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Medical Music Therapy: Medical and Nursing Student Perceptions and Barriers to Program Implementation

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FLORIDA STATE UNIVERSITY
COLLEGE OF MUSIC

MEDICAL MUSIC THERAPY: MEDICAL AND NURSING STUDENT PERCEPTIONS
AND BARRIERS TO PROGRAM IMPLEMENTATION

By

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ABSTRACT

The purpose of the current study was to examine current medical and nursing students' perceptions and knowledge of music therapy as an adjunct medical treatment option. Additionally, study examined whether their attitudes and opinions act as a barrier, preventing music therapists from practicing in the medical field. The researcher aimed to answer three questions: Do current medical and nursing students understand how music therapy can be used in the medical setting? Do medical and nursing students understand the credentials, qualifications, and role of music therapists? Are medical and nursing students interested in working with music therapists in their chosen medical setting? Participants for this survey were current medical and nursing students enrolled in summer classes at the undergraduate level at Florida State University. A total of 79 student participants completed and returned the survey. Medical students totaled 45, while the remaining 34 participants were nursing students. The findings of the present study are largely consistent with the findings of the extant research regarding medical and nursing student perceptions of music therapy. Although the participants have generally positive perceptions and opinions of music therapy, their knowledge of the profession remains limited. A review of the relevant literature, detailed results of the present study, and implications for future research are discussed.

CHAPTER ONE

INTRODUCTION

The use of complementary and alternative medicine in the United States and around the world is long established. As early as 4500 B.C. Egyptian physicians used aromatherapy and reflexology, Chinese doctors used acupuncture, and Indian physicians used Ayurveda and yoga (Oumeish, 1998). The ancient Greek physician Hippocrates provided the famous oath that is now the foundation for medical practice and Roman culture was well known for the use of baths and massage (Oumeish, 1998). Despite the rich history, little is known about why modern patients choose to use complementary and alternative medicine to treat their illnesses.

Researchers have hypothesized that patients are motivated by dissatisfaction with conventional treatment, a need for personal control, or compatibility with the patient's philosophical or spiritual beliefs. For example, Astin (1998) found users of complementary and alternative medicine, while not necessarily dissatisfied with or distrustful of conventional care, share a number of characteristics, such as being better educated, believe in a holistic approach to health, have had a transformational experience that has significantly altered their worldview, and value psychology, self-actualization, self-expression, environmentalism, feminism, and cultural innovation. Furnham and Forey (1994) also investigated patients' motivations for using complementary and alternative medicine. They found that patients choose a general practitioner or alternative practitioner on the basis of the approach to and treatment of their illness. Furthermore, the researchers discovered that patients who chose an alternative practitioner tended to have a greater knowledge of the biological and physical functioning of the body, want

to retain the locus of control during their treatment, and wanted a physician who would focus on the whole person rather than just the symptoms of their illness (Furnham & Forey, 1994).

Norton (1995), in a discussion regarding the ethical concerns of using complementary and alternative medicines, distinguishes complementary from alternative medicines, saying that, “complementary implies additional to conventional medicine and in no way excludes the patient from orthodox medical treatment” (p. 343). By contrast, alternative medicine suggests, “the therapy can be offered to replace orthodox medical treatments” (p. 343). As the number of patients who use these therapies increases, this distinction becomes more important for doctors and nurses to recognize. Norton postulates that nurses in particular are focusing more on a holistic approach to healthcare: one that includes complementary medicine options for patients.

Music therapy is one type of complementary therapy. Music therapy is used to augment patient care in a wide variety of medical settings such as hospitals, rehabilitation centers, skilled and intermediate care facilities, hospices, cancer treatment centers, and more. Despite the increasing prevalence of medical music therapy, many doctors and nurses seem to remain largely uninformed of the efficacy and applications of music therapy to meet patient needs.

Anecdotal evidence reveals that interpersonal relationships between music therapists and other medical professionals is the single most important factor in the success of a medical music therapy program. Music therapists currently practicing in hospitals report that having an advocate in the hospital is vital to building a new music therapy program. For example, Lorrie Kubicek, MT-BC of Massachusetts General Hospital (MGH), explains that the success of her medical music therapy program at MGH stems from a foundation of interpersonal relationships (personal communication, May 20, 2013). Kubicek further noted that her music therapy program

had to become demonstrably valuable to her colleagues in the hospital, which resulted in a network of child life specialists and nurses who had witnessed music therapy sessions to advocate for her program. Miriam Hillmer, MT-BC of Tallahassee Memorial Healthcare (TMH), explained that she places emphasis on “constant education and constant visibility” to maintain these essential relationships that allow her to continue to develop the medical music therapy program (personal communication, August 13, 2013). Hillmer asserts that doctors and nurses who have more exposure to and education about music therapy have a more positive perception of it.

A positive perception and greater understanding results in increased referrals to the music therapist, and more opportunities for direct patient care. Conversely, if the professionals in charge of patient care (doctors and nurses) do not have an adequate understanding of the music therapist’s role or capabilities, they can easily create a barrier between the patient and music therapist. Furthermore, doctors and nurses have a powerful impact on the kinds of treatments their patients choose. A doctor or nurse who feels negatively toward a particular therapy may not endorse it, which may influence their patients to avoid it. Thus, there is a strong desire in the music therapy community to expand practice in the medical setting (AMTA, 2005). To that end, a greater understanding other medical professionals’ opinions and attitudes of music therapy, as well as other complementary and alternative medicines is needed.

Purpose

The purpose of the current study was to examine current medical and nursing students’ perceptions and knowledge of music therapy as an adjunct medical treatment option.

Additionally, study examined whether their attitudes and opinions act as a barrier, preventing music therapists from practicing in the medical field.

Research Questions

1. Do current medical and nursing students understand how music therapy can be used in the medical setting?
2. Do medical and nursing students understand the credentials, qualifications, and role of music therapists?
3. Are medical and nursing students interested in working with music therapists in their chosen medical setting?

Operational Definitions

Complementary and Alternative Medicine

For the purposes of this study, complementary and alternative medicine is broadly categorized, and comprises approaches that are not included in conventional, pharmaceutical-based medical care. These approaches include but are not limited to acupuncture, massage, music, aromatherapy, ayurveda, chiropractic, imagery, spiritual healing, herbal medicine, megavitamin therapy, homeopathy, energy healing and Reiki, biofeedback, hypnosis, meditation, prayer, folk remedies, and lifestyle diets.

Music Therapy

Music therapy is defined as, “the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program. Music Therapy is an established health

profession in which music is used within a therapeutic relationship to address physical, emotional, cognitive, and social needs of individuals” (AMTA, para. 1, 2013).

CHAPTER TWO

REVIEW OF LITERATURE

There is a substantial body of literature regarding complementary and alternative medicine. Researchers have investigated the usage of these therapies on a national and global level, and have determined there is considerable prevalence. Because of the demand for these therapies by patients, researchers have also investigated doctors and nurses perceptions of complementary and alternative medicine. The following review of literature discusses medical personnel's attitudes toward complementary and alternative medicine, including music therapy, as well as their perceptions of its value to their patients.

Prevalence of Complementary and Alternative Medicine

The use of complementary and alternative medicine has become increasingly prevalent worldwide. A systematic review from the 1990s suggests that complementary and alternative therapies are used frequently around the world (Ernst, 2000) and have been growing increasingly popular in the United States (Eisenberg et al., 1993; Tracy et al., 2005). The extent to which the population of the United States had used unconventional or alternative therapies was largely unknown until a study conducted in 1991 revealed that 34% of participants had used at least one unconventional therapy within the previous year (Eisenberg et al., 1993). Unconventional therapies included relaxation techniques, chiropractic, massage, imagery, spiritual healing, commercial weight-loss programs, lifestyle diets, herbal medicine, megavitamin therapy, self-help groups, energy healing, biofeedback, hypnosis, homeopathy, acupuncture, and folk

remedies. These researchers also found the use of alternative therapies were not confined to a particular socio-demographic segment, although the highest use was reported by, “nonblack persons from 25-49 years of age” (p. 246). A follow-up study published in 1998 by Eisenberg et al. revealed there had been a substantial increase, 25% to 47%, in the prevalence of alternative medical therapies from 1990-1997.

Long-term trends indicate the occurrence of complementary and alternative medicine has been steadily increasing for over 60 years. In 2001, Kessler et al. investigated time trends in complementary and alternative medicine use. The researchers conducted a telephone survey of 2,055 adults living in the 48 contiguous United States to determine current use, lifetime use, and age of first use for twenty complementary and alternative therapies. The results indicated that lifetime prevalence of complementary and alternative therapy use has increased steadily since the 1950s and is present across population sectors and therapies. Additionally, cohort effects were present; respondents in the post-baby boom cohort reported a higher rate of lifetime use than the pre-baby boom cohort. Similar results were found by Barnes, Powell-Griner, McFann, & Nahin (2004) in which 62% of adults reported using some form of complementary or alternative medicine during the past twelve months. This study included alternative medical systems such as acupuncture and ayurveda, biologically based therapies such as folk medicine and diet therapies, manipulative and body-based therapies such as massage, and mind-body therapies such as meditation. The researchers specifically noted the use of prayer for health purposes was included in that statistic; when excluded, the percentage of adults who reported using some form of complementary and alternative medicine within the last year fell to thirty-six (Barnes et al., 2004).

Outside of the United States, Harris, Cooper, Relton, & Thomas (2012) reviewed survey data from fifteen countries to analyze whether the use of complementary and alternative medicine has changed in prevalence since the last systematic review was conducted a decade ago. Although the results did not indicate a significant change over that time period, the researchers did find evidence of substantial use of complementary and alternative medicine in all fifteen countries (p. 936). Additional studies have investigated the effects of complementary and alternative medicine interventions to address specific medical needs. Specifically, patients with breast cancer (Ashikaga, Bosompra, O'Brien & Nelson, 2002), diabetes (Egede, Ye, Zheng, & Silverstein, 2002), head and neck cancer (Warrick et al., 1999) and in the emergency department (Rolniak, Browning, MacLeod, & Cockley, 2004) have all generally indicated positive, effective results from these measures.

Perceptions and Interest in Complementary and Alternative Medicine

Due to the increased utilization of alternative and complementary therapies, it has been suggested that medical personnel should gain a more comprehensive knowledge base of these treatments in order to continue to provide sound medical advice to their patients seeking these options (Greiner, Murray, & Kallail, 2000). As Norton (1995) states, “[nurses] should respond actively to the demands of the consumer and seek to provide or facilitate safe and beneficial care in response to the patient’s wishes” (p. 344). Norton reiterates that it is imperative that doctors and nurses have adequate knowledge of complementary and alternative options in order to provide the best advice to their patients.

Research indicates that doctors and nurses are interested in, and tend to have positive attitudes and opinions of complementary and alternative medicine, but their knowledge of these therapies remains limited (Botting & Cook, 2000; King, Pettigrew, & Reed 1999; van Haselen, Reiber, Nickel, Jakob, & Fisher, 2004). For example, an examination of several studies regarding doctors' knowledge, use, and attitudes of complementary medicine reveals that despite their interest in the therapies, doctors express several concerns, including their own inadequate knowledge (Botting & Cook, 2000). Furthermore, general practitioners often see the benefits of complementary and alternative medicine, especially to fill in the "gaps" in the conventional care they can provide (van Haselen, Reiber, Nickel, Jakob, & Fisher, 2004). In addition, integrating complementary and alternative medicine with conventional treatments increases the range of options available for patients to choose from, which in turn can increase patient satisfaction. Care options presented by general practitioners needs to be congruent with patient needs and preferences, and the positive attitudes of these respondents toward complementary and alternative medicine reflects this congruence (van Haselen et al. 2004).

Numerous studies have specifically investigated nurses' perceptions, knowledge, and opinions of complementary and alternative medicine. Findings generally indicate favorable opinions, but limited knowledge of complementary and alternative medicine. King, Pettigrew, & Reed (1999) surveyed nurses to assess their knowledge level, perceptions of efficacy, use for self and clients, and referral patterns for several common complementary and alternative therapies. A total of 467 registered nurses participated, and results show that, "overall, the respondents held favorable opinions of complementary therapies and supported therapies as an adjunct to traditional medical practices" (p. 47). Despite this, "their knowledge level remains lower than

their interest in use” (p. 49). Trail-Mahan, Mao, & Bawel-Brinkley report highly similar results from their 2011 survey of hospital-based nurses. Responses indicated that participants ($N=135$) did not have sufficient familiarity in complementary and alternative medicines to advocate for them in patient care. However, they did believe that patients have the right to include complementary and alternative medicine in their care if they so desire (p. 6).

Fitch, Gray, Greenberg, Labrecque & Douglas (1998) interviewed nurses in Canada to determine their perspectives on “unconventional” therapies. The results revealed five prominent themes among the nurses’ responses: information regarding unconventional therapies needs to be available, various people use unconventional therapies, people seek unconventional therapies for a variety of reasons, communication about unconventional therapies needs to be open, and a place should be found for unconventional therapies [in the medical community]. These themes are indicative of an open attitude toward unconventional therapies, which places nurses between patients and physicians with regard to practice perspective (p. 246). Although nurses expressed some of the same concerns as physicians about unconventional therapies, such as cost of therapies and potential harm, their stance was one of pursuing what might be best for the patient (p. 246).

Nurses in Israel participated in a similar survey to determine their attitudes and knowledge levels of complementary and alternative medicine. DeKeyser, Cohen, & Wagner (2001) discovered that these nurses ($N=369$) perceived that they had little knowledge, but were interested in learning more about complementary and alternative medicine. The majority of respondents (91%) agreed that there is a place for complementary and alternative medicine in the hospital, and most (83%) agreed that there is a scientific basis for these therapies (p. 46).

Australian nurses reported similar feelings toward complementary and alternative medicine, according to a 2010 questionnaire (Shorofi & Arbon). Nearly half the nurses surveyed were using complementary and alternative medicine for patients (primarily mind-body interventions), but over 60% had little or no knowledge of the therapies (p. 231). This contradiction demonstrates that although the nurses were not well-informed about alternative medicine, they are ready to respond to the growing public interest and preference for complementary and alternative therapies.

Taylor, Lin, Snyder, & Eggleston (1998) examined emergency department nurses' recommendations of complementary therapies to their patients. Results of their survey of nurses in the Southeastern United States showed that the 142 participants had a limited use of complementary therapies for their own well-being or for their patients. Most of the nurses surveyed were not familiar with the listed therapies, but 70% did indicate a desire to learn more about them. The most frequently indicated therapies were back rub or massage, music, and prayer or spiritual practice. Overall, the data from this survey indicate, "an acceptance of the beneficial effects of these modalities for stressful conditions typically found in the emergency department" (p. 498).

In a 2005 survey, critical care nurses were found to view complementary and alternative therapies as positive overall, and report using one or more in practice (Tracy et al.). Participants also reported a desire for additional training on complementary and alternative therapies, and viewed them as "legitimate and beneficial to patients" (p. 404). Similarly, oncology nurses report having positive attitudes about complementary and alternative medicine, but do not demonstrate proficiency in terminology, have difficulty discussing the benefits of some therapies, and have

difficulty identifying some therapeutic domains (Rojas-Cooley & Grant, 2009). This lack of knowledge directly affects nurses' ability to advise their patients, and can negatively impact their ability to provide appropriate care.

Nurses in a 2001 study felt that the professional preparation they received regarding complementary and alternative treatments was insufficient for clinical practice (Brolinson, Price, Ditmyer & Reis). The researchers emphasized that nurses are one of the largest groups of health professionals in regular and direct contact with the public, so it is necessary for them to have accurate information about the safety and efficacy of alternative and complementary therapies. (Brolinson et al).

Student Perceptions of Complementary and Alternative Medicine

Several studies have specifically examined students' perceptions of alternative and complementary medicines. Furnham, Hanna, & Vincent (1995) conducted a study in the United Kingdom to examine medical students' attitudes to complementary medical therapies. The survey sought to investigate medical students' opinions on such questions as whether complementary medicines could "cure" patients, what the characteristics were of practitioners and patients of complementary medicine, and complementary medicine's status in orthodox medicine. Overall, the results indicated the students surveyed had positive attitudes toward complementary medicine and tended to believe that complementary therapies were useful.

Uzun & Tan aimed in their 2004 survey to determine Turkish nursing students opinions and knowledge of complementary and alternative medicine. Participants ($N=276$) completed a three-part questionnaire; results indicated an overall positive attitude toward complementary and

alternative therapies. Over half of respondents (52- 58%) replied that of the 20 complementary and alternative modalities, eight in particular (diet, humor, massage, music therapy, prayer, relaxation methods, support groups, and vitamins) were perceived as beneficial or very beneficial (p. 242). Despite these positive opinions and perception of benefits, these nursing students reported limited overall knowledge and understanding of complementary and alternative therapies (p. 244). Hopper & Cohen report in their 1998 study of Australian medical students that although complementary therapies are popular with the public, doctors' and medical students' knowledge and use remains limited. However, medical students did express an interest in learning more about complementary therapies, and demonstrate an increased positive attitude toward them after they attended a single lecture on the subject.

Medical students indicate an interest in including alternative and complementary therapies in their school curriculum, but don't feel that existing medical training is sufficient in these areas. Greiner, Murray, & Kallail (2000) surveyed first-year medical students to determine their interest in alternative medicine. Results indicated that these students ($N=158$) were interested in learning more about alternative medicine therapies, and they believed that observation of alternative practitioners would provide the best preparation to advise patients on alternative medicine (p. 232). Greenfield, Innes, Allan, & Wearn (2002) also surveyed first-year medical students, finding that participants differentiated between therapies they had observed in terms of perceived efficacy. The attitudes toward all complementary and alternative therapies they had observed were positive (p. 31).

Chez, Jonas, & Crawford conducted a similar study in 2001, in which participants were third-year medical students. The researchers' questionnaire was designed to determine the

students' opinions and knowledge related to complementary and alternative medicine in a school with no formal or elective course on the subject. A total of 94 students participated; 89% agreed that, "complementary therapies include ideas and methods from which conventional medicine could benefit" and 65% disagreed with the statement, "complementary therapies are a threat to public health" (p. 755). Although the overall opinions demonstrated by this survey are generally positive, the researchers make a point to note that participants understood the basic principles of only 4 out of 10 complementary therapies, and most had insufficient knowledge or understanding of the safety (or lack thereof) for the 10 modalities listed (p. 756). Another survey in 2009 yielded similar results, with medical students ($N=1770$) reporting favorable opinions toward the principles of complementary and alternative medicine, but were hesitant to actually endorse providing those therapies. The researchers (Abbott et al.) found that this was due to a prevalent belief among respondents that there is a lack of scientific evidence for complementary and alternative medicine. However, only 39% of participants felt that their education related to complementary and alternative medicine was adequate; those who did feel that it was adequate tended to be further along in their education (p. 6).

In 2007, Chaterji et al. surveyed first- and second-year medical students to determine their attitudes toward complementary and alternative medicine, and its place in the medical curriculum. Results showed that 91% of students agreed that complementary and alternative medicine, "includes ideas and methods from which Western medicine could benefit," more than 85% agreed that "knowledge about CAM [complementary and alternative medicine] is important to me as a student/future practicing health professional," and more than 75% felt that complementary and alternative medicine should be included in the curriculum (p. 32). Results

also revealed that participants had an overall favorable attitude toward complementary and alternative medicine, and desired knowledge sufficient to advise their patients about each modality, or even personally provide some complementary and alternative treatments. Not surprisingly, these results also indicate that participants have more positive attitudes toward complementary and alternative medicine when they have received education about the treatment options.

University students in the northwestern United States in a 2007 survey (Booth- LaForce et al.) believed that complementary and alternative therapies were appropriate to include in the curriculum. This study also examined whether education level had an effect on students' attitudes toward complementary and alternative medicine. "For all [survey] items, students in the later years had significantly higher self-reported competency scores than students in the earlier years" (p. 296). These increases appear to be directly related to the integration of complementary and alternative medicine in the school of nursing curriculum. Furnham & McGill (2003) report similar results, stating, "Although all medical students had some knowledge of CAM [complementary and alternative medicine], it was found that teaching CAM appeared to increase their self-reported knowledge" (p. 282).

Hübner, Wicker, & Münstedt (2012) investigated students' interest in complementary and alternative medicine, and their willingness to use it in oncology treatment. The survey demonstrated that students are highly interested and have positive attitudes toward complementary and alternative medicine in oncology. However, the students had limited knowledge, were unsure how to classify some of the therapies, and did not understand potential

risks associated with the therapies (p. 320). Despite this, the students showed interest in the topic of complementary and alternative medicine, and willingness to use it with oncology patients.

Efficacy of Complementary and Alternative Medicine Interventions

Due to the increasingly widespread use of complementary and alternative medicines, it is important to examine the efficacy of these interventions to address both medical and non-medical needs. Leslie & Marlow (2006) investigated the efficacy of non-pharmacological interventions to alleviate pain in neonatal patients. The researchers found that sucrose, pacifiers, sensorial saturation, skin-to-skin contact or breastfeeding, and logistical and technical organization can all ease pain and improve comfort for these patients. Cignacco et al. (2007) also examined methods to relieve procedural pain for neonatal patients; the interventions examined included non-nutritive sucking, music, swaddling, positioning, olfactory and multisensory stimulation, kangaroo care, and maternal touch. In particular, non-nutritive sucking, swaddling, and facilitated tucking were found to have a pain relieving effect for the infants. For burn patients, de Jong, Middelkoop, Faber, & Van Loey (2007) found that procedural support interventions that refocused the patient's attention to a more pleasant stimulus than the wound care procedure were effective in reducing pain. Interventions included hypnosis, rapid induction analgesia, and combinations of relaxation, imagery, attention, information, distraction, and music.

Treatment options in oncology frequently include non-pharmacological interventions. Carlson & Bultz (2008) identified several "mind-body interventions" such as hypnosis, imagery/relaxation, meditation, yoga, and creative therapies to address outcome measures related

to reducing pain and anxiety, and enhancing quality of life (p. 127). The researchers report that the evidence for the usefulness of these interventions indicates, “that these noninvasive interventions effectively help patients cope with many common physical and emotional symptoms. Problems that can be effectively reduced include pain, nausea and vomiting, anxiety and depression, sleep disorders, and general decreased quality of life” (p. 132). O’Mathúna (2009) examined massage as an adjunct therapy for cancer patients to manage pain. Although only a few controlled trials have been conducted, the results show that patients report significant benefits immediately after receiving massage. Haughney (2004) specifically examined the use of alternative therapies to address nausea related to cancer treatment. Haughney emphasizes behavioral interventions such as guided imagery and relaxation techniques as an adjunct to pharmacological therapies, and notes that music therapy has been demonstrated as effective “as an adjunct to antiemetic drugs” (p. 46).

Older adults benefit greatly from complementary and alternative measures. Patients with mild cognitive impairment, which can become a precursor to dementia, benefit from physical activity and cognitive exercise to improve memory and functioning (Teixeira et al., 2012). Seitz et al (2012) investigated the efficacy of non-pharmacological interventions for symptoms of dementia. Measures such as mental health counseling and treatment planning, exercise, recreational activities, music therapy, and other forms of sensory stimulation were included in the review; 40% of the studies reviewed showed statistically significant positive results when these interventions were used.

The results of a 2011 study regarding the use of complementary and alternative medicine in a pilot program at a wellness clinic also showed positive results. Duncan, Liechty, Miller,

Chinoy, & Ricciardi surveyed staff at the military clinic to evaluate the efficacy of acupuncture, acupressure, and Zero Balancing® interventions. Participants ($N=2,756$) reported experiencing positive results from the interventions in several areas, notably: increased compassion for patients, better sleep, improved mood, and more ease in relations with coworkers (p. 813). Additionally, 99% of participants indicated that they would recommend the clinic to a friend or coworker.

Prevalence and Efficacy of Music Therapy in Medical Settings

Music therapy is one type of complementary therapy that has seen increasing prevalence in the medical community, in part from the research establishing it as cost-effective and highly beneficial supplementary treatment option. The American Music Therapy Association (AMTA) reports that music therapy is utilized in several capacities within the hospital environment:

Music is used in general hospitals to: alleviate pain in conjunction with anesthesia or pain medication; elevate patients' mood and counteract depression; promote movement for physical rehabilitation; calm or sedate, often to induce sleep; counteract apprehension or fear; and lessen muscle tension for the purpose of relaxation, including the autonomic nervous system. (AMTA, Frequently Asked Questions, para. 17)

Dileo, Bradt, Grocke, & Magill (2010) make a point to differentiate medical music therapy from “music medicine” in their protocol for review. Music medicine is defined as pre-recorded music administered by a medical or health care professional, such as providing a CD of relaxing music for a patient to listen to, whereas music therapy requires a trained music therapist

to implement a musically tailored intervention within the therapeutic process. The researchers emphasize that music therapy is significantly more effective than music medicine interventions, for a wide variety of outcomes (p. 2). Hanser (2009) indicated that the role of music in medicine ranges from, “alleviation of stress, pain, and unpleasant symptoms. It provides creative relaxation techniques, coping strategies, self-expression, awareness, mastery, presence, community, relationships and social support...evoke a peak experience or spiritual encounter” (p. 92).

Bernatzky, Presch, Anderson & Panksepp (2011) reviewed the emotional foundation of music as a non-pharmacological adjuvant to address pain. The researchers specifically examined the use of music therapy in the surgical setting, pre- peri- and post- operatively, and discovered that music therapy is particularly effective in this area because of the emotional response that accompanies pain and anxiety, especially as associated with surgical procedures (p. 1992). The researchers state, “emotional states modify many bodily processes, and music has powerful effects on emotions” (p. 1995). As a result, anxiety and pain related to surgical procedures can be successfully relieved through music therapy interventions to address the emotional distress accompanying these conditions (p. 1992). The researchers concluded that music can be effective because of the way it acts on the nervous system, music can supplement pharmaceutical interventions, and it can be easily incorporated into a multimodal pain management regimen with fewer side effects (p. 1996). In 1997, Malone conducted a study examining the effects of live music interventions on the distress of pediatric patients receiving needle insertions (intravenous starts, venipunctures, injections, and infant heel sticks). Music was used as a non-invasive distraction, resulting in a significant improvement in behavioral distress. Evans reported in 2002

that music reduces anxiety, respiration rate, and improves the mood and tolerance of patients during normal care procedures. Additionally, Evans found that music may reduce the need for sedation and analgesia during procedures.

A 2003 study by Walworth showed that music therapy is successful when used as procedural support for pediatric patients requiring CT, EKG, EEG, X-ray, IV, ventilator, or emergency services. Walworth reports that music therapy effectively reduces patient anxiety and procedural noncompliance, increases relaxation, and promotes sleep states (p. 138). A 2005 study by Walworth emphasized that music therapy is cost-effective when used as procedural support for pediatric patients. Music therapy can eliminate the need for patients to be sedated during some procedures, and reduces the overall cost of the procedure by decreasing the amount of time and the number of staff needed to complete the procedure. In 2002, Standley conducted a meta-analysis to examine the efficacy of music therapy in the neonatal intensive care unit (NICU). A total of 10 studies were examined and summarized, all of which showed significantly positive results for the music therapy interventions. In addition, the positive results were consistent across all the variables measured, which included observed behavioral state, heart rate, respiration rate, oxygen saturation level, weight gain, days in the hospital, feeding rate, and nonnutritive sucking rate (p. 111). Standley reports from a series of studies in 2012 that music therapy is highly effective when used contingently to reinforce non-nutritive sucking. Infants who used the PAL (pacifier activated lullaby) device showed significant improvement in sucking rate, and feeding rate following PAL training, indicating that PAL practice transferred directly to feeding later in the same day (p. 381). Additionally, PAL training significantly reduced the length of time to independent feedings, which shortened the overall hospital stay (p. 381).

Polkki, Korhonen, & Laukkala indicated in a 2012 study that nurses working in the NICU expect music therapy to have a positive effect on the premature infants, as well as parents and staff.

Numerous studies have demonstrated music therapy to be effective at alleviating patients' pain and anxiety in a variety of contexts. A 2008 study by Nilsson showed generally positive outcomes from music therapy on hospitalized patients' anxiety and pain. Music was used preoperatively, intraoperatively, and postoperatively, and significant results were found in some of the studies for music's effect on anxiety, pain, and vital signs (p. 802). In 2010, Tan, Yowler, Super, & Fratianne performed a study investigating the efficacy of music therapy protocols for decreasing pain, anxiety, and muscle tension levels during burn dressing changes. Results of this study indicated that music therapy was effective in decreasing patients' pain levels before, during, and after the procedure, as well as decreasing anxiety and muscle tension. Patients undergoing bone marrow biopsy experience similar benefits; patients who were in the experimental group listened to music during the procedure, and reported significantly lower anxiety and pain after the procedure (Shabanloei, Golchin, Esfahani, Dolatkah, & Rasoulia, p. 749). White (2000) revealed that music therapy was effective in reducing anxiety and pain in critical care patients, gave the patients a sense of control, provided separation from environmental stressors, and has the added benefits of being noninvasive, easy to administer, and cost effective.

Demmer & Sauer (2002) discovered that primary caregivers of patients receiving hospice care were more satisfied with the overall care their loved one received when they received complementary therapies, including music therapy. Metzger (2004) examined the effect of music on cardiac rehabilitation patients, finding that the patients used music during exercise as a

distracter, and enjoyed participating in musical activities. Hanser & Mandel (2004) also examined the effects of music interventions in cardiac healthcare. The researchers discovered several benefits: actively engaging in music therapy provides a sense of competence, control comfort, and general well-being (p. 19); reduced anxiety, and lowered heart and respiratory rates (p. 20); reduced pain and improved sleep (p. 20). Haughney reports from a 2004 study that music therapy was demonstrated to be effective in reducing nausea in cancer patients taking emetogenic drugs (p. 46). Patients in an experimental group who listened to music for 45 minutes in varying time intervals experienced significantly reduced nausea and vomiting. Chlan (1998) tested the effects of music therapy on relaxation in mechanically ventilated patients, and found that music significantly decreased anxiety, heart rate, and respiratory rate (p. 175). The researcher reported that, “subjects’ heart rates and respiratory rates entrained or synchronized with that of the music’s relaxing rhythms, thus resulting in decreases in these measures over the intervention period” (p. 174).

Hendon & Bohon (2007) observed hospitalized children during play therapy and music therapy to examine whether there was a significant difference in their moods during each therapy. Sixty participants were observed over a two-week period, for a duration of 3 minutes at a time. The observer recorded the number of smiles the child exhibited during that time, and found that children smiled twice as many times during music therapy as play therapy. As smiling is a reliable indicator of positive mood, these results suggest that the children were happier during music therapy than play therapy.

Doctors', Nurses', and Students' Perceptions of Music Therapy

As more music therapists begin to work in the medical setting, there is a need to determine what doctors and nurses know about music therapy, and what their attitudes and perceptions of it are. In 2007, researchers investigated the multidisciplinary perceptions of music therapy in the adult palliative care setting in the United Kingdom (O'Kelly & Koffman). The researchers found that while participants had a basic knowledge sufficient to value music therapy in hospice, participants, particularly nurses, did not fully understand the role of the music therapist or music therapy interventions.

Magee & Andrews performed a study in 2007 regarding multidisciplinary perceptions of music therapy in complex neuro-rehabilitation. This research assessed perceptions of the multidisciplinary group based upon referrals to the music therapy program. Similar to the study by O'Kelly & Andrews (2007), Magee found that while music therapy is perceived by members of the multidisciplinary group to be valuable and worthy of referrals, all members of the multidisciplinary group did not necessarily understand the clinical implications of music therapy in the neuro-rehabilitation setting. Metzger (2004) found that nurses in the cardiac rehabilitation setting were receptive to music therapy, and even showed enthusiasm for learning more about music therapy as a treatment modality (p. 55).

Choi (1997) discovered that mental health professionals view music therapy as generally positive, although there were some notable and important differences. For example, psychiatrists' mean ratings were consistently lower than the total mean, and they reported the least positive attitude regarding music therapists addressing clinical issues (p. 284). The data suggested that psychiatrists viewed music therapy as a supportive treatment, rather than an

effective therapeutic intervention (p. 285). Nurses rated music therapy treatment goals higher than the total mean, but held more negative attitudes about music therapy dealing with cognitive treatment goals such as problem solving and reality orientation. Social workers and psychologists responded less positively to music therapy treatment goals they considered being in “their” area, but they did value music as therapeutic recreation (p. 286).

Education and Personal Experience Affect Perception

Several studies have indicated that when doctors and nurses are exposed to complementary and alternative therapies, including music therapy, their attitudes, opinions, and perceptions become more positive. Reilly reports from a 1983 study that doctors are more likely to refer a patient to an alternative medicine practitioner if the doctor was a user of alternative medicine. This suggests a positive attitude among those physicians using alternative therapies to complement orthodox medicine. Easthope, Tranter, & Gill (2000) surveyed general practitioners in Australia ($N=467$) to investigate their attitudes toward complementary medicine. Those who held positive attitudes tended to be younger, and work in a smaller practice. Those who judged complementary medicine to have therapeutic value and be safe for patient use were those who had personal experience using complementary medicine, or had patient endorsements of the therapies (p. 1557).

Choi (1997) reports that staff members who had observed a music therapy session valued music therapy services more highly than staff who had not observed (p. 286). Nurses who attended a workshop on the therapeutic uses of music experienced significant improvement in their knowledge and attitudes (Lai, 2011). The nurses completed a survey before the workshop

and again afterward, and the results demonstrated that the workshop was effective in improving both those measures. Additionally, knowledge and attitudes continued to improve over time following the workshop.

According to a 2009 survey, about 90% of participating health educators reported using complementary and alternative medicine within the 12 months preceding the survey (Johnson, Priestly, Porter, & Petrillo, p. 169), and results showed that they held generally positive attitudes toward these therapies. Participants believed that health educators should be able to discuss commonly used complementary and alternative medicine with their clients, it should be included in the health education preparation curriculum, and knowledge of complementary and alternative medicine is important to them as health educators (p. 168). Hopper & Cohen (1998) found that students' attendance to just a single lecture on complementary and alternative medicine had a significant positive impact on their views. Booth-LaForce et al (2010) report that integrating complementary and alternative medicine into the nursing curriculum significantly increased students' self-reported competency scores on the subject (p. 296). Furnham & Forey note in their 1994 study that patients who chose to seek treatment from an alternative practitioner did so when they knew someone who had experienced successful treatment (p. 467).

The integration of complementary and alternative medicine into the standard medical curriculum is an important way to increase education of medical and nursing students. According to Wetzel, Kaptchuk, Haramati, & Eisenberg (2003), this has been occurring in recent years. An examination of curriculum content shows that the number of schools offering courses in complementary and alternative medicine increased from 46 to 82 within a span of 4 years (1996-2000). This increase reflects the growing public interest in these treatment modalities, and

suggests that information about complementary and alternative therapies should be included at all levels of medical education, from undergraduate to continuing medical education (p. 191).

Summary

The use of complementary and alternative medicine has undeniably increased worldwide. In the United States, studies reveal that up to 62% of the population (Barnes et al) has used complementary and alternative medicine. Numerous studies show consistently positive results from using complementary and alternative medicine. A variety of applications are revealed, including complementary and alternative medicine to address diverse needs related to diabetes, cardiac care, cancers, emergency medicine, and more. Because of the increased use of complementary and alternative medicine, it is important to know what doctors and nurses think and know about these measures. Research in this area suggests that, generally speaking, medical professionals have positive attitudes toward complementary and alternative medicine. However, their knowledge level remains limited. Similar results are found with medical and nursing students; they hold favorable opinions of complementary and alternative medicine, but are not receiving training in the area. Interestingly, when they do attend classes or seminars on complementary and alternative medicine, their opinions and self-rated level of knowledge improve.

Music therapy is one type of complementary therapy. It too has increased in prevalence recently. It is used in myriad medical environments to meet a variety of needs. From neonates, to rehabilitation patients, to pain management, to cardiac care, music therapy is an effective supplement to existing treatment measures. Doctors and nurses, as with other complementary

medicine measures, do not fully comprehend music therapy. In some cases, they possess enough knowledge about music therapy to value it, but do not appreciate the scope and capabilities of music therapy to meet their patients' needs. Research reveals that when doctors and nurses at the academic and professional level receive training and education on music therapy, their greater understanding leads to increased positive attitudes.

CHAPTER THREE

METHOD

Participants ($N=79$) for this study were current medical ($n=45$) and nursing ($n=34$) majors at the undergraduate level, enrolled in summer classes at Florida State University. The researcher conducted a search of medical and nursing classes offered during the university's summer session through the university's class registration website. The researcher then contacted the professors listed as teaching the courses via email to request permission to conduct the survey during class time.

Survey Instrument

The dependent measure was a survey created by the researcher and comprised three sections. The first section of the survey collected demographic information, including whether the participant was a nursing or medical student, how many years of study they had completed at the time of the survey, whether they held any credentials, and whether they had any relevant experience. Additionally, participants were asked what type of medical facility in which they hoped or planned to work.

The second section addressed participants' exposure to music therapy, and their perceptions of how music therapy can be used in medical settings. Participants indicated whether or not they had heard of music therapy before, and if they had, they were prompted to briefly describe how. A listing of fourteen medical and non-medical needs commonly addressed through music therapy was provided, and participants were asked to indicate which of those needs they

perceived music therapy to be able to address or improve. Following that, participants rated the efficacy of music therapy to meet these medical and non-medical needs on 6-point Likert-type scales.

The third section was designed to ascertain students' knowledge of music therapists as professionals, and their interest in working with music therapists in the medical environment. Participants were asked to indicate who they thought could provide music therapy services, and who could benefit from them. Lastly, students indicated whether they would or would not want a music therapy program in their medical facility, whether they would refer patients to it, and whether they were interested in learning more about music therapy. If a student indicated that they would not want to have a music therapy program in their medical facility, they were prompted to indicate a reason out of several provided. A copy of the full survey is included in Appendix A.

Procedure

The researcher obtained Florida State University Institutional Review Board approval (see Appendices B and C). The researcher coordinated a time with each of the nursing professors to conduct the survey during one class period. The researcher arrived at the beginning of the arranged class period, explained the purpose of the research to the nursing students, and explained that returning a completed survey would indicate consent to participate. The researcher then invited participants to ask any questions they had about the survey or the research. The surveys were distributed, completed, and collected within approximately ten minutes.

The researcher contacted medical students while they were taking courses during the summer. The researcher verbally explained the survey to all students, provided a copy of the IRB cover letter, and answered any questions students had about the survey. Students willing to participate gave their consent by completing and returning the survey.

CHAPTER FOUR
RESULTS

Participants for this survey were current medical and nursing students enrolled in summer classes at the undergraduate level at Florida State University. The survey was designed to ascertain their demographic information as well as their level of knowledge and perceptions of music therapy as a treatment modality in the medical setting. A total of 79 student participants completed and returned the survey. Medical students totaled 45, while the remaining 34 participants were nursing students. All participants were asked to indicate their gender, years of professional experience, credentials, and preferred facility at which to work in the future. Most students, regardless of major, were female, had 0 years of experience, did not hold any credentials, and were interested in working in a hospital. All demographic information is listed in Table 1.

Table 1. *Demographic Information by Participant Major*

	Students	
	Doctor	Nurse
Gender		
Male	24	4
Female	20	30
Years of Experience		
0	30	7
1-5	13	16
6-10	1	8
11-15	1	1
16-20	-	1

Table 1- continued

	Doctor	Nurse
21+	-	1
Credentials		
MD	2	-
RN	-	23
LPN	-	-
ARNP	-	-
CNA	-	2
ST	43	9
Interest by Facility		
Hospital	29	19
Family Practice	14	13
Clinic	12	2
Hospice	-	1
Other	-	2

Research Question 1

Do current medical and nursing students understand how music therapy can be used in the medical setting? The first portion of the survey was designed to address the first research question. Most students (85%) indicated they had heard of music therapy before taking the current survey. Nearly all participants agreed that music therapy could be used to address patient needs related to anxiety and relaxation. At least 75% of participants indicated restlessness, distress, spiritual comfort, self-expression, and overall quality of life could be improved through music therapy. Between 58-73% of participants indicated pain, agitation, socialization, and communication, and less than half indicated nausea, family support, and autonomy. See Table 2 for full results.

Table 2: *Needs Addressed by Major*

Need Addressed	Medical (<i>n</i> = 45)	Nursing (<i>n</i> = 34)	Total (<i>N</i> = 79)
Pain	58%	94%	73%
Anxiety	91%	100%	95%
Nausea	20%	47%	32%
Restlessness	73%	85%	78%
Agitation	56%	91%	70%
Distress	69%	82%	75%
Relaxation	96%	100%	97%
Spiritual Comfort	69%	82%	75%
Self-Expression	76%	74%	75%
Socialization	60%	68%	67%
Overall Quality of Life	78%	79%	78%
Family Support	38%	47%	42%
Communication	56%	62%	58%
Autonomy	24%	38%	30%

In order to determine the participants' perception of music therapy to address medical and non-medical needs, two questions using a 6-point Likert-type scale anchored by the words, "not at all effective" to "highly effective" were used. Results indicated that nursing students were slightly more positive regarding the efficacy of music therapy to address medical needs (nursing $M = 4.8$; medical $M = 4.1$) and non-medical needs (nursing $M = 5.5$; medical $M = 5.2$).

Research Question 2

Do medical and nursing students understand the credentials, qualifications, and role of music therapists? The next portion of the survey addressed the researcher’s second question. Participants were asked to indicate from a list whom they thought could provide music therapy services, and who could benefit from music therapy services. Optional answers for the first question were, “music volunteers,” “board-certified music therapists holding the credential MT-BC,” “any musician,” and “any volunteer.” Among the total participants, 29% indicated only “board-certified music therapists holding the credential MT-BC,” and 43% indicated all answers. The remaining participants indicated a variety of combinations of answers. These results are listed in Table 3.

Table 3: *Providers of Music Therapy Services by Major*

	Medical (<i>n</i> = 45)	Nursing (<i>n</i> = 34)	Total (<i>N</i> = 79)
Provider			
Music Volunteers	60%	62%	61%
MT-BC	89%	100%	95%
Any Musician	60%	53%	57%
Any Volunteer	56%	47%	52%

For the second question, optional answers included, “musicians,” “patients,” “staff members,” and “medical professionals.” Among the total participants, 75% indicated all answers; the remaining 25% indicated a variety of combinations of answers. Full results are listed in Table 4.

Table 4: *Beneficiaries of Music Therapy Services by Major*

	Medical (n = 45)	Nursing (n = 34)	Total (N = 79)
Beneficiary			
Musicians	89%	85%	87%
Patients	100%	100%	100%
Staff Members	78%	88%	83%
Medical Professionals	87%	85%	86%

Research Question 3

Are medical and nursing students interested in working with music therapists in their chosen medical field? The final portion of the survey addressed the third research question. A majority of participants (95%) indicated they would want to have a music therapy program in their facility (nursing = 100%; medical = 91%). Participants were also asked if they would refer patients to a music therapy program if their facility had one. Overall, 96% of participants would make referrals (nursing = 100%; medical = 93%). Finally, participants were asked if they would be interested in learning more about music therapy. The vast majority of participants (92%) responded they would be interested in learning more (nursing = 97%; medical = 88%).

CHAPTER FIVE

DISCUSSION

This study was designed to answer three primary research questions. Do current medical and nursing students understand how music therapy can be used in the medical setting? Do they understand the credentials and qualifications of music therapists? Are medical and nursing students interested in working with music therapists in their chosen medical field? The findings of the present study are largely consistent with the findings of the extant research regarding medical and nursing student perceptions of music therapy. Although the participants have generally positive perceptions and opinions of music therapy, their knowledge of the profession remains limited.

To address the first research question, participants were asked basic questions about music therapy. The researcher aimed to ascertain whether participants had heard of music therapy before, how they thought music therapy could be used in the medical setting, and if they thought music therapy could effectively meet patient needs.

Most of the medical students surveyed indicated they had heard of music therapy before. Their ratings of music therapy indicate that most respondents perceive music therapy to be more effective than not, for a variety of medical and non-medical needs. This suggests that they hold music therapy in a positive regard. Respondents were asked if they had heard of music therapy before. When they indicated “yes,” they were asked to briefly explain how. Some responses suggest that the respondent may have had sufficient exposure to music therapy to begin to understand it as a clinical treatment option. For example, one participant stated, “I have heard of

using art + music therapy to help patients cope with their conditions/situations.” Another wrote, “I’ve heard of its use in individuals w/ learning + social disabilities.” Short phrases such as, “music used to affect emotions” or “music therapy with Autistic children & war veterans” were also used. Responses such as these demonstrate that these participants may have a basic understanding of some of the different clinical applications for music therapy.

Nearly all nursing student participants indicated they had heard of music therapy before. Their ratings of music therapy indicate that most respondents have a positive regard for music therapy, and perceive music therapy to be effective in addressing and improving medical and non-medical patient needs. When asked to explain how they had heard of music therapy, many participants reported they had some kind of experience working with music therapists in a medical setting. Several participants cited clinical rounds, or working in a mental health facility with music therapists. One participant commented that he had “brought in instruments for patients.” Their ratings, coupled with their comments, suggest that nursing students have a basic understanding of music therapy that is rooted in experience.

Many other responses suggest that despite having heard of it before, participants had no understanding of music therapy. For example, medical student responses such as, “people use it to study” and “I listen to music and I feel better” clearly demonstrate a limited view of the capabilities of music. These answers also suggest that the respondents do not perceive music therapy as a clinical treatment option, with bearing on a patient’s medical and non-medical outcomes. These answers may also indicate that these respondents view music therapy as entertainment, or a service secondary to more “serious” therapies. Two participants used the term “musical therapy” in comments, in spite of the correct terminology present on the survey.

The limited nature of these responses could be indicative of the limited education these students receive about music therapy. One participant commented that he had worked with a music therapist, but did not specify in what setting. Another merely said “in practice,” and a third respondent stated “in the ER [emergency room],” which may have been intended to suggest that that participant had worked in emergency medicine with a music therapist. Several participants indicated that they had a friend or acquaintance who was interested in or studying music therapy. Two participants stated they had been exposed through articles. Only one student had heard of music therapy within the context of education; she stated she, “took a neurology class which mentioned it.” All of these students had been exposed to music therapy, but none reported having received any formal education or information on the profession.

Participants were provided a list of fourteen medical and non-medical needs, and asked to indicate which of those needs they thought music therapy could be used to address. All needs listed are commonly addressed through music therapy services. At least 95% of participants indicated anxiety and relaxation could be improved through music therapy services; nursing students unanimously agreed. Most students (at least 70%) indicated agitation, distress, restlessness, spiritual comfort, self-expression, and overall quality of life. These indications are congruent with participants’ comments. In contrast, only 58% or less of participants indicated communication, family support, nausea, and autonomy. Medical students’ ratings were considerably lower than nursing students’ ratings for these categories. These responses demonstrate that medical students perceive music therapy to be less effective, for fewer needs, than nursing students.

Medical and nursing students reported having heard about music therapy in different ways. Additionally, nursing students tended to report more experience and credentials than medical students. This appears to have an effect on their level of knowledge, and understanding of the role of music therapists. Most nursing students reported 1-10 years of experience, whereas most medical students reported 0 years of experience. More nursing students reported having experience working with music therapists professionally than medical students. In general, nursing students provided higher mean ratings of the efficacy of music therapy, and indicated more needs could be addressed through music therapy. These combined factors provide strong support for the previous finding that education and experience leads to greater understanding and more positive perceptions (Booth-LaForce et al 2007).

The middle portion of the survey addressed the researcher's second question, "do medical and nursing students understand the credentials, qualifications, and role of music therapists?" Among the total participants, only 29% indicated "board certified music therapists holding the credential MT-BC" when asked who could provide music therapy services. The remaining 71% indicated a combination of all four optional answers. The nature of the question dictates that these responses are not incorrect, however, they do indicate the respondents have an incomplete understanding of the profession of music therapy and the required credentials. This may also suggest that these respondents do not fully understand the rigorous education and training requirements mandatory for music therapy board certification. In contrast, 75% of respondents indicated all four possible responses for the second question. In this case, all four options were appropriate. This indicates that respondents recognize that the benefits of music therapy services extend beyond the therapist-patient relationship.

Combined responses from the first and second sections of the survey indicate that respondents do not fully understand the role of the music therapist in medicine. The fourteen needs listed in the first section of the survey can all be appropriately and effectively addressed through music therapy. The four possible beneficiaries of music therapy listed can all directly or indirectly reap the benefits of music therapy treatment. However, participants' responses to these questions show they do not fully comprehend how the music therapist can be integrated into the treatment plan. Most participants provided responses that reflect a limited view of music therapy in treatment, for example, only to address needs such as anxiety and restlessness in patients. In reality, the scope of the music therapist's influence is much broader.

Medical student participants did not have a complete understanding of the music therapist's role in the medical setting, as evidenced by their responses to the questions, "who do you think can provide music therapy services" and "who do you think can benefit from music therapy services." Not only did they report fewer years of experience, they reported incidental knowledge of music therapy. Many medical students stated they heard about music therapy through a friend or acquaintance. Very few medical students reported any clinical exposure to music therapy, and no medical students reported having any experience with music therapy. Survey responses demonstrate that this level of exposure to music therapy is insufficient for these students to understand clinical music therapy services, the role of the music therapist, and the capabilities of music therapy to meet patient needs.

Responses to "who can provide music therapy services" suggest that participants may not view the music therapist as a clinician. The term 'clinician' implies specialized knowledge and qualifications. However, most participants indicated that any musician, volunteer, or music

volunteer could provide music therapy services. This may reflect the false belief that music therapy services do not require specialized education, training, knowledge, or qualifications, and that music therapists are not clinicians. It may further imply that participants hold the false belief that music therapists cannot work collaboratively with doctors, nurses, social workers, child life specialists, and others on a patient's interdisciplinary team. This misunderstanding could have a role in creating a barrier to medical music therapy. If doctors and nurses believe music therapy can be provided by anyone, they may not recognize the benefits of working with a trained, board-certified music therapist.

The final survey questions addressed the researcher's third question, "are medical and nursing students interested in working with a music therapist in their chosen medical field?" Overall, results indicated that participants were interested. Over 92% of respondents were interested in having a medical music therapy program in their facility, would refer patients to it, and would be interested in learning more about music therapy. This finding is most important for its implications in medical music therapy program development. Anecdotal evidence from currently practicing music therapists reveals that interpersonal relationships with doctors and nurses is a key factor in the success of a music therapy program. Doctors and nurses are the music therapist's gateway to patients, and as such, have a level of control over patient interaction. A doctor or nurse (or other medical personnel) who understands music therapy, the role of the music therapist, and the benefits of music therapy can become a strong advocate for the program. In contrast, if a doctor or nurse does not view music therapy favorably, they may become protective of their patients, and reluctant to allow a music therapist access. In addition, the doctor or nurse's attitude toward music therapy can directly impact their patients' attitudes,

and may influence the patient's choices related to music therapy services. For these reasons, music therapists need to cultivate relationships with doctors and nurses in order to create opportunities for education (Kubicek, personal communication; Hillmer, personal communication). The relationships are vital to the success of the music therapy program, because, as Kubicek explains, if there is no advocate for the program within the facility, the program cannot succeed. Kubicek relates that in pediatrics, her best advocates were child life specialists, because she was able to work with them most closely and develop relationships. When Kubicek began working with adult patients, she focused on "crafting relationships" with nurses, who became her primary advocates. Maintaining these relationships allowed Kubicek to focus on providing excellent music therapy services.

Because the interpersonal relationships with nurses, child life specialists and doctors are so vital, their knowledge of music therapy is paramount. The way music therapists collaborate with these medical personnel necessitates that they have at least a basic understanding of music therapy. For example, in order to make an appropriate referral, a doctor needs to understand the purpose of music therapy, and that it can be used to address a patient's clinical need. To that end, constant education and visibility of the music therapy program is essential. Hillmer explains that "face-to-face time" with doctors and nurses is key to effective education. Every interaction between music therapist and doctor is an opportunity for exposure and education about music therapy as it relates to patient care. The music therapist's increased presence may cue the physician to make a referral, or the music therapist may find opportunities to educate the physician and suggest when a referral is appropriate. Providing education to medical students may be an effective way to increase physician awareness and understanding of music therapy.

Further Research

Further research in this area is needed to examine several questions that this study was not able to address. For example, is there a significant difference between student perceptions of the efficacy of pharmacological versus non-pharmacological interventions to address medical and non-medical needs? What patient populations do students think music therapy can be used with? Do medical and nursing students think that music therapy “works” to meet patient needs, such as alleviating pain or reducing anxiety? Future studies may differentiate between “years of experience” in the workforce, and “years of education,” as these may be different, and could have an effect on the participant’s knowledge and perception of music therapy.

Future studies might compare medical and nursing students attending a college or university with a music therapy program versus those without to examine whether the presence of the program on campus and in the community affects knowledge or perception. A greater sample size is needed to obtain a more comprehensive data set.

There are many other professionals who work in medical settings, such as social workers, child life specialists, chaplains, physical, speech, and occupational therapists, psychiatrists, and more. Future studies could examine their perceptions, attitudes, and knowledge of music therapy as it relates to their field and the greater medical community.

APPENDIX A
SURVEY INSTRUMENT

Please indicate all that apply:

male female

RN LPN ARNP Nursing student (years of study completed)

Years of nursing experience: 0 1-5 6-10 10-15 15-20 20+

Nursing students: What type of medical facility do you hope and/or plan to work in?

hospice hospital family practice other: _____

Please answer the following:

Have you heard of music therapy?

yes no

If yes, please briefly explain how you heard about music therapy.

Based on your knowledge and/or impressions of music therapy, please indicate which of the following needs you think music therapy can be used to address or improve:

pain anxiety nausea restlessness agitation

distress relaxation spiritual comfort self expression socialization

overall quality of life family support communication autonomy

On a scale of 1 to 6, with 1 being least and 6 being most:

Please rate how effective you think music therapy can be to address medical goals (such as pain, nausea, etc.)

1	2	3	4	5	6
Not at all effective					Highly effective

Please rate how effective you think music therapy can be to address non-medical goals (such as self-expression, spiritual comfort, etc.)

1	2	3	4	5	6
Not at all effective					Highly effective

Would you want to have a music therapy program in the medical facility in which you work?
 I would I would not

If your facility did have a music therapy program, would you refer patients to it?
 I would I would not

If you would *not* support a music therapy program in your medical facility, please indicate why (indicate all that apply):

- I do not know enough about music therapy
 - I do not think music therapy is effective in the medical environment
 - I think music therapy would be too expensive
 - I do not think patients would benefit from music therapy
 - I do not think a music therapist knows how to work in the medical environment
 - Other (please explain): _____
-

APPENDIX B

HUMAN SUBJECTS COMMITTEE APPROVAL LETTER

FROM FLORIDA STATE UNIVERSITY

APPROVAL MEMORANDUM

Date: 6/20/2013

To: Emily Grant
Dept.: MUSIC SCHOOL

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Medical Music Therapy: Medical and Nursing Student Perceptions and Barriers to
Program Implementation

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and one member of the Human Subjects Committee. Your project is determined to be Expedited per per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 6/18/2014 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval

by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Kimberly VanWeelden, Advisor
HSC No. 2013.10688

APPENDIX C

CONSENT TO PARTICIPATION

Medical and Nursing Students Perceptions of Music Therapy Consent Form

You are being asked to participate in a research study to examine medical and nursing students' perceptions and knowledge of music therapy and its applications as a medical treatment. I am asking you to participate because you are a medical or nursing student. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

The purpose of this study is to examine medical and nursing students' perceptions and knowledge of music therapy, and how music therapy can be used as a medical treatment. You must be a medical or nursing student enrolled in a summer class at Florida State University to participate.

If you agree to be in this study, you will be asked to fill out a brief survey. The survey includes questions about your experiences with music therapy, your knowledge of music therapy as a medical treatment, and your interest in music therapy. The survey will take approximately 5-10 minutes to complete.

Participation in this study is anonymous. There are no questions that would provide identification of individual participants. Completed surveys will remain in the possession of the researcher for the duration of the study, and will be accessible only to the researcher and the researcher's faculty advisor.

I do not anticipate any risks to you participating in this study other than those encountered in day-to-day life. There are no benefits to you. There is no compensation offered for participating in this study.

Taking part in this study is entirely voluntary. You may skip any questions that you do not want to answer. If you decide not to take part or to skip some of the questions, it will not affect your grade in this class or your current or future relationship with Florida State University. If you decide to take part, you are free to withdraw at any time.

The researcher conducting this study is Emily Grant. Please ask any questions you have now. If you have questions later, you may contact Emily Grant at ejg11c@my.fsu.edu or 207-713-4352. If you have any questions regarding your rights as a subject in this study, you may contact the Institutional Review Board at 850-644-7900 or access their website at <http://www.research.fsu.edu>.

Statement of Consent: I have read the above information, and I have received answers to any questions I have. I consent to take part in the study.

Print Name

Signature

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