower these levels in both the surgical waiting rooms and post-operative rehabilitation facilities. Allowing patients the option to choose how to spend their time prior to a surgical procedure can give them a sense of control or autonomy (Pfister, 2011). This autonomy can help them decrease anxiety levels that are much higher during feelings of helplessness or lack of control.

For patients receiving spinal surgery, music therapy has been shown to alleviate symptoms of anxiety. The results of one study indicate that patients undergoing spinal surgery had significantly lower indices of anxiety and pain after receiving music therapy and, in addition, music therapy had an effect on patients' mean blood pressure after surgery (Lin et al, 2011).

Similarly, in a study on the effects of music preoperatively, music decreased the State-Trait Inventory Anxiety (STAI) tool in 31 patients awaiting gynecological procedures from admission to the surgical holding area until the time of surgery (Wakim et al, 2010). The results of this study led researchers to introduce the music option in conjunction with preoperative teaching when patients came in for their laboratory work.

In comparing the effect of bed rest with or without music on relaxation after coronary bypass grafting and/or aortic valve replacement surgery on postoperative day one, it was found that music listening used as audio-relaxation increased oxytocin levels and relaxation (Nilsson, 2009).

| Study | Results |
|---------------------|--|
| Pflister (2011) | Anxiety levels decrease when autonomy is increased through patient participation in music therapy prior to a surgical procedure |
| Lin et al. (2011) | Patients undergoing spinal surgery had significantly lower indices of anxiety and pain and lowered mean blood pressure after receiving music therapy |
| Wakim et al. (2010) | STAI tool results from this preoperative study showed that music decreased anxiety in 31 patients awaiting gynecological procedures |
| Nilsson (2009) | Music listening used as audio-relaxation increased oxytocin levels and relaxation |

Figure 6. Key studies in the literature on music as therapy for surgery and related anxieties.

Terminally Ill Patients. It has been reported that a single session music therapy intervention can reduce anxiety and thereby improve quality of

life for terminally ill patients. In a study by Thompson & Grocke (2008), it was demonstrated that music therapy significantly reduces pain, tiredness and drowsiness as well in palliative care patients (Figure 7). In addition, it has been suggested that individualized music, music that is customizable to the preferences of the listener, can have a positive impact in individuals with terminally ill diagnoses (Gallagher, 2011).

| Study | Results |
|--------------------------|--|
| Thompson & Grocke (2008) | 25 end-stage terminal disease participants showed significant reduction in anxiety, pain, tiredness, and drowsiness. |
| Gallagher (2011) | Individualized music, music that is customizable to the preferences of the listener, can have a positive impact in individuals with terminally ill diagnoses |

Figure 7. Key studies in the literature on music as therapy for terminally ill patients.

Cancer Patients. Music has been shown to have value in cancer care (Figure 8). Studies have shown that as many as 91% of individuals undergoing cancer treatment use some form of CAM, and individuals with a previous or current cancer diagnosis are more likely to use CAM than the general population (Perlman et al, 2013). When individuals are confronted with a life-threatening illness such as cancer, they may find it difficult to express themselves and their pains and fears. The melody and rhythm of music can serve as a channel through which these emotions can be expressed, perhaps by evoking a memory of a more positive time in their lives

(Richardson et al, 2008). In a study analyzing the effect of a music therapy session on cancer patients in a cancer ward, researchers found that distress levels decreased from 4.6 to 2.5 after musical intervention (Magill et al, 2008). The individualization or personalization that music therapy entails helps the patient to permeate a chaotic illness event, such as a cancer diagnosis, with meaning. Individualized explanations hold great potential for meaning in treatment and it is likely to create order in the personal chaos accompanying sickness (Dayken et al, 2007).

| Study | Results |
|------------------------|---|
| Magill et al. (2008) | In analyzing the effect of a music therapy session on cancer patients in a cancer ward, results showed a decrease in distress levels from 4.6 to 2.5 units after musical intervention |
| Magee and Brown (2008) | Optimum listening environment is key and establishing understanding of disabled patient's relationship with music |
| Hooper (2010) | Strong positive correlation of 15 music pieces and the lowering of arousal levels in 48 intellectually disabled individuals |

Figure 8. Key studies in the literature on music as therapy for cancer patients and individuals with disabilities.

Pain Management. Another area in which music therapy has been supported to be effective is in pain management (Figure 9). Use of music therapy during outpatient procedures in both adults and children is associated with decreased procedure length and total narcotic use along with increases in satisfaction (Protacio, 2010). In addition, playing music for patients during or after surgery helps reduce pain and use of morphine and other sedatives,

anxiolytics and/or analgesics (Kemper & Danhauer, 2005). There is also evidence of the effectiveness of auditory stimulation, together with a strong suggestion that such stimulation abolishes pain, as a strategy of achieving control over pain (Stuckey & Nobel, 2010). In analyzing the anxiety and pain-reducing effects of a music intervention in 22 trials, 13 of the 22 (59%) trials resulted in significant pain-reducing effects, reflected by decreased pain scores due to the music intervention (Nilsson, 2008).

| Study | Results |
|--------------------------|---|
| Kemper & Danhauer (2005) | Playing music for patients during or after surgery helps reduce pain and use of morphine and other sedatives, anxiolytics and/or analgesics |
| Nilsson (2008) | 59% of music intervention trials resulted in pain-reducing effects, reflected by decreased pain scores |
| Protacio (2010) | Use of music therapy during outpatient procedures in adults and children resulted in decreased procedure length and total narcotic use along with increased satisfaction. |
| Stuckey & Nobel (2010) | Evidence of auditory stimulation effectiveness whereby stimulation abolishes pain as a strategy of achieving control over pain |

Figure 9. Key studies in the literature on the use of music as therapy for pain management.

Individuals with Disabilities. In addition to the areas of depression, anxiety/stress, terminally ill patients, cancer patients and the field pain management, another relevant group of individuals employing the use of music therapy involves those with disabilities (Figure 8). The literature suggests that when working with people who are severely disabled, music is simply one of the most readily available resources. A patient's musical

preferences can be quickly determined from family members and, because of this, carers can share in a musical performance or enact a recorded musical intervention (Magee & Bowen, 2008). In order to develop appropriately used music as an intervention with individuals with complex disabilities, Magee and Bowen (2008) suggest establishing an understanding of the patient's relationship with music, create an optimum listening environment, structure the activity to meet the individual's needs, encourage expression of choice, plan the use of music, and manage emotional behaviors that might be triggered by the music. Similarly, Hooper et al (2010) stress the importance of planning and managing with regard to music interventions by the carer to the patient. It is crucial to introduce music that carers believe will be beneficial to the patient as well as appropriate for the time, individual and setting.

Geriatrics. Older adults have been highlighted as a key group for which music therapy has been the target (Figure 10). One of the most important ways to maintain optimal aging for older people is to continue to function at the highest level possible (Yin, 2010). Music therapy is noted in the literature as aiding individuals in functioning at their best and improving quality of life. Quality of life is defined as individuals' perceptions of their position in life in the context of the culture and value system in which they live, and in relation to their goals, expectations, standards, and concerns (WHO, 2001). When working with older people, the use of music can help

healthcare professionals give compassionate, affordable health care for older people while increasing their quality of life (Yin, 2010).

Music therapists have recently extended their work to older adults to improve memory, identity and health for those with dementia and Alzheimer's disease. Memory may fail in many ways, but a melody will be retained as a means to weave memories into a fabric of reality (Sorrell, 2008).

| Study | Results |
|----------------|--|
| Yin (2010) | One of the most important ways to maintain optimal aging for older adults is to continue to function at the highest level possible |
| Sorrell (2008) | Melodies are retained as a means to weave memories into a fabric of reality in Dementia and Alzheimer's patients |

Figure 10. Key studies in the literature on music as therapy for Geriatrics and individuals with Dementia.

Settings of Music Therapy

Music used for therapeutic purposes is documented in the literature as having been performed in a variety of settings (Figure 11). The hospital setting is most commonly used as the ideal environment for a music therapist and patient. Research on the use of music activity in the hospital health-care setting has ranged from acute inpatient care, coronary care, critical care and oncology settings (Chan et al., 2009). Studies of patients listening to music in Intensive Care Units suggest that patients represent a heterogeneous population with respect to physiological outcomes following music therapy

(Chan et al, 2009). Hospitals also have employed the use of music within operating rooms. The use of music as an anesthetic adjunct during monitored anesthesia care cases in operating rooms can reduce the amount of sedation required, speed recovery time, and prevent the likelihood of converting to a general anesthetic (Newman et al, 2010).

Music therapy has also been employed in the school setting. Music therapists are often hired in schools to provide music therapy services listed on the Individualized Education Plan for mainstreamed special learners. Music learning is used to strengthen nonmusical areas such as communication skills and physical coordination skills which are important for daily life (AMTA, 2014).

Hospice and nursing home facilities have been using music therapy for terminally ill and geriatric patients, respectively, and there is an emphasis on music interventions for palliative care in the literature (Leow, 2011). Music is used with elderly persons to increase or maintain their level of physical, mental, and social/emotional functioning. The sensory and intellectual stimulation of music can help maintain a person's quality of life (AMTA, 2014). Additionally, home care has employed the use of music for care of patients and caregivers (Schmid & Ostermann, 2010).

| Setting |
|---|
| <p>Acute inpatient care, coronary care, critical care, oncology</p> <p>(Chan et al., 2009)</p> |
| <p>Operating Rooms</p> <p>The use of music as an anesthetic adjunct during monitored anesthesia reduces amount of sedation required, speeds recovery time</p> <p>(Newman et al., 2010)</p> |
| <p>Hospice, nursing home, palliative care</p> <p>(Leow, 2011)</p> |
| <p>Home Care</p> <p>Music therapy for patients and caregivers</p> <p>(Schmid & Ostermann, 2010)</p> |
| <p>Schools</p> <p>Individualized Education Plans are using music therapy to strengthen communication and physical coordination skills</p> <p>(AMTA, 2014)</p> |

Figure 11. Settings of Music Therapy according to the literature. Music as therapy is used in many medical settings including operating rooms, cancer centers, hospice, nursing homes, palliative care and home care. Schools also employ music as therapy for many students under individualized education plans.

Perspectives of Music Therapy in Healthcare

There are many perspectives present on the effects and reliability of music as a therapeutic intervention in healthcare practices. The literature is divided on the “goodness” of the intervention as well as the negative connotations music may have.

Perceived Goodness. Music’s potential for expanding individual or collective creativity, its capacities for reflecting back to society aspects of its current state, or its function as a mode of change or indeed any possibility of potential for harm might consequently be minimized by the insistence that music always be helpful in servicing aims of social good, and must create transformational opportunities for those who experience it (Edwards, 2011). Viewing the music therapy interventions as opportunities to transform a patient empowers the caregiver or therapist into utilizing the therapy to the best of his/her potential. Patient-selected music soothes, comforts, familiarizes the medical procedural environment, provides distraction from the procedure and allows the patient autonomy (Protacio, 2010). The previously mentioned statement reveals how music therapy has the potential to create autonomous qualities in an individual who may feel powerless within his/her illness. This positive outlook on the possible effects of music therapy is abundant in the literature; however, there are some negative connotations associated with music as therapy.

Negative Connotations. CAM therapies are not conventional so they are not endorsed by normal medical practice and not regulated by normal medical oversight organizations like the American Medical Association. People usually pay for CAM treatments, services and products themselves out-of-pocket because insurance plans do not cover most, if any, CAM therapies (Sharf, et al, 2012).

Furthermore, in surveying nurses on their perspectives of using music therapy in their discipline, O'Kelly and Koffman (2007) found that there were concerns raised as to the potentially intrusive nature of the music therapy, with references to a fear of the music therapy or its potential to "hit the wrong spot." Special consideration must be given to patients who may uncover unanticipated emotions that they are not ready to deal with.

Ethical/Legal/Cultural Issues

While music therapy has been shown in the literature to be effective for different health factors, the newness of the field can make it susceptible to certain ethical, legal and cultural issues.

Ethical. The therapist has certain goals in mind when working with the disabled individual and certain ethical principles can help guide the basis for these goals (Ridley, 2009). There are several ethical issues surrounding music therapy. Autonomy (the right of the patient), beneficence (act of doing good), nonmaleficance (doing no harm), distributive justice (the greatest amount of care for the greatest amount of people), fidelity (faithfulness and

fiduciary responsibilities) and veracity (the act of truth telling) all must be taken into consideration when working with individuals in the music therapy setting (Ridley, 2009).

As previously mentioned, care must be given to avoid harming the individual receiving the music therapy intervention. Ethical concerns, which surround bringing up painful emotions, tie into a negative perception of the therapy. A tune can trigger memories of nostalgic events and memories of positive childhood or adult experiences, but equally has the ability to evoke an unpleasant memory, and therefore may bring back negative experiences to which the therapist must treat in a sensitive manner (Swann, 2008).

To be ethical, music therapy must be safe and do no harm to the patient. Safety of the patient must be at the forefront. Music is safe as long as it is used in place of standard care where there are considerations such as volume, music preference and an awareness of cultural differences between patients (Kemper & Danhauer, 2005). Since music therapy and other alternative therapies are non-invasive and non-pharmaceutical, they are considered safe treatments for patients because surgery is not performed and drugs are not administered (Gardstrom, 2008). Because music does not appear to have any major detrimental effects on the patient, outcomes will either be positive or unchanged (Wakim et al, 2010).

Legal. Protections are in place for children with special needs and one of them is the Americans with Disabilities Act of 1990. Civil rights protections

are provided on the basis of race, color, sex, national origin, age and religion. Furthermore, it guarantees equal opportunity for individuals with disabilities. Title II of this act prohibits discrimination against individuals with disabilities in all programs, services and activities:

The Americans with Disabilities Act of 1990 gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications.
(ADA, 2012)

Similarly, the Individuals with Disabilities Education Act ensures services to children with disabilities throughout the nation. The Act governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities (IDEA, 2012).

Under the code of federal regulations, title 34, definitions are provided for special education and special related services. Special education under part 300.26 is in short defined as either speech-language pathology services or other related services, physical education, travel training and vocational education. Special related services under part 300.24 is in short defined as transportation and such developmental, corrective, and other supportive services as are required to assist a child with a disability to benefit from special education, and includes speech-language pathology and audiology services, psychological services, physical and occupational therapy,

recreation, including therapeutic recreation, early identification and assessment of disabilities in children, counseling services, including rehabilitation counseling, orientation and mobility services, and medical services for diagnostic or evaluation purposes. The term also includes school health services, social work services in schools, and parent counseling and training (IDEA, 2012).

Therefore, whether ADA/IDEA will provide inclusion of music therapy services within its covered services is totally a case by case basis and dependent on the evaluations made by the therapist at that time. For individuals in which music therapy is found to not be necessary, the service is not deemed a related service under IDEA. Those individuals will have to pay out-of-pocket if they believe music therapy is necessary and wish to receive this treatment.

Cultural. Music therapists face challenges when working with those from diverse origins as cultural values and styles are embedded in musical preferences (Magill, 2008). As with any form of treatment, the therapist must be aware of cultural differences and language barriers that may cause unintended miscommunication or understanding to occur. Special consideration must be taken into account when the music therapy session involves lyrics that may be sensitive to an individual due to cultural beliefs or background (AMTA, 2014).

Cost-Effectiveness

Music therapy may have a direct cost-benefit by reducing medication costs and improving staff utilization (Romo & Gifford, 2007). Improved quality indicators, improved patient outcomes and improved working conditions all contribute to a positive financial benefit in healthcare from the use of music therapy. Mainstream medicine is beginning to take note of a shift in patients' attitudes and actions and the effectiveness of integrative medicines. Holistic practices address the need for patient involvement by emphasizing partnerships which impact healing. Therefore, mainstream practitioners have begun to accept complementary modalities as legitimate and cost-effective, and a new generation of physicians refer patients to complimentary providers (Sharf et al, 2012). In Italy, the daily cost for each resident in a nursing home is between 70 and 100 euro, and it is estimated that music therapy interventions are equivalent to 1/70th of the daily cost of care (Bellelli & Trabucchi, 2012). That estimate gave rise to suggestions that the intervention deserves attention by directors of nursing facilities in light of the large number of patients affected by dementia and other agitated behavioral psychosocial problems.

In a study to determine the cost-effectiveness of music therapy used in place of sedation for medical procedures, results showed a 100% success rate of eliminating the need for sedation for pediatric patients receiving ECGs, an 80.7% success rate for pediatric CT scan completion without sedation and

94.1% success rate for all other procedures (DeLoach, 2005). It was suggested that from this analysis, if even half of the reported cases received music therapy and eliminated the need for sedation and subsequent RN supervision, \$228,450.00 could potentially be saved annually for that one hospital. Furthermore, in fifteen studies, analgesic use was measured as an outcome of pain and in seven of these studies (47%), the music intervention resulted in a significant decrease in the use of analgesics (Nilsson, 2008). The decrease in the use of analgesics suggests a cost-savings benefit for the treatment of the particular patient receiving the therapy.

Figure 12 highlights the main themes with corresponding studies that were found throughout the literature on music as therapy and CAM.

| THEME | STUDY |
|---|---|
| CAM therapies are on the rise | Sharf et al, 2012 Yildirim, 2010 |
| Music therapy is used in a variety of settings for many health states | AMTA, 2014 Protacio, 2010 Kemper & Danhauer, 2005 |
| Anxiety & Stress from illness large factor in choosing to use Music Therapy | Lai & Li, 2007 Stuckey & Nobel, 2010 Kerhan et al, 2011 Chan et al, 2009 |
| Music therapy empowers individuals in their health | Magill, 2008 Richardson et al, 2008 Finnerty, 2011 Sorrell, 2008 |
| Cost-effectiveness | Romo & Gifford, 2007 Bellelli & Trabucchi, 2012 DeLoach, 2005 |

Figure 12. Key themes in the literature and the corresponding studies pertaining to music as therapy and/or CAM.

Chapter III

METHODOLOGY

Introduction

This dissertation took place in several steps. First, creation and validation of a new survey instrument took place through several rounds of the Delphi Technique (herein referred to as the “Delphi”) by a panel of experts. Subsequently, participants were recruited through several organizations/associations as well as through social media outlets. Participation by members who fit the inclusion criteria eventually allowed for reliability of the survey instrument to be obtained. Conclusion of data collection yielded the process of data analysis which will be discussed herein.

Research Design

This dissertation study which focuses on using the newly created and validated tool is non-experimental in nature because it is survey-based. It is descriptive, exploratory, cross-sectional and correlational. Demographic characteristics of the sample were organized and summarized through a descriptive design. The study is exploratory because it involves examining a phenomenon of interest and exploring its dimensions. It is cross-sectional because it involves the collection of data at one point in time.

A correlational design was used to explore if a relationship exists between practitioners' perceptions of knowledge of CAM and their recommending practices of CAM, specifically music as therapy.

Instrument Development: Delphi Technique

The Delphi is a group facilitation technique which seeks to obtain consensus through expert opinions from a series of structured questionnaires that are completed anonymously by the panelists (Hasson, 2000) in order to establish validity of the tool. Approval by the research committee members of the Principal Investigator of this research study (herein referred to as "PI") to create and validate a new survey instrument can be found in the Agreement for Delphi Process form in Appendix A and approval from the Seton Hall University Institutional Review Board (IRB) can be found in Appendix E.

This Delphi study involved 6 experts. Five or more individuals is a reasonable number of participants according to Armstrong (1985). The selection of the experts involved non-probability sampling techniques, specifically, purposive sampling. In purposive sampling, participants are not selected randomly. Rather, they are selected for a purpose, to apply their knowledge to a certain problem. Recruitment of participants who have knowledge and an interest in the topic help to increase the content validity of the Delphi. The purpose of the Delphi is to forecast whether or not the proposed questions will be appropriate for eventual implementation into a survey used within a sample of the population.

The Delphi technique is a series of rounds interspersed by controlled feedback, that seek to gain the most reliable consensus of opinion of a group of experts (Linstone & Turoff, 1975). 80% consensus is generally required in order for the Delphi to have been considered effective and the tool to have established validity (Hasson, 2000). Once consensus was reached on the construct variables and survey questions and statements, the tool was considered to have validity.

The Delphi technique is based upon the assumption of safety in numbers (i.e. several people are less likely to arrive at a wrong decision than a single individual). Six individuals were targeted and contacted who met the inclusion criteria for participation in the Delphi study as expert reviewers of the new survey tool (Appendix B).

These individuals were selected based upon their level of knowledge and experience in the fields of medicine, health sciences, survey research, CAM and/or specifically music therapy. One music therapy expert (PhD level) representing the Director Board of the American Music Therapy Association, one health science expert in yoga (PhD level), one Doctor of Chiropractic (PhD level), one expert in survey design and research (PhD level) and two physicians (one Doctor of Medicine and one Doctor of Osteopathy) formed the Delphi panel of experts for this process in the study.

Assessing Validity

This Delphi technique is intended to establish validity of the tool, specifically face and content validity. Construct validity was assessed as part of the Factor analysis process.

Face validity was used to determine if the test seems to measure what it is intended to measure (Alreck & Settle, 2004). The experts analyzed the validity of the test at face value by looking at whether the test *appeared* to measure the target variable. This was established through a Survey Worksheet which was created for the expert reviewers, in which they were asked if each variable/question measures the concept and if it was clear or not. The initial Round 1 Survey Worksheet was sent and completed by all expert panelists of the Delphi (Appendix C).

Content validity was used as the estimate of how much a measure represented every single element of a construct (Alreck & Settle, 2004). Content validity was also established through the Survey Worksheet, which asked the experts to provide in the comments section their thoughts on whether the survey statement should be removed or appended (Appendix C).

Once expert panelists completed the Round 1 Survey Worksheet (Appendix C), PI reviewed the responses, edits and suggestions of the panelists and prepared a condensed, version of the initial Survey Worksheet for Round 2 (Appendix D). This shortened worksheet only contained the survey statements/questions that were shown to need correction or revision

based upon the panelist responses from Round 1. Upon completion of Round 2 in which 80% consensus was reached by the expert panelists, the Delphi Process was considered complete.

Construct validity is the appropriateness of inferences made on the basis of observations or measurements as to whether a test measures the intended construct (Anastasi, 1988). Construct validity was established through the Cronbach's Alpha Factor Analysis.

Principal Investigator Created Tool

The Principal Investigator created tool was entitled, “The Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)” [*pronunciation: jee-cam-tuh*]. This survey instrument addresses the following five constructs: *recommending practices, perceptions of knowledge, attitudes, beliefs and expectations* (Appendix G).

Recommending Practices refer to a suggestion or proposal as to the best course of action, especially one put forward by an authoritative body (MW, 2015). Examples of the GCAMTA Likert statements that address this variable include the following:

- “I do not mind spending extra time with patients discussing possibilities other than the norm for treating their health matters.”
- “I prefer my patient visits to be short in time.”
- “I would refer patients to CAM therapies.”

The full list of statements pertaining to the *Recommending Practices* variable can be found in Figure 13.

Recommending Practices

1. Before receiving a medical recommendation, patients like to be engaged in "small talk."
2. Before giving a medical recommendation, I like to engage patients in "small talk."
3. Before making medical recommendations, I find that patients want me to discuss current trends in healthcare related to patients' specific medical concerns.
4. It is important to me as a healthcare provider to spend time discussing with patients current trends in healthcare related to their specific medical concerns.
5. I prefer my patient visits to be short in time.
6. I do not mind spending extra time with patients discussing possibilities other than the norm for treating their health matters.
7. Patients would appreciate me discussing CAM therapies with them.
8. Patients want me to recommend CAM therapies to them.
9. Patients would appreciate me discussing music therapy with them.
10. Patients want me to recommend music therapy to them.
11. I would refer patients to CAM therapies.
12. I would refer patients to music therapy.

Figure 13. Likert statements for the *Recommending Practices* variable. The twelve statements are in no particular order. For the order in which each statement appears within the GCAMTA, see Appendix G.

Perceptions of Knowledge refer to what an individual perceives to know of the subject matter (i.e. perceptions of knowledge of CAM or perceptions of knowledge of Music Therapy). Knowledge, specifically, refers to the range of one's information or understanding; the sum of what is known (ASA, 2014). A physician's knowledge comes from previous education, experiences and is also obtained through sources such as medical literature, lectures, and conversations with peers (ASA, 2014). Examples of the GCAMTA Likert statements that address this variable include the following:

- “CAM therapies are increasingly being recommended to patients by healthcare professionals.”
- “Music therapy can help reduce pain in patients.”
- “Music therapy may prevent patients from being placed into nursing homes by their caregivers.”

The full list of statements pertaining to the *Perceptions of Knowledge* variable can be found in Figure 14.

- Perceptions of Knowledge**
1. At times, caregivers feel burdened by their responsibilities with the person for whom they care.
 2. At times, patients feel they are burdening their caregiver due to their health needs.
 3. Care-receivers can become anxious when their caregiver is anxious.
 4. Caregivers can become anxious when their care-receiver is anxious.
 5. CAM therapies are increasingly being recommended to patients by healthcare professionals.
 6. The changes that have taken place in the health care system toward cost-effectiveness have encouraged providers to recommend CAM therapies to a greater extent.
 7. Music therapy is increasingly being recommended to patients by healthcare professionals.
 8. Certain CAM therapies can help reduce pain in patients
 9. Music therapy can help reduce pain in patients
 10. Certain CAM therapies can reduce patient anxiety.
 11. Music therapy can reduce patient anxiety.
 12. Treating the anxiety of a patient with certain CAM therapies can reduce the anxiety of his/her caregiver.
 13. Treating the anxiety of a patient with music therapy can reduce the anxiety of his/her caregiver.
 14. Treating the anxiety of a caregiver with certain CAM therapies can reduce patient anxiety.
 15. Treating the anxiety of a caregiver with music therapy can reduce patient anxiety.
 16. Music therapy has been found to be beneficial in a variety of age groups.
 17. It is required that patients know how to play a musical instrument before partaking in music therapy services.
 18. There is very little scientific evidence documenting the therapeutic effects of music.
 19. There is a benefit to music as therapy being provided in the medical setting.
 20. CAM therapies have the potential to lower hospital costs.
 21. Music therapy has the potential to lower hospital costs.
 22. Music therapy may prevent patients from being placed into nursing homes by their caregivers.

Figure 14. Likert statements for the *Perceptions of Knowledge* variable. The twenty-two statements are in no particular order. For the order in which each statement appears within the GCAMTA, see Appendix G.

Attitudes are associations between an act or object and an evaluation; the tendency to evaluate a person, concept, or group positively or negatively (Westen, 2003). Attitudes can be expressed as the way a person expresses or applies their beliefs and values, and is expressed through words and behavior (eg. *I get really upset when I hear about cruelty to children and animals, or I hate school*) (Anderson and DeSilva, 2009). Examples of the GCAMTA Likert statements that address this variable include the following:

- “I am unimpressed with CAM therapies as medical approaches.”
- “Music is a negative distraction to me in the healthcare setting.”
- “I am a lover of music.”

The full list of statements pertaining to the *Attitudes* variable can be found in Figure 15.

- Attitudes**
1. I am not supportive of medical approaches that are non-conventional.
 2. I consider myself more conservative than open-minded regarding new treatment modalities.
 3. I like change.
 4. I am wary of medical approaches that may be considered a "popular, new trend in healthcare."
 5. I am optimistic about CAM approaches in general.
 6. I am unimpressed with CAM therapies as medical approaches.
 7. Listening to music relaxes me.
 8. If background music was played at work, it would have a relaxing effect on me.
 9. In general, I prefer silence instead of music for relaxation purposes.
 10. Music is a negative distraction to me in the healthcare setting.
 11. I am a lover of music.

Figure 15. Likert statements for the *Attitudes* variable. The eleven statements are in no particular order. For the order in which each statement appears within the GCAMTA, see Appendix G.

Beliefs refer to an internal feeling that something is true, even though that belief may be unproven or irrational (eg. *I believe that walking under a ladder brings bad luck, or I believe that there is life after death*) (Anderson and DeSilva, 2009). Examples of the GCAMTA Likert statements that address this variable include the following:

- “Both mind and body must be treated for the patient to regain complete health.”
- “Positive effects of music therapy are, in most cases, due to placebo effect (treatment given to meet a patient’s expectation to get well).”
- “Music therapy is too expensive to be employed in hospitals.”

The full list of statements pertaining to the *Beliefs* variable can be found in Figure 16.

- Beliefs**
- 1.** Both mind and body must be treated for the patient to regain complete health.
 - 2.** Music therapy should be used for end of life patients.
 - 3.** Music therapy should not be used along with other conventional medical therapies.
 - 4.** Music therapy should not be used along with other CAM therapies.
 - 5.** Hospitals should provide CAM therapy services.
 - 6.** Hospitals should provide music therapy services.
 - 7.** I think certain CAM therapies can have a long-lasting benefit to the patient.
 - 8.** I think music therapy can have a long-lasting benefit to the patient.
 - 9.** Positive effects of CAM therapies are, in most cases, due to placebo effect (treatment given to meet a patient's expectation to get well).
 - 10.** Positive effects of music therapy are, in most cases, due to placebo effect (treatment given to meet a patient's expectation to get well).
 - 11.** Music therapy benefits are worth the costs.
 - 12.** Music therapy is too expensive to be employed in hospitals.

Figure 16. Likert statements for the *Beliefs* variable. The twelve statements are in no particular order. For the order in which each statement appears within the GCAMTA, see Appendix G.

Expectations refer to the anticipation of a patient's behavior that is based on a knowledge and understanding of the person's abilities and problems (MMD, 2009). Examples of the GCAMTA Likert statements that address this variable include the following:

- “I expect a patient who employs a form of CAM such as music therapy along with their regular treatment to have more positive patient outcomes than a patient who does not.”
- “I expect CAM therapies to grow in acceptance among healthcare providers.”
- “I expect music therapy to grow in acceptance among individuals seeking medical care.”

The full list of statements pertaining to the *Expectations* variable can be found in Figure 17.

- Expectations**
1. I expect a patient who employs a form of CAM such as music therapy along with their regular treatment to have more positive patient outcomes than a patient who does not.
 2. I do not expect most patients to continue a CAM therapy past the first session of trying that therapy.
 3. If I provide enough supportive information for the use of a CAM therapy such as music therapy, I expect my patient to seek out that therapy.
 4. I expect CAM therapies to grow in acceptance among healthcare providers.
 5. I expect CAM therapies to grow in acceptance among individuals seeking medical care.
 6. I expect music therapy to grow in acceptance among healthcare providers.
 7. I expect music therapy to grow in acceptance among individuals seeking medical care.

Figure 17. Likert statements for the *Expectations* variable. The seven statements are in no particular order. For the order in which each statement appears within the GCAMTA, see Appendix G.

The GCAMTA had 64 statements/questions based on a 5 point Likert scale ranging from *Strongly Agree* to *Agree* to *Neutral* to *Disagree* to *Strongly Disagree* (Likert, 1931) (Figures 18 and 19).

Twenty-eight additional questions were asked referring to the caregiver/care-receiver dyad as well as general procedures of the practitioners' profession. These were not included in the statistical analyses but may be used for future research.

Thirty-three (33) demographic-type questions which ask the practitioners specific questions regarding their current and past referral of individual CAM therapies followed the GCAMTA survey (Figure 20) (Appendix H). The survey averaged a 12 minute completion time.

SETON HALL UNIVERSITY

Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)

GCAMTA

20%

*** 1. What is your profession?**

Physician (MD)
 Nurse-Midwife (NM)

Physician (DO)
 Nurse-Anesthetist (NA)

Physician-Assistant (PA)
 Clinical Nurse Specialist (CNS)

Nurse-Practitioner (NP)

Other (please specify)

2. For Physicians (MD, DO), please specify area of specialty practice, if any.

*** 3. These first set of statements focus on your initial encounter with the patient. Caregiver refers to a non-professional/informal giver of care to the individual/patient receiving care (care-receiver), typically a family member or friend. Please select: Strongly Agree, Agree, Neutral, Disagree or Strongly Disagree for each of the following statements:**

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Before receiving a medical recommendation, patients like to be engaged in "small talk." | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Before giving a medical recommendation, I like to engage patients in "small talk." | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Before making medical recommendations, I find that patients want me to discuss current trends in healthcare related to patients' specific medical concerns. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| In the process of making medical recommendations to patients, I find that their caregivers want me to discuss current trends in healthcare related to caregivers' personal medical concerns during the patient's appointment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| It is important to me as a healthcare provider to spend time discussing with patients current trends in | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Figure 18. Snapshot of the beginning of the Global Complementary/Alternative and Music Therapy Assessment (GCAMTA) as found on SurveyMonkey®. This figure illustrates the start of the GCAMTA that asks participants to disclose their profession and area of specialty practice, if any. The main GCAMTA Likert questions immediately follow. Information on the full survey can be found in Appendix G.

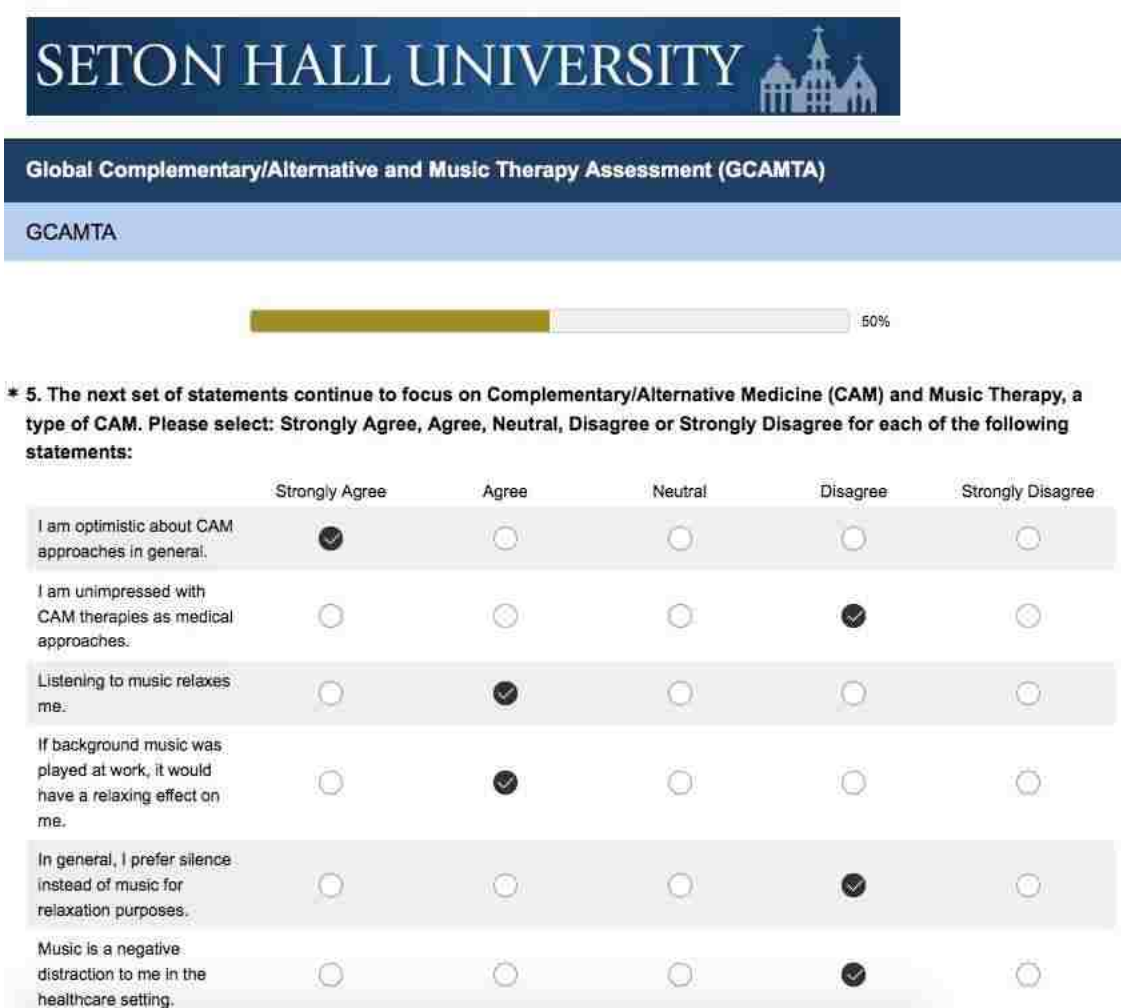


Figure 19. Snapshot of the middle questions of the Global Complementary/Alternative and Music Therapy Assessment (GCAMTA) as found on SurveyMonkey®. This figure illustrates the middle of the GCAMTA that asks participants to rate their attitudes of CAM on a Likert scale ranging from Strongly Agree to Strongly Disagree. Additional GCAMTA Likert questions immediately follow. Information on the full survey can be found in Appendix G.

SETON HALL UNIVERSITY

Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)

Demographic Questions

Please provide the following demographic information:

7. What is your gender?

Male

Female

8. What is your age?

18 - 30

31 - 40

41 - 50

51 - 60

61 - 69

70+

9. Please select all degrees and/or certificates that you have obtained with regard to your education.

Certificate

Associate

Baccalaureate

Master's

MCOO

PhD (Doctorate)

Other (please specify)

10. Number of years in profession:

11. In what state(s) do you currently primarily practice? Please list all that apply.

12. What type of institution(s) are you affiliated with? Please select all that apply (if you work in more than one institution).

Solo Practitioner (Private Practice)

Group Practitioner (Private Practice)

Semi-independent Practitioner in a small office

Community Hospital

Figure 20. Snapshot of the demographic survey as found on SurveyMonkey®. This figure illustrates the demographic survey that asks participants to disclose their gender, age, education, years in profession as well as additional perspectives on CAM as it pertains to their particular work environment(s). Additional demographic questions immediately follow. Information on the full demographic survey can be found in Appendix H.

Inclusion/Exclusion Criteria

In order to be included in the research study, participants had to be a physician (e.g. M.D. or D.O.) and/or non-physician healthcare professional (e.g. (N.P. or P.A. or N.A. or N.M. or C.N.S.) and had to have a license to practice in the United States as well as be adults 18 years of age or older and be an English speaking/reading individual.

Participants were excluded if they did not meet the inclusion criteria. Additionally, research-based non-practicing individuals did not qualify, as they had to have a license to practice in order to participate (Figure 21).

| Inclusion Criteria | Exclusion Criteria |
|--|--|
| Physician (e.g. M.D. or D.O.) <i>and/or</i> | Is NOT a Physician (e.g. M.D. or D.O.) <i>or</i> |
| Non-Physician Practitioner (e.g. N.P. or P.A. or N.A. or N.M. or C.N.S.) <i>and</i> | Is NOT a Non-Physician Practitioner (e.g. N.P. or P.A. or N.A. or N.M. or C.N.S.) <i>and</i> |
| Must have license to practice in U.S. | Do NOT have license to practice in U.S. |
| Adults 18 years of age or older | Individuals below 18 years of age |
| English speaking/reading individuals | Non-English speaking/reading individuals |

Figure 21. Inclusion and Exclusion Criteria for participants for survey instrument.

Participant Recruitment

Upon approval by the Seton Hall University Institutional Review Board (IRB) (Appendix E), survey participants who met the inclusion criteria were recruited through the following organizations: *National Association of Clinical Nurse Specialists*, *American College of Nurse Midwives* and *New York State Academy of Family Physicians* (Appendix F).

Subjects were recruited through snowball sampling. Snowball sampling is based on the assumption that people with like characteristics, behaviors or interests, form associations, and it is this relationship, which the researcher uses to select a sample (Hek and Moule, 2006). One prime example of snowball sampling took place through social media outlets.

Social media. Survey research on physicians and other medical professionals is much different than research conducted on the general population (Sudman, 1985). Work schedules of physicians and other medical professionals are demanding with little time available for participation in surveys. Additionally, physicians represent an elite population and are asked often to participate in survey research. These individuals, specifically, have receptionists or other “gatekeepers” which makes it more difficult for researchers to contact these medical professionals directly for recruitment. Because of this, response rates with physicians average roughly ten percent points lower than studies using the general population (Flanigan, McFarlane, Cook, 2008). Due to the aforementioned, regular paper-survey mailings

and/or fax mailings were avoided for all the medical professionals. In addition to the associations that were contacted for solicitation of their membership, social media was also employed to recruit participants for the practitioner groups. Social media acted as a direct conduit to physicians and non-physician practitioners in order to recruit these individuals for participation in the study. Facebook™ approved groups, Twitter™ and LinkedIn® were employed to recruit participants.

For Facebook™ as a recruitment method, the PI had to be approved by the administrators of closed group pages. PI had to provide information on the parameters of the study and why there was an interest in joining the group since the PI was not a nurse practitioner or physician assistant, etc. Once approved, PI was able to join the closed group and share a brief post to the page containing the link to the study (Figure 22). From there, other Facebook™ users commented on PI's posts and the link was snowballed from there to achieve participant numbers.

For Twitter™ as a recruitment method, the PI tweeted medical professionals (i.e. physicians and non-physician practitioners) asking them to share the survey link to their followers. Tweets were sent out using appropriate hashtags as to attract the necessary medical professionals. The tweet was one sentence long and this allowed it to be concise enough as per Twitter™'s policies (Figure 23).

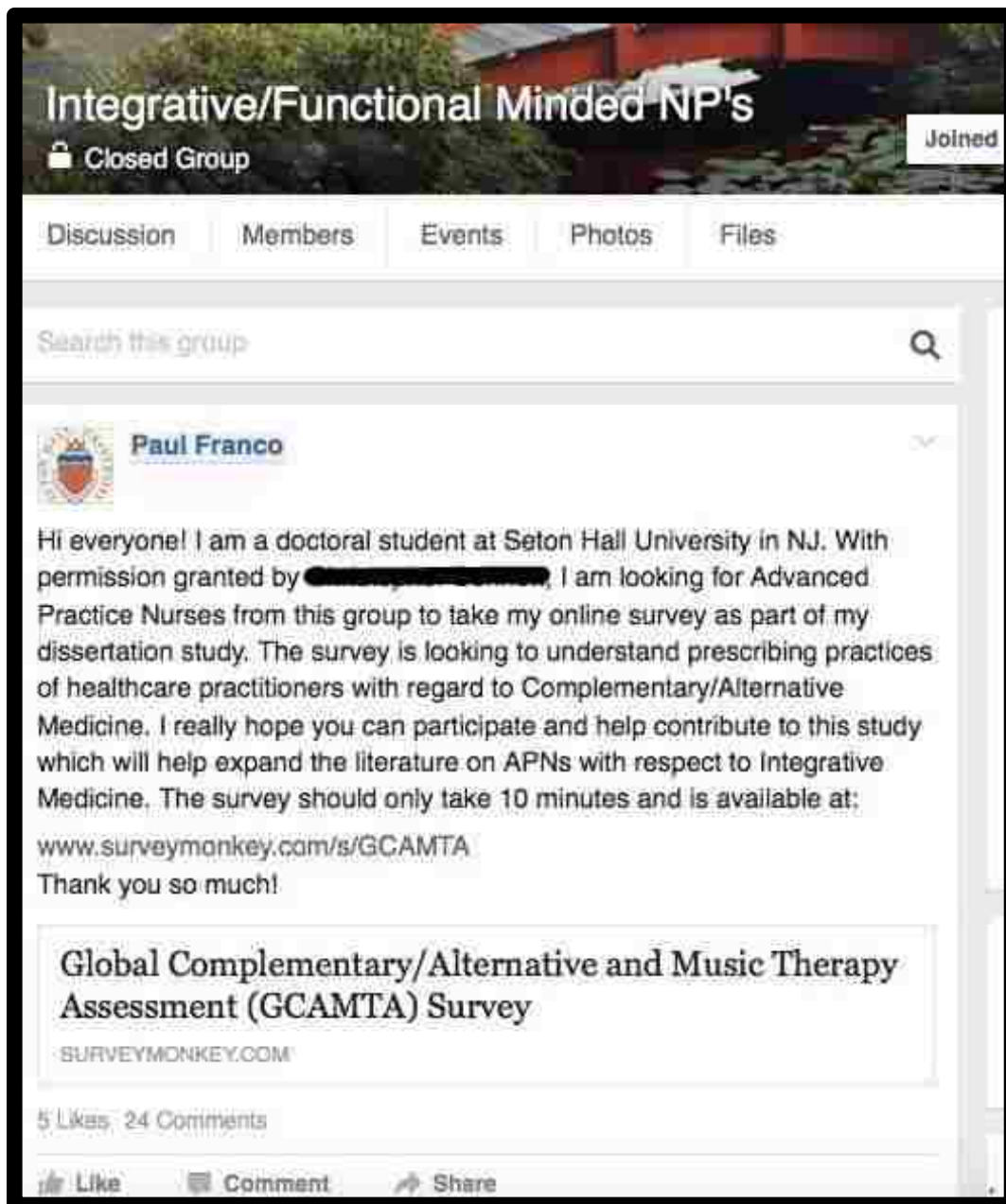


Figure 22. Sample Facebook™ post created by PI for recruitment of medical professionals on Facebook™. This particular page was for nurse practitioners. PI used similar postings on other closed group pages on Facebook™. Of most importance in these types of postings is the survey link, the target population, and the average time needed for survey completion. For privacy purposes, there is a black strikethrough for the name of the administrator of this particular Facebook™ closed group.



Figure 23. Sample tweets used by PI for recruitment of medical professionals on Twitter™. Of particular note is the change in language for the hashtag (#) in order for the tweet to be visible and attracted by different groups on the website.

For LinkedIn® as a recruitment method, the PI followed similar procedures as the Facebook™ closed group pages whereby PI had to join the professional network and, once approved, post to the group page a short post with accompanying survey link (Figure 24).

Because the survey responses were anonymous and not collected from named individuals, it is not known how many responses specifically came from which social media outlet (e.g. Facebook™, Twitter™, LinkedIn®).

The image shows a screenshot of a LinkedIn post within a group titled "Medical Doctor (MD) Network" which has 48,095 members. The post is from Paul Franco, a Doctoral Candidate/Researcher in Health Sciences. The post title is "Thoughts On Recommending Complementary Medicine Approaches?". The text of the post reads: "Hi colleagues. I am working on a doctoral dissertation to understand physicians' recommending practices and expectations of Complementary Medicine approaches for their patients (e.g. Music Therapy). If you could help out by sparing roughly 10 minutes to give some feedback on this topic at the below link, I would be grateful. The link to the questionnaire is: www.surveymonkey.com/s/GCAMTA Show less". Below the text, there is a link to the survey titled "Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)".

Figure 24. Sample LinkedIn® post created by PI for recruitment of medical professionals on LinkedIn®. This particular networking page was for medical doctors. PI used similar postings on other closed network pages on Facebook™. Of most importance in these types of postings is the survey link, the target population, and the average time needed for survey completion. A similar vetting process as Facebook™ takes place on LinkedIn® for entering these closed network groups.

Data Coding & Analysis

Data were exported from SurveyMonkey® into Microsoft Excel. Following this was the creation of column variables and cases with eventual transfer into SPSS software version 23 (IBM, 2015) (Figure 25). PI coded the data from string variables into numeric variables (Figure 26). Each column variable was given a label by the PI based on the survey statement for easy viewing. These labels typically were the first few words of the survey statement. Group, profession and specialty variables were coded as nominal measures. The Likert scale data were recoded into ordinal measures. Data were then numerically coded based on the variable (Figure 28). The group variable was coded as either 1 for physicians or 2 for non-physician practitioners. Likert scale statements were coded on a scale from 1 to 5, based upon respondents' answers: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1).

Reverse coding of negative Likert scale items took place and then recoding into new variables. For example, a negative statement such as "I prefer silence instead of listening to music for relaxation purposes," would be reverse coded. For this process, if the respondent chose "Strongly Agree," this would be coded as 1 instead of 5. This would affect the overall score for the *Attitudes* variable to make it reflect a more conservative/less favorable towards CAM result. A new column with the recoded data for this variable

statement was created to reflect the negative disposition of the way the statement was constructed by the PI.

Finally, computation of dependent variable summations led to final variables for the reliability assessment of the tool (Figure 28). This process entailed summing the scores of each of the statements according to the variable that they fell under. For example, each of the 22 items of the *Perceptions of Knowledge* variable were summed to provide an overall *Perceptions of Knowledge* score for Respondent Case #1 and then Respondent Case #2, etc. Summations were calculated through the Transform → Compute function in SPSS. A new variable was created with a label (e.g. *Recommending_r*) and each of the statements under the original *Recommending Practices* variable were summed through a numeric expression which provided the new variable with the total score for *Recommending Practices*. This new variable was then used for the statistical analyses.

This eventually condensed the data into the practitioner group vs. one overall score for each dependent variable per respondent, totaling 544 respondents, each of one particular practitioner group (1 or 2) and having one total score per dependent variable (*Recommending Practices, Attitudes, Knowledge, Beliefs, and Expectations*). This led to the final abridged database.

The final abridged database contained the group independent variables as either physician or non-physician practitioner as well as the five dependent variables that were previously summed based on their individual Likert statement scores (Figure 29).

After the main GCAMTA data were coded, the demographic survey was coded accordingly based on the aforementioned process.

| | Group | Profession | Specialty | BeforeReceiving | BeforeGiving | BeforeMaking | Itfs |
|-----|---------------|---------------------------------|-----------|-----------------|----------------|----------------|----------|
| 1. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Neutral | Agree |
| 2. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Agree | Agree | Agree |
| 3. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Neutral | Neutral |
| 4. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Agree | Neutral |
| 5. | Non-Physician | Clinical Nurse Specialist (C... | | Disagree | Disagree | Agree | Agree |
| 6. | Non-Physician | Clinical Nurse Specialist (C... | | Disagree | Disagree | Agree | Agree |
| 7. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Agree | Strongly |
| 8. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Disagree | Agree | Strongly |
| 9. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Neutral | Disagree |
| 10. | Non-Physician | Clinical Nurse Specialist (C... | | Neutral | Agree | Agree | Agree |
| 11. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Agree | Strongly |
| 12. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Agree | Agree |
| 13. | Non-Physician | Clinical Nurse Specialist (C... | | Neutral | Neutral | Disagree | Neutral |
| 14. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Disagree | Neutral |
| 15. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Neutral | Agree |
| 16. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Strongly Agree | Neutral | Agree |
| 17. | Non-Physician | Clinical Nurse Specialist (C... | | Neutral | Neutral | Agree | Strongly |
| 18. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Agree | Neutral |
| 19. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Neutral | Agree |
| 20. | Non-Physician | Clinical Nurse Specialist (C... | | Neutral | Neutral | Agree | Strongly |
| 21. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Strongly Agree | Strongly |
| 22. | Non-Physician | Clinical Nurse Specialist (C... | | Disagree | Disagree | Agree | Agree |
| 23. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Neutral | Agree |
| 24. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Strongly Agree | Strongly |
| 25. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Neutral | Neutral |
| 26. | Non-Physician | Clinical Nurse Specialist (C... | | Neutral | Neutral | Strongly Agree | Strongly |
| 27. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Disagree | Neutral |
| 28. | Non-Physician | Clinical Nurse Specialist (C... | | Agree | Agree | Agree | Agree |
| 29. | Non-Physician | Clinical Nurse Specialist (C... | | Strongly Agree | Strongly Agree | Strongly Agree | Strongly |

(IBM, 2015)

Figure 25. Coding of Data: Main Database Spreadsheet.
 Snapshot of the main database spreadsheet after exportation from SurveyMonkey® into Microsoft Excel and then SPSS v. 23. This database is prior to coding by the PI.

| | Name | Type | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | Role |
|----|----------------|---------|-------|----------|----------------------|------------------|---------|---------|-------|---------|-------|
| 1 | Group | Numeric | 8 | 0 | | {1, Physicia... | None | 12 | Right | Nominal | Input |
| 2 | Profession | Numeric | 31 | 0 | What is your pr... | {1, Physicia... | None | 19 | Right | Nominal | Input |
| 3 | Specialty | String | 97 | 0 | For Physicians (...) | None | None | 14 | Left | Nominal | Input |
| 4 | BeforeRecei... | Numeric | 40 | 0 | Before receivin... | {1, Strongly ... | None | 14 | Left | Ordinal | Input |
| 5 | BeforeGiving | Numeric | 17 | 0 | Before giving a... | {1, Strongly ... | None | 17 | Left | Ordinal | Input |
| 6 | BeforeMaki... | Numeric | 17 | 0 | Before making ... | {1, Strongly ... | None | 13 | Left | Ordinal | Input |
| 7 | Itisimportant | Numeric | 15 | 0 | It is important ... | {1, Strongly ... | None | 15 | Left | Ordinal | Input |
| 8 | illikechange | Numeric | 17 | 0 | I like change... | {1, Strongly ... | None | 17 | Right | Ordinal | Input |
| 9 | idonotmind | Numeric | 17 | 0 | I do not mind s... | {1, Strongly ... | None | 17 | Right | Ordinal | Input |
| 10 | bothmindand... | Numeric | 18 | 0 | Both mind and ... | {1, Strongly ... | None | 18 | Right | Ordinal | Input |
| 11 | attimescare... | Numeric | 20 | 0 | At times, careg... | {0, False}... | None | 20 | Right | Ordinal | Input |
| 12 | attimespati... | Numeric | 18 | 0 | At times, patie... | {0, False}... | None | 18 | Right | Ordinal | Input |
| 13 | carereceive... | Numeric | 19 | 0 | Care-receivers... | {0, False}... | None | 19 | Right | Ordinal | Input |
| 14 | caregiverscan | Numeric | 14 | 0 | Caregivers can... | {0, False}... | None | 14 | Right | Ordinal | Input |
| 15 | camtherapi... | Numeric | 17 | 0 | CAM therapies... | {0, False}... | None | 17 | Right | Ordinal | Input |
| 16 | thechanges | Numeric | 12 | 0 | The changes th... | {0, False}... | None | 12 | Right | Ordinal | Input |
| 17 | musicthera... | Numeric | 16 | 0 | MT is increasin... | {0, False}... | None | 13 | Right | Ordinal | Input |
| 18 | certaincam | Numeric | 12 | 0 | Certain CAM t... | {0, False}... | None | 12 | Right | Ordinal | Input |
| 19 | MTcan | Numeric | 17 | 0 | MT can help re... | {0, False}... | None | 17 | Right | Ordinal | Input |
| 20 | certainCAM... | Numeric | 21 | 0 | Certain CAM t... | {0, False}... | None | 21 | Right | Ordinal | Input |
| 21 | MTcanredu... | Numeric | 21 | 0 | MT can reduce ... | {0, False}... | None | 21 | Right | Ordinal | Input |
| 22 | Treatingthe... | Numeric | 20 | 0 | Treating the a... | {0, False}... | None | 20 | Right | Ordinal | Input |
| 23 | Treatingthe... | Numeric | 20 | 0 | Treating the a... | {0, False}... | None | 20 | Right | Ordinal | Input |
| 24 | Treatingthe... | Numeric | 20 | 0 | Treating the a... | {0, False}... | None | 20 | Right | Ordinal | Input |
| 25 | Treatingthe... | Numeric | 20 | 0 | Treating the a... | {0, False}... | None | 20 | Right | Ordinal | Input |
| 26 | MThasbeen... | Numeric | 17 | 0 | MT has been f... | {0, False}... | None | 17 | Right | Ordinal | Input |
| 27 | thereisaben... | Numeric | 18 | 0 | There is a ben... | {0, False}... | None | 18 | Right | Ordinal | Input |
| 28 | camtherapi... | Numeric | 18 | 0 | CAM therapies... | {0, False}... | None | 18 | Right | Ordinal | Input |
| 29 | MThas | Numeric | 12 | 0 | MT has the pot... | {0, False}... | None | 15 | Right | Ordinal | Input |
| 30 | MTmayprev... | Numeric | 14 | 0 | MT may preven... | {0, False}... | None | 14 | Left | Ordinal | Input |
| 31 | Iamoptimistic | Numeric | 17 | 0 | I am optimistic... | {1, Strongly ... | None | 17 | Left | Ordinal | Input |

(IBM, 2015)

Figure 26. Coding of Data (Variable View). Data coded by PI from string variables into numeric variables for statistical analysis.

| | Group | Profession | Specialty | BeforeReceiving | BeforeGiving | BeforeMaking | Itisimportant |
|----|-------|------------|-----------|-----------------|--------------|--------------|---------------|
| 1 | 2 | 7 | | 5 | 5 | 3 | 4 |
| 2 | 2 | 7 | | 5 | 4 | 4 | 4 |
| 3 | 2 | 7 | | 4 | 4 | 3 | 3 |
| 4 | 2 | 7 | | 4 | 4 | 4 | 3 |
| 5 | 2 | 7 | | 2 | 2 | 4 | 4 |
| 6 | 2 | 7 | | 2 | 2 | 4 | 4 |
| 7 | 2 | 7 | | 4 | 4 | 4 | 5 |
| 8 | 2 | 7 | | 4 | 2 | 4 | 5 |
| 9 | 2 | 7 | | 4 | 4 | 3 | 2 |
| 10 | 2 | 7 | | 3 | 4 | 4 | 4 |
| 11 | 2 | 7 | | 4 | 4 | 4 | 5 |
| 12 | 2 | 7 | | 5 | 5 | 4 | 4 |
| 13 | 2 | 7 | | 3 | 3 | 2 | 3 |
| 14 | 2 | 7 | | 5 | 5 | 2 | 3 |
| 15 | 2 | 7 | | 4 | 4 | 3 | 4 |
| 16 | 2 | 7 | | 4 | 5 | 3 | 4 |
| 17 | 2 | 7 | | 3 | 3 | 4 | 5 |
| 18 | 2 | 7 | | 5 | 5 | 4 | 3 |
| 19 | 2 | 7 | | 5 | 5 | 3 | 4 |
| 20 | 2 | 7 | | 3 | 3 | 4 | 5 |
| 21 | 2 | 7 | | 4 | 4 | 5 | 5 |
| 22 | 2 | 7 | | 2 | 2 | 4 | 4 |
| 23 | 2 | 7 | | 4 | 4 | 3 | 4 |
| 24 | 2 | 7 | | 5 | 5 | 5 | 5 |
| 25 | 2 | 7 | | 5 | 5 | 3 | 3 |
| 26 | 2 | 7 | | 3 | 3 | 5 | 5 |
| 27 | 2 | 7 | | 4 | 4 | 2 | 3 |
| 28 | 2 | 7 | | 4 | 4 | 4 | 4 |
| 29 | 2 | 7 | | 5 | 5 | 5 | 5 |

(IBM, 2015)

Figure 27. Coding of Data: Main Database Spreadsheet Post-Coding. Snapshot of the main database spreadsheet post-coding by the PI. Coding is 1 or 2 for practitioner group type and 1 to 5 for the Likert scale items (Strongly Disagree to Strongly Agree).

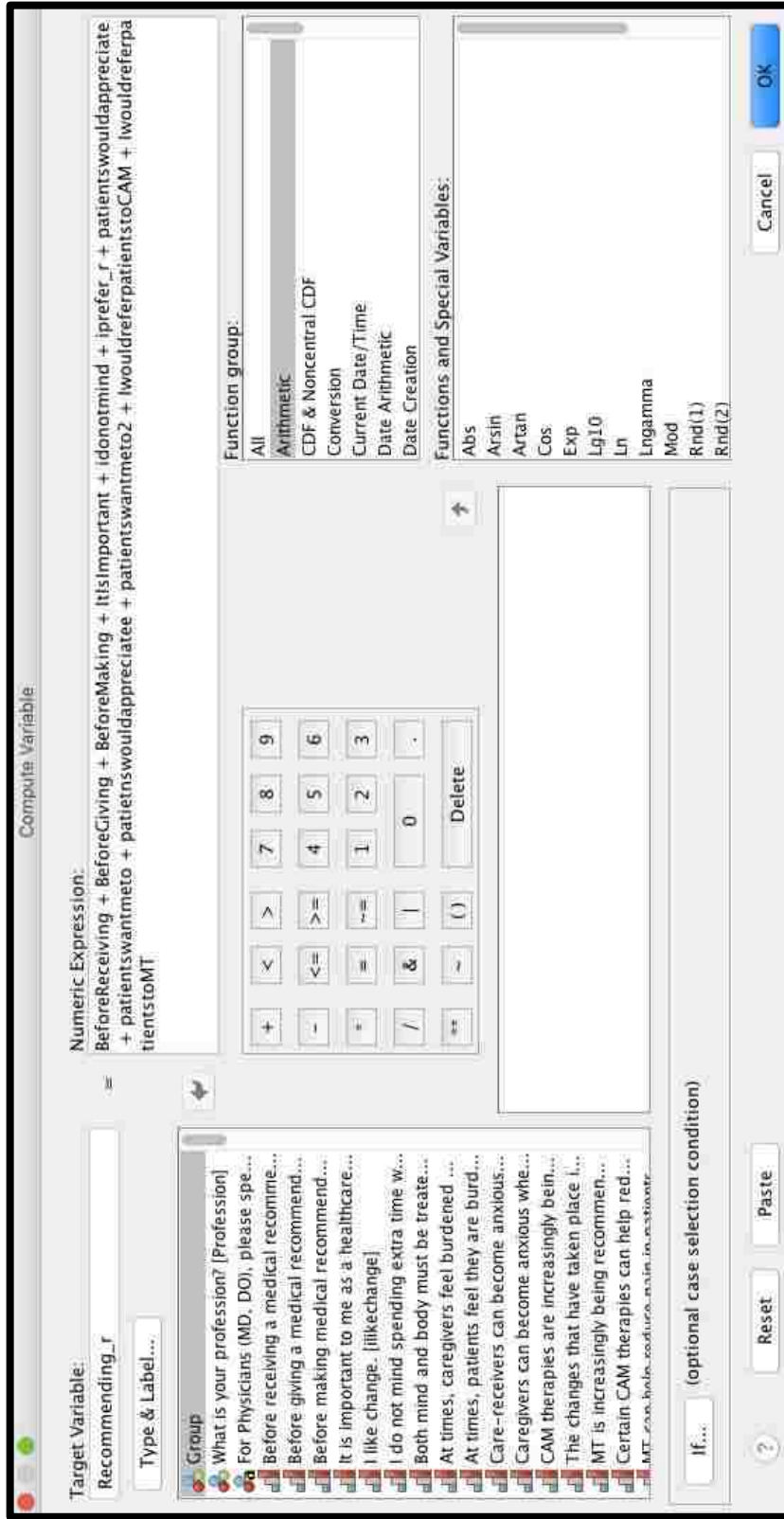


Figure 28. Coding of Data: Data Computation Function. Creation of new target variable labeled (e.g. Recommending_r_) and computed through summation of the numeric expression of the addition of all variable statements associated with the dependent variable. (IBM, 2015)

FINAL Abridged SHEET copy with underscore r.sav [DataSet1] - IBM SPSS Statistics Data Editor

| | Group | Recommending_r | Knowledge_r | Attitudes_r | Beliefs_r | Expectations_r |
|-----|---------------|----------------|-------------|-------------|-----------|----------------|
| 261 | Non-Physician | 39.00 | 39.00 | 31.00 | 48.00 | 26.00 |
| 262 | Non-Physician | 45.00 | 41.00 | 36.00 | 49.00 | 27.00 |
| 263 | Non-Physician | 52.00 | 35.00 | 40.00 | 50.00 | 32.00 |
| 264 | Non-Physician | 44.00 | 41.00 | 38.00 | 51.00 | 25.00 |
| 265 | Non-Physician | 47.00 | 38.00 | 51.00 | 51.00 | 28.00 |
| 266 | Non-Physician | 45.00 | 39.00 | 36.00 | 48.00 | 27.00 |
| 267 | Non-Physician | 46.00 | 39.00 | 49.00 | 55.00 | 29.00 |
| 268 | Non-Physician | 54.00 | 44.00 | 54.00 | 60.00 | 28.00 |
| 269 | Non-Physician | 43.00 | 35.00 | 31.00 | 51.00 | 20.00 |
| 270 | Non-Physician | 55.00 | 42.00 | 49.00 | 60.00 | 35.00 |
| 271 | Non-Physician | 53.00 | 39.00 | 44.00 | 51.00 | 32.00 |
| 272 | Non-Physician | 51.00 | 38.00 | 51.00 | 58.00 | 35.00 |
| 273 | Non-Physician | 46.00 | 39.00 | 44.00 | 44.00 | 29.00 |
| 274 | Non-Physician | 44.00 | 38.00 | 45.00 | 47.00 | 27.00 |
| 275 | Non-Physician | 39.00 | 37.00 | 39.00 | 44.00 | 24.00 |
| 276 | Non-Physician | 50.00 | 41.00 | 42.00 | 46.00 | 34.00 |
| 277 | Physician | 43.00 | 36.00 | 33.00 | 39.00 | 21.00 |
| 278 | Physician | 41.00 | 34.00 | 38.00 | 43.00 | 22.00 |
| 279 | Physician | 39.00 | 42.00 | 40.00 | 43.00 | 23.00 |
| 280 | Physician | 38.00 | 42.00 | 37.00 | 40.00 | 24.00 |
| 281 | Physician | 40.00 | 41.00 | 38.00 | 42.00 | 23.00 |
| 282 | Physician | 40.00 | 41.00 | 38.00 | 42.00 | 23.00 |
| 283 | Physician | 42.00 | 41.00 | 38.00 | 42.00 | 23.00 |
| 284 | Physician | 39.00 | 41.00 | 38.00 | 42.00 | 23.00 |
| 285 | Physician | 36.00 | 41.00 | 38.00 | 42.00 | 23.00 |
| 286 | Physician | 39.00 | 41.00 | 39.00 | 42.00 | 23.00 |
| 287 | Physician | 40.00 | 41.00 | 39.00 | 42.00 | 23.00 |
| 288 | Physician | 39.00 | 41.00 | 39.00 | 42.00 | 23.00 |

Data View Variable View

IBM SPSS Statistics Processor is ready

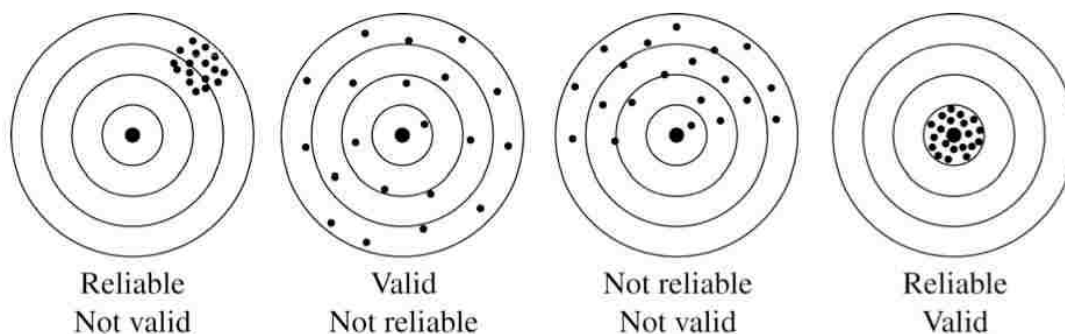
(IBM, 2015)

Figure 29. Coding of Data: Final Abridged Database. This is the final database coded by the PI representing the group Independent Variables (physician or non-physician practitioner) against the recoded 5 dependent variables (Recommending Practices, Perceptions of Knowledge, Attitudes, Beliefs, Expectations).

Reliability Assessment of the Tool

For the reliability assessment, a factor analysis using Cronbach's alpha was employed. For the demographic characteristics, the following descriptive statistics were gathered: means, standard deviations and frequencies. For the purposes of this dissertation study, a Multivariate Analysis of Variance (MANOVA) was employed. Univariate Analyses of Variance (ANOVA) were used as follow-up tests. The goal was to have the new tool be considered valid (through the Delphi Panel of experts) and then accurate and precise which yields reliability (by using it in a sample of the population). Therefore, it is crucial that the tool measures what it is intended to measure and be consistent each time it is used. Factor analysis using Cronbach's alpha was used for construct validity as well as for reliability purposes.

The fourth illustration is the goal in which the tool is both valid and reliable (Mindsonar, 2015) (Figure 30).



(Mindsonar, 2015)

Figure 30. Four options representing how validity and reliability can vary independently. Any of the above combinations are possible: reliable but not valid, valid but not reliable, neither reliable nor valid and both reliable and valid (Mindsonar, 2015).

Reliability of the GCAMTA: All 5 Factors. The Cronbach's Alpha for the GCAMTA survey with all 5 variables combined is $\alpha = .944$ (Table I) which is considered excellent by George and Mallery (2011).

For the GCAMTA: All 5 Factors, there is no major fluctuation in any of the survey items if they were to be deleted (Table II). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table I

Cronbach's Alpha Reliability Statistics for the GCAMTA: All 5 Factors

| Scale: GCAMTA (All 5 Factors) | |
|----------------------------------|------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .944 | 64 |

Table II

Item-Total Statistics for the GCAMTA: All 5 Factors

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| Before receiving a medical recommendation, patients like or be engaged in "small talk." | 189.0662 | 481.753 | .109 | .944 |
| Before giving a medical recommendation, I like to engage patients in "small talk." | 189.3180 | 478.011 | .198 | .944 |
| Before making medical recommendations, I find that patients want me to discuss current trends in healthcare related to patients' specific medical concerns. | 189.4430 | 481.197 | .113 | .944 |
| It is important to me as a healthcare provider to spend time discussing with patients current trends in healthcare related to their specific medical concerns. | 189.1636 | 478.421 | .215 | .944 |
| I like change. I do not mind spending extra time with | 189.4706 | 473.944 | .364 | .943 |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole.

Reliability of the GCAMTA: Recommending Practices Reliability.

The Cronbach's Alpha for the GCAMTA for the Recommending Practices variable is $\alpha = .813$ (Table III), which is considered good by George and Mallery (2011).

For the GCAMTA: Recommending Practices Reliability, there is no major fluctuation in any of the survey items if they were to be deleted (Table IV). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table III

Cronbach's Alpha Reliability Statistics for the GCAMTA: Recommending Practices Variable

| Scale: GCAMTA (Recommending Practices) Reliability | |
|---|-------------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .813 | 12 |

Table IV

Item-Total Statistics for the GCAMTA: Recommending Practices Variable

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| Before receiving a medical recommendation, patients like to be engaged in "small talk." | 39.8603 | 25.597 | .268 | .814 |
| Before giving a medical recommendation, I like to engage patients in "small talk." | 40.1121 | 24.663 | .335 | .810 |
| Before making medical recommendations, I find that patients want me to discuss current trends in healthcare related to patients' specific medical concerns. | 40.2371 | 25.853 | .197 | .821 |
| It is important to me as a healthcare provider to spend time discussing with patients current trends in healthcare related to their specific medical concerns. | 39.9577 | 25.024 | .345 | .808 |
| I prefer my patient visits to be short in time. | 40.5588 | 22.932 | .423 | .805 |
| I do not mind spending extra time with patients discussing possibilities other than the norm for treating their health matters. | 39.7353 | 25.705 | .255 | .815 |
| Patients would | | | | |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole for the variable.

Reliability of the GCAMTA: Knowledge Reliability. The Cronbach's Alpha for the GCAMTA for the *Perceptions of Knowledge* variable is $\alpha = .924$ (Table V), which is considered excellent by George and Mallery (2011).

For the GCAMTA: Perceptions of Knowledge Reliability, there is no major fluctuation in any of the survey items if they were to be deleted (Table VI). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table V

Cronbach's Alpha Reliability Statistics for the GCAMTA: Perceptions of Knowledge Variable

| Scale: GCAMTA (Perceptions of Knowledge) Reliability | |
|---|-----------------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .924 | 22 |

Table VI

Item-Total Statistics for the GCAMTA: Perceptions of Knowledge Variable

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| At times, caregivers feel burdened by their responsibilities with the person for whom they care. | 34.92 | 62.060 | .710 | .920 |
| At times, patients feel they are burdening their caregiver due to their health needs. | 34.94 | 61.814 | .697 | .920 |
| Care-receivers can become anxious when their caregiver is anxious | 34.89 | 63.408 | .605 | .922 |
| Caregivers can become anxious when their care-receiver is anxious. | 34.89 | 63.583 | .587 | .922 |
| CAM therapies are increasingly being recommended to patients by healthcare professionals. | 35.14 | 60.819 | .610 | .920 |
| The changes that have taken place in the healthcare system toward cost-effectiveness have encouraged providers to recommend CAM therapies to a greater extent. | 35.40 | 61.622 | .410 | .926 |
| MT is increasingly being recommended to patients by healthcare professionals | 35.34 | 64.033 | .258 | .928 |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole for the variable.

Reliability of the GCAMTA: Attitudes Reliability. The Cronbach's Alpha for the GCAMTA for the Attitudes variable is $\alpha = .806$ (Table VII), which is considered good by George and Mallery (2011).

For the GCAMTA: Attitudes Reliability, there is no major fluctuation in any of the survey items if they were to be deleted (Table VIII). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table VII

Cronbach's Alpha Reliability Statistics for the GCAMTA: Attitudes Variable

| Scale: GCAMTA (Attitudes) Reliability | |
|--|-------------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .806 | 11 |

Table VIII

Item-Total Statistics for the GCAMTA: Attitudes Variable

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| I am a lover of music. | 35.9063 | 26.162 | .510 | .789 |
| Music is a negative distraction to me in the healthcare setting | 36.3125 | 25.722 | .436 | .793 |
| In general, I prefer silence instead of music for relaxation purposes. | 36.4871 | 25.495 | .372 | .801 |
| If background music was played at work, it would have a relaxing effect on me | 36.3143 | 24.168 | .550 | .781 |
| Listening to music relaxes me. | 35.9007 | 25.574 | .562 | .784 |
| I am optimistic about CAM approaches in general | 36.3879 | 23.674 | .634 | .772 |
| I am unimpressed with CAM therapies as medical approaches | 36.3805 | 25.330 | .512 | .786 |
| I am wary of medical approaches that may be considered a "popular, new trend in healthcare." | 37.7739 | 24.894 | .464 | .791 |
| I consider myself more conservative than open-minded regarding new treatment modalities. | 37.0239 | 23.103 | .495 | .790 |
| I am not supportive of | | | | |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole for the variable.

Reliability of the GCAMTA: Beliefs Reliability. The Cronbach's Alpha for the GCAMTA for the Beliefs variable is $\alpha = .883$ (Table IX), which is considered good by George and Mallery (2011).

For the GCAMTA: Beliefs Reliability, there is no major fluctuation in any of the survey items if they were to be deleted (Table X). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table IX

Cronbach's Alpha Reliability Statistics for the GCAMTA: Beliefs Variable

| Scale: GCAMTA (Beliefs) Reliability | |
|--|-------------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .883 | 12 |

Table X

Item-Total Statistics for the GCAMTA: Beliefs Variable

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| MT is too expensive to be employed in hospitals. | 42.2849 | 37.302 | .298 | .888 |
| MT benefits are worth the costs. | 42.5882 | 32.777 | .746 | .863 |
| Positive effects of MT are, in most cases, due to placebo effect (treatment given to meet a patient's expectation to get well). | 42.5827 | 36.015 | .395 | .884 |
| Positive effects of CAM therapies are, in most cases, due to placebo effect (treatment given to meet a patient's expectation to get well). | 42.5901 | 35.889 | .384 | .885 |
| I think MT can have a long lasting benefit to the patient. | 42.5276 | 32.482 | .754 | .862 |
| I think certain CAM therapies can have a long-lasting benefit to the patient. | 42.3382 | 32.530 | .749 | .863 |
| MT should be used for end of life patients | 42.4816 | 32.795 | .624 | .871 |
| Hospitals should provide CAM therapy services | 42.3750 | 32.452 | .755 | .862 |
| Hospitals should provide MT services | 42.4559 | 32.296 | .784 | .861 |
| MT should not be used along with other conventional medical | 41.9614 | 35.481 | .518 | .877 |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole for the variable.

Reliability of the GCAMTA: Expectations Reliability. The

Cronbach's Alpha for the GCAMTA for the Beliefs variable is $\alpha = .874$ (Table XI), which is considered good by George and Mallery (2011).

For the GCAMTA: Expectations Reliability, there is no major fluctuation in any of the survey items if they were to be deleted (Table XII). If one of the individual item statements was deleted from the survey on the whole, the Cronbach's alpha in this column should not change drastically. If the Cronbach's alpha does change drastically, it is an indication that this item may be weighted differently than the others and this would show an inconsistency in the survey statements.

Table XI

Cronbach's Alpha Reliability Statistics for the GCAMTA: Expectations Variable

| Scale: GCAMTA (Expectations) Reliability | |
|---|-------------------|
| Reliability Statistics | |
| Cronbach's Alpha | N of Items |
| .874 | 7 |

Table XII

Item-Total Statistics for the GCAMTA: Expectations Variable

| Item-Total Statistics | | | | |
|--|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| I expect a patient who employs a form of CAM such as MT along with their regular treatment to have more positive patient outcomes than a patient who does not. | 22.4504 | 10.613 | .657 | .857 |
| If I provide enough supportive information for the use of a CAM therapy such as MT, I expect my patient to seek out that therapy. | 22.2408 | 13.424 | .242 | .900 |
| I expect CAM therapies to grow in acceptance among healthcare providers. | 22.3437 | 10.185 | .866 | .826 |
| I expect CAM therapies to grow in acceptance among individuals seeking medical care. | 22.3217 | 10.233 | .857 | .828 |
| I expect MT to grow in acceptance among healthcare providers. | 22.4614 | 10.146 | .881 | .824 |
| I expect MT to grow in acceptance among individuals seeking medical care | 22.4485 | 10.211 | .864 | .827 |
| I do not expect most patients to continue a CAM | | | | |

Note: Cronbach's Alpha If Item Deleted Column represents consistency of item statements where similar Cronbach's Alpha values exist for each item statement. This chart is only a snapshot and represents only a portion of the item statements and is not reflective of all the survey statements on the whole for the variable.

A Priori G*Power Analysis

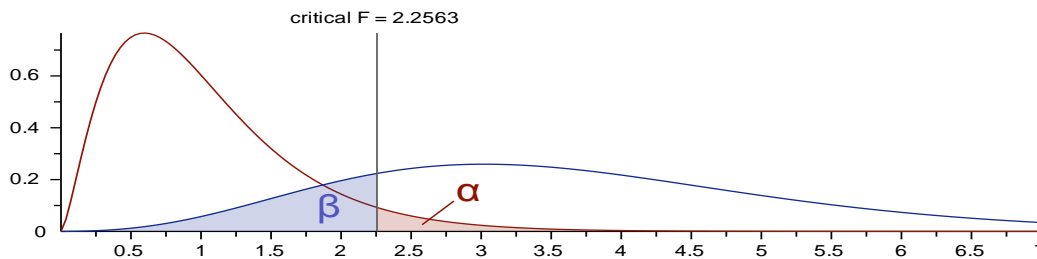
An *A Priori G*Power* Power Analysis for F Test MANOVA Global Effects was calculated to determine the sample size (Faul et al, 2009) (Figure 31). This study required a total sample size of 220 healthcare practitioners.

The effect size chosen was 0.06 (medium effect appropriate for a MANOVA). This is how strong the relationship is between the independent variable and the dependent variable. The alpha is set at 0.05 – the level of significance – the probability of detecting a type 1 error (false positive).

The Power (1-beta) is listed at .80 which is the probability of detecting a true relationship or group difference. Statistical power is the likelihood that a study will detect an effect when there is an effect there to be detected. Therefore, if the statistical power winds up being high, the probability of making a Type II error (concluding there is no effect when in fact there is one) goes down (Ellis, 2010).

The issue of sample size is an essential one, as it directly affects the statistical power of the study or the probability of detecting a true relationship or group difference (Polit and Beck, 2008, Portney and Watkins, 2009). A power analysis can reduce the risk for Type II errors (a false negative) by estimating in advance how big a sample is needed.

Figure 32 illustrates a flowchart summary of methodology up to and including the reliability assessment post-IRB approval from Seton Hall University.



(Faul et al, 2009)

Analysis: A priori: Compute required sample size

| | | | |
|----------------|-----------------------------------|---|------------|
| Input: | Effect size $f^2(V)$ | = | 0.06 |
| | α err prob | = | 0.05 |
| | Power ($1-\beta$ err prob) | = | 0.8 |
| | Number of groups | = | 2 |
| | Response variables | = | 5 |
| Output: | Noncentrality parameter λ | = | 13.200000 |
| | Critical F | = | 2.2562550 |
| | Numerator df | = | 5.0000000 |
| | Denominator df | = | 214 |
| | Total sample size | = | 220 |
| | Actual power | = | 0.8012971 |
| | Pillai V | = | 0.0566038 |

*Figure 31. A Priori G*Power Analysis to determine sample size. With an effect size of .06 appropriate for MANOVA, an alpha level set at .05, power of .80, two groups (physicians and non-physician practitioners) and five dependent variables (recommending practices, knowledge, attitudes, beliefs and expectations), the expected and anticipated sample size is 220 participants for the survey instruments.*

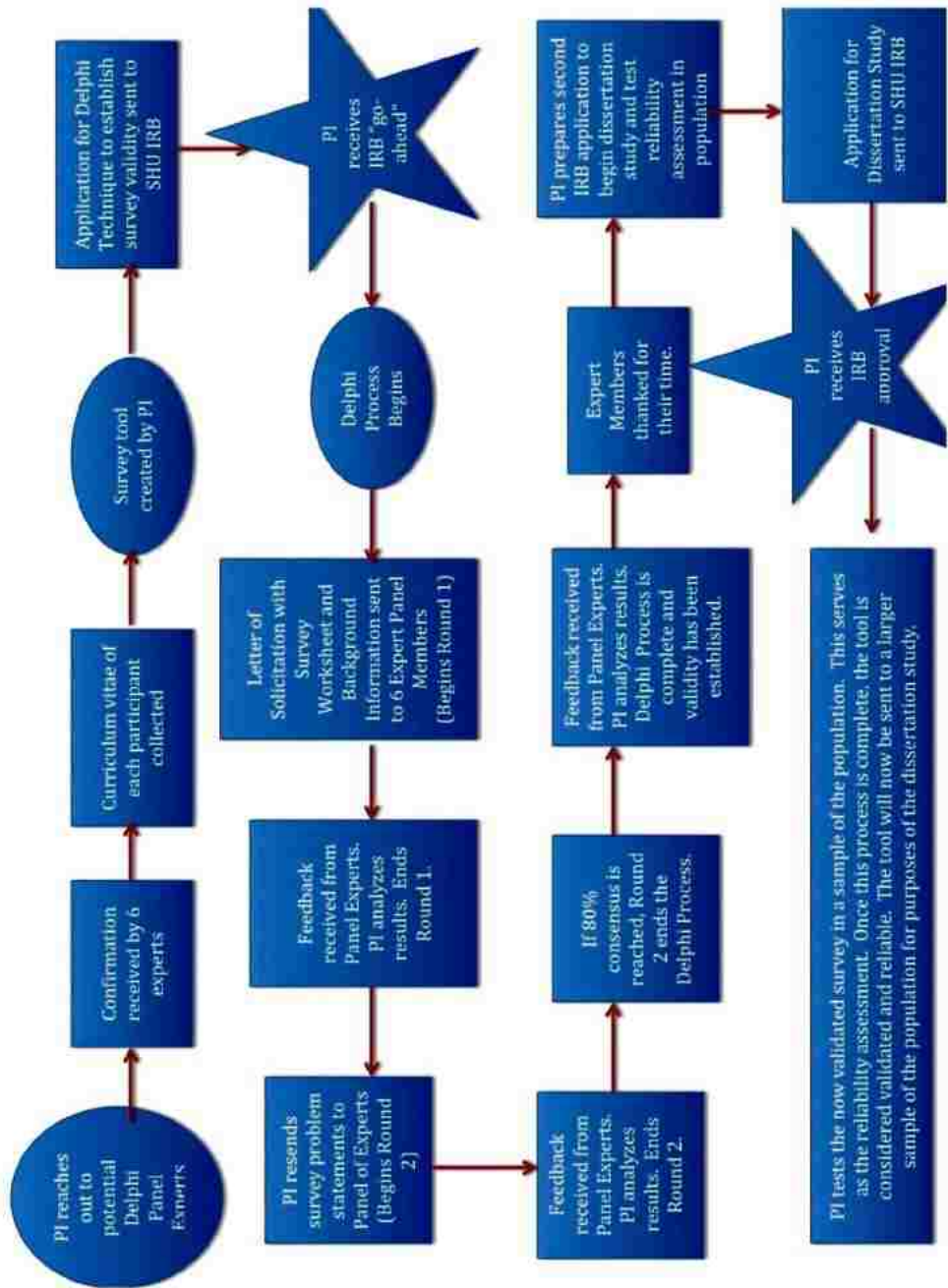


Figure 32. Flowchart summary of methodology up to and including the reliability assessment post-IRB approval from Seton Hall University.

Chapter IV

RESULTS

Introduction

This chapter focuses on the results of the statistical tests of the dissertation study.

Characteristics of the Sample

The sample consisted of both physicians and non-physician practitioners. Two hundred thirty seven (237) physicians (both MDs and DOs) completed the GCAMTA and three hundred seven (307) non-physician practitioners completed the GCAMTA.

Frequencies of Respondents. The rule of thumb is that groups are considered generally equal as long as the larger group is not 1.5 times greater than the smallest group (Stevens, 1999). For this study, the larger group, the non-physicians were 1.3 times greater the smallest group so the groups are generally considered equal.

As mentioned earlier, the *a priori* analysis required 220 respondents. This study achieved 544 respondents (Table XIII).

Table XIII

Frequencies and Percentage of Total of the Two Independent Group

Variables: Physician and Non-Physician Practitioner.

| | | Group | | | |
|-------|---------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Physician | 237 | 43.6 | 43.6 | 43.6 |
| | Non-Physician | 307 | 56.4 | 56.4 | 100.0 |
| | Total | 544 | 100.0 | 100.0 | |

Broken out by individual non-physician practitioner type, the most respondents were the Clinical Nurse Specialists at 18.6 percent, followed by the Nurse Midwives at 14.7 percent and then the nurse practitioners at 11.9 percent (Table XIV).

The smaller groups were the physician assistants and the nurse anesthetists. MDs accounted for 35 percent of all the responses.

Table XIV

Frequencies and Percentages of Total of the Respondents by Profession

| What is your profession? | | | | |
|---------------------------------|-----------|---------|---------------|--------------------|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| Physician (MD) | 191 | 35.1 | 35.1 | 35.1 |
| Physician (DO) | 46 | 8.5 | 8.5 | 43.6 |
| Physician Assistant (PA) | 31 | 5.7 | 5.7 | 49.3 |
| Nurse Practitioner (NP) | 65 | 11.9 | 11.9 | 61.2 |
| Nurse Midwife (NM) | 80 | 14.7 | 14.7 | 75.9 |
| Nurse Anesthetist (NA) | 30 | 5.5 | 5.5 | 81.4 |
| Clinical Nurse Specialist (CNS) | 101 | 18.6 | 18.6 | 100.0 |
| Total | 544 | 100.0 | 100.0 | |

U.S. Geographical Locations of Respondents According to

Licensure. Respondents of the GCAMTA revealed locations well dispersed across the United States (Figure 28). PI was successful in obtaining responses from forty-seven (47) states. Figure 33 represents the notion that, if social media is adequately used to solicit participants for a survey with proper vetting of legitimate organizations, then solicitation and engagement of participants across the states nationally is attainable. Albeit a convenience sample, this does allow for inferences to be made regarding trends. In the demographic survey (Appendix H), participants were asked to reveal their state(s) of licensure as a healthcare practitioner. The option to provide more than one state, if this applied to any participant, was given. Therefore, some respondents of the survey included two or three states where he/she was licensed to practice and this is reflected within the numbers presented in Figure 34.

Results showed that respondents of the GCAMTA came from every state except Nevada, Wyoming and Iowa. The total number of active licenses within a state ranged from 1 to 124. The largest amount of respondents holding active licenses came from New York (124 licenses) and California (74 licenses), followed by New Jersey (50 licenses), Pennsylvania (23 licenses), Florida (22 licenses), Illinois (20 licenses) and Texas (21 licenses).

Broken down by practitioner type, the majority of physicians were licensed in New York. This is most likely due to the approval by the New York

State Academy of Family Physicians as an organization used by the PI to solicit members. The other two approved organizations, the National Association of Clinical Nurse Specialists and the American College of Nurse Midwives, were both U.S. national organizations and not specific to just one state and, thus, respondents were spread across the country. Therefore, broken down by practitioner type, there were no major trends as to what state the majority of nurse practitioners, nurse anesthetists, nurse midwives, clinical nurse specialists and physician assistants were licensed in.

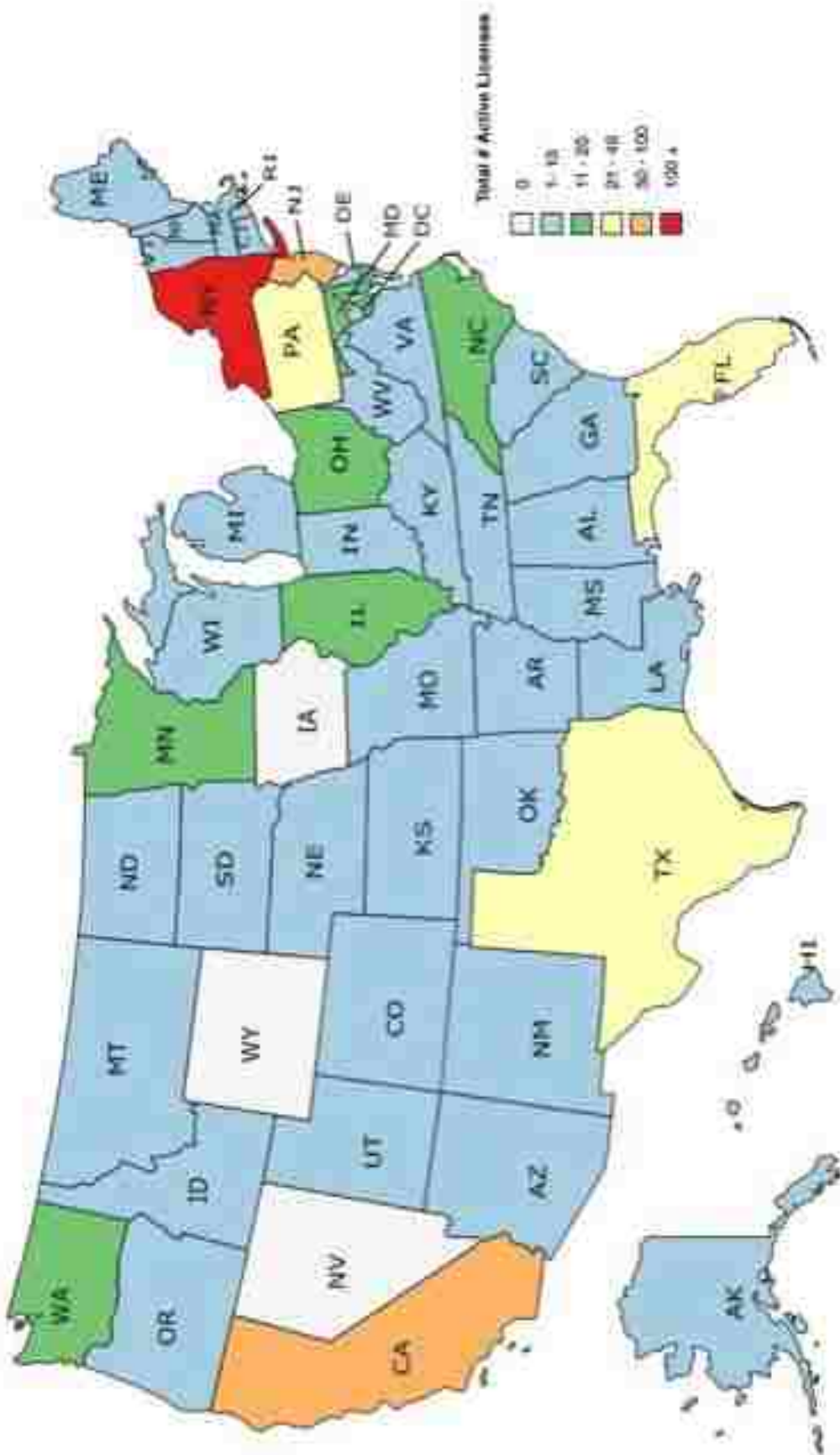


Figure 33. Distribution Map of Respondents According to Practitioner Licensure

| | State | Total # Active Licenses for this State from all Survey Respondents | | State | Total # Active Licenses for this State from all Survey Respondents |
|----|---------------|--|----|----------------|--|
| 1 | Alabama | 3 | 26 | Montana | 1 |
| 2 | Alaska | 5 | 27 | Nebraska | 3 |
| 3 | Arizona | 5 | 28 | Nevada | 0 |
| 4 | Arkansas | 2 | 29 | New Hampshire | 2 |
| 5 | California | 74 | 30 | New Jersey | 50 |
| 6 | Colorado | 7 | 31 | New Mexico | 3 |
| 7 | Connecticut | 3 | 32 | New York | 124 |
| 8 | Delaware | 1 | 33 | North Carolina | 17 |
| 9 | Florida | 22 | 34 | North Dakota | 1 |
| 10 | Georgia | 10 | 35 | Ohio | 15 |
| 11 | Hawaii | 1 | 36 | Oklahoma | 6 |
| 12 | Idaho | 3 | 37 | Oregon | 10 |
| 13 | Illinois | 20 | 38 | Pennsylvania | 23 |
| 14 | Indiana | 6 | 39 | Rhode Island | 1 |
| 15 | Iowa | 0 | 40 | South Carolina | 6 |
| 16 | Kansas | 1 | 41 | South Dakota | 1 |
| 17 | Kentucky | 5 | 42 | Tennessee | 5 |
| 18 | Louisiana | 3 | 43 | Texas | 21 |
| 19 | Maine | 4 | 44 | Utah | 1 |
| 20 | Maryland | 11 | 45 | Vermont | 2 |
| 21 | Massachusetts | 7 | 46 | Virginia | 7 |
| 22 | Michigan | 6 | 47 | Washington | 13 |
| 23 | Minnesota | 14 | 48 | West Virginia | 1 |
| 24 | Mississippi | 2 | 49 | Wisconsin | 8 |
| 25 | Missouri | 2 | 50 | Wyoming | 0 |

Figure 34. Distribution Table of Respondents According to Practitioner Licensure. Total # refers to the amount of practitioners who are currently licensed to practice within the corresponding state. Some survey respondents were licensed to practice in more than one state and these numbers are reflective of that. Results showed that the most respondents were licensed in New York and California, followed by New Jersey, Pennsylvania, Florida, Illinois and Texas.

Age of Respondents. The majority of respondents were in the middle age range, which is 30 to 60. The 51 - 60 age group had the highest number of respondents (Figure 35) (Table XV).

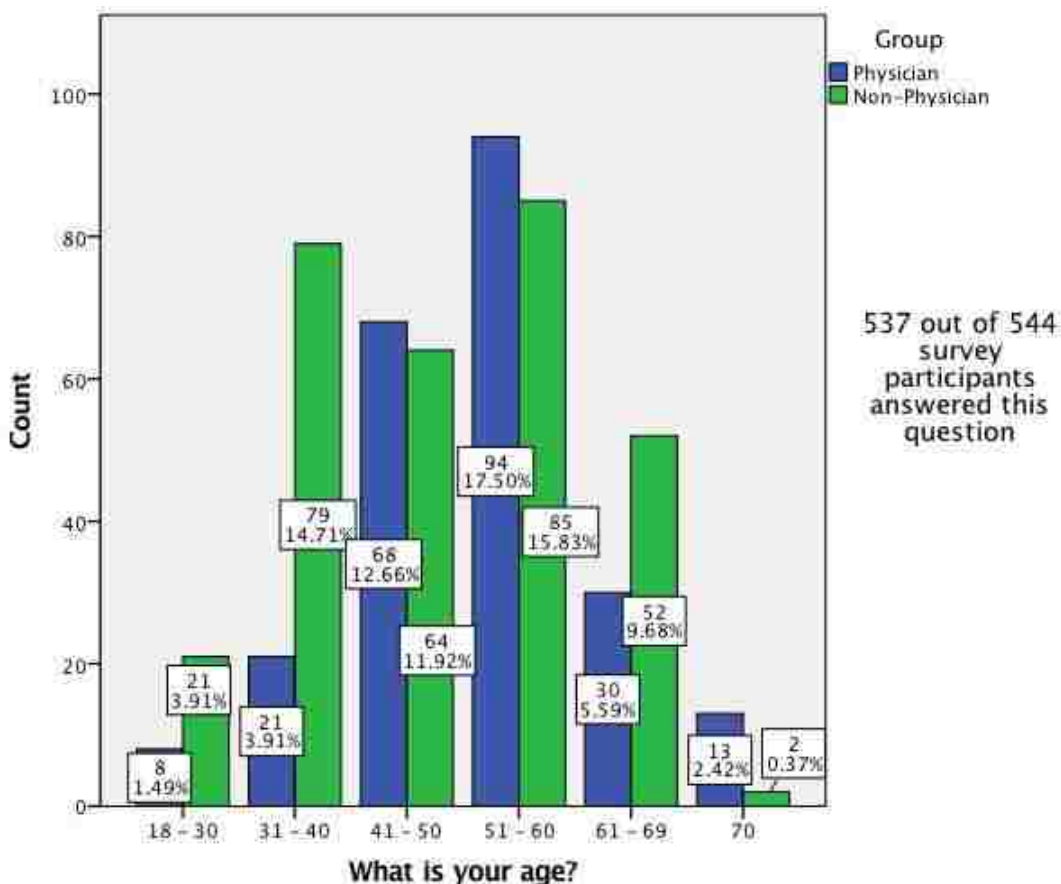


Figure 35. Clustered bar graph illustrating age of respondents according to two groups (physician and non-physician practitioner). The majority of respondents were in the 51 - 60 age range category for both groups.

The results for age for this study are on par with the trends in statistics in the medical profession. According to a census of actively licensed physicians in the U.S. in 2014, 70% of licensed physicians fell in the 30-59 age range (Young et. al, 2015).

According to a study of the National Council of State Boards of Nursing and The Forum of State Nursing Workforce Centers 2013 National Workforce of RNs, the average age of nurses was 50 in 2013 (ANA, 2014). Similarly, according to the U.S. Department of Health and Human Services' 2012 national sample survey of nurse practitioners, the average age within the Nurse Practitioner workforce was 48 years and the largest age cohort of Nurse Practitioners, 55 to 59 year olds, represented nearly 18 percent of the NP workforce (HRSA, 2014).

Table XV

Frequencies and Percentages of Total of Respondents According to Age

| What is your age? | | | | | |
|-------------------|---------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 18 – 30 | 29 | 5.3 | 5.4 | 5.4 |
| | 31 – 40 | 100 | 18.4 | 18.6 | 24.0 |
| | 41 – 50 | 132 | 24.3 | 24.6 | 48.6 |
| | 51 – 60 | 179 | 32.9 | 33.3 | 81.9 |
| | 61 – 69 | 82 | 15.1 | 15.3 | 97.2 |
| | 70 | 15 | 2.8 | 2.8 | 100.0 |
| | Total | 537 | 98.7 | 100.0 | |
| Missing | 7 | 1.3 | | | |
| Total | | 544 | 100.0 | | |

Gender of Respondents. More females than males took this survey.

With both groups combined, 423 respondents were female and 118 respondents were male. Specifically, 52% of respondents were female non-physician practitioners (Figure 36) (Table XVI).

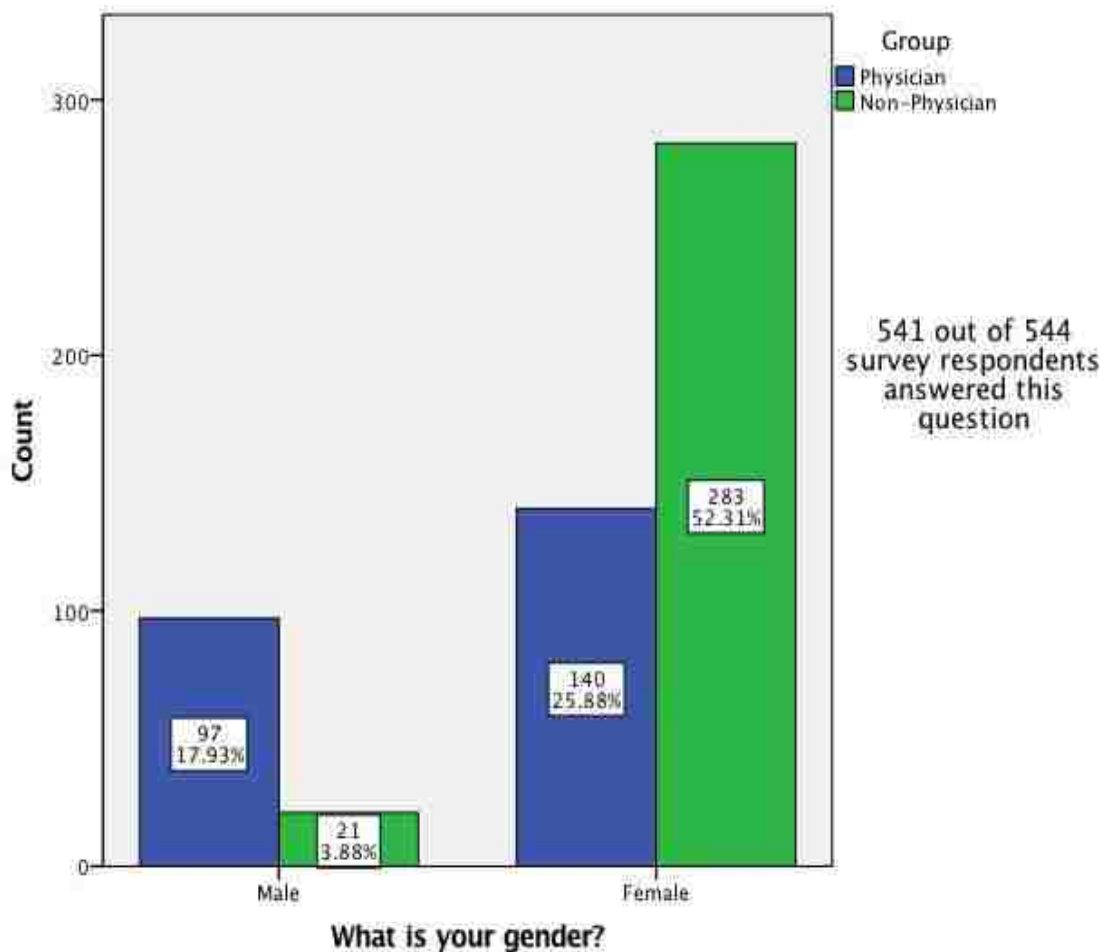


Figure 36. Clustered bar graph of respondents according to gender. The largest group of respondents were female non-physician practitioners.

Table XVI

Frequencies and Percentages of Respondents According to Gender

| | | What is your gender? | | | |
|---------|--------|----------------------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 118 | 21.7 | 21.8 | 21.8 |
| | Female | 423 | 77.8 | 78.2 | 100.0 |
| | Total | 541 | 99.4 | 100.0 | |
| Missing | System | 3 | .6 | | |
| Total | | 544 | 100.0 | | |

Respondents' Years in Profession. With both groups combined together, the majority of practitioners had 21-30 years experience in their respective profession. Specifically, to note, 20.35% of physicians who answered this question had 21 – 30 years experience. 8 individuals had less than one year experience. Therefore, the majority of individuals who took the survey were experienced professionals (Figure 37) (Table XVII).

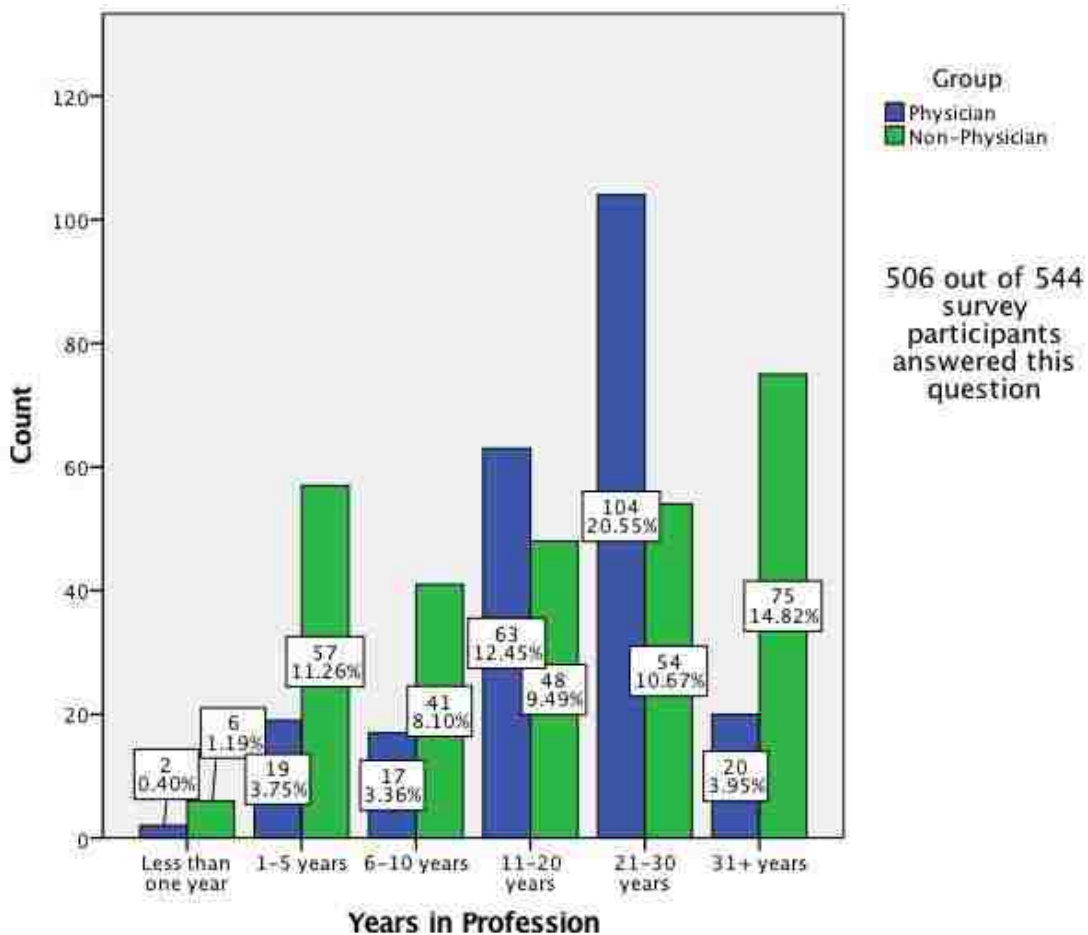


Figure 37. Clustered bar graph illustrating the years of experience in the profession according to group.

Table XVII

Frequencies and Percentages of Respondents for Years in Profession

| | | Years in Profession | | | |
|---------|--------------------|---------------------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Less than one year | 8 | 1.5 | 1.6 | 1.6 |
| | 1-5 years | 76 | 14.0 | 15.0 | 16.6 |
| | 6-10 years | 58 | 10.7 | 11.5 | 28.1 |
| | 11-20 years | 111 | 20.4 | 21.9 | 50.0 |
| | 21-30 years | 158 | 29.0 | 31.2 | 81.2 |
| | 31+ years | 95 | 17.5 | 18.8 | 100.0 |
| | Total | 506 | 93.0 | 100.0 | |
| Missing | System | 38 | 7.0 | | |
| Total | | 544 | 100.0 | | |

CAM Therapy in Education. When asked the question, “Have CAM therapies ever been introduced to you in your academic studies?” more non-physician practitioners than physicians responded “Yes.” More physicians than non-physicians responded “No.” (Figure 38).

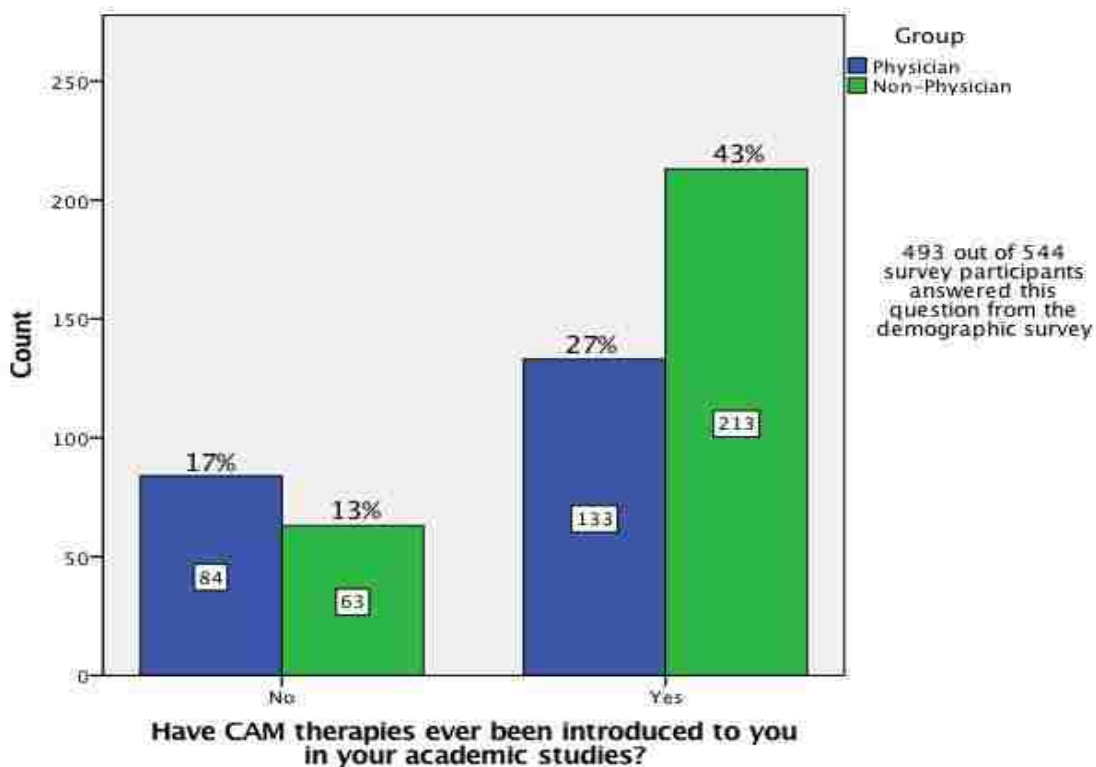


Figure 38. Clustered bar graph illustrating respondents’ educational exposure to CAM. The results are reflective of the question “Have CAM therapies ever been introduced to you in your academic studies?”

Overall Impression of Music Therapy. For the most part, non-physicians had positive impressions of music therapy. The majority of physician responses showed neutrality with regard to impression of music therapy (Figure 39).

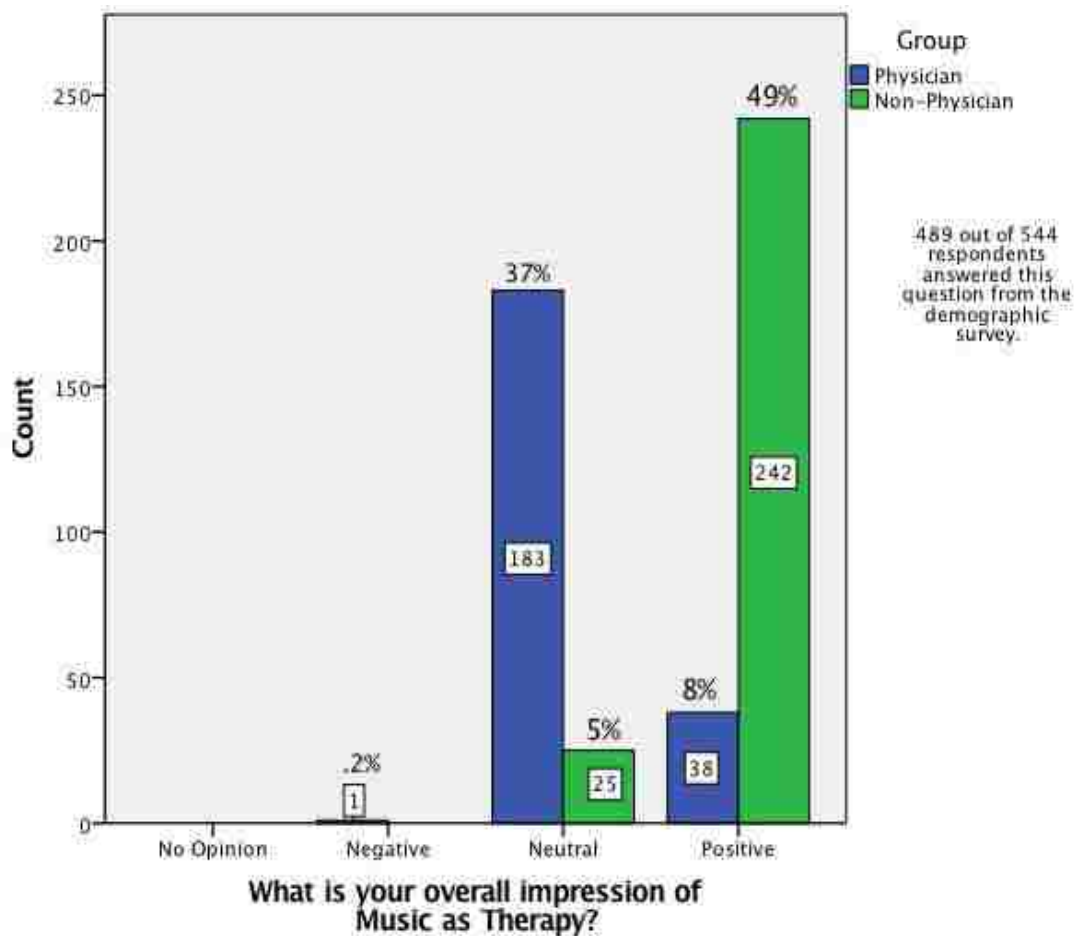


Figure 39. Clustered bar graph illustrating respondents' overall impression of music therapy. The results are reflective of the question, "What is your overall impression of Music as Therapy?"

Descriptive Research Questions 1 to 10 Results

The following results refer to research questions 1 and 6:

RQ1. What are physicians' (MD, DO) ***recommending practices*** regarding music as a cost-effective complementary and alternative medicine approach?

AND

RQ6. What are non-physician practitioners' (NP, NA, NM, CNS, PA) ***recommending practices*** regarding music as a cost-effective complementary and alternative medicine approach?

Descriptive Research Questions 1 and 6. There were many variables from the GCAMTA that were used to measure recommending practices for physicians and non-physicians. Figure 40 illustrates graphically one itemized variable from the survey that addresses this construct. The itemized variable from the survey is "I would refer patients to Music Therapy."

Physicians neither agree nor disagree that in their current recommending practices they would refer patients to music therapy. The blue bar in the bar chart shows that most physicians responded "neutral" when asked about their recommending practices which evidences a conservative approach to recommendation of CAM.

Non-physician practitioners either agree or strongly agree that they would refer patients to music therapy which evidences a liberal approach to recommending CAM.

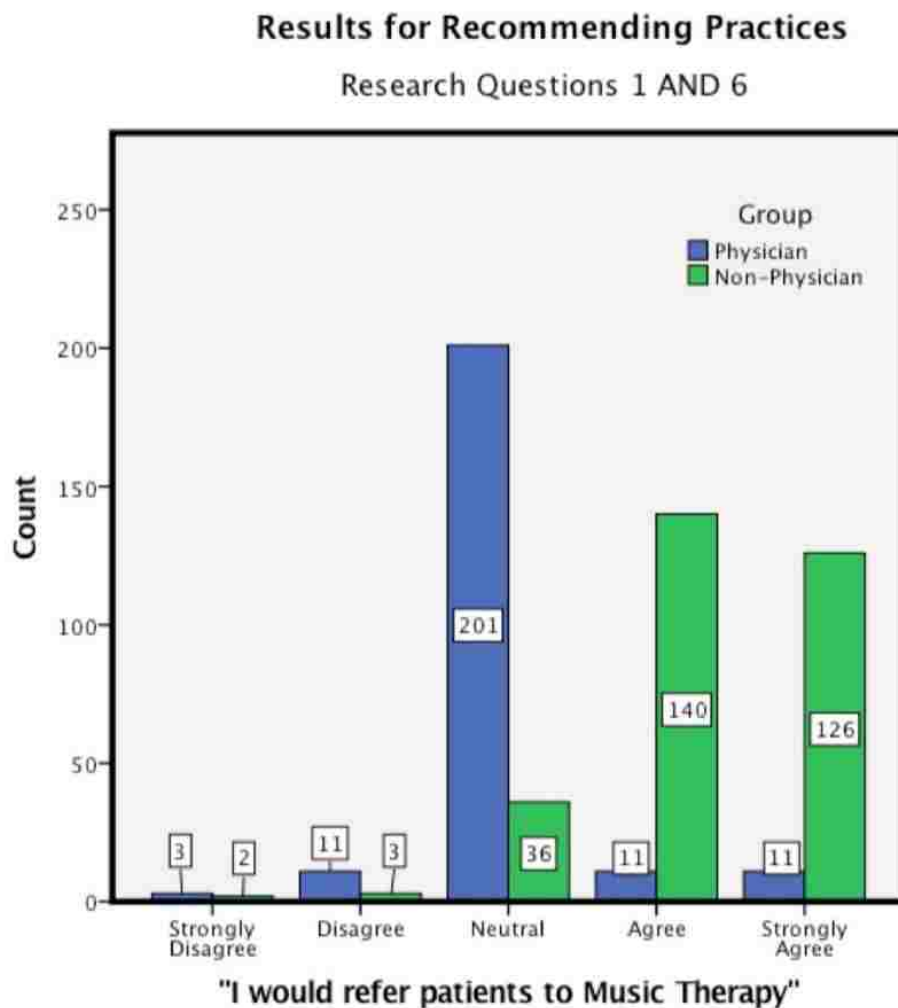


Figure 40. Descriptive Research Questions 1 and 6 results. Clustered bar graph illustrating respondents' answers by group to the recommending practices variable from the Likert statement, "I would refer patients to Music Therapy." The majority of the non-physician respondents agreed with the statement whereas the majority of the physician respondents replied "neutral" to the statement.

The following results refer to research questions 2 and 7:

RQ2. What are physicians' (MD, DO) **perceptions of knowledge** regarding music as a cost-effective complementary and alternative medicine approach?

AND

RQ7. What are non-physician practitioners' (NP, NA, NM, CNS, PA) **perceptions of knowledge** regarding music as a cost-effective complementary and alternative medicine approach?

Descriptive Research Questions 2 and 7. There were many variables from the GCAMTA that were used to measure perceptions of knowledge for physicians and non-physicians. Figure 41 illustrates graphically one itemized variable from the survey that addresses this construct. The survey item used to illustrate the perceptions of knowledge is the following "Music Therapy has the potential to lower hospital costs."

For the most part, physicians neither agree nor disagree that music therapy has the potential to lower hospital costs. The blue bar in the bar chart shows that most physicians responded "neutral" when asked about this statement. Non-physician practitioners agree that music therapy has the potential to lower hospital costs. So, for research question 7, these practitioners perceive themselves to be knowledgeable of music as a cost-effective CAM.

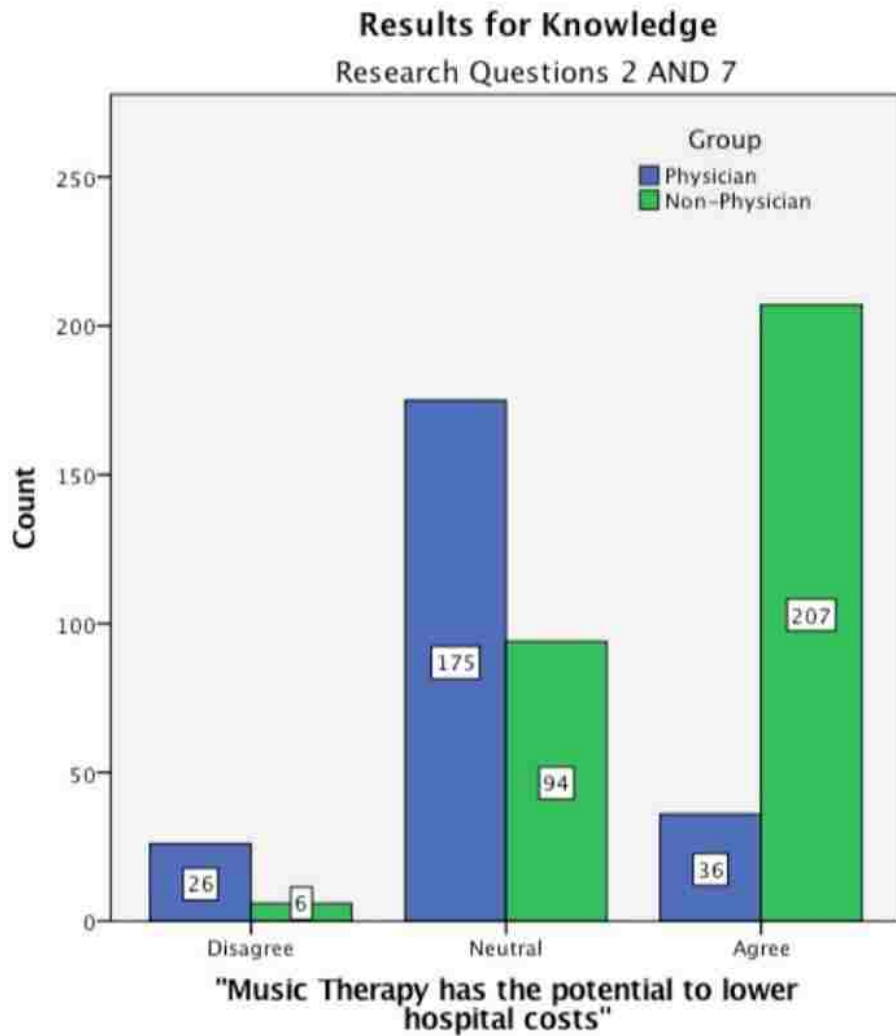


Figure 41. Descriptive Research Questions 2 and 7 results. Clustered bar graph illustrating respondents' answers by group to the knowledge variable from the Likert statement, "Music Therapy has the potential to lower hospital costs." The majority of the non-physician respondents agreed with the statement whereas the majority of the physician respondents replied "neutral" to the statement.

The following results refer to research questions 3 and 8:

RQ3. What are physicians' (MD, DO) **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

AND

RQ8. What are non-physician practitioners' (NP, NA, NM, CNS, PA) **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

Descriptive Research Questions 3 and 8. There were many variables from the GCAMTA that were used to measure attitudes for physicians and non-physicians. Figure 42 illustrates graphically one itemized variable from the survey that addresses this construct.

The survey item used to illustrate these questions is the following: I am optimistic about CAM approaches (including music therapy) in general.

For the most part, physicians neither agree nor disagree regarding their optimism about CAM and music therapy. The blue bar in the bar chart shows that most physicians responded "neutral" when asked about this statement. They are conservative in their attitudes towards these modalities. Non-physician practitioners agree that they are optimistic regarding CAM and music therapy. These practitioners have liberal attitudes towards these modalities.

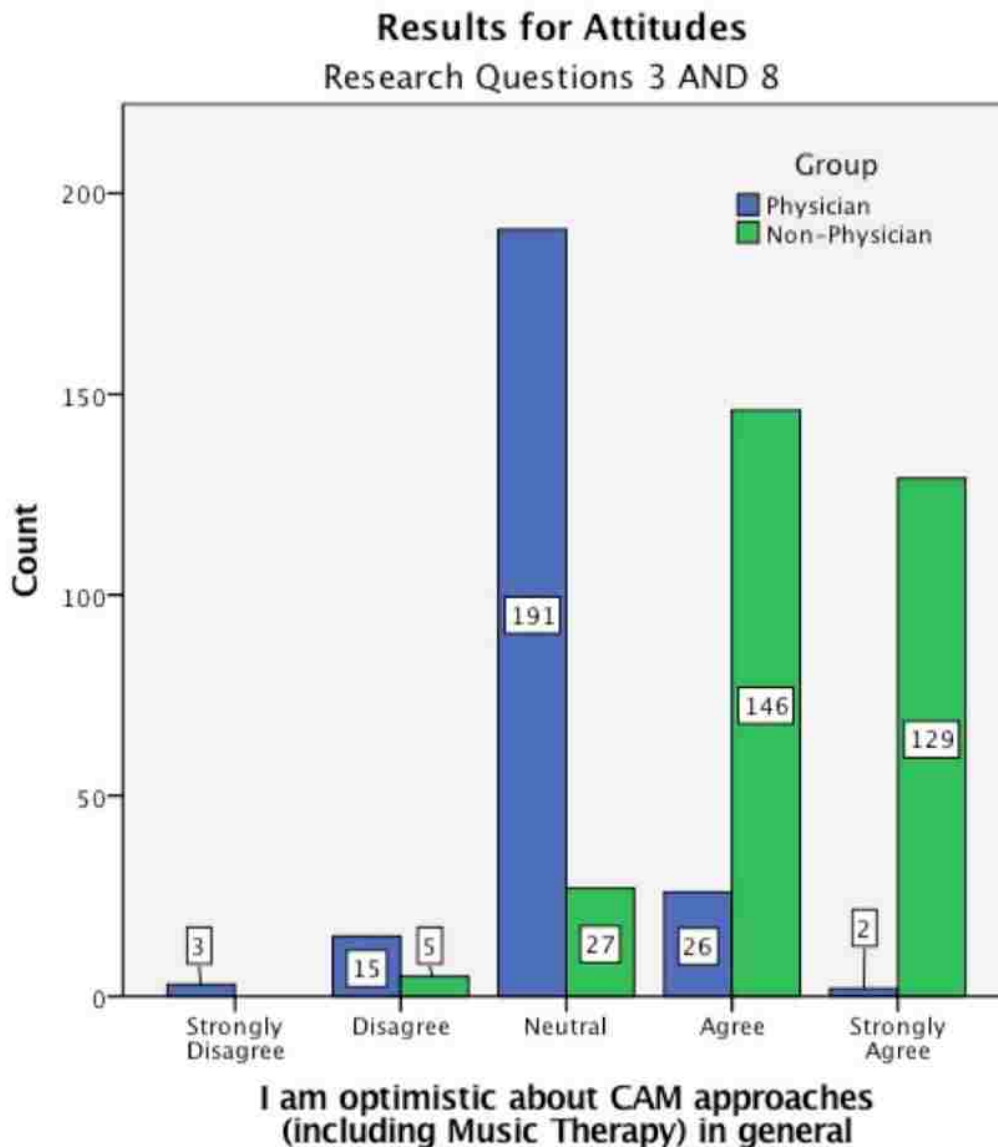


Figure 42. Descriptive Research Questions 3 and 8 results. Clustered bar graph illustrating respondents' answers by group to the attitudes variable from the Likert statement, "I am optimistic about CAM approaches (including Music Therapy) in general." The majority of the non-physician respondents agreed with the statement whereas the majority of the physician respondents replied "neutral" to the statement.

The following results refer to research questions 4 and 9:

RQ4. What are physicians' (MD, DO) **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

AND

RQ9. What are non-physician practitioners' (NP, NA, NM, CNS, PA) **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

Descriptive Research Questions 4 and 9. There were many variables from the GCAMTA that were used to measure beliefs for physicians and non-physicians. Figure 43 illustrates graphically one itemized variable from the survey that addresses this construct.

The survey statement used to illustrate this is the following: "Hospitals should provide music therapy."

For the most part, physicians neither agree nor disagree that hospitals should provide music therapy services. The blue bar shows that most physicians responded "neutral" when asked about this statement. They are conservative in their beliefs about music therapy.

Non-physician practitioners agree that hospitals should provide music therapy. These practitioners have liberal beliefs towards these modalities.

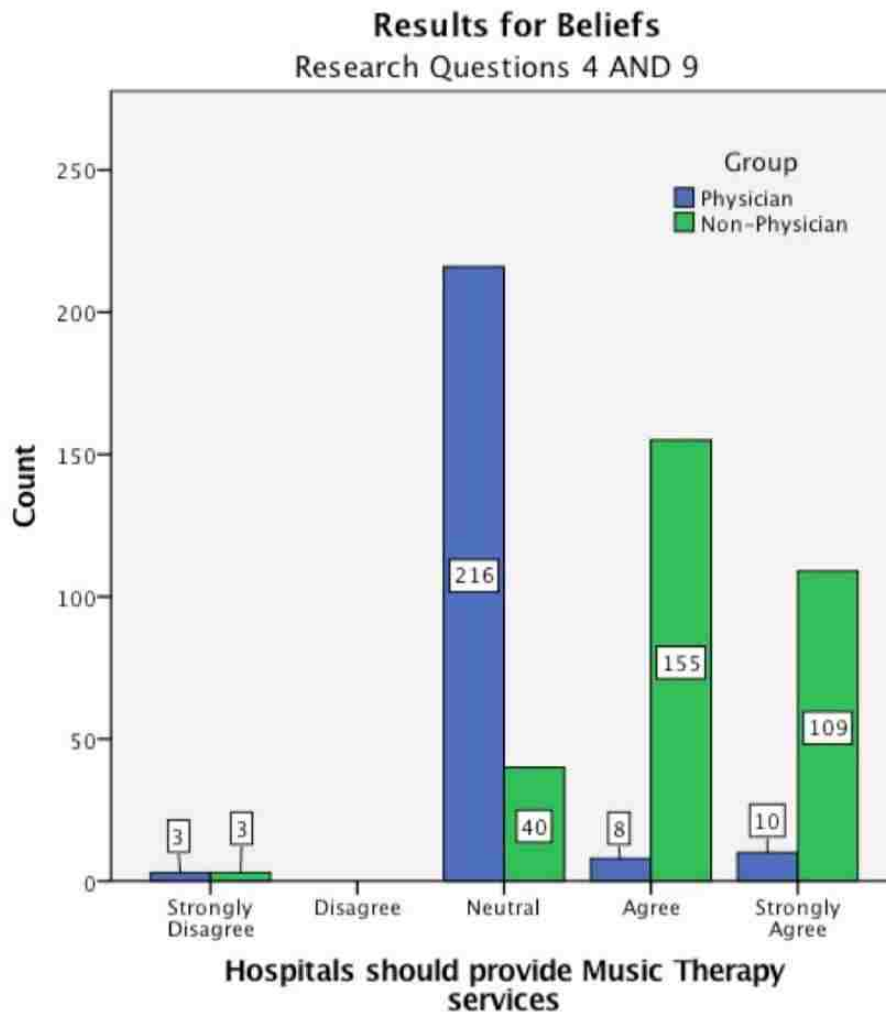


Figure 43. Descriptive Research Questions 4 and 9 results. Clustered bar graph illustrating respondents' answers by group to the beliefs variable from the Likert statement, "Hospitals should provide Music Therapy services." The majority of the non-physician respondents agreed with the statement whereas the majority of the physician respondents replied "neutral" to the statement.

The following results refer to research questions 5 and 10:

RQ5. What are physicians' (MD, DO) **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

AND

RQ10. What are non-physician practitioners' (NP, NA, NM, CNS, PA) **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

Descriptive Research Questions 5 and 10. There were many variables from the GCAMTA that were used to measure expectations for physicians and non-physicians. Figure 44 illustrates graphically one itemized variable from the survey that addresses this construct.

The survey statement used is the following: I expect a patient who employs a form of CAM such as Music Therapy along with their regular treatment to have more positive patient outcomes than a patient who does not. For the most part, physicians neither agree nor disagree that patients who use CAM will have more positive patient outcomes. The blue bar shows that most physicians responded "neutral" when asked about this statement. They are conservative in their expectations about music therapy.

Non-physician practitioners agree that patients who use CAM will have more positive patient outcomes than those who do not. These practitioners have liberal expectations towards CAM and music therapy.

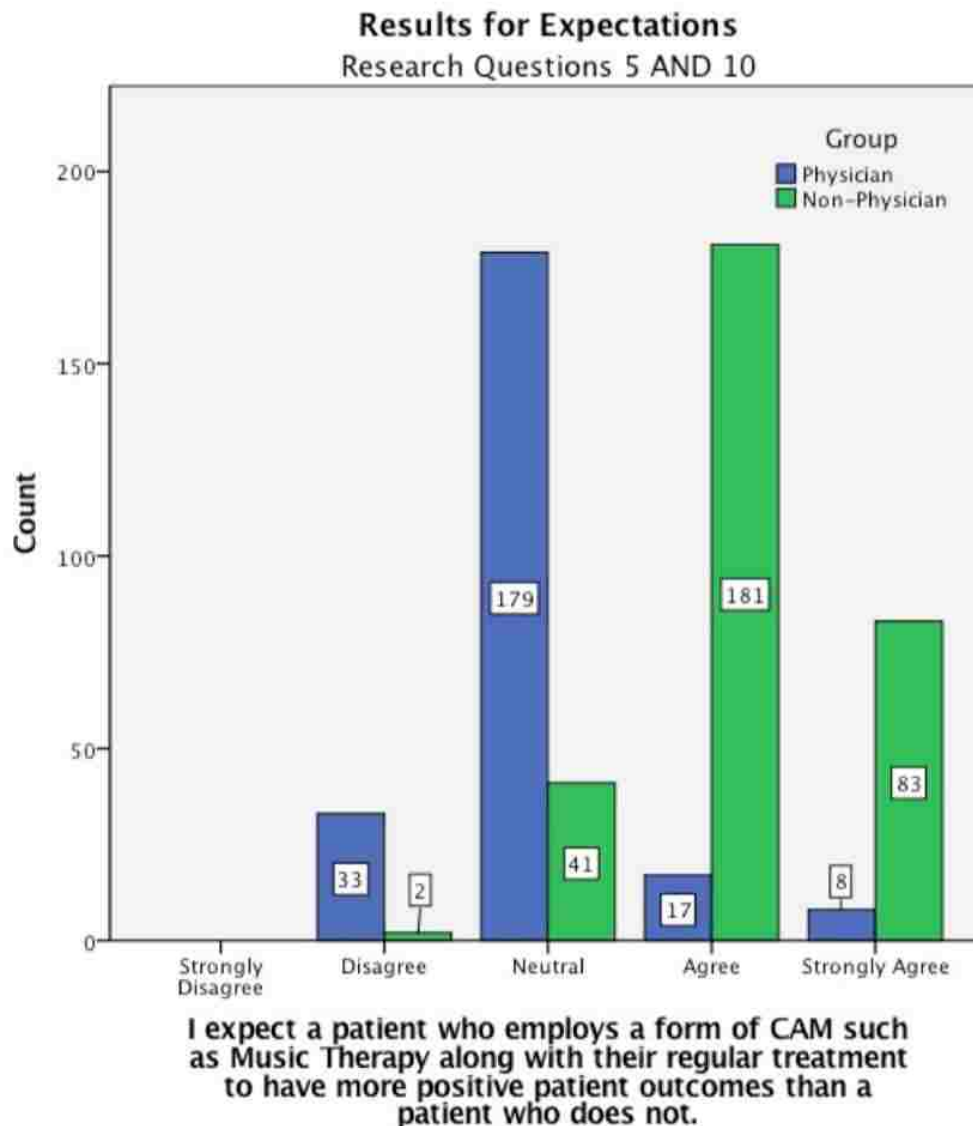


Figure 44. Descriptive Research Questions 5 and 10 results. Clustered bar graph illustrating respondents' answers by group to the expectations variable from the Likert statement, "I expect a patient who employs a form of CAM such as Music Therapy along with their regular treatment to have more positive patient outcomes than a patient who does not." The majority of the non-physician respondents agreed with the statement whereas the majority of the physician respondents replied "neutral" to the statement.

Research Questions 11 to 15 Results

Table XVIII refers to research question 11:

RQ11. What is the difference between physicians' and non-physician practitioners' **recommending practices** regarding music as a cost-effective complementary and alternative medicine approach?

Table XVIII

Descriptive Statistics Table Highlighting Means Per Group for the Recommending Practices Variable

| Descriptive Statistics | | | | |
|------------------------|---------------|---------|----------------|-----|
| | Group | Mean | Std. Deviation | N |
| RECOMMENDING PRACTICES | Physician | 39.9958 | 1.56632 | 237 |
| | Non-Physician | 46.4072 | 4.85411 | 307 |
| | Total | 43.6140 | 4.94666 | 544 |

For the *recommending practices* variable, non-physicians had a higher mean of 46.41 than physicians who had a mean of 39.99. It is important to note that although there is an obvious difference in means between the two groups, it is unknown if this difference is significant until the main multivariate test results are discussed later herein.

Table XIX refers to research question 12:

RQ12. What is the difference between physicians' and non-physician practitioners' **perceptions of knowledge** regarding music as a cost-effective complementary and alternative medicine approach?

Table XIX

Descriptive Statistics Table Highlighting Means Per Group for the Perceptions of Knowledge Variable

| | | | | |
|-----------|---------------|---------|----------|-----|
| KNOWLEDGE | Physician | 34.1139 | 10.89120 | 237 |
| | Non-Physician | 38.8958 | 4.22437 | 307 |
| | Total | 36.8125 | 8.20017 | 544 |

For the *perceptions of knowledge* variable, non-physicians had a higher mean of 38.89 than physicians who had a mean of 34.11. It is important to note that although there is an obvious difference in means between the two groups, it is unknown if this difference is significant until the main multivariate test results are discussed later herein.

Table XX refers to research question 13:

RQ13. What is the difference between physicians' and non-physician practitioners' **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

Table XX

Descriptive Statistics Table Highlighting Means Per Group for the Attitudes Variable

| | | | | |
|-----------|---------------|---------|---------|-----|
| ATTITUDES | Physician | 36.4726 | 3.13744 | 237 |
| | Non-Physician | 42.9674 | 5.19794 | 307 |
| | Total | 40.1379 | 5.46758 | 544 |

For the *attitudes* variable, non-physicians had a higher mean of 42.97 than physicians who had a mean of 36.47. It is important to note that although there is an obvious difference in means between the two groups, it is unknown if this difference is significant until the main multivariate test results are discussed later herein.

Table XXI refers to research question 14:

RQ14. What is the difference between physicians' and non-physician practitioners' **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

Table XXI

Descriptive Statistics Table Highlighting Means Per Group for the Beliefs

Variable

| | | | | |
|---------|---------------|---------|---------|-----|
| BELIEFS | Physician | 41.5570 | 3.71693 | 237 |
| | Non-Physician | 49.7329 | 5.65804 | 307 |
| | Total | 46.1710 | 6.36477 | 544 |

For the *beliefs* variable, non-physicians had a higher mean of 49.73 than physicians who had a mean of 41.56. It is important to note that although there is an obvious difference in means between the two groups, it is unknown if this difference is significant until the main multivariate test results are discussed later herein.

Table XXII refers to research question 15:

RQ15. What is the difference between physicians' and non-physician practitioners' **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

Table XXII

Descriptive Statistics Table Highlighting Means Per Group for the Expectations Practices Variable

| | | | | |
|--------------|---------------|---------|---------|-----|
| EXPECTATIONS | Physician | 23.3882 | 1.98115 | 237 |
| | Non-Physician | 28.1661 | 3.66155 | 307 |
| | Total | 26.0846 | 3.85800 | 544 |

For the *expectations* variable, non-physicians had a higher mean of 28.17 than physicians who had a mean of 23.39. It is important to note that although there is an obvious difference in means between the two groups, it is unknown if this difference is significant until the main multivariate test results are discussed later herein.

Statistical Assumptions

MANOVA has several assumptions: random sampling, independence of samples, and the requirement for larger sample sizes, all of which were satisfied (Field, 2009).

The samples are independent of each other (i.e. participant's scores on each dependent variable are independent from other participants' scores). As mentioned previously, there is a rule that sample sizes are considered equal as long as the larger group is not 1.5 times greater than the smallest group. Since this study had 307 participants in the larger group of non-physicians and 237 participants in the smaller group of physicians, this was not an issue.

Box's Test is to determine if the population covariance between each pair of dependent variables is the same across groups/conditions (Field, 2009). (Table XXIII).

Table XXIII

Box's Test of Equality of Covariance Matrices

| | |
|---------|-------------|
| Box's M | 746.462 |
| F | 49.263 |
| df1 | 15 |
| df2 | 1031317.620 |
| Sig. | .000 |

$$F(15, 1031317) = 49.26, p = .0001$$

Note. Although Box's Test is significant ($p = .0001$), it is understood that MANOVA is robust to violations of this assumption and, therefore, PI continued on to the multivariate tests and followed-up with univariate tests.

Box's Test showed significance which is most likely due to data that is not normally distributed, however MANOVA is robust to violations in normality and unequal covariance matrices so we can continue on to the MANOVA results.

If there were 3 independent variable groups or more, Games-Howell, Tamhane's T2 or Dunnet's C would have been employed but there were only 2 groups so these post-hoc tests were not employed.

Correlations of the Variables

The correlations between the variables should be between small to medium (0.3 to 0.7) (Field, 2009). As is evident by the Pearson Correlations in each column of each dependent variable in Table XXIV, the correlations between the variables are in the appropriate range.

Table XXIV

Pearson Correlations of the 5 Variables

| | | Correlations | | | | | |
|------------------------|---------------------|--------------|------------------------|-----------|-----------|---------|--------------|
| | | Group | RECOMMENDING PRACTICES | KNOWLEDGE | ATTITUDES | BELIEFS | EXPECTATIONS |
| Group | Pearson Correlation | 1 | .643** | .289** | .590** | .638** | .615** |
| | Sig. (1-tailed) | | .000 | .000 | .000 | .000 | .000 |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |
| RECOMMENDING PRACTICES | Pearson Correlation | .643** | 1 | .250** | .681** | .745** | .714** |
| | Sig. (1-tailed) | .000 | | .000 | .000 | .000 | .000 |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |
| KNOWLEDGE | Pearson Correlation | .289** | .250** | 1 | .266** | .237** | .205** |
| | Sig. (1-tailed) | .000 | .000 | | .000 | .000 | .000 |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |
| ATTITUDES | Pearson Correlation | .590** | .681** | .266** | 1 | .688** | .642** |
| | Sig. (1-tailed) | .000 | .000 | .000 | | .000 | .000 |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |
| BELIEFS | Pearson Correlation | .638** | .745** | .237** | .688** | 1 | .753** |
| | Sig. (1-tailed) | .000 | .000 | .000 | .000 | | .000 |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |
| EXPECTATIONS | Pearson Correlation | .615** | .714** | .205** | .642** | .753** | 1 |
| | Sig. (1-tailed) | .000 | .000 | .000 | .000 | .000 | |
| | N | 544 | 544 | 544 | 544 | 544 | 544 |

** . Correlation is significant at the 0.01 level (1-tailed).

Note. Perceptions of knowledge and recommending practices are positively correlated (boxed $r = .25$). Significance is considered at the .01 level because of unidirectional hypotheses.

It is important to note that *perceptions of knowledge* and *recommending practices* are positively correlated (this result is boxed off in the chart). Significance is considered at the .01 level because the hypotheses are unidirectional and therefore, one tailed.

As practitioners' perceptions of knowledge of CAM increase, so do the recommendations of CAM by the practitioners. This is illustrated in Figure 45 with the line of best fit. This result will be useful later on in the discussion.

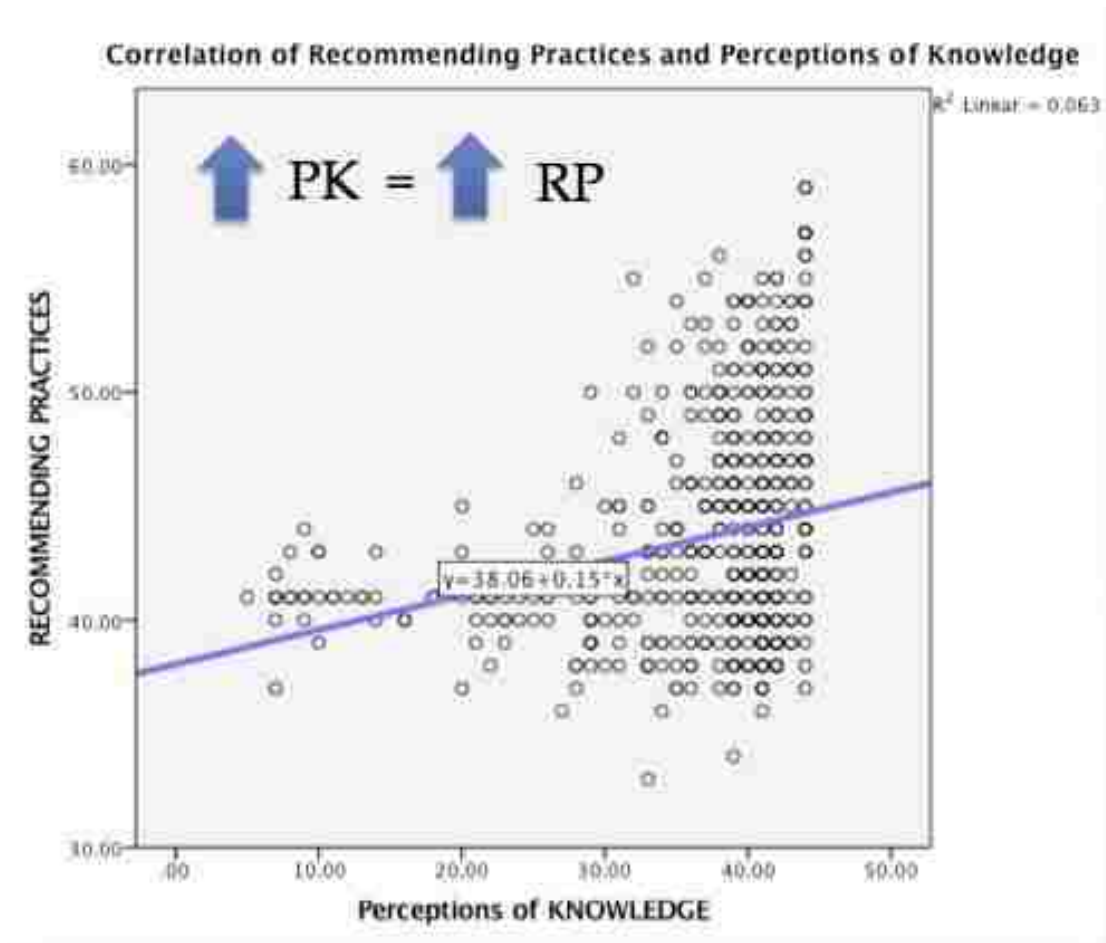


Figure 45. Scatterplot diagram of the correlation of *recommending practices* and *perceptions of knowledge*. As *perceptions of knowledge* increase, the *recommending practices* of the practitioner also increase (i.e. the practitioner becomes more favorable towards CAM therapy).

Multivariate Tests (MANOVA)

PI used the multivariate measures, particularly Pillai's Trace and Wilk's Lambda for the analysis in this study. Using Pillai's Trace, there was a significant difference between the physicians and non-physician practitioners with respect to the dependent variables, $V = .51$, $F(5,538) = 111.13$, $p < .0001$. Using Wilks' Lambda, there was a significant difference between the physicians and non-physician practitioners with respect to the dependent variables, $\lambda = .49$, $F(5,538) = 111.13$, $p = .0001$. Therefore, as evident in Table XXV, there is significance and the population means on the DVs are not the same for each variable.

Table XXV

Multivariate Tests Evidencing Pillai's Trace and Wilk's Lambda Values

| Multivariate Tests ^a | | | | | | | |
|---------------------------------|--------------------|---------|------------------------|---------------|----------|------|---------------------|
| Effect | | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
| Intercept | Pillai's Trace | .994 | 17359.068 ^b | 5.000 | 538.000 | .000 | .994 |
| | Wilks' Lambda | .006 | 17359.068 ^b | 5.000 | 538.000 | .000 | .994 |
| | Hotelling's Trace | 161.330 | 17359.068 ^b | 5.000 | 538.000 | .000 | .994 |
| | Roy's Largest Root | 161.330 | 17359.068 ^b | 5.000 | 538.000 | .000 | .994 |
| Group | Pillai's Trace | .508 | 111.127 ^b | 5.000 | 538.000 | .000 | .508 |
| | Wilks' Lambda | .492 | 111.127 ^b | 5.000 | 538.000 | .000 | .508 |
| | Hotelling's Trace | 1.033 | 111.127 ^b | 5.000 | 538.000 | .000 | .508 |
| | Roy's Largest Root | 1.033 | 111.127 ^b | 5.000 | 538.000 | .000 | .508 |

a. Design: Intercept + Group

b. Exact statistic

Even though Wilks' Lambda was used for the calculation purposes for effect size for the post-hoc analysis, PI also looked at Pillai's Trace because this test is considered the most robust to violations of assumptions. Pillai's Trace is the sum of the proportion of explained variance on the discriminant functions. Wilks' Lambda is the product of the unexplained variance on each of the variates. This represents the ratio of error variance to total variance for each variate (Field, 2009).

All four of the tests (i.e. Pillai's Trace, Wilks' Lambda, Hotelling's Trace, Roy's Largest Root) showed significance for the multivariate.

Effect size (used for post-hoc analysis) is as follows:

$$\eta^2 = 1 - \lambda^{1/s}$$

$$1 - .492^{(.25)}$$

$$1 - .84 = .16$$

In this calculation, 's' is equal to the number of levels of the factor minus 1 (i.e. 5-1 = 4). The index of variance explained ($1 - \lambda$) is the amount of variance in the dependent variables accounted for by the independent variables.

MANOVA showed significance across all five dependent variables where $p = .0001$ (Table XXVI).

Table XXVI

Multivariate Analysis of Variance (MANOVA) for all 5 Dependent Variables

| Tests of Between-Subjects Effects | | | | | | | |
|-----------------------------------|--------------------|-------------------------|-----|-------------|-----------|------|---------------------|
| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
| Corrected Model | RECOMMENDING | 5497.834 ^a | 1 | 5497.834 | 382.564 | .000 | .414 |
| | KNOWLEDGE | 3058.286 ^b | 1 | 3058.286 | 49.548 | .000 | .084 |
| | ATTITUDES | 5641.914 ^c | 1 | 5641.914 | 288.735 | .000 | .348 |
| | BELIEFS | 8940.522 ^d | 1 | 8940.522 | 371.136 | .000 | .406 |
| | EXPECTATIONS | 3053.296 ^e | 1 | 3053.296 | 329.081 | .000 | .378 |
| Intercept | RECOMMENDING | 998492.782 | 1 | 998492.782 | 69479.540 | .000 | .992 |
| | KNOWLEDGE | 712933.176 | 1 | 712933.176 | 11550.278 | .000 | .955 |
| | ATTITUDES | 844046.355 | 1 | 844046.355 | 43195.552 | .000 | .988 |
| | BELIEFS | 1114635.611 | 1 | 1114635.611 | 46270.353 | .000 | .988 |
| | EXPECTATIONS | 355482.127 | 1 | 355482.127 | 38313.465 | .000 | .986 |
| Group | RECOMMENDING | 5497.834 | 1 | 5497.834 | 382.564 | .000 | .414 |
| | KNOWLEDGE | 3058.286 | 1 | 3058.286 | 49.548 | .000 | .084 |
| | ATTITUDES | 5641.914 | 1 | 5641.914 | 288.735 | .000 | .348 |
| | BELIEFS | 8940.522 | 1 | 8940.522 | 371.136 | .000 | .406 |
| | EXPECTATIONS | 3053.296 | 1 | 3053.296 | 329.081 | .000 | .378 |
| Error | RECOMMENDING | 7789.100 | 542 | 14.371 | | | |
| | KNOWLEDGE | 33454.589 | 542 | 61.724 | | | |
| | ATTITUDES | 10590.746 | 542 | 19.540 | | | |
| | BELIEFS | 13056.579 | 542 | 24.090 | | | |
| | EXPECTATIONS | 5028.815 | 542 | 9.278 | | | |
| Total | RECOMMENDING | 1048072.000 | 544 | | | | |
| | KNOWLEDGE | 773720.000 | 544 | | | | |
| | ATTITUDES | 892643.000 | 544 | | | | |
| | BELIEFS | 1181673.000 | 544 | | | | |
| | EXPECTATIONS | 378222.000 | 544 | | | | |
| Corrected Total | RECOMMENDING | 13286.934 | 543 | | | | |
| | KNOWLEDGE | 36512.875 | 543 | | | | |
| | ATTITUDES | 16232.660 | 543 | | | | |
| | BELIEFS | 21997.101 | 543 | | | | |
| | EXPECTATIONS | 8082.110 | 543 | | | | |

a. R Squared = .414 (Adjusted R Squared = .413)

b. R Squared = .084 (Adjusted R Squared = .082)

c. R Squared = .348 (Adjusted R Squared = .346)

d. R Squared = .406 (Adjusted R Squared = .405)

e. R Squared = .378 (Adjusted R Squared = .377)

.05 / # of ANOVAs = .05 / 5 = .01
(Above sig. measured at .01 level)

Follow-Up Univariate Tests (ANOVA)

Comparing against .01 significance level, the *Recommending Practices* dependent variable showed significance, $F(1, 542) = 382.564$, $p = .0001$ (Table XXVII).

Table XXVII

Follow-Up Univariate (ANOVA) Tests for the Recommending Practices Variable

| Tests of Between-Subjects Effects | | | | | |
|-----------------------------------|-------------------------|-----|-------------|-----------|------|
| Dependent Variable: RECOMMENDING | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
| Corrected Model | 5497.834 ^a | 1 | 5497.834 | 382.564 | .000 |
| Intercept | 998492.782 | 1 | 998492.782 | 69479.540 | .000 |
| Group | 5497.834 | 1 | 5497.834 | 382.564 | .000 |
| Error | 7789.100 | 542 | 14.371 | | |
| Total | 1048072.000 | 544 | | | |
| Corrected Total | 13286.934 | 543 | | | |

a. R Squared = .414 (Adjusted R Squared = .413)

Comparing against .01 significance level, the *Perceptions of Knowledge* dependent variable showed significance, $F(1, 542) = 49.55$, $p = .0001$ (Table XXVIII).

Table XXVIII

Follow-Up Univariate (ANOVA) Tests for the Perceptions of Knowledge Variable

| Tests of Between-Subjects Effects | | | | | |
|--|-------------------------|-----|-------------|-----------|------|
| Dependent Variable: KNOWLEDGE | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
| Corrected Model | 3058.286 ^a | 1 | 3058.286 | 49.548 | .000 |
| Intercept | 712933.176 | 1 | 712933.176 | 11550.278 | .000 |
| Group | 3058.286 | 1 | 3058.286 | 49.548 | .000 |
| Error | 33454.589 | 542 | 61.724 | | |
| Total | 773720.000 | 544 | | | |
| Corrected Total | 36512.875 | 543 | | | |

a. R Squared = .084 (Adjusted R Squared = .082)

Comparing against .01 significance level, the *Attitudes* dependent variable showed significance, $F(1,542) = 288.74$, $p=.0001$ (Table XXIX).

Table XXIX

Follow-Up Univariate (ANOVA) Tests for the Attitudes Variable

Tests of Between-Subjects Effects
Dependent Variable: ATTITUDES

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|-----|-------------|-----------|------|
| Corrected Model | 5641.914 ^a | 1 | 5641.914 | 288.735 | .000 |
| Intercept | 844046.355 | 1 | 844046.355 | 43195.552 | .000 |
| Group | 5641.914 | 1 | 5641.914 | 288.735 | .000 |
| Error | 10590.746 | 542 | 19.540 | | |
| Total | 892643.000 | 544 | | | |
| Corrected Total | 16232.660 | 543 | | | |

a. R Squared = .348 (Adjusted R Squared = .346)

Comparing against .01 significance level, the *Beliefs* dependent variable showed significance, $F(1,542) = 371.14$, $p = .0001$ (Table XXX).

Table XXX

Follow-Up Univariate (ANOVA) Tests for the Beliefs Variable

Tests of Between-Subjects Effects

Dependent Variable: BELIEFS

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|-----|-------------|-----------|------|
| Corrected Model | 8940.522 ^a | 1 | 8940.522 | 371.136 | .000 |
| Intercept | 1114635.61 | 1 | 1114635.61 | 46270.353 | .000 |
| Group | 8940.522 | 1 | 8940.522 | 371.136 | .000 |
| Error | 13056.579 | 542 | 24.090 | | |
| Total | 1181673.00 | 544 | | | |
| Corrected Total | 21997.101 | 543 | | | |

a. R Squared = .406 (Adjusted R Squared = .405)

Comparing against .01 significance level, the *Expectations* dependent variable showed significance, $F(1,542) = 329.08$, $p = .0001$ (Table XXXI).

Table XXXI

Follow-Up Univariate (ANOVA) Tests for the Expectations Variable

Tests of Between-Subjects Effects
Dependent Variable: **EXPECTATIONS**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|-----|-------------|-----------|------|
| Corrected Model | 3053.296 ^a | 1 | 3053.296 | 329.081 | .000 |
| Intercept | 355482.127 | 1 | 355482.127 | 38313.465 | .000 |
| Group | 3053.296 | 1 | 3053.296 | 329.081 | .000 |
| Error | 5028.815 | 542 | 9.278 | | |
| Total | 378222.000 | 544 | | | |
| Corrected Total | 8082.110 | 543 | | | |

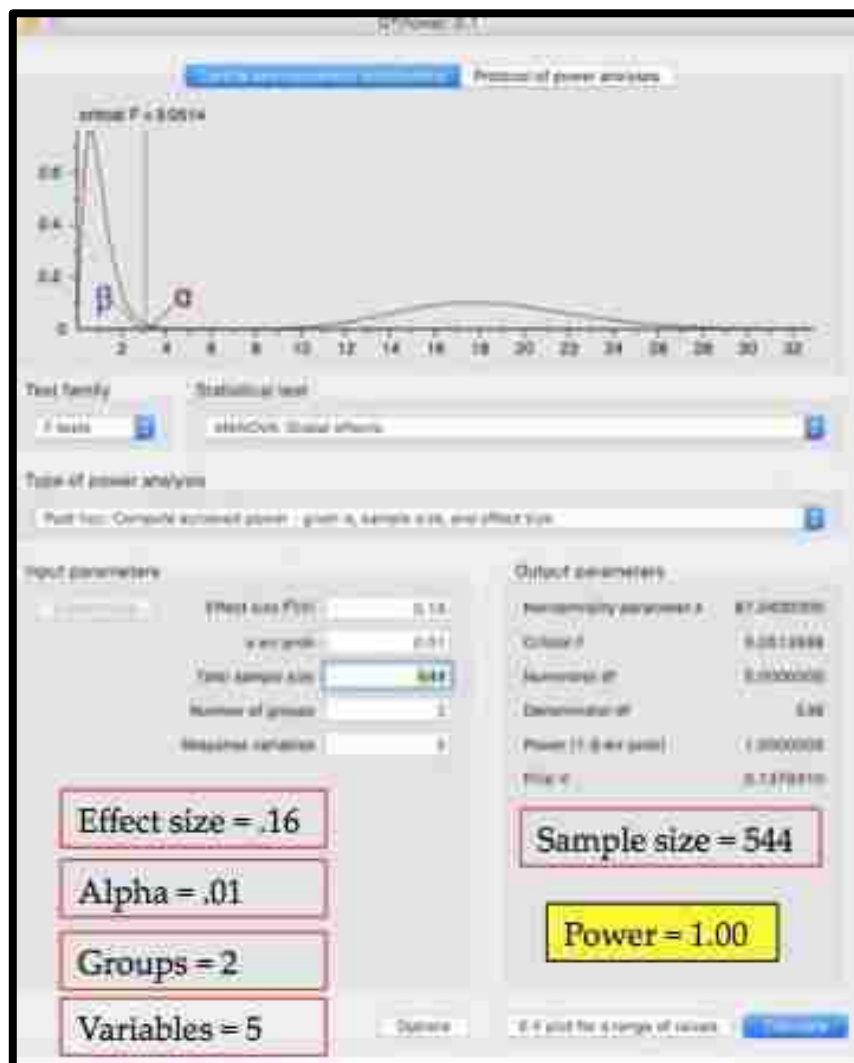
a. R Squared = .378 (Adjusted R Squared = .377)

As evidenced by the previously displayed follow-up univariate tests, these results further support the significance that was displayed by the MANOVA.

Post-Hoc G*Power Analysis

The post-hoc G*Power Analysis for F Test MANOVA Global Effects resulted in a power of 1.000 using an effect size of .16 that was calculated earlier from the multivariate tests, an alpha set at .01, 2 groups and 5 dependent variables (Faul et al, 2009) (Figure 46).

Recall that statistical power is the likelihood that a study will detect an effect when there is an effect there to be detected. Therefore, if the statistical power winds up being high, the probability of making a Type II error (concluding there is no effect when in fact there is one) goes down (Ellis, 2010). Therefore, with a power of 1.000, this study was highly powered.



(Faul et al, 2009)

Figure 46. Post-hoc G*Power Analysis. With an effect size of 0.16, an alpha level set at .01, total sample size of 544 with 2 groups and 5 dependent variables, the power = 1.000.

Summary of Findings

To summarize, the GCAMTA established excellent reliability of the tool ($\alpha = .944$) according to George and Mallery (2011) (Figure 47).

The differences of the means between the two groups were presented. Non-physicians practitioners reported higher means across the dependent variables than physicians.

For *recommending practices*, non-physician practitioners had a mean of 46.41 and a standard deviation of 4.85. For *recommending practices*, physicians had a mean of 39.99 and a standard deviation of 1.57.

For *perceptions of knowledge*, non-physician practitioners had a mean of 38.90 and a standard deviation of 4.22. For *perceptions of knowledge*, physicians had a mean of 34.11 and a standard deviation of 10.89.

For *attitudes*, non-physician practitioners had a mean of 42.97 and a standard deviation of 5.20. For *attitudes*, physicians had a mean of 36.47 and a standard deviation of 3.14.

For *beliefs*, non-physician practitioners had a mean of 49.73 and a standard deviation of 5.66. For *beliefs*, physicians had a mean of 41.56 and a standard deviation of 3.72.

For *expectations*, non-physician practitioners had a mean of 28.17 and a standard deviation of 3.66. For *expectations*, physicians had a mean of 23.39 and a standard deviation of 1.98.

The MANOVA showed significance at $p = .0001$. This result suggested that the difference in means between the two groups was a significant difference.

ANOVA follow-up tests confirmed the significance ($p = .0001$). High power was achieved through the post-hoc analysis at 1.000.

Summary of Findings

- **GCAMTA established excellent reliability ($r=.944$)**
 - $r > .9$ Excellent
 - $r > .8$ Good
 - $r > .7$ Acceptable
 - $r > .6$ Questionable: [George and Mallery, 2003]
- **Difference of means presented**
 - Non-physician practitioners reported higher means across the dependent variables than physicians

| | Non-Physician | Physicians |
|-----------------------------|----------------------|---------------------|
| • Recommending Practices: | (M=46.41, SD=4.85) | (M=39.99, SD=1.57) |
| • Perceptions of Knowledge: | (M= 38.90, SD=4.22) | (M=34.11, SD=10.89) |
| • Attitudes: | (M=42.97, SD=5.20) | (M=36.47, SD=3.14) |
| • Beliefs: | (M= 49.73, SD=5.66) | (M=41.56, SD=3.72) |
| • Expectations: | (M=28.17, SD=3.66) | (M=23.39, SD=1.98) |
- **MANOVA significance ($p=.0001$)**
 - Suggests that the difference in means between two groups is a significant difference
 - ANOVA follow-up tests confirm significance ($p=.0001$)
 - High power = 1.000

Figure 47. Summary of Findings. Illustration includes reliability results of the GCAMTA, means between non-physician practitioners and physicians, MANOVA results ($p = .0001$), follow-up ANOVA results ($p = .0001$) and post-hoc G*Power final power (1.000).

Review of Hypotheses (Accept or Reject)

Based on the previous summary of findings where the MANOVA values indicated a significance of $p = .0001$ for all the variables, the null is rejected and the alternative hypothesis is accepted for each hypothesis (Figure 48).

Research Question 11 and Alternative Hypothesis. For the following, the alternative hypothesis is accepted:

RQ11. What is the difference between physicians' and non-physician practitioners' ***recommending practices*** regarding music as a cost-effective complementary and alternative medicine approach?

H11_a. Non-physician practitioners' are more favorable in recommending music as a CAM therapy than physicians.

Research Question 12 and Alternative Hypothesis. For the following, the alternative hypothesis is accepted:

RQ12. What is the difference between physicians' and non-physician practitioners' ***perceptions of knowledge*** regarding music as a cost-effective complementary and alternative medicine approach?

H12_a. Non-physician practitioners' perceptions of knowledge regarding music as a CAM therapy are higher than physicians' perceptions of knowledge regarding music as a CAM therapy.

Research Question 13 and Alternative Hypothesis. For the following, the alternative hypothesis is accepted:

RQ13. What is the difference between physicians' and non-physician practitioners' **attitudes** regarding music as a cost-effective complementary and alternative medicine approach?

H13_a. Non-physician practitioners have more favorable attitudes toward music as a CAM therapy than physicians.

Research Question 14 and Alternative Hypothesis. For the following, the alternative hypothesis is accepted:

RQ14. What is the difference between physicians' and non-physician practitioners' **beliefs** regarding music as a cost-effective complementary and alternative medicine approach?

H14_a. Non-physician practitioners have more favorable beliefs toward music as a CAM therapy than physicians.

Research Question 15 and Alternative Hypothesis. For the following, the alternative hypothesis is accepted:

RQ15. What is the difference between physicians' and non-physician practitioners' **expectations** regarding music as a cost-effective complementary and alternative medicine approach?

H15_a. Non-physician practitioners have more favorable expectations toward music as a CAM therapy than physicians.

Reject or Accept?

- 

H1₁, Non-physician practitioners' are more favorable in recommending music as a CAM therapy than physicians.
ACCEPT THE ALTERNATIVE HYPOTHESIS
- 

H1₂, Non-physician practitioners' perceptions of knowledge regarding music as a CAM therapy is higher than physicians' perceptions of knowledge regarding music as a CAM therapy.
ACCEPT THE ALTERNATIVE HYPOTHESIS
- 

H1₃, Non-physician practitioners have more favorable attitudes toward music as a CAM therapy than physicians.
ACCEPT THE ALTERNATIVE HYPOTHESIS
- 

H1₄, Non-physician practitioners' have more favorable belief systems toward music as a CAM therapy than physicians.
ACCEPT THE ALTERNATIVE HYPOTHESIS
- 

H1₅, Non-physician practitioners' have more favorable expectations toward music as a CAM therapy than physicians.
ACCEPT THE ALTERNATIVE HYPOTHESIS

Figure 48. Reject or Accept? PI's hypotheses 11 – 15 and illustration that the alternative hypotheses were accepted for each.

Chapter V

DISCUSSION

General Discussion of Study Findings

Recall from Chapter 1 that this study had both a primary and secondary purpose. Discussion of each purpose will proceed in this Chapter.

The primary purpose of this study was to create, validate and test for reliability a Principal Investigator created survey instrument. This instrument entitled “The Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)” addressed five key constructs discussed in the literature surrounding the practices of prescribing health care practitioners.

The tool was successfully validated through a panel of experts in the field. Once validated, the tool was used in a sample of the population of interest to test for reliability purposes. The Cronbach’s alpha for the tool using all 5 construct dependent variable factors combined was $\alpha = .944$ which is considered excellent by George and Mallery (2011). The individual reliability assessments for each factor showed to have good/excellent reliability as according to George and Mallery (2011) (e.g. *Recommending practices* $\alpha = .813$, *perceptions of knowledge*, $\alpha = .924$, *attitudes* $\alpha = .806$, *beliefs* $\alpha = .883$, *expectations* $\alpha = .874$).

The secondary purpose of this study was to use this validated and reliable survey tool in the population in order to help identify and understand

the differences between physicians' (MD, DO) and non-physician practitioners' (NP, NA, NM, CNS, PA) recommending practices, perceptions of knowledge, attitudes, beliefs and expectations regarding music as a cost-effective complementary and alternative medicine approach.

Significant differences existed between physicians and non-physician practitioners with regard to their recommending practices, perceptions of knowledge, attitudes, beliefs and expectations of music as CAM.

Correlations showed positive findings. As perceptions of knowledge of CAM increased for both groups, so did the recommendation of CAM by the practitioner.

Overview of Discussion

The contents of the discussion portion of this will first include a discussion on the gender gap. The gender gap refers to discrepancy between the frequencies of males and females within this research study. Next, a discussion of the 5 dependent variables will allow the reader to understand the PI's perspective on the variables as distinct entities within the survey. Study results showing trends will be elaborated upon for discussion purposes. Following this, the PI's reasoning for results will be detailed, including the educational aspect of participants and how this may have affected the results. This leads to the discussion of social media and its influence on the results of the study.

After the discussion of social media and its role within the research study, the conceptual framework will be revisited, highlighting additional information superimposed onto the original conceptual framework reflecting results of the study. From here, open-ended responses from qualitative questions within the demographic survey will be addressed, highlighting themes that may have emerged. Sample responses by participants of the different practitioner groups will be presented.

The practical implications of the research study based on the results will be addressed followed by the limitations of the study and future research possibilities. The manuscript's discussion will conclude with the significance of the dissertation and final concluding comments.

The Gender Gap

There was a gap between males and females in this study. The following discussion will detail this, how it pertains to the review of the literature, and inferences that can be made based upon this.

A few facts have to be delineated and not misinterpreted. Three times more females than male respondents were present within the study (423 females were 77.8% of the total respondents and 118 males were 21.7% of the total). In addition, there were more female physicians than male physicians within the study (140 female physicians were 25.8% of the total respondents and 97 male physicians were 17.9% of the total respondents). There were more female non-physician practitioners than male non-physician

practitioners (283 female non-physician practitioners were 52.3% of the total respondents and 21 male non-physician practitioners were 3.9% of the total respondents).

In the literature, it is stated that the majority of United States non-physician practitioners are female. According to the Health Resources and Services Administration (2014), more females are nurses than men. Specifically, 91% of nurses are female and 9% of nurses are male (HRSA, 2014).

In the literature, it is stated that the majority of United States physicians are male. According to a census of actively licensed physicians in the United States in 2014, 66% of physicians holding an active license to practice were male, 32% were female and 1.9% identified as other (Young et al, 2015).

Recall that non-physician practitioners in this study were more favorable towards recommending CAM than the physicians. Also, recall that the majority of the non-physician practitioners in this study were female. So, therefore, based on these numbers, it might be concluded that female practitioners are more favorable than male practitioners in their recommendation of CAM because the majority of these non-physician respondents who responded favorably to recommending were female. The physician vs. non-physician practitioners were considered generally equal; however, the female/male groups were not equal as was previously discussed.

Just because a larger female population was present within this study doesn't mean that females are more apt to recommend Music Therapy over males. In order to make inferences on gender, further research is needed to balance out the gender groups. The number of males would have to be increased and then inferences can be gathered based on gender. These results may not be representative of practitioners across the board with regard to gender. The interpretation cannot go beyond here.

Discussion of the Five Variables

This next section will discuss each of the five dependent variable factors that were used in the study and evidence the importance of choosing these 5 divisions. These factors have been discussed in detail but it is important to note that they are separate entities and relevant in the discussion portion of this manuscript as they relate back to the results.

Recommending Practices. Recall that recommending practices are a suggestion or proposal as to the best course of action, especially one put forward by an authoritative body (MW, 2015).

In this research study, recommending practices were categorized as favorable or unfavorable. The parameters of the study withheld that recommending practices are affected by perceptions of knowledge, attitudes, beliefs and expectations. Some practitioners prefer to spend more time with patients and engage in "small talk," while other practitioners are in and out, succinct and to the point with patients regarding their health matters.

Additionally, it is important to note that healthcare trends are not a priority of some practitioners. These practitioners prefer to focus on traditional approaches such as discovering the root cause of symptoms of an illness, treating the patient based on that discovery, and then follow-up visitations with the patients. Finally, some practitioners may be inclined to recommend CAM but may not have had the opportunity yet. This may be due to patients not inquiring about CAM or their illness trait did not require a need for any type of CAM therapy.

Results of this research study with regard to recommending practices suggest that the general trend is that practitioners who do not mind spending more time with patients are more favorable to recommending CAM to their patients.

Perceptions of Knowledge. Recall that perceptions of knowledge refer to what an individual perceives to know of the subject matter. Specifically, knowledge is defined as the range of one's information or understanding; the sum of what is known (ASA, 2014). A physician's knowledge comes from previous education, experiences and is also obtained through sources such as medical literature, lectures, and conversations with peers.

In this research study, perceptions of knowledge were categorized as high or low. The parameters of the study withheld that practitioners may perceive themselves to be informed of certain aspects of CAM in general, or

certain types of CAM, but not be experts. For example, a physician may be aware that he/she is well informed of dietary supplements and nutritional counseling for patients, but may not perceive himself/herself to be knowledgeable about meditation or hypnotherapy for patients. These practitioners may have a general sense that these types of CAM exist, but may not have high enough perception of knowledge of these modalities in order to recommend them to patients.

Results of this research study with regard to perceptions of knowledge suggest that the general trend is that practitioners who have higher perceptions of knowledge and awareness of CAM approaches are more favorable to recommending CAM.

Attitudes. Recall that attitudes are defined as associations between an act or object and an evaluation; the tendency to evaluate a person, concept, or group negatively (Westen, 2003).

In this research study, attitudes were categorized as favorable or unfavorable. The parameters of the study withheld that attitudes may vary depending on the type of CAM. For example, a practitioner may have a favorable attitude towards chiropractic because he/she has had chiropractic manipulation treatments or knows of someone who has. The favorable attitude could also be due to the higher acceptance of Chiropractic as an effective CAM treatment as opposed to Acupuncture. The practitioner may view Acupuncture less favorably than Chiropractic and these attitudes inform

their practices to recommend or not recommend these medical approaches. Additionally, practitioners may view CAM as distractions in the healthcare setting. They may feel that silence is more effective for calming purposes than Music Therapy or that bed rest is more effective than prayer or Massage Therapy.

Results of this research study with regard to attitudes suggest that the general trend is that practitioners who have been exposed to some form of CAM are more favorable to recommending CAM to patients.

“I Am A Lover Of Music.” This particular Likert statement was strategically placed within the GCAMTA at the start of its creation before the DELPHI process. Although this wasn’t designed to answer a particular statistical question, it is interesting to point out.

The original intent of including this statement within the questionnaire was to see if practitioners would abandon their own personal attitudes towards Music Therapy and still recommend it to patients if they felt it might do good to their patients. The results show that this might have been indeed effective.

Some practitioners said that they are a lover of music and these individuals had favorable recommending practices of Music Therapy. This is not surprising because it was expected by the PI that if the individual was inclined to use music for themselves, then he/she would suggest it for others for therapeutic purposes.

Surprisingly though, some practitioners said that they are a lover of music and had unfavorable recommending practices of Music Therapy. This may mean that although a practitioner is inclined to use music for himself/herself, he/she may not believe that Music Therapy would be effective as a treatment for his/her patients. This particular practitioner may have lower perceptions of knowledge of Music Therapy or may have had a bad experience with the formalized use of music as therapy. A practitioner who responded in this regard clearly abandoned his/her own attitudes on music when considering this modality in his/her recommending practices. He/she might be cautious to recommend Music Therapy due to possible risk of emotional harm to the patient. He/she might be hesitant to recommend Music Therapy until more evidenced based research emerges or until he/she receives more education and/or exposure on the modality.

Some practitioners said that they are not a lover of music and had unfavorable recommending practices of Music Therapy. This is not surprising because it was expected by the PI that if the individual was not inclined to use music for themselves, then he/she would not suggest it to others for therapeutic purposes.

Surprisingly though, some practitioners said that they are not a lover of music and had favorable recommending practices of Music Therapy. This may mean that although a practitioner is not inclined to use music for himself/herself, he/she may believe that Music Therapy would be effective as

a treatment for his/her patients. This particular practitioner may have higher perceptions of knowledge of Music Therapy or may have had a positive experience with the formalized use of music as therapy. A practitioner who responded in this regard clearly abandoned his/her own attitudes on music when considering this modality in his/her recommending practices. He/she might also have pressure from the institution that they work at to recommend CAM, possibly due to the ACA as a driving force. These practitioners might also be recommending Music Therapy because they believe it is just what they should be doing at this point in time or because other practitioners are recommending it.

Beliefs. Recall that beliefs are described as an internal feeling that something is true, even though that belief may be unproven or irrational (Anderson and DeSilva, 2009).

In this research study, beliefs were categorized as favorable or unfavorable. The parameters of the study withheld that practitioners may believe that certain CAM are appropriate for only certain age groups or illnesses. This notion ties into the Perceptions of Knowledge discussion. These practitioners may not be aware of all the evidence-based literature that exists and was previously mentioned within this document (AMTA, 2014; Protacio, 2010; Kemper & Danhauer, 2005).

Additionally, practitioners may believe that CAM is too expensive. This notion also ties into the Perceptions of Knowledge discussion. These

practitioners may not be aware of all the evidence-based literature that exists and was previously mentioned within this document (Romo & Gifford, 2007; Bellelli & Trabucchi, 2012; DeLoach, 2005).

Finally, many practitioners may believe that positive effects are due to placebo effect. Placebo effect is the treatment given to meet a patient's expectation to get well (MW, 2014).

Results of this research study with regard to beliefs suggest that the general trend is that practitioners who have witnessed positive effects of CAM or had patients with success stories of CAM are more favorable in recommending CAM.

Expectations. Recall that expectations refer to the anticipation of a patient's behavior that is based on a knowledge and understanding of the person's abilities and problems (MMD, 2009).

In this research study, recommending practices were categorized as favorable or unfavorable. The parameters of the study withheld that there are expectations of the acceptance or lack of acceptance of CAM by patients and practitioners. Expectations of CAM's ability to lower healthcare costs greatly affect the recommending practices of practitioners. In addition, practitioners may have favorable expectations of CAM as a therapy but do not have high expectations of patients employing CAM on a continual basis for the course of the necessary treatment.

Finally, practitioners may expect CAM to grow in acceptance by patients and not other healthcare practitioners. Also, practitioners may expect CAM to grow in acceptance by healthcare practitioners and not patients.

Results of this research study with regard to expectations suggest that the general trend is that most practitioners expect CAM to become more widely sought after by patients, but not necessarily accepted by practitioners.

Reasoning for Results

The following discussion presents a possible reasoning for the results that have been presented thus far within this manuscript.

Why did the non-physician practitioners express more liberal recommending practices of CAM than the physicians? This may be due to the inherent styles that are characterized by the groups. In general, non-physician practitioners have a holistic approach (AHNA, 2015). The whole mind-body is taken into account in practice. There is exposure to CAM therapy education during their academic studies. Additionally, the PI discovered that there is a much higher presence of non-physician practitioners on social media (e.g. Facebook™ closed groups, Twitter™, LinkedIn®).

In general, physicians have an allopathic approach (AMA, 2015). Although this cannot be applied to the entire profession, many physicians may have had less exposure to CAM therapy education during their academic studies. There is more weight placed on prescription of analgesics or surgical

procedures for pain. Additionally, the PI discovered that there is a much lesser presence of physicians on social media (e.g. Facebook™ closed groups, Twitter™, LinkedIn®).

Influence of Social Media

To elaborate on the previously mentioned presence or lack thereof of physicians and non-physician practitioners online, this next section will continue on with the influence of social media on my research and results.

The PI discovered throughout the course of this research study that non-physician practitioners have a larger presence on social media. This presents more opportunity to share new information with other non-physician practitioners. There is a high presence of non-physician practitioners on Facebook™ closed group pages. These Facebook™ closed group pages are used by members to share new information, ask advice of fellow practitioners and/or to express frustrations on their practice. To avoid HIPAA violations, personal identifying information about specific cases is generally prohibited.

The PI discovered throughout the course of this research study that physicians are less prevalent on social media. Physicians were mostly discovered on Twitter™ and LinkedIn® for promotion of their practice. There was little to no presence on Facebook™ closed group pages.

These two main points may account for the reasoning that the majority of respondents were non-physician practitioners who were more favorable toward recommendation of CAM.

Conceptual Framework Revisited

Recall that the healthcare practitioner holds his/her own set of recommending practices when it comes to his/her patients. This practitioner is influenced by many external forces as was previously discussed within the text of this manuscript (Figure 2). Now knowing the results of the study allows for viewing the original conceptual framework in an expanded form (Figure 49).

Certain CAM therapies emerged in the demographic survey as ones that practitioners were exposed to at their work environment or in their education, that they have received training on, and/or that they have recommended to patients during their career. These CAM therapies included but were not limited to Music Therapy, meditation, herbal supplements, acupuncture, chiropractic, massage therapy, yoga, prayer and nutritional counseling.

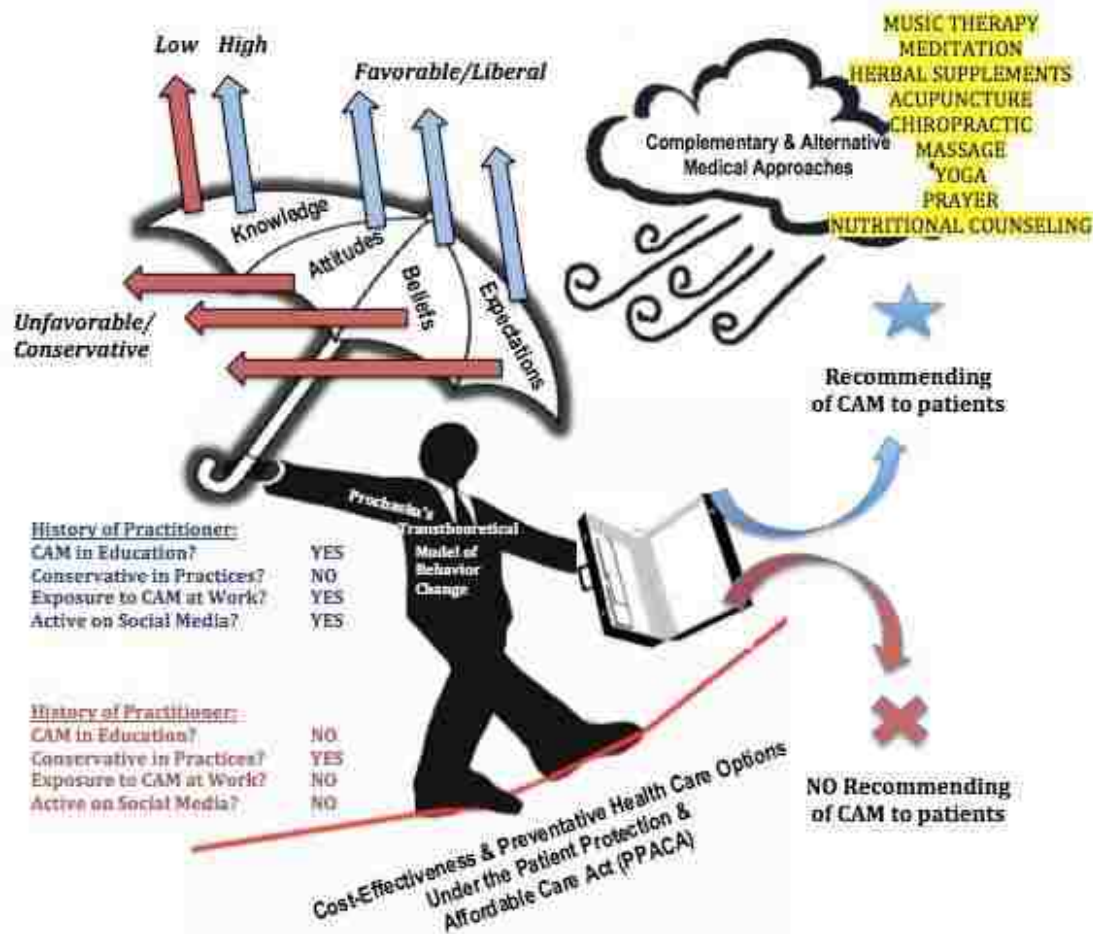
As was discussed previously, the four main constructs had a dual nature. Perceptions of knowledge could be low or high. Attitudes, beliefs and expectations could be either favorable/liberal or unfavorable/conservative in nature.

Traits of individual practitioners were discovered from the survey which inform their recommending practices. These traits include whether or not the individual was exposed to CAM in education, whether or not the individual considered himself/herself generally conservative in practice, whether or not

he/she had exposure to CAM in the work environment and whether or not he/she was active on social media.

The results of each of these sections affected Prochaska's Transtheoretical Model of Behavior Change for the practitioner and ultimately sways the individual to recommend CAM to patients or avoid recommendation of CAM to patients.

We are indeed on the cusp of healthcare change as we know because in the next few years, specifically surrounding 2018, these preventative measures in the healthcare bill will be either overturned or formalized and ratified into law. This speaks to why this burgeoning topic is of such great importance and relevance.



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Figure 49. Conceptual Framework Superimposed Post-Results. This illustration superimposed with additional expanded information is based on trends from results. Certain CAM therapies emerged in the demographic survey as ones that practitioners were exposed to at their work environment or in their education, that they have received training on, and/or that they have recommended to patients during their career (e.g. Music Therapy, meditation, herbal supplements, acupuncture, chiropractic, massage therapy, yoga, prayer and nutritional counseling.) Dual nature of variables were as follows: *Perceptions of knowledge* could be low or high; *attitudes, beliefs and expectations* could be either favorable/liberal or unfavorable/conservative in nature. Traits of individual practitioners were discovered from the survey which inform their recommending practices (e.g. whether or not the individual was exposed to CAM in education, whether or not the individual considered himself/herself generally conservative in practice, whether or not he/she had exposure to CAM in the work environment and whether or not he/she was active on social media). The results of each of these sections coupled with the PPACA as a driving force affected Prochaska's Transtheoretical Model of Behavior Change for the practitioner and ultimately sways the individual to recommend CAM to patients or avoid recommendation of CAM to patients.

Qualitative Themes

This following section illustrates examples of open-ended responses provided by respondents based on two questions in the demographic portion of the survey. Although these are not reflective of any particular statistical question, it is interesting to note a few thoughts of the survey respondents in order to put the study into perspective. These responses possibly open an avenue for further research evaluating the themes.

The open-ended demographic questions #26 and 27 were as follows:

26. As a practitioner in your field, are there any final thoughts you would care to share about recommending CAM therapies to your patients? Please do not use any names or personally-identifying information in your response but please feel free to share your honest evaluation of how CAM fits or does not fit within your current practice area with your patient base.

AND

27. As a practitioner in your field, are there any final thoughts you would care to share about recommending music therapy to your patients? Please do not use any names or personally-identifying information in your response but please feel free to share your honest evaluation of how music therapy fits or does not fit within your current practice area with your patient base.

Several themes emerged based upon the responses to these questions that fall under two broader headings that were relevant in the review of the literature section of this manuscript: Perceived Goodness and Negative Connotation.

Perceived Goodness. The literature suggested that one of the two major perspectives of the use of CAM, and specifically Music Therapy, included the “perceived goodness” of the medicine approach (Edwards, 2011;

Protacio, 2010). According to this, music is a conduit used for empowerment. It creates autonomous qualities in individuals who feel powerless. In addition it relieves stress and anxiety through music as therapy which improves attitudes and effectiveness and increases autonomy.

Similarly, in the literature, under this heading was the notion that music is cost-effective and has a positive financial benefit in healthcare (Bellelli and Trabucchi, 2012; Romo and Gifford, 2007; DeLoach, 2005). Improved quality indicators, improved patient outcomes, improved working conditions, and the non-invasiveness nature of the therapy all contribute to the “perceived goodness” of Music Therapy. From the research using the GCAMTA, the following three themes emerged from respondents’ answers to the open-ended questions which tie into the “perceived goodness” that is mentioned in the literature: Empowerment/Creates Autonomy/Livens the Unresponsive (Figure 50), Potential to Decrease Stress, Anxiety and Pain (Figure 51), and Positive Outcomes (Figure 52).

Empowerment/Creates Autonomy/Livens the Unresponsive.

Responses that fell under this theme centered around practitioners’ view of the patient’s newly founded autonomy based upon using music as therapy. In particular, several practitioners noted that a patient that was unresponsive became responsive to the music. Also, it is not just the patient that is benefitted since the family members or friends are uplifted as well at seeing

the positive change in the individual suffering from an illness. One Clinical Nurse Specialist noted the following:

“I have seen clients that have not spoken for days or recognize their spouse but respond when a headset is provided and music from their youth is played. They smile, dance and talk again. It is a joy to see them interact with their family at these times.”

For a more entailed list of respondents’ open-ended answers that fall under this discovered theme, see Figure 50.

Potential to Decrease Stress, Anxiety & Pain. Responses that fell under this theme centered around practitioners’ view of the effectiveness of CAM and/or Music Therapy to aid in the symptoms of stress, anxiety, and/or pain in patients. In particular, practitioners noted that individuals “felt better” or were “helped to relax” from the medical approach. One Clinical Nurse Specialist noted the following:

“I think we all need to better understand these therapies and how to use them. As I care for patients with advanced heart failure, I see a great deal of anxiety with chronic illness for both the patient and caregiver. As I complete this survey, I am already thinking of who might benefit.”

For a more entailed list of respondents’ open-ended answers that fall under this discovered theme, see Figure 51.

PERCEIVED GOODNESS

Empowerment/Creates Autonomy/Livens the Unresponsive

"I have seen clients that have not spoken for days or recognize their spouse but respond when a headset is provided & music from their youth is played.

They smile, dance and talk again.

It is a joy to see them interact with their family at these times."

[Clinical Nurse Specialist]

"I took a formal class in music therapy after the death of my sister.

It helped me and my family very much."

[Clinical Nurse Specialist]

"2 wonderful sessions with family musicians and friend musicians as my father slipped into his coma during his final days. He hadn't been responsive too much, but when favorite tunes and songs were played and sung,

he was moving his feet in time to the music.

All of us benefitted - he and the musicians."

[Nurse Midwife]

"Music therapy is a beneficial adjunct to a multimodal approach to pain management. Patients that do not rely on excessive narcotic use are more likely to take an active role in managing their care and health and have a shorter length of stay than those that rely heavily on medications to manage their pain and other health issues."

[Clinical Nurse Specialist]



Figure 50. Qualitative Theme: Empowerment/Creates Autonomy/Livens the Unresponsive. Responses that fell under this theme centered around practitioners' view of the patient's newly founded autonomy based upon using music as therapy. In particular, several practitioners noted that a patient that was unresponsive became responsive to the music. Also, it is not just the patient that is benefitted since the family members or friends are uplifted as well at seeing the positive change in the individual suffering from an illness.

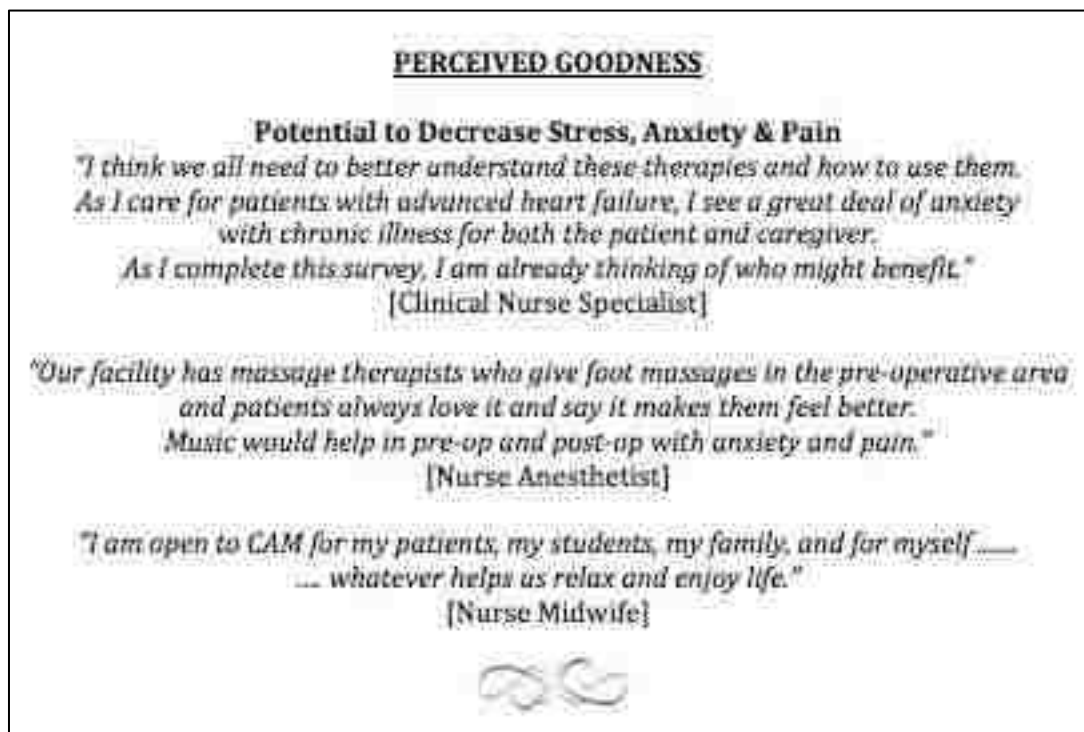


Figure 51. Qualitative Theme: Potential to Decrease Stress, Anxiety & Pain. Responses that fell under this theme centered around practitioners' view of the effectiveness of CAM and/or Music Therapy to aid in the symptoms of stress, anxiety, and/or pain in patients. In particular, practitioners noted that individuals "felt better" or were "helped to relax" from the medical approach.

Positive Outcomes. Responses that fell under this theme centered around practitioners' view of the general positivity of CAM and/or Music Therapy on patients. In particular, practitioners noted that they are willing to try anything to help patients and that leading them to a modality such as Music Therapy brings the practitioner a feeling of happiness. One Nurse Anesthetist noted the following:

"We sometimes have someone playing live music in the surgery recovery area and it has a nice effect. It even makes me feel more relaxed and happy as I bring my patient in the post-operative area."

For a more entailed list of respondents' open-ended answers that fall under this discovered theme, see Figure 52.



Figure 52. Qualitative Theme: Positive Outcomes. Responses that fell under this theme centered around practitioners' view of the general positivity of CAM and/or Music Therapy on patients. In particular, practitioners noted that they are willing to try anything to help patients and that leading them to a modality such as Music Therapy brings the practitioner a feeling of happiness.

Negative Connotation. The literature suggested that one of the two major perspectives of the use of CAM, and specifically Music Therapy, included the negative connotation of the medicine approach (Sharf et al, 2012; O’Kelly and Koffman, 2007). According to this, there exists the potential for Music Therapy and similar CAM therapies to “hit the wrong spot.” There are concerns about the intrusive nature of the music therapy, with the potential to “hit the wrong spot.” Special consideration must be given to patients who may uncover certain emotions they are not ready to deal with. This was a common thread throughout the literature. We, as practitioners, don’t want to do more harm than good.

From the research using the GCAMTA, the following three themes emerged from respondents’ answers to the open-ended questions which tie into the “perceived goodness” that is mentioned in the literature: Not Enough Research or Awareness (Figure 53), Takes Time for Implementation (Figure 54), and Not a Priority of Unsure How to Implement (Figure 55).

Not Enough Research or Awareness. Responses that fell under this theme centered around practitioners’ view of the lack of evidence-based research or general lack of awareness of research that exists on CAM and/or Music Therapy for patients. In particular, practitioners noted that they are hesitant to recommend CAM and/or Music Therapy until they know of solid evidence to support the intervention. One Doctor of Osteopathy Physician noted the following:

"I have nothing against music therapy or any CAM therapy that helps patients, but I don't want to recommend any therapy without proven scientific basis."

For a more entailed list of respondents' open-ended answers that fall under this discovered theme, see Figure 53.

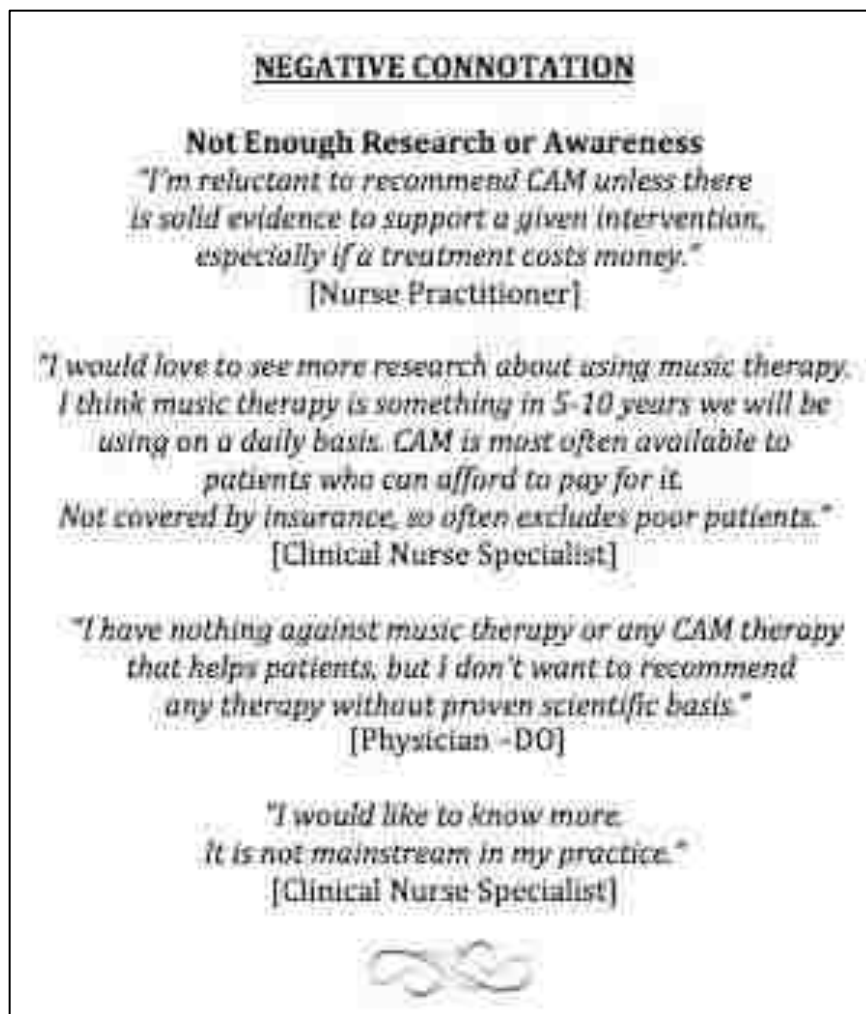


Figure 53. Qualitative Theme: Not Enough Research or Awareness. Responses that fell under this theme centered around practitioners' view of the lack of evidence-based research or general lack of awareness of research that exists on CAM and/or Music Therapy for patients. In particular, practitioners noted that they are hesitant to recommend CAM and/or Music Therapy until they know of solid evidence to support the intervention.

Takes Time for Implementation. Responses that fell under this theme centered around practitioners' view of the time it takes to infiltrate a new modality into the medical practice such as CAM and/or Music Therapy for patients. In particular, practitioners noted that it takes time for everyone to get on board with a new modality and that there is a extensive process for new policies to be written up to support a new medical approach such as CAM. One Nurse Midwife noted the following:

“Current environment is somewhat tolerant of offering CAM, although typically the non-physician providers DO offer CAM and the physicians typically do not. I think it's a great tool.”

For a more entailed list of respondents' open-ended answers that fall under this discovered theme, see Figure 54.



Figure 54. Qualitative Theme: Takes Time for Implementation. Responses that fell under this theme centered around practitioners' view of the time it takes to infiltrate a new modality into the medical practice such as CAM and/or Music Therapy for patients. In particular, practitioners noted that it takes time for everyone to get on board with a new modality and that there is an extensive process for new policies to be written up to support a new medical approach such as CAM.

Not a Priority or Unsure How to Implement. Responses that fell under this theme centered around practitioners' view that a modality such as CAM and/or Music Therapy for patients is usually not at the forefront of priority in the medical profession. In particular, practitioners noted that it is not at the top of the list and that accessibility of these modalities may be an issue as well. One Physician (MD) noted the following:

"I'd be much more likely to recommend it if it were easily accessible (i.e. available locally, easy to schedule), covered by insurance/Medicare/Medicaid, and I know that the practitioner is qualified."

For a more entailed list of respondents' open-ended answers that fall under this discovered theme, see Figure 55.

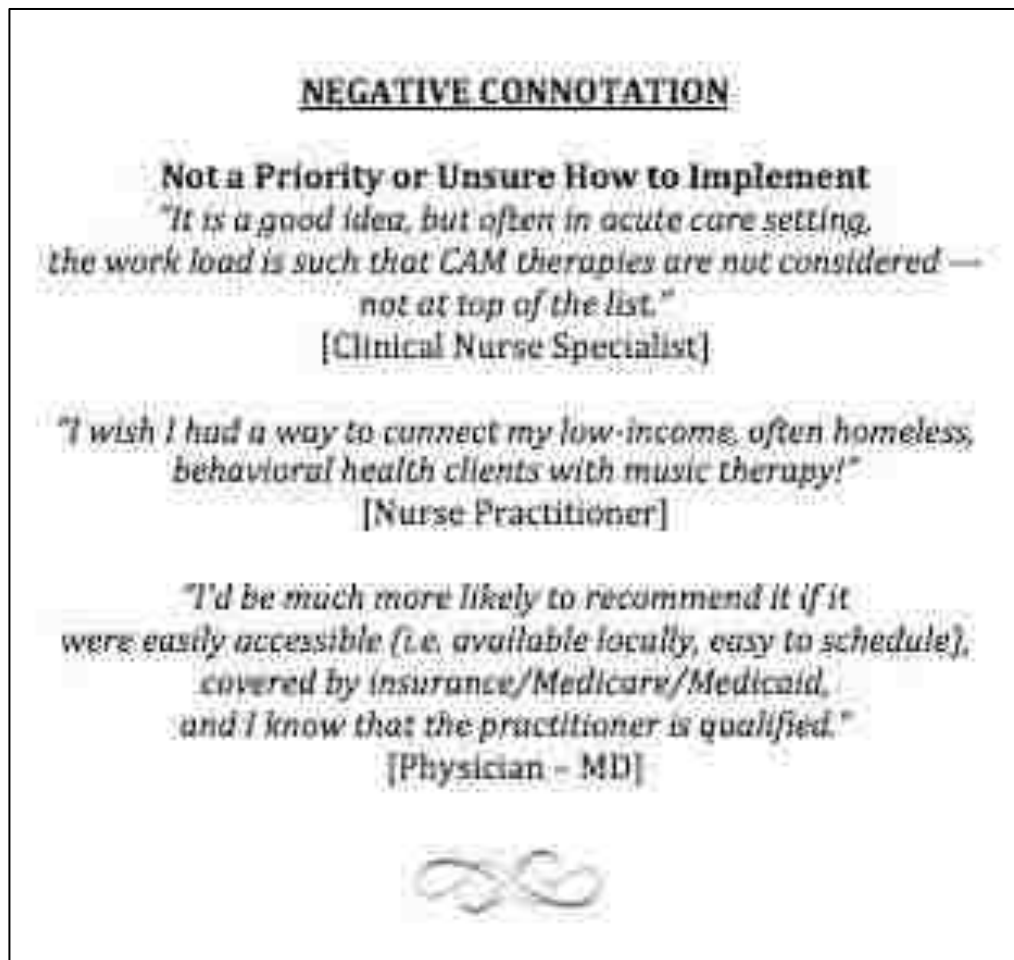


Figure 55. Qualitative Theme: Not a Priority or Unsure How to Implement. Responses that fell under this theme centered around practitioners' view that a modality such as CAM and/or Music Therapy for patients is usually not at the forefront of priority in the medical profession. In particular, practitioners noted that it is not at the top of the list and that accessibility of these modalities may be an issue as well.

To follow-up from the qualitative themes that were discovered by the PI from the two open-ended questions in the GCAMTA, several additional responses are note-worthy. Several practitioners remarked that they were unfamiliar with Music Therapy but now having been exposed to the idea of it, even from something such as this survey, they will now consider these medical approaches for their patients (Figure 56). This highlights the importance of awareness and attention to the field, even if in the simplest manner such as through a survey instrument.



Figure 56. Additional Qualitative Responses Highlighting the Need for Increased Awareness to Medical Practitioners. Several practitioners remarked that they were unfamiliar with Music Therapy but now having been exposed to the idea of it, even from something such as this survey, they will now consider these medical approaches for their patients. This highlights the importance of awareness and attention to the field, even if in the simplest manner such as through a survey instrument.

Practical Implications

There are five practical implications which are supportive of the meager information that is in the literature.

Implications from this study are that medical programs that rely solely on an allopathic approach may need to revise their curriculum to include teachings on mind/body holistic approaches (AHNA, 2015; AMA, 2015). Curricula that include these teachings will certainly encompass CAM, bringing awareness and attention to modalities that may be considered effective and successful for their future patients. Interventions that target practitioners' knowledge of CAM and encourage them to recommend these medical approaches may be of value.

In this research study, as perceptions of knowledge increased, recommending practices' favorability toward CAM approaches increased. Therefore, with increased knowledge or perceptions of what they know of CAM, practitioners were more apt to recommend CAM to their patients. If practitioners perceive themselves as being knowledgeable of the medicine approach, then they are more apt to recommend the approach to patients. Training healthcare practitioners on how to convey relevant information about CAM to their patients is critical for promotion of CAM (Burdick, 2015).

Awareness of cost-effectiveness is linked to perceptions of knowledge (Romo & Gifford, 2007; Bellelli & Trabucchi, 2012; DeLoach, 2005). The majority of physicians were conservative in their recommending practices of

CAM, whereas the non-physician practitioners were less conservative and more favorable in their recommending practices of CAM. This may be due to educational background or awareness and exposure to CAM in the profession or online (e.g. social media outlets). A higher presence of non-physician practitioners on social media (e.g. Facebook™, Twitter™) could explain why these individuals have more awareness and perceptions of knowledge of the CAM modalities and, therefore, less conservative views towards them. A lower presence of physicians on social media could explain why these particular individuals had less awareness and perceptions of knowledge of the CAM modalities and, therefore, more conservative views towards them.

Another implication based on the study results is that not all CAM therapies will be viewed the same or accepted at the same time. As evident in the qualitative responses that were previously mentioned within the discussion, some CAM therapies are more accepted than others by practitioners. More awareness and education is needed for the practitioners on the cost-effectiveness of CAM therapies as well as the different types of CAM therapies that are readily available to patients and providers. Finally, as evidenced from the aforementioned review of the literature, there are negative connotations that exist regarding these non-traditional medical approaches (Sharf et al, 2012; O’Kelly and Koffman, 2007). There is also the “perceived goodness” of Music Therapy and CAM (Edwards, 2011; Protacio, 2010). Time is needed for the transition of negative connotations to develop into

“perceived goodness.” Increased awareness and evidenced-based research will aid in this development.

In addition to the aforementioned, generational differences may exist that affect recommendations(or lack thereof) of CAM. There are three main generations of practitioners: traditionalists, baby boomers and Generation X (Bujak, 2013). There is extensive literature that dates back to how practice patterns are affected by generational differences (Jacobson et al, 2004). Studies have shown that Generation X nurses report significant differences in the work environment than do Baby Boomer nurses (Leiter et al, 2010). Younger generations may be more inclined to recommend CAM. This may be due to more exposure from a higher social media presence or from their educational exposure. The older generations may be more conservative in their recommendation of CAM. This may be due to less exposure from a smaller social media presence or lack of education on the topic.

Study Limitations

The following discussion details the limitations of this aforementioned research study.

Self-reported findings. The limitations of this study are the same as with all self-reported survey studies. Respondents may have answered according to their own perceptions of what the Primary Investigator may have wanted as correct answers. In addition, feelings may have been minimized or

exaggerated depending on how they perceived the Principal Investigator's intention to be.

Cross-sectional data collection. Data in this study were collected at singular points in time and assessed quantitatively together, thereby defining this as cross-sectional data collection. A longer longitudinal study, where a cohort of physicians and non-physician practitioners were tracked to see if their recommending practices, perceptions of knowledge, attitudes, beliefs and expectations had changed, may prove to be more beneficial.

Sampling. Participants were retrieved from either snowball sampling or one of the three practitioner groups (American College of Nurse Midwives, National Association of Clinical Nurse Specialists, New York Academy of Family Physicians). Participants who completed the survey under the auspices of the organization that they belonged to may have spent more time on the survey responses and may have answered more honestly and accurately. On the other hand, participants who completed the survey from encountering the survey link through snowball sampling, particularly through social media such as Facebook™, Twitter™ or LinkedIn®, may not have spent as much time on the survey responses, thereby resulting in answers that were not as honest or accurate to their profession.

Lack of incentive to individuals for participation in the survey may have resulted in attrition or lack of survey participation. Had a monetary or gifted

incentive been addressed in the Letter of Solicitation (Appendix F), a higher chance may have existed for increased participation in the survey.

In the Delphi, the expert panelists were instructed to provide constructive criticism to statements or questions that may be leading or have internal researcher bias. Although this was addressed by the experts after two rounds of the Delphi and subsequent removal or revising of the statements/questions, this could still be considered a limiting factor. Certain statements may still have presented an internal researcher bias that the respondents could have noticed. This would affect their responses and cause limitation to the study.

In addition, survey fatigue could have been a major limiting factor within this study. Because the average time spent on the GCAMTA was 12 minutes, participants may have not answered honestly the ending questions of the GCAMTA due to fatigue. Also, the optional accompanying demographic survey that followed the GCAMTA might have been abandoned or incomplete due to survey participant fatigue. Had the demographic survey been mandatory and required for submission of the GCAMTA, more complete surveys may have been submitted.

Generalizability. The results of this study are only generalizable to the associations that have participated and/or a portion of the United States. Results are not generalizable to other countries since participants were excluded if they were not from the United States. Additionally, results are not

generalizable to the professions on the whole. More research is necessary to see if the results of this study hold true across the medical professions presented within this particular study.

As mentioned earlier in the discussion, more females than males participated in this study. This may be easily misinterpreted or misconstrued to be a representation of the medical profession across the board. Just because more females than males participated in my study does not mean that, in general, female physicians or female non-physician practitioners are more apt than male physicians or male non-physician practitioners to recommend Music Therapy or CAM to patients. Future research containing a better gender balance in respondents would be necessary to make inferences regarding this topic.

Voluntary participation. When participation is voluntary, the characteristics of the participants who respond may differ from those who choose not to respond (Burns & Grove, 2001). Respondents who had an interest in the subject matter of CAM or Music Therapy may have been the ones who chose to respond (particularly from the non-physician practitioner group). Individuals who strongly were opposed to CAM or Music Therapy may have chosen to avoid the survey altogether.

Chapter VI

CONCLUSION

Future Research

This study was undertaken because there was no one tool within the literature that addressed the perceptions of knowledge, attitudes, beliefs and expectations in the context of recommending practices for both physicians and non-physician practitioners.

Future research could include additional studies on gender. Because this study had many female respondents, particularly for the non-physician practitioner groups, future studies should focus on increasing the number of male respondents. Additionally, to address studies on gender, future research could look at female physicians vs. male physicians and female non-physician practitioners vs. male non-physician practitioners.

Future research could include longitudinal studies of healthcare practitioners who have recommended CAM to their patients and these studies could include follow-up surveying depicting the attitudes and beliefs of CAM based on their patients' success/fail rates with the recommended complementary and alternative approaches. In other words, it would be novel to see if a practitioner changed his/her mind years after holding a certain belief system. Research may show that individuals who initially were opposed or neutral to CAM may indeed become more favorable toward CAM

years later due to increased awareness, appreciation and understanding of the modalities.

More studies analyzing the differences that may exist between Doctors of Medicine (M.D.) and Doctors of Osteopathy (D.O.) are necessary to understand the physician groups. Because, in this study, DOs were a small group as compared to the MDs, it would be necessary to obtain responses from a larger sample of DOs and run the statistical tests again, particularly in comparison to the MDs.

Of the non-physician practitioner group, the Nurse Midwives, Nurse Practitioners and Clinical Nurse Specialists comprised the largest numbers of the non-physician practitioner sample. Future studies could examine the differences, if any, between these three medical professions to see if one of these groups is recommending CAM more so than another group in their practice and the reason(s) as to why this is occurring.

More evaluation of the age of respondents is necessary, especially the age extremes (i.e. 30-40 and 65+). It would be beneficial to determine the differences in recommending practices, attitudes, beliefs and expectations between employed, licensed, practicing practitioners of opposite age extremes. Younger individuals have recently emerged from the academic environment and may have a different educational foundation than older individuals whose education on CAM, or lack thereof, would substantially affect their medical world-view.

Additional studies on the role of the dyad (provider and patient relationship as well as care-receiver and informal caregiver relationship) are necessary, specifically with regard to CAM recommendations. Studies that surround the recommendation of CAM to the care-receiver, the employment of that CAM and the possible subsequent change in anxiety/stress level of the caregiver would be interesting. Conversely, studies that surround the recommendation of CAM to a caregiver, the employment of that CAM and the possible subsequent change in anxiety/stress level of the care-receiver would be interesting.

Because social media outlets are a burgeoning resource for patients as well as practitioners to seek out the latest information related to health, more research is necessary to examine the amount of time and degree to which healthcare professionals and patients use social media to obtain information related to CAM.

Future research needs to focus on the curricula of these healthcare professionals as well as their access to continuing education of newly-developed medical modalities. Because healthcare is ever-changing, it is crucial to evaluate the extent to which healthcare professionals are seeking out updated information and educational resources pertaining to their profession(s).

Finally, future research should concentrate on the global use of the survey tool. This research involves understanding global recommending

practices of physicians and non-physician practitioners in countries other than the U.S. These global recommending practices will include global approaches to CAM, specifically, how healthcare practitioners in other countries are viewing CAM therapies and if they are using them in their practice or recommending these therapies to their patients. Outreach to social media pages that are not specific to the U.S. also needs to be employed (e.g. “French physicians Facebook™ group”). In this study, these Facebook™ closed group pages were avoided since the focus was on U.S. based practitioners. More snowball sampling of the Global CAMTA should occur.

Similarly how future research may focus on the curricula of healthcare practitioners in the U.S., future research may also involve the curricula of healthcare practitioners in other parts of the world. Differences, if any, may be highlighted between practitioners of different countries.

To conclude, future research could tap into the qualitative themes that were presented earlier according to the type of practitioner. Coding of data would take place and may uncover underlying factors or constructs that were not present in this study.

Dissertation Significance and Conclusion

Physicians are generally taught an allopathic approach which focuses on the traditional medical philosophies surrounding prescription of medications and employment of surgical procedures (AMA, 2015). Non-physicians curricula generally have a more holistic approach, encompassing

mind/body philosophies (AHNA, 2015). According to the results of this study, medical curricula should incorporate holistic medicine education for physicians to increase awareness and knowledge of the growing field. Results showed that with increased perceptions of knowledge, increase favorability towards CAM in medical practice took place.

This was the first study that looked at the previously mentioned 5 dependent variables among seven medical fields grouped as either physician or non-physician practitioner utilizing Empowerment/Engagement Theory, Wellcare/Obamacare Ideologies, and Prochaska's Theory of Change Behavior as triangulated paradigms.

The modern healthcare practitioner is confronted with many external forces that will affect or sway his/her recommending practices that are currently held by the practitioner. Possible change to core medical values is illustrated through Prochaska's Transtheoretical Model of Behavior Change. Knowledge, Attitudes, Beliefs and Expectations act as an umbrella to determine whether or not he/she will be swayed to change recommending practices by the incoming weather (i.e. Cam approaches). External underlying driving forces, specifically cost-effectiveness and preventative health care under the Patient Protection and Affordable Care Act serve as the foundation to which the recommendation practices should or should not be changed if cost-effectiveness is a demand of the institution or facility to which the practitioner is employed.

Not all CAM therapies will be viewed the same or accepted at the same time. More awareness and education is needed for the practitioners. In addition, generational differences may exist, representing in differences in recommending practices.

More research is imperative. Survey research is necessary to evaluate the perspectives of the healthcare professionals, their patients as well as the informal family member/friend caregivers.

Because Music Therapy and CAM on the whole is a new and burgeoning field, more evidence-based research is necessary.

From expanding research, we will have more knowledge and the power from that knowledge will allow healthcare practitioners of every field to more effectively treat their patients in a more cost-effective way. Education is crucial and necessary from a top-down approach. Educating the healthcare practitioners about these complementary and alternative practices, which are readily available and highly cost-effective, may create the ripple effect whereby informal caregivers and patients are educated to make better life decisions. Empowerment of these informal caregivers and patients will create an increase in overall health, well-being and life satisfaction.

Although individuals are exposed to music on a daily basis for entertainment purposes, the strategic use of music for health benefits is not as apparent. It is said that individuals only use 10 percent of their brain capacity. Perhaps, similarly, we are abandoning a percentage of music's

greater purpose as a healing agent. In the demanding work environment of the healthcare practitioner, there is a great amount of chaos and noise. If it is the goal of healthcare and medicine to heal and improve the physical and mental health of our patients, then as practitioners, it is vital to open our eyes to look through the noise, open our ears to the sounds of music around us, and from this, improve the lives of our patients, as well as ourselves.

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APPENDIX A

Approval to Conduct Delphi Process



**AGREEMENT FOR DELPHI PROCESS
SIGN OFF SHEET – STEP 1**

DOCTORAL CANDIDATES NAME: Paul Franco

PROJECT TITLE: *"Creating and Validating a New Survey Instrument to Understand Primary Care Practitioners' and Mid-Level Healthcare Practitioners' Prescribing Practices, Knowledge, Attitudes, Beliefs and Expectations Regarding Music and Chiropractic as Cost-Effective Complementary and Alternative Medicine Approaches."*

PROPOSAL HEARING DATE: February 5, 2015

I HAVE PARTICIPATED IN THE ABOVE NOTED PROPOSAL HEARING AND MY SIGNATURE PROVIDES SUPPORT OF THE PROPOSED METHODOLOGY.

DISSERTATION COMMITTEE CHAIR:

Deborah A. DeLuca

COMMITTEE CHAIR'S SIGNATURE:

DISSERTATION COMMITTEE MEMBER:

Terrence F. Cahill

COMMITTEE MEMBER SIGNATURE:

DISSERTATION COMMITTEE MEMBER:

Lee Cabell

COMMITTEE MEMBER SIGNATURE:

APPENDIX B

Delphi Expert Panelist Letter of Solicitation



Delphi Panelist Letter of Solicitation

Date _____

Dear _____:

As per our prior email conversations, you have expressed your kind willingness and commitment to serve as a member of my Delphi Panel as an Expert Reviewer of my survey instrument, titled the "Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)." I thank you for taking the time to participate in this review process of the GCAMTA (pr: gee-cam-tuh) as I believe it will produce a high-quality survey to be used in my Ph.D dissertation efforts upon completion of the Delphi review process.

The issue of rising health care costs is significant not only due to an ageing demographic that is living longer and requiring more extensive medical treatment, but also because individuals are not taking advantage of modalities that are inexpensive and readily available to them. Therefore, the purpose of my doctoral research is to "look at the top of the totem pole" by understanding the recommending practices, knowledge, attitudes, beliefs and expectations of primary care practitioners and mid-level practitioners regarding music as a cost-effective complementary and alternative medicine approach. To accomplish this goal, it will be necessary for me to validate my newly created survey tool among a panel of experts and then test its reliability in my desired population sample.

You are being asked to participate in this Delphi Panel in order for combined feedback to be taken into consideration and ultimately to be used to construct the final survey instrument. The survey itself contains variables to be answered on a scale of strongly agree to strongly disagree. Open ended questions and multiple choice questions are also contained in the demographic portion of the survey which I ask that you review as well for feedback.

This survey will be distributed to a snowball sample of convenience to healthcare professionals who are licensed to prescribe medication to patients and, therefore, have the opportunity to recommend CAM therapies such as Music Therapy to potential patients that may benefit from these services. In order to establish face and content validity, I would appreciate your review of the GCAMTA

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tool for appropriateness and clarity. As a reviewer, you are also asked to review the demographic questionnaire for appropriateness and clarity. Appreciating your time, I ask that you take no more than fourteen (14) days to finish this first round of review.

Upon receiving your comments and suggestions from this first round of review, your assessments will be combined with those of the other expert panelists. I am seeking 80% consensus on each assessment of each item contained in the instrument in the first round. This survey tool will then be modified after all responses from the expert panel are received. Based upon the panel feedback, a second review will most likely be needed. If that is the case, I kindly ask for your continued participation. You will receive additional instructions and a modified version of the survey instrument based on the consolidated assessments received from all reviewers at that time. Additionally, a third review may also be required, and again, if this becomes necessary, you are kindly asked again for your continued assistance with this modified Delphi process. By the end of the third round, a reasonably valid tool should result which will allow me to seek reliability and determine my Cronbach alpha for this tool in my desired population of prescribing healthcare professionals.

Enclosed you will find two documents for your review. The first document contains background information regarding the problem under consideration for research. This document also includes a draft of the instrument in the order that it is proposed. The second document is a worksheet for your use. In the first step of the Delphi Review, you as a member of my expert panel, are to (1) identify items which are ambiguous or unclear; (2) identify items which may be double-barreled; (3) identify items which may lead to a biased socially desirable response; (4) review the order of questions to reduce order bias; and (5) review the demographic items for appropriateness and clarity.

Upon completion of the first 5 steps aforementioned, you are requested to return the worksheet with comments to me, the Principal Investigator, via e-mail. I kindly ask that you return your worksheet with commentary within fourteen (14) days. Once all of the commentaries are received from the expert reviewers, revisions will be made to the instrument based upon the recommendations of each of the members of the expert panel of reviewers. Consensus of the panel for each question, calculated at 80% will be sought, as previously mentioned. Majority panel member recommendations will be followed. Should consensus as defined not be achieved for any item(s) after the first review of this Delphi process, the documents will be returned to all panelists again for a second round of review.

The difference on Round 2 of the review is that only the question(s) where consensus is not achieved will be provided for review and comment. Otherwise, the same procedure as outlined will be followed.

Instructions for Round 1 Delphi:

For the survey enclosed herein: Please review each variable and make recommendations in the comments section. Please consider the following elements in your analysis of these variables:

1. Evaluate each item for content validity; i.e. does the variable measure the construct as defined in this survey?
2. Identify items which are ambiguous or unclear.
3. Identify items which may be double-barreled.
4. Identify items which may lead to a response that is socially desirable.
5. Please review the order of items to reduce order bias and make recommendations.
6. Please also review the demographic items for appropriateness and make recommendations.

Please feel free to provide any suggestions, additional questions or comments you believe will make this survey the best assessment tool for understanding prescribing healthcare professionals' knowledge, attitudes, beliefs, expectations and recommending practices regarding music as a cost-effective complementary and alternative medicine approach.

Your time, patience, willingness to help and attention is so very much appreciated. Thank you!

Sincerest regards,



Paul Franco, M.B.S.

Doctoral Candidate, Seton Hall University
School of Health and Medical Sciences

Enclosures (2): Background Information with Proposed Survey
Delphi Survey Worksheet

APPENDIX C

Delphi Round 1 Survey Worksheet

- C-1: Instructions to Delphi Panelists**
- C-2: Terminology Bank for Delphi Panelists**
- C-3: First page preview of GCAMTA Survey Worksheet**
- C-4: First page preview of Demographic Survey Worksheet**

For the complete survey worksheet and/or any questions or
further information regarding the GCAMTA,
please contact the PI at drpaulfranco@gmail.com

Global Complementary/Alternative and Music Therapy Assessment (GCAMTA)

Survey Worksheet for DELPHI PANEL

Note: This survey will be administered to health care professionals electronically.

EXPERT PANEL: Please insert a “Y” for Yes or an “N” for No into each slot per question for each variable under the constructs. Please feel free to provide commentary pertaining to any question for each variable. Please feel free to provide any additional comments, suggestions or questions (please indicate the exact wording of any questions you suggest and where/what construct the question should be placed with/under) you believe will enhance the overall quality of this survey. Use as much space as needed. If so, please indicate your reasoning why so that I may understand and be able to speak to this modification when I defend my dissertation work.

Please feel free to comment or indicate in any section or by any question if you believe that the question should be **ELIMINATED**. If so, please indicate your reasoning why so that I may understand and be able to speak to this modification when I defend my dissertation work.

Where any such modifications may be involved, it is likely I may choose to either eliminate the question entirely or retain it despite the suggestion made and this may be shown in a subsequent round of the Delphi sent to you. If this happens, I will be certain to explain why so that the experts may make according decisions toward consensus in the subsequent round. Although I am seeking 80% consensus to keep or eliminate a question based on the panelist responses, there is a small possibility that I (along with my research committee) may decide to keep or eliminate a particular question despite attaining 80% consensus from the panel. If this should happen, this will be noted in the subsequent round to the Delphi panel with rationale as to why the decision was made because it is likely further clarification or review will be sought from the panelists on that particular question/issue.

Please refer to the Background Information document if you would like to view the exact order of the statements in the proposed survey. The numbering can also be found alongside the survey statement in this worksheet as well. Please comment if you think a survey statement should be placed at another section in the survey (either earlier, later, or removed entirely).

Following the Survey Questionnaire, please continue on to review the Demographic Questionnaire.

Thank you.

Terminology Bank for Clarity for Delphi Panel Members:

- Knowledge (K):** range of one's "information or understanding, the sum of what is known." For example: a physician's knowledge comes from previous education, experiences, and is also obtained through sources such as the medical literature, lectures, and conversations with peers (ASA, 2014).
- Attitudes (A):** associations between an act or object and an evaluation; the tendency to evaluate a person, concept, or group positively or negatively (Westen, 2003). (the way a person expresses or applies their beliefs and values, and is expressed through words and behavior). For example: *I get really upset when I hear about cruelty to children and animals, or I hate school* (Anderson and DeSilva, 2009).
- Beliefs (B):** an internal feeling that something is true, even though that belief may be unproven or irrational. For example: *I believe that walking under a ladder brings bad luck, or I believe that there is life after death.* (Anderson and DeSilva, 2009).
- Expectations (E):** (in nursing) anticipation of a patient's behavior that is based on a knowledge and understanding of the person's abilities and problem (MMD, 2009)
- Recommending Practices (R):** a suggestion or proposal as to the best course of action, especially one put forward by an authoritative body (MW, 2015).
- Complementary & Alternative Medicine (CAM) Approaches:** therapies that are used together with (complementary) or in place of (alternative) conventional medicine (NCCIH, 2015).
- Music Therapy:** Music therapy (herein a.k.a. "music as 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. An established health profession in which music is used within a therapeutic relationship to address physical, emotional, cognitive, and social needs of individuals (AMTA, 2015).
- Stress:** the body's physiological response to an environmental demand (Westen, 2010)
- Anxiety:** unpleasant emotional arousal in the face of threatening demands or dangers; situationally determined and transitory in nature (Spielberger, 1970)
- Caregiver:** non-professional/informal giver of care to an individual receiving care (care-receiver), typically a family member or friend (AMTA, 2014) [herein referred to as "caregiver"]
- Dyadic relationship:** two individuals maintaining a sociologically significant relationship (MW, 2014); the dyad is defined as the two individuals in the dyadic relationship (e.g. non-professional caregiver & care-receiver/patient)
- Provider Engagement:** the communication among patients, their caregivers and or family members, and health care professional from the point of admission, meeting, and/or visit (AHRQ, 2014).
- Patient Outcomes:** the condition of a patient at the end of therapy or a disease process, including the degree of wellness and the need for continuing care, medication, support, counseling, or education (MMD, 2009)

| Item/Variable (numbered as it appears in survey) | Does it measure concept? | Is it clear? | Is it double- barreled? | Is it biased through socially desirable response? | Comments |
|--|--------------------------------|-----------------|-------------------------------|---|----------|
| Construct No. 1: Recommending Practices | | | | | |
| 1. Before receiving a medical recommendation, patients like to be engaged in "small talk." | | | | | |
| 2. Before giving a medical recommendation, I like to engage patients in "small talk." | | | | | |
| 3. Before making medical recommendations, I find that patients want me to discuss current trends in healthcare with them. | | | | | |
| 4. Before making medical recommendations, I find that caregivers want me to discuss current trends in healthcare with them during the patient's appointment. | | | | | |
| 17. When I provide patients with healthcare information related to their health, I empower them. | | | | | |
| 18. When I provide caregivers with healthcare information related to their care-receiver's health, I empower the caregiver. | | | | | |
| 19. In recommending certain medical options to patients, patients are empowered. | | | | | |
| 20. I am extremely cautious in recommending new techniques to my patients. | | | | | |
| 83. I would refer patients to different CAM therapies as appropriate. | | | | | |
| 84. I would refer patients to music therapy. | | | | | |
| 85. I see myself recommending CAM therapy | | | | | |

EXPERT PANEL: Please review the following demographic questions and make suggestions if needed:

Please provide the following demographic information:

1. What is your gender?

- Male
- Female

Comments from Experts:

2. What is your age?

- 18-30
- 31-40
- 41-50
- 51-60
- 61-69
- 70+

Comments from Experts:

3. What is your highest level of education?

- Certificate
- Associate
- Baccalaureate
- Masters
- PhD (Doctorate)
- MD/DO
- Other _____

Comments from Experts:

APPENDIX D

Delphi Round 2 Survey Worksheet

EXPERT PANEL:

Thank you very much for your input on Round 1 of the survey review.

In this second round of the Delphi Process, you will find the following concerns/recommendations made by at least one (1) expert panel member that I am now proposing for your review to gain 80% consensus.

Please check/mark with an x whether the change should be made or if the original statement should be left as originally proposed. Please note that changes are being made for other comments and suggestions that are not listed here, which were recommended for clarity purposes for a statement.

Also, at the conclusion of Round 2, Paul and his Research Committee at Seton Hall will consider statements in general which can be removed to shorten the survey on the whole as to consider fatigue and possible attrition of the participant completing the survey.

Furthermore, in the letter of solicitation to survey participants, the PI will also give a general estimate on how long the survey should take the participant(s) to complete (e.g. no more than 10 minutes).

This will suffice as Round 2 of the Delphi. Thank you very much.

1. *#17. When I provide patients with healthcare information related to their health, I empower them.*

Two recommendations were made:

a) The phrase "empower them" should be changed to the phrase "assist them in making healthcare decisions" to avoid the emotional charge that comes today with the word 'empowerment.'

Make change as per expert(s)' recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

b) It is an "attitude" construct not a "recommending practices" construct.

Make change as per expert(s)' recommendation _____

Leave this statement in the original
"recommending practices" construct _____

Additional comments _____

2. ***#45. The changes that have taken place in the conventional healthcare system have encouraged people to use CAM therapies to a greater extent.***

The following recommendation was made:

a) The question is too vague and most people will probably respond “yes” because it is the “thing to say.” Also, the term “people” is too broad and isn’t clear as to whether it refers to patients or providers.

Proposed rewrite:

#45. The changes that have taken place in the conventional healthcare system toward cost effectiveness in well-care have encouraged providers to recommend CAM therapies to a greater extent.

Make change as per expert(s)’ recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

3. For the next set of statements presented, several experts suggested that there is too much similarity between the words “stress” and “anxiety” to be considered different regarding the answers received. Therefore, the recommendation made is to keep statements written about “anxiety” because it is more specific and to eliminate the statements written using the word “stress” due to its duplicitous nature. Also, the term “some” was added before “CAM therapies” because, without it, the statement was suggested to be too loaded and encompassing of every type of CAM therapy.

#31. Care-receivers become stressed when their caregiver is stressed.

#32. Caregivers become stressed when their care-receiver is stressed.

#33. Care-receivers become anxious when their caregiver is anxious.

#34. Caregivers become anxious when their care-receiver is anxious.

#37. I can provide better treatment to my patient if I am experiencing lower stress.

#38. My stress level does not really affect how well I treat my patient.

#39. I can provide better treatment to my patient if I am experiencing lower anxiety.

Delphi Round 2

#40. My anxiety level does not really affect how well I treat my patient.

#57. Some CAM therapies can reduce patient anxiety.

#58. Music as therapy can reduce patient anxiety.

#59. Some CAM therapies can reduce patient stress.

#60. Music as therapy can reduce patient stress.

Proposed change:

**Keep statement numbers 33, 34, 39, 40, 57, 58;
Eliminate statement numbers 31, 32, 37, 38, 59, 60** due to the
duplicitous nature of the words "stress" and "anxiety."
Keep questions referring to "anxiety."

Make change as per expert(s)' recommendation _____

Leave statements as originally proposed _____

Additional comments _____

- 4. For the next set of statements, experts either suggested that the statements were too similar, needed follow-up specifying certain age groups, or did not accurately measure the construct of BELIEF.

#13. Whether or not patients approach me with questions related to their health is age-dependent.

Proposed rewrite:

#13. I believe that, in general, patients in early to mid adulthood (age 18-64) ask more questions related to their health than patients in later adulthood (age 65+).

Make change as per expert(s)' recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

#15. Whether or not caregivers approach me with questions related to their own health is age-dependent.

Proposed rewrite:

#15. I believe that, in general, caregivers in early to mid adulthood (age 18-64) ask more questions related to their own health than caregivers in later adulthood (age 65+) during their care-receiver's office visit.

Make change as per expert(s)' recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

#16. Whether or not caregivers approach me with questions related to their care-receiver's health is age-dependent.

Proposed rewrite:

#16. I believe that, in general, caregivers in early to mid adulthood (age 18-64) ask more questions related to their care-receiver's health than do caregivers in later adulthood (age 65+).

Make change as per expert(s)' recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

#77. Music as therapy is only beneficial for patients of a certain age group.

Proposed rewrite:

#77. Music as therapy is only beneficial for patients in early to mid adulthood (age 18-64) as opposed to patients in later adulthood (age 65+).

Make change as per expert(s)' recommendation _____

Leave this statement as originally proposed _____

Additional comments _____

This is the end of Round 2 of the Delphi Process. Thank you!

APPENDIX E

Seton Hall University

Institutional Review Board (IRB) Approvals

- E-1:** [2/25/15] Letter from Seton Hall IRB advising PI to conduct validity of survey tool without need for approval by IRB because Delphi method does not fall under the purview of the IRB
- E-2:** [6/24/15] Letter from Seton Hall IRB approving research study and thereby categorizing it as “exempt”
- E-3:** PI’s “Request for Approval of Research, Demonstration or Related Activities Involving Human Subjects” Form signed by IRB Director [6/24/15] and Academic Advisor [6/10/15]
- E-4:** [7/14/15] Approval of 1st IRB Amendment
- E-5:** [9/24/15] Approval of 2nd IRB Amendment



February 25, 2015

Paul Franco

Dear Mr. Franco,

The IRB is in receipt of the Application for your research entitled "Creating and Validating a New Survey Instrument to Understand Primary Care Practitioners' and Mid-Level Healthcare Practitioners' Prescribing Practices, Knowledge, Attitudes, Beliefs, and Expectations Regarding Music and Chiropractic as Cost-Effective Complementary and Alternative Medicine Approaches".

Your Application does not fall under the purview of the IRB, not even in exempt status, because use of the Delphi method to create a survey does not meet the criteria for generalizable research. Expert reviewers for the Delphi method are not subjects.

Once you have reliability and validity on your instrument and have passed the dissertation proposal hearing, you can then submit an Application for your study.

Please follow exactly the directives at the IRB website, on the IRB Checklist, and on the Application form itself. By way of example and to assist you in writing this new Application, the IRB calls to your attention the following points:

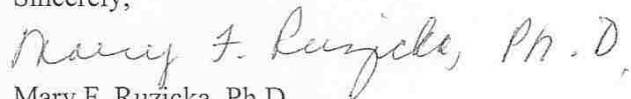
- Your Application is too long with materials the IRB does not want. Your response to # 13 of the application is 6 typed pages; this should be a synopsis of no more than 1 typed page. Your response to # 25 of the application is 4 typed pages; this should be an outline/synopsis of no more than 1 page. Your reference list is 4 pages; it should be brief and only include those references cited in the synopsis given in the responses to #13 and #25 of the Application.
- It is clearly stated on the IRB Checklist, on the Application itself, as well as the IRB website "not to attach copies of sections of grant proposal, dissertation or class projects" which it appears you have done.
- NIH certificates of completion of training in the ethics of research with human subjects is only required for the researcher himself [you]; do not put committee members or reviewers in it.

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When it is time for you to write your new Application, I am happy to answer any questions you may have. Do not submit a document of 126 pages or it will be returned to you without review. Please follow directives at the website and on the Application form. Do not add to them.

You are welcome to call me at 973-313-6314 and I am happy to provide clarification and guidance, if you need it.

Sincerely,

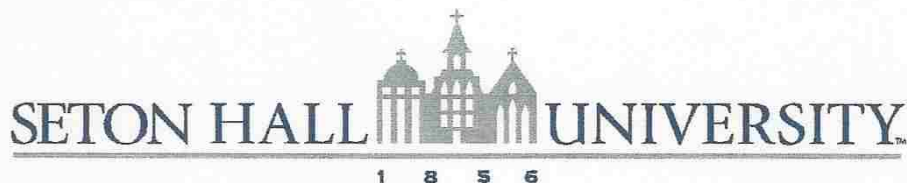


Mary F. Ruzicka, Ph.D.

Professor

Director, Institutional Review Board

cc: Dr. Deborah DeLuca
Dr. Terrence Cahill
Dr. Lee Cabell



June 24, 2015

Paul Franco

Dear Mr. Franco,

The Seton Hall University Institutional Review Board has reviewed your research proposal entitled "Understanding Primary Care Practitioners' and Mid-Level Healthcare Practitioners' Recommending Practices, Knowledge, Attitudes, Beliefs, and Expectations Regarding Music as a Cost-Effective Complementary and Alternative Medicine Approach" and has categorized it as exempt.

Enclosed for your records is the signed Request for Approval form.

Please note that, where applicable, subjects must sign and must be given a copy of the Seton Hall University current stamped Letter of Solicitation or Consent Form before the subjects' participation. All data, as well as the investigator's copies of the signed Consent Forms, must be retained by the principal investigator for a period of at least three years following the termination of the project.

Should you wish to make changes to the IRB approved procedures, the following materials must be submitted for IRB review and be approved by the IRB prior to being instituted:

- Description of proposed revisions;
- *If applicable*, any new or revised materials, such as recruitment fliers, letters to subjects, or consent documents; and
- *If applicable*, updated letters of approval from cooperating institutions and IRBs.

At the present time, there is no need for further action on your part with the IRB.

In harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,

Mary F. Ruzicka, Ph.D.
 Mary F. Ruzicka, Ph.D.
 Professor
 Director, Institutional Review Board

Office of Institutional Review Board

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REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS


All material must be typed.

PROJECT TITLE:

Understanding Primary Care Practitioners' and Mid-Level Healthcare Practitioners' Recommending Practices, Knowledge, Attitudes, Beliefs and Expectations Regarding Music as a Cost-Effective Complementary and Alternative Medicine Approach.

CERTIFICATION STATEMENT:

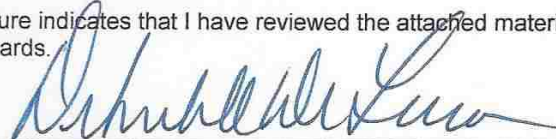
In making this application, I (we) certify that I (we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects. I (we) shall comply with the letter and spirit of those policies. I (we) further acknowledge, my (our) obligation to (1) obtain written approval of significant deviations from the originally-approved protocol BEFORE making those deviations, and (2) report immediately all adverse effects of the study on the subjects to the Director of the Institutional Review Board, Seton Hall University, South Orange, NJ 07079.


RESEARCHER(S) OR PROJECT DIRECTOR(S)
Paul F. Franco, MBS

6/10/2015
DATE

****Please print or type out names of all researchers below signature.
Use separate sheet of paper, if necessary.****

My signature indicates that I have reviewed the attached materials and consider them to meet IRB standards.



RESEARCHER'S ADVISOR OR DEPARTMENTAL SUPERVISOR
Deborah DeLuca, MS, JD

6/10/2015
DATE

****Please print or type out name below signature****

The request for approval submitted by the above researcher(s) was considered by the IRB for Research Involving Human Subjects Research at the June 2015 meeting.

The application was approved not approved by the Committee. Special conditions were were not set by the IRB. (Any special conditions are described on the reverse side).


DIRECTOR
SETON HALL UNIVERSITY INSTITUTIONAL REVIEW
BOARD FOR HUMAN SUBJECTS RESEARCH

6/24/15
DATE



July 14, 2015

Paul Franco

Dear Mr. Franco,

The IRB hereby approves the requested amendments to your research protocol, "Understanding Primary Care Practitioners' and Mid-Level Healthcare Practitioners' Recommending Practices, Knowledge, Attitudes, Beliefs, and Expectations Regarding Music as a Cost-Effective Complementary and Alternative Medicine Approach" to:

1. change terminology present in the Letter of Solicitation and four Demographics questions to "physicians and non-physician practitioners";
2. include in the Letter of Solicitation the mention of the participant group called the "CNS or clinical nurse specialists";
3. change the title to reflect the terminology change.

Sincerely,

Mary F. Ruzicka, Ph.D.

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Deborah DeLuca

Please review Seton Hall University IRB's Policies and Procedures on website (<http://www.provost.shu.edu/IRB>) for more information. Please note the following requirements:

Adverse Reactions: If any untoward incidents or adverse reactions should develop as a result of this study, you are required to immediately notify in writing the Seton Hall University IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

Amendments: If you wish to change any aspect of this study, please communicate your request in writing (with revised copies of the protocol and/or informed consent where applicable and the Amendment Form) to the IRB Director. The new procedures cannot be initiated until you receive IRB approval.

Completion of Study: Please notify Seton Hall University's IRB Director in writing as soon as the research has been completed, along with any results obtained.

Non-Compliance: Any issue of non-compliance to regulations will be reported to Seton Hall University's IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

Renewal: It is the principal investigator's responsibility to maintain IRB approval. A Continuing Review Form will be mailed to you prior to your initial approval anniversary date. **Note:** No research may be conducted (except to prevent immediate hazards to subjects), no data collected, nor any subjects enrolled after the expiration date.

Office of Institutional Review Board

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OFFICE OF INSTITUTIONAL
REVIEW BOARD

SETON HALL UNIVERSITY

September 24, 2015

Paul Franco

Dear Mr. Franco,

The IRB hereby approves the requested amendment to your research protocol, "Understanding Physicians' and Non-Physician Practitioners' Recommending Practices, Knowledge, Attitudes, Beliefs, and Expectations Regarding Music as a Cost-Effective Complementary and Alternative Medicine Approach" to add two additional organizations (the National Association of Clinical Nurse Specialists and the American College of Nurse Midwives) as locations for data collection.

Sincerely,

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Deborah DeLuca

Please review Seton Hall University IRB's Policies and Procedures on website (<http://www.provost.shu.edu/IRB>) for more information. Please note the following requirements:

Adverse Reactions: If any untoward incidents or adverse reactions should develop as a result of this study, you are required to immediately notify in writing the Seton Hall University IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

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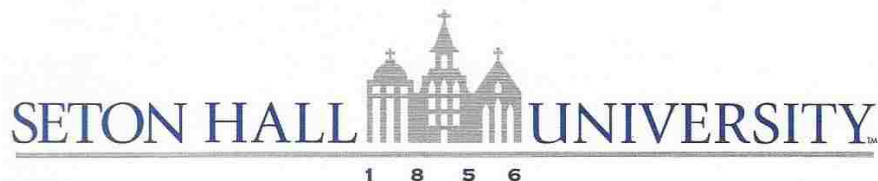
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A HOME FOR THE MIND, THE HEART AND THE SPIRIT

APPENDIX F

Letter of Solicitation to Survey Participants



July 14, 2015

Dear Healthcare Provider,

My name is Paul Franco. I am a PhD student at the School of Health and Medical Sciences at Seton Hall University. I am conducting this research study as part of my doctoral dissertation.

What is the purpose of the study?

You have been invited to participate in this survey study because you may be a healthcare provider that frequently prescribes to patients. Research is evidencing the growing use of Complementary and Alternative Medicine, specifically Music Therapy, due to the initiatives of cost-effectiveness under the Affordable Care Act. The purpose of this study is to understand the differences, if any, that may exist between physicians' (e.g. M.D., D.O.), and non-physician practitioners' (e.g. nurse practitioners' (N.P.), nurse anesthetists' (N.A.), nurse midwives' (N.M.), clinical nurse specialists' (C.N.S.), and physician assistants' (P.A.)) recommending practices, knowledge, attitudes, beliefs and expectations regarding music as a cost-effective complementary and alternative medicine approach.

What is the study procedure?

You are being asked to complete the GCAMTA (*jee-cam-tuh*) survey if you fit the requirements. The requirements include being either a physician (e.g. M.D. or D.O.) or a non-physician practitioner (e.g. nurse practitioner, physician assistant, nurse anesthetist, clinical nurse specialist or nurse midwife) who has a license to practice and prescribe to patients. You may complete the survey by clicking on the link at the end of this document. This study will also be utilizing a recruitment technique known as chain-referral or snowball sampling. This means you are encouraged to forward this e-mail to anyone that you think meets the requirements previously mentioned. Anyone who fits those requirements may participate in the study. They may then complete the study, even if you choose not to, and this allows the survey to reach a greater audience. The attached link is not unique to you. It may be forwarded to anyone. No record will be kept regarding whether or not you completed the survey nor will a record be kept of who you forwarded it to. Completing the survey will take about 10-15 minutes. You can take as much time as you would like to complete this.

Is participation voluntary?

Your participation in this research study is completely voluntary. You may decide not to participate at any time. If you choose not to participate, you will not be penalized nor lose any benefits to which you are otherwise entitled. By clicking the link below, you acknowledge that you are providing your consent to participate in this study.

Is the survey anonymous?

Your identity will not be collected as part of this study. Your name, address, and other specific personal identifying information will not be collected. The information that will be collected is general demographic information. There will be no records identifying you, specifically. All of your answers will be recorded anonymously. There will be no way to contact you or link your answers to you. If you forward the survey to others, no specific identifying information will be collected from them. The research data may be published but will not identify any individual.

School of Health and Medical Sciences
 Department of Interprofessional Health Sciences & Health Administration
 Tel: 973.275.2076 • Fax: 973.275.2171
 400 South Orange Avenue • South Orange, New Jersey 07079 • gradmeded.shu.edu

What will happen to the study data?

The study data will be kept confidential to protect its integrity. The data will be stored on a USB drive. The USB drive will be locked in a cabinet in the office of the principal investigator. The principal investigator, Paul Franco, will have access to all of the data for a period of up to three years after the end of the study. After that time, the research data will be destroyed.

Risk and Benefit to Participating

There is no foreseeable risk or discomfort anticipated by your participating in this research study. There are no proposed or foreseeable direct benefits to you by participating in this research study. However, the results of this study will help practitioners advance knowledge about music therapy in practice.

Compensation

There will be no monetary or any type of compensation for participating in this research study.

Ways to Participate in this Study

The questionnaire is available via Survey Monkey® electronic survey. By accessing and completing the GCAMTA and demographic survey through the link listed at the end of this document, you are conveying your informed consent to participate in the study.

Please feel free to ask other practitioners that you know to participate in this survey. Also, if you don't choose to answer questions about Complementary and/or Alternative Medicine, particularly Music Therapy, but know people who can and would, please pass this survey link to them. I appreciate your time and effort involved in doing so.

Can I request further information?

If you decide that you have an interest in learning more about Complementary and/or Alternative Medicine, specifically Music Therapy, please feel free to contact me through the office of Dr. Deborah A. DeLuca, Dissertation Chair in the Department of Interprofessional Health Sciences and Health Administration in the Seton Hall University School of Health and Medical Sciences, at 973-275-2076. Additionally, Dr. Mary Ruzicka, Chair of the Institutional Review Board, in the Office of the IRB at Seton Hall University, may be reached at 973-313-6314. You may send questions about the survey. You may also request the correct answers to the knowledge questions.

Thank you for considering participating and contributing to my dissertation research. Your time and consideration is greatly appreciated.

Click here to take the survey: <http://www.surveymonkey.com/s/GCAMTA>

APPENDIX G

Principal Investigator Created Tool:

**The Global Complementary/Alternative and
Music Therapy Assessment
(GCAMTA)**

[First page preview of the GCAMTA]

For the full tool and/or any questions or further information regarding
the GCAMTA, please contact the PI at drpaulfranco@gmail.com

GLOBAL COMPLEMENTARY/ALTERNATIVE and MUSIC THERAPY ASSESSMENT

1. What is your profession? (Select all that apply)

- Physician (MD)
- Nurse Midwife (NM)
- Physician (DO)
- Nurse-Anesthetist (NA)
- Physician Assistant (PA)
- Clinical Nurse Specialist (CNS)
- Nurse Practitioner (NP)
- Other _____

2. For Physicians (MD, DO), please specify area of specialty practice, if any.

3. These first set of statements focus on your initial encounter with the patient. Caregiver refers to a non-professional/informal giver of care to the individual/patient receiving care (care-receiver), typically a family member or friend. Please select: Strongly Agree, Agree, Neutral, Disagree or Strongly Disagree for each of the following statements:

| Variable | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|----------------|-------|---------|----------|-------------------|
| Before receiving a medical recommendation, patients like to be engaged in "small talk." | (5) | (4) | (3) | (2) | (1) |
| Before giving a medical recommendation, I like to engage patients in "small talk." | (5) | (4) | (3) | (2) | (1) |
| Before making medical recommendations, I find that patients want me to discuss current trends in healthcare related to patients' specific medical concerns. | (5) | (4) | (3) | (2) | (1) |
| In the process of making medical recommendations to patients, I find that their caregivers want me to discuss current trends in healthcare related to caregivers' personal medical concerns during the patient's appointment. | (5) | (4) | (3) | (2) | (1) |
| It is important to me as a healthcare provider to spend time discussing with patients current trends in healthcare related to their specific medical concerns. | (5) | (4) | (3) | (2) | (1) |
| Patients want to be proactive in their health but may not know how. | (5) | (4) | (3) | (2) | (1) |

APPENDIX H

Principal Investigator Created

Demographic Questionnaire

[First page preview of the Demographic Questionnaire]

For the full demographic questionnaire and/or any questions or
further information regarding the GCAMTA,
please contact the PI at drpaulfranco@gmail.com

Please provide the following demographic information:

7. What is your gender?

- Male Female

8. What is your age?

- 18-30 31-40 41-50 51-60 61-69 70+

9. Please select all degrees and/or certificates that you have obtained with regard to your education.

- Certificate
 Please specify _____
 Associate
 Baccalaureate
 Masters
 MD/DO
 PhD (Doctorate)
 Other _____

10. Number of years in profession:

- Less than one year 1-5 years 6-10 years
 11-20 years 21-30 years 31+ years

11. In what state(s) do you currently primarily practice? Please list all that apply.

12. What type of institution(s) are you affiliated with? Please select all that apply (if you work in more than one institution).

- Sole Practitioner (Private Practice)
 Group Practitioner (Private Practice)
 I am an Independent Practitioner in a small office
 Community Hospital
 University Teaching Hospital
 Long term care facility
 Sub acute care facility
 Outpatient/Clinic
 Nursing Home
 University School of Health or Medical Sciences/Allied Health
 Surgi-Center (same day surgery)
 Cancer Institute/Treatment Center
 Other _____

13. Does your current place of employment provide any complementary/alternative therapy practices?

- Yes No I Don't Know