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RELATIONSHIPS BETWEEN HOSPITALS' MUSIC THERAPY SERVICES AND
HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS
AND SYSTEMS (HCAHPS) SCORES

KIMBERLY S. IVERSON

63 Pages

Background: The implementation of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey measured patients' satisfaction with their hospital stays. The HCAHPS brought increased public access regarding hospital performance and changes to repayment policies. As such, patient satisfaction became a popular topic in hospitals within the last several years. Previous research demonstrated medical benefits for the use music therapy in hospitals, but research regarding its relationship to patient satisfaction was limited.

Hypotheses: The hypothesis of the current study was that patients who received music therapy services while in the hospital would have higher HCAHPS scores than those who did not receive music therapy. It was also hypothesized that patients receiving music therapy services would report a higher likelihood to recommend the hospital than patients who did not receive music therapy.

Methods: Participants were 349 patients who stayed overnight at one of three hospitals in a large Midwest health care system during the year 2018. All participants had completed the HCAHPS and 129 also participated in music therapy during their stay. Patient demographics, HCAHPS scores, and music therapy chart data was gathered and analyzed.

Results: Music therapy participants had significantly higher satisfaction regarding environmental quietness at night and cleanliness of their room and bathroom. No other significant differences in HCAHPS scores were found between the music therapy and non-music therapy group. Review of music therapy charts also revealed several key themes, including appreciation of music therapy services, frequent emphasis on relaxation during sessions, and enjoyment for music therapy.

Conclusion: Results revealed a potential relationship between music therapy and patient satisfaction. A standardized assessment tool that specifically addresses music therapy would provide more conclusive information and an opportunity for increased consistency in research on this topic.

KEYWORDS: music therapy; patient satisfaction; patient experience; hospitals; HCAHPS; Hospital Consumer Assessment of Healthcare Providers and Systems; Centers for Medicare and Medicaid Services; CMS

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MASTER OF MUSIC

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CHAPTER I: INTRODUCTION

Research on the use of music therapy in medical settings continues to be a topic of interest. Previous research has primarily focused on music therapy's effect on a patient's medical outcomes. Other research has explored the perceptions that patients had of the music therapy services they received. Due to recent initiatives focused on patients' satisfaction with their hospital stay, there has been an increased need to examine how music therapy services might have impacted their hospital experience.

In 2006, the Centers for Medicare and Medicaid Services (CMS) launched a national standardized hospital patient satisfaction survey called the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). Because HCAHPS results were public and directly affected the monetary reimbursement that hospitals were eligible for, it now served as an important tool for hospital administrators. Hospitals' increased attention to patient satisfaction provided reason to further explore the relationships between music therapy services and overall patient satisfaction. A positive relationship between patient satisfaction and music therapy services could provide justification for implementing new programs and expanding existing ones.

Initial research comparing music therapy and patient satisfaction has indicated potential for it to have a positive impact on satisfaction scores, but results have been inconsistent. There were only a few known studies that specifically examined the relationship between HCAHPS scores and music therapy services. A study examining patient satisfaction and music therapy services in hospitals, conducted by Yinger and Standley (2011), provided a general framework for the current study. In their study, hospital ratings from music therapy participants were significantly higher than from non-music therapy participants. Although their study did not

utilize HCHAPS data but another patient satisfaction tool, similar research methods were adapted for this study. The current study examined data from a health care system located in the Upper Midwest of the United States. Three of the health care system's hospitals were included in the study. Results provided further insight into potential relationships between music therapy services and patient satisfaction in hospitals.

CHAPTER II: REVIEW OF LITERATURE

Implementation of HCAHPS

New changes from Centers for Medicare and Medicaid Services (CMS) determined that providing medical services no longer equated to automatic full reimbursement to providers. Instead, patient satisfaction directly affected the reimbursement hospitals received from CMS. Additionally, increased public access to ratings meant that consumers also had more insight into the hospitals from which they chose to receive treatment. This new value-based reimbursement movement had hospitals relying, in part, on patient satisfaction for the stability and growth of their health care systems.

Prior to the value-based reimbursement movement, hospitals received full repayment regardless of the quality of care patients received (Lockner & Walcker, 2019). Hospitals that provided excellent care received the same reimbursements as those that provided lower quality care (Billiter, 2011). Many efforts were initiated to improve quality of care within the last several decades. Several physician-run review committees and organizations were tasked with evaluating methods of care, appropriateness of treatments, and medical necessity, with the expectation that Medicare would only reimburse for necessary treatments (Chassin & Loeb, 2011). Eventually, Medicare established predetermined rates for reimbursements, an implementation that gave hospitals more motivation to only provide medically necessary care (Chassin & Loeb, 2011). However, even though quality of care continued to be examined, patients still did not have easy access to compare performance amongst hospitals. There was not a standard method for gathering and publicly reporting patients' hospital experiences.

In 2002, President Bush's administration implemented the Hospital Quality Initiative. Its purpose was to improve the quality of health care by allowing public access to patients' reported

hospital experiences. As a result, consumers had more control and awareness when making decisions regarding their health care providers. With more public access, hospitals had an increased desire to provide excellent care (Billiter, 2011).

The Agency for Healthcare Research and Quality (AHRQ) and CMS collaborated to develop a national standardized method to collect patients' opinions about their health care experiences. This collaboration led to the development of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). In 2005, the federal Office of Management and Budget determined that the HCAHPS should be implemented as the first national, standardized system to publicly report patient satisfaction with health care services. The HCHAPS was officially launched in October 2006 by CMS, and the first public reporting was released in March 2008 (CMS, 2018b).

Although not required, hospitals were motivated to use the HCHAPS to survey their patients when the Deficit Reduction Act of 2005 was passed. This Act instated new regulation for hospitals operating within the Inpatient Prospective Payment System (IPPS), the payment system used for inpatient stays in acute care hospitals (CMS, 2019b). IPPS hospitals not reporting the data publicly were subject to a 2% reduction in their annual payment update (CMS, 2018b). Additional incentive to participate began in October 2012 when CMS reduced the base operating budget for reimbursements by 1% and launched the Hospital Value-Based Purchasing (VBP) Program. The new VBP Program awarded top-ranking hospitals with additional revenue. The 1% reduction, approximately \$850,000,000, was reserved to be distributed to hospitals that scored above average in several categories. As of 2019, the reduction had almost doubled to approximately 2% or \$1.9 billion (CMS, 2019a). In addition to the financial incentives, through Medicare.gov, consumers could examine survey results of patient's experiences, statistics

regarding the timeliness and effectiveness of care, complications and deaths statistics, readmission statistics, medical imaging statistics, and payment and value of care information (Medicare.gov, 2019). Consequently, with these implementations, hospitals became even more motivated to improve the quality of their health care services (CMS, 2005).

HCAHPS Aims and Financial Benefits

Hospitals or approved vendors administer HCAHPS to a random sample of patients upon discharge. The HCAHPS survey has three aims (CMS, 2017). The first is to gain patients' perspectives of care by using a quantitative method to compare between hospitals and be relevant to consumers' concerns. Secondly, by publicly reporting the data, hospitals are incentivized to create new initiatives that improve the performance of care. Lastly, the survey aims to hold hospitals accountable by improving transparency regarding the care they are providing.

Approximately 4,300 hospitals currently administer the HCAHPS to their patients (CMS, 2017). Results for each hospital are released quarterly by CMS. These results have a major impact on CMS's VBP program. Since the VBP initiative began, many hospitals have reaped the benefits, gaining a 0.01-2.09% increase in Medicare reimbursements (McKinney, Evans, & Rice, 2014). However, Weston, Caldera, and Doron (2013) argue that high-performing hospitals may still experience financial loss since the amount they are awarded is determined through comparison with other hospitals' scores. As such, hospitals falling just below others may be penalized even though they are demonstrating high quality care.

Even though only 25% of the VBP Program's financial returns are based on HCAHPS scores, it has appeared to largely impact hospitals' financial success (CMS, 2017). Hospitals that have scored highest on overall hospital rating on the HCAHPS have been the most profitable, and those scoring the lowest on this question have been least profitable (Press Ganey, 2011).

Additionally, when patients were satisfied, they were more likely to remain with the hospital for future care, translating into more revenue for the hospital (Hall, 2008). Beyond reimbursement from CMS, private insurance companies have also been known to examine HCAHPS scores when settling payment agreements (Long, 2012). HCAHPS scores have appeared to be a strong indicator of a hospital's financial revenue.

Potential Impact of Music Therapy

Obtaining high patient satisfaction scores has not only been beneficial for reimbursement purposes. Previous research indicated a relationship between patient satisfaction and medical outcomes (Seeley, 2014). It is possible that this relationship was in part due to what Seeley (2014) suggested: patients who were satisfied were more likely to adhere to recommendations for treatment. Improved medical outcomes also gained hospitals a positive reputation.

Previous research demonstrated that patient satisfaction correlated with a number of factors. A meta-analysis study by Mazurenko, Collum, Ferdinand, and Menachemi (2017) revealed several correlations. Among the contributing factors were patient experiences with nurses, pain management, whether or not patients were in isolation, the hospital environment, chaplaincy availability, and the size of the hospital. Finding ways to positively influence these factors could have a positive impact on patient satisfaction. Music therapy has the potential to influence some of the factors that have appeared to impact patient satisfaction.

A music therapist is board-certified, has completed an American Music Therapy Association (AMTA)-approved program, and is trained to address non-music, individualized goals through the use of music interventions. Specifically in the medical setting, music therapy is utilized for “reduction of pain and anxiety, stress management, communication, and emotional expression” AMTA (n.d.). These goals have been implemented with success in a variety of

hospital units, including, but not limited to, oncology, neonatal intensive care units (NICU), cardiovascular care units, pediatrics, and physical rehabilitation units. Previous research demonstrated efficacy for a variety of music therapy interventions to address many diverse needs that patients incurred (Comeaux & Steele-Moses, 2013; Lesiuk, 2015; Loewry, 2015; Mandel, Davis, and Secic, 2014; McArthur, 2011).

Weaver, Howard, Dwiggin, and Copeland (2017) suggested that the presence of music therapy programs in hospitals could have a positive impact on patient satisfaction scores. Previous research has demonstrated that patients often use complementary therapies especially when they are unsatisfied with the conventional treatments or with their medical providers (Hann, Allen, Ciambone, & Shah, 2006; Koithan, 2009). Medical providers have also referred patients to music therapy when they recognize dissatisfaction in their patients (Yinger & Standley, 2011). It is plausible that receiving music therapy could help improve patient satisfaction scores of unsatisfied patients by positively influencing some of the key factors (experiences with nurses, hospital environment, pain management, isolation, chaplaincy availability, and hospital size) that are correlated with patient satisfaction.

Experiences with Nurses

Because nurses are the primary caregivers and usually serve as the liaison between physicians and patients, it is understandable that patients' experiences with them correlated with their overall satisfaction with the hospital experience. Patients who positively perceived their care from nurses had overall higher patient satisfaction scores in several studies (Duffy, 1992; Larrabee et al., 2004; Williams, S.A., 1997; Wolf et al., 1998). Patients who reported being more likely to recommend the hospital to others on the HCAHPS were those who felt that the nurses were courteous and respectful, as well as those who felt that the nurses attentively listened

to them (Klinkenberg et al., 2011). The same was found within the emergency department; patients who felt nurses listened to them, even amongst the commotion and busyness of the emergency department, were more satisfied (Bucco, 2015). Patients who perceived themselves as having poorer health also reported less satisfaction regarding the communication they had with nurses (Mazurenko, et al., 2017).

Mazurenko et al. (2017) found HCAHPS scores to be negatively affected in instances of low nurse-to-patient ratios. Low nurse-to-patient ratios created further demands on nurses that may have affected their ability to equally serve patients. With a lack of support staff, nurses prioritize and may have only been able to do the essentials, leading to decreased nurse-patient interaction (Waters & Easton, 1999). Furthermore, in these circumstances, their interactions may have been less individualized and less compassionate due to the high demands they were facing. High demands on nurses has demonstrated lower satisfaction for both nurses and their patients. When working extended shifts, nurses reported more dissatisfaction (Long, 2012), and HCAHPS scores from patients decreased as well (Mazurenko et al., 2017).

Previous research demonstrated that dissatisfaction from nurses transferred to lower patient satisfaction. There is potential for music therapy services to positively impact nursing satisfaction, which could, consequently, effect patient satisfaction. Hospital staff have reported that music therapy helped to create a more positive environment for them (Humphries, 2013). It has also provided opportunities for nurses' well-being. At a hospital in the northeastern United States, music therapists led a weekly drum circle for the staff of the oncology unit (Klimek, 2011). This break offered staff the opportunity to take part in self-care, which can be helpful in maintaining stress levels and prevent burn-out. Furthermore, self-care helped staff manage difficult situations and maintain awareness of their approach to situations. Hospital staff

frequently deal with deaths of their patients, a matter that can easily be overlooked in a demanding environment. Popkin et al. (2011) found a music therapy “Remembrance Ceremony” to be an effective means for staff to process grief (p. 40). Music therapy has also assisted nurses and patients collectively. While nurses were weaning patients from ventilator, music therapy led to less patient anxiety and stress, which also translated into reduced levels of stress for the nursing staff (Hunter et al., 2010).

Nurses have often been tasked with providing music for patients when music therapy programs do not exist, an added responsibility that is outside of their clinical expertise and scope of practice (Humphries, 2013). Music therapists are trained to facilitate music interventions specific to the individual’s wants and needs. Bradley Palmer, Lane, and Mayo (2016) suggested that music therapists could fulfill some of patients’ additional wants and needs, leading to an increased likelihood to adhere to nurses’ requests. Patients desiring more one-on-one care from their nurses could benefit from music therapy. When music therapists are able to provide one-on-one care patients may be seeking and by being another staff member to communicate with, their satisfaction with their overall care could increase. Such was the case when music therapy was implemented in one medical surgical unit. The number of patients reporting on the HCAHPS that nurses had done everything they could to assist with their pain increased from 60% to 78% (Ball & Kleba, 2010).

Hospital Environment

Another predictor of patient satisfaction has been the perception patients have of the hospital environment. Previous research has indicated that patients can gauge the overall atmosphere of the hospital, and organizations that focus on compassion have received higher patient satisfaction scores (Mazurenko et al., 2017). Seeley (2014) analyzed the approach of a

recipient of the Malcolm Baldrige National Quality Award, an award given to health care systems for excellence in performance. This health care system stressed servant leadership within their management operations. Open communication and administrators being present with patients and staff on a daily basis were key features of their practices. Additionally, according to Press Ganey Associates, hospitals where staff felt cared for and supported received higher patient satisfaction ratings (as cited in Montague & Charrow, 2009). This is consistent with research demonstrating that nurses who were in more positive and supportive work environments have improved performance outcomes and less stress (Milisen, Abraham, Siebens, Darras, & Dierckx de Casterlé, 2006; Olsen, Bjaalid, & Mikkelsen, 2017).

Music therapy programs can help to promote a positive environment for the hospital. Analysis by Robb (1999) found that music interventions in the pediatric setting positively influenced the hospital environment by providing structure, autonomy, and opportunities for parental involvement. Humphries (2013) found that hospital staff believed music therapy helped to create a more positive environment for patients, families, and staff. In a study evaluating music therapy within solid organ transplants, nurses noted that the presence of music therapy made for a pleasant work environment for caregivers, patients, and hospital staff (Madson & Silverman, 2010). These findings indicated that nurses enjoyed the presence of music therapy, and it helped to boost their own attitudes about their work environment. Staff have also indicated that the presence of arts programs could help to improve communication between them and patients, leading to better relationships and interactions (Wilson, Bungay, Munn-Giddings, & Boyce, 2016). Additionally, surgeons of patients who received a relaxing music intervention were more satisfied with their patients than those whose patients did not receive the music

intervention (Cruise, Chung, Yogendran, & Little, 1997). Promotion of a positive environment occurred when both patients and health care staff were more satisfied.

Research has demonstrated that music therapy often served as a method for communication and connectedness (Leow, Drury, & Hong, 2010; Magill, 2009; Wilson, Bungay, Munn-Giddings, & Boyce, 2016). Hence, music therapy could help promote open communication and connection between staff and patients by engaging them in music together. Music has served as a natural way to build community. Even brief patient-staff interactions through music have the potential to improve patients' perceptions of their experiences and the hospital environment. Palmer et al. (2016) implemented a joint music experience between staff and patients, noting that the experience encouraged unity. Guadagnino (2003) noted that when patients have positive relationships with staff, the patients may be more likely to remain with the hospital and also refer others.

Pain Management

Patients' perception of their pain management has also correlated with HCAHPS scores (Mazurenko et al., 2017). When patients rated their pain higher, they rated the hospital's management of their pain with lower satisfaction scores, and they were also less likely to recommend the hospital to others (Klinkenberg et al., 201; Tanabe, Thomas, Paice, Spiller, & Marcantonio, 2001). Results of the meta-analysis by Mazurenko et al. (2017) indicated that patients who felt their pain was well-managed not only gave hospitals higher rankings in regards to satisfaction of pain management, but they also rated their interactions with staff more positively. Perhaps staff discussed and regulated patients' pain levels regularly with them in these instances, which led to more positive ratings regarding communication (Long, 2012). By implementing a multidisciplinary approach that involved communication between patients,

family, and staff, a hospital's HCAHPS pain scores moved from the 1st percentile to the 90th percentile within five months (Martin, Kelly, & Roosa, 2012). As this research demonstrated, focusing on multidisciplinary approaches to reduce patients' pain and can largely impact outcomes of HCAHPS scores.

Utilizing a multidisciplinary approach to pain can be enhanced by providing music therapy. Staff have often referred patients to music therapy for pain management, and research has demonstrated its efficacy as a treatment for pain management (Humphries, 2013). After introducing music therapy interventions in a medical surgical unit, 97% of patients reported reduced pain, and 77% reported a post-pain score of 0 (Ball & Kleba, 2010). Similarly, Goloff (1981) found that fewer patients reported "a lot" or "tremendous" amounts of pain after receiving music therapy, and 11% of patients who had discomfort prior to sessions reported no discomfort at the end (p. 53). In another study, patients who participated in vocal music therapy reported greater reductions in pain and improved coping with pain compared to those in the control group (Norris, Shim, Gracely, Gerrity, & Bradt, 2016). Even after a single session of music therapy, patients have reported reduced pain. Emergency room patients reported reduced pain, as well as increased comfort, both generating statistically significant results (Negrete, 2011).

Those who received music therapy during their hospital stay have also expressed longitudinal effects on their pain levels (Mandel et al., 2014). Music therapy participants reported less pain after discharge than those in the control group. These results also correlated with a higher likelihood to recommend the hospital to others according to the hospital's HCAHPS results. It is possible that their perception of less pain during and after discharge had a positive effect on their patient satisfaction. It should be noted that music therapy has been most effective in managing pain when applied earlier in the treatment process (Burns, Perkins, Tong,

Hilliard, & Cripe, 2015). Therefore, staff referrals early on in treatment would be important in order to obtain the best outcomes.

While helping to decrease pain, music therapy has also been shown to decrease anxiety and improve relaxation for patients. Music therapy has distracted patients from environmental noises that interfere with their relaxation and anxiety levels (Comeaux & Steele-Moses, 2013). Music therapy participants in Madson and Silverman's (2010) study reported that, in addition to improved levels of pain, they also were more relaxed, had less anxiety, and less nausea after the session. These results indicated that pain, relaxation, anxiety, and nausea are interrelated, and music therapy interventions helped to address all of these concerns. Furthermore, participants noted that if they were to return to the hospital, they would want music therapy services again.

Spiritual Care

Spiritual practices have been connected with pain management, so it is understandable that chaplaincy services have also been correlated with HCAHPS scores (Jun, Stern, & Maja, 2016; Mazurenko et al., 2017; McNeill, Sherwood, Starck, & Thompson, 1998). Hospital staff having an awareness of patients' spirituality concerns is important, as research has indicated that nurses were often present when issues of spirituality arose for patients. Therefore, awareness of spiritual distress is necessary so that appropriate spiritual care can be implemented into the patient's care plan (Nussbaum, 2003).

HCAHPS scores increased in hospitals where chaplain visits occurred (Jun, Stern, & Maja, 2016; Mazurenko et al., 2017). In another study, patients visited by chaplains rated their overall hospital experience significantly higher than the patients not visited by chaplains. Those who received visits were more likely to recommend the hospital to others and had an overall higher satisfaction with their care (Sharma et al., 2016). Similarly, a highly ranked hospital in

Alabama attributed its positive ratings to the faith practice that occurred between employees and patients (DerGurahian, 2008). These patients reported positive experiences of the spiritual practice and specifically made note of the experience in their survey responses.

Previous research suggested that meeting spiritual needs may be especially important for patients who are critically ill, in palliative care, or are in hospice care. In a study by Pugh, Smith, and Salter (2010), only 8% of patients in hospice care declined visits from chaplains. These results highlighted the value many patients and families placed on spiritual care when dealing with the end-of-life process. Reports from chaplains have stated that in addition to addressing spiritual concerns of patients, they were also providing assistance in making decisions, processing emotional feelings, discussing the physical pain, and addressing family conflict (Caple & Heering, 2017). Chaplains promoted holistic care within the hospital by helping to address other patient needs beyond the medical necessities.

As research has indicated a relationship between spiritual care and patient satisfaction, music therapy has also been shown to play a role in patients' spiritual well-being. Music therapists have commonly used spiritual music within their work (Burns, Perkins, Tong, Hilliard, & Cripe, 2015; Pierce, 2011; Wlodarczyk, 2007). Hospice patients have often been referred for music therapy for spiritual support reasons (Liu, Burns, Hilliard, Stump, Unroe, 2015). In a study by Wlodarczyk (2007), patients in hospice care requested spiritual music in 75% of music therapy visits. During these visits, patients were more likely to discuss spiritual matters than when they received visits not involving music therapy. Additionally, in 80% of the non-music visits, patients expressed verbal disappointment for not receiving music. Burns et al. (2015) had similar results, finding that patients who received music therapy were over two times more likely to report discussing spirituality during their stay. These outcomes indicated a relationship

between spiritual care and music therapy. Chaplains have also expressed frequent collaboration with music therapists and have often recommended patients for music therapy (Iverson, 2017). The research by Burns et al. (2015) indicated potential for music therapy to provide an additional element of spiritual care. Collaboration between chaplaincy services and music therapists could be beneficial for patients and families and could directly affect their level of satisfaction with care (Burns et al., 2015).

Isolation

Patients in isolation have had a tendency to report lower overall satisfaction with their hospital stay. Specifically, those in isolation have been less satisfied with physician and nurse communication, staff responsiveness, and cleanliness, and were less likely to recommend the hospital, according to HCAHPS results (Vinski et al. 2012). It is likely that feelings of loneliness developed when patients experienced isolation. Because physicians have limited time with their patients, any brief interactions in which the patient felt they received attention and individualized care should be considered important. Seeley (2014) suggested that all interactions, small and large, have an effect on patient satisfaction. Finding additional ways to help patients feel genuinely cared for could be especially valuable when they are in isolation.

Zusman (2012) argued that isolation as a patient satisfaction indicator could not be changed. Although the fact that a patient needed to be in isolation could not change, music therapy services could be provided to these patients, which may encourage higher levels of satisfaction. Studies have demonstrated that many patients are referred for music therapy due to isolation (Horne-Thompson, Daveson, & Hogan, 2007; Liu et al., 2015). Patients in isolation who receive music therapy have the opportunity to experience increased one-on-one time and individualized care, which may help to reduce feelings of loneliness and increase their

satisfaction. While other providers may not be able to devote more time, due to other responsibilities and having many patients under their care, music therapists might be able to assist by providing patients additional attention that they may desire. As part of the multidisciplinary team, music therapists can help patients feel connected and cared for in ways that other staff may not have the capacity to fulfill. Slater, Braverman, and Meath, (2017) suggested that arts programs helped reduce the boredom that often occurs, which may especially occur for patients in isolation. While at the same time as providing a positive distraction, music therapy has been shown to help patients process what they are feeling, promote positive emotions, and elevate moods, all of which may have heightened need for patients in isolation (AMTA, n.d.; Lesiuk, 2015; Stubbs, 2005). By using music therapy to address these needs of patients in isolation, positive results on patient satisfaction may occur.

Hospital Size

According to most studies in the meta-analysis by Mazurenko et al. (2017), hospitals with less than 100 beds received higher patient satisfaction scores than larger hospitals. Specifically, previous research indicated that the larger the hospital, the lower the overall patient satisfaction (Billiter, 2011; Carter & Silverman, 2016; Press Ganey, 2009). McFarland et al. (2017) found that patients who stayed in larger hospitals gave lower scores in regards to receiving “help as soon as needed” (p. 205). These results indicated that larger hospitals may have a disadvantage, in that forming close relationships with patients may be more challenging, and patients may feel forgotten or insignificant (Billiter, 2011).

Music therapy may be a beneficial service for larger hospitals looking to increase their patient satisfaction, while also being an effective addition to patients’ medical treatment. Some hospitals have implemented music therapy programs in an effort to provide patient-centered care

and increase patient satisfaction. A large hospital with more than 600 beds implemented a music therapy program and experienced positive growth in patient satisfaction (Yinger & Standley, 2011). In hopes of enhancing patient treatment, another health care system implemented music therapy services. After one year, they saw an increase in HCAHPS scores regarding pain management, patients reported improved perceptions of their hospital stay, and they requested music therapy during future stays (Ball & Kleba, 2010).

Several large hospitals currently have music therapy programs, and new ones continue to be created (AMTA, 2014). The websites of the top 10 U.S. hospitals, according to U.S. News (2018), indicated that eight of these hospitals had active music therapy programs. Within these hospitals, music therapists have provided care within many units, including but not limited to the NICU, palliative care, psychiatric, pediatric, oncology, and surgical rehabilitation (Vetro, 2016). Although reason for the implementation of a program in these top-ranked hospitals is unknown, previous research demonstrated that large hospitals who implemented music therapy saw enhancement in their patient satisfaction.

Hospital Staff Experiences with Music Therapy Programs

Results have also demonstrated that hospital staff believed music therapy could benefit patients in various ways, including reducing stress, serving as a relaxation aid, and promoting positive emotions (Kemper, Martin, Block, Shoaf, & Woods, 2004; Li, Huang, Lai, & Hsieh, 2013; Moss, Khan, & Onn Yap, 2016; Palmer, Lane, & Mayo, 2016). Staff have given high ratings to music therapy as a means to meeting a variety of clinical objectives (Humphries, 2016). In a study by Iverson (2017), staff working in hospitals with music therapy programs believed it was an effective intervention for patients and could be designed to address various patient needs. Previous research has also demonstrated that hospital staff who have been

exposed to music therapy had positive regard for its continued use in the hospital setting (Iverson, 2017; Kemper, Martin, Block, Shoaf, & Woods, 2004; Lam, 2007; Li, Huang, Lai, & Hsieh, 2013; Moss, Khan, & Onn Yap, 2016; Palmer, Lane, & Mayo, 2016; Wilson, Bungay, Munn-Giddings, & Boyce, 2016). Positive collaboration between music therapists and other hospital staff has been viewed as important in providing patients with effective interdisciplinary care (Hunter et al., 2010). When an interdisciplinary team at a pediatric outpatient clinic was surveyed, results revealed that staff believed music therapists were responsible for creating a more positive hospital environment for families, while also providing children opportunities to express their feelings, reduce their anxiety, and develop means of coping (Darsie, 2009).

Staff have reported interest in learning more about music therapy's use in the hospital setting. Pediatric practitioners reported a strong interest in learning more about how music therapy could be utilized (Mathur, Duda, & Kamat, 2008). Furthermore, they indicated interest in adding music therapy as part of their patients' care plans. Staff working in both hospitals with and without music therapy programs showed interest in learning more about the field of music therapy and positivity toward its use in the hospital (Iverson, 2017). Yet, there are still many hospitals without music therapy programs. It is possible that developing music therapy programs has sometimes been overlooked due to the already hectic nature of hospital environments (Palmer et al., 2016).

Relationships between Music Therapy and Patient Satisfaction

There is limited research directly examining the relationship between music therapy and HCAHPS scores. Goloff (1981) was among the first to examine music therapy's relation to patient satisfaction. Seventy-one percent of patients who reported dissatisfaction with their hospital stay before receiving music therapy reported that their hospital stay was improved by

receiving music therapy. A meta-analysis by Bechtold et al. (2009) also indicated that patients who received music interventions reported better satisfaction with their experience. Self-reports on informal surveys have indicated that patients who received music therapy services had increased perceptions of their stay (Yinger & Standley, 2011).

Other researchers have examined music therapy's effect on patients within specific units. Hospice patients demonstrated interest in wanting music therapy services, as they often requested it themselves (Nguyen, 2003). Patients who received music therapy as part of their surgical care reported high levels of satisfaction and improved perceptions of their hospitalization compared to those who did not receive music therapy (Bradley Palmer, Lane, & Mayo 2015; Cruise et al., 1997; Walworth, Rumana, Nguyen, and Jarred, 2008). Caregivers and families have also shown positive regard. Families of patients in palliative care reported high satisfaction with the music therapy services in the medical setting (Hunter et al., 2010). Additionally, when children in palliative care received music therapy, their parents were 23 times more likely to report overall satisfaction with the palliative care program (Knapp et al., 2009). Another study indicated that parents of children who received music therapy while undergoing immunizations reported improved perceptions of the medical facility and a desire for future music therapy (Yinger, 2016). Although the results of these studies were not from HCAHPS, they demonstrated a relationship between music therapy and perceptions of procedures and hospital stays. It is plausible that higher overall patient satisfaction scores may also be reflected in HCAHPS scores when music therapy is present.

With the HCAHPS being a fairly new initiative, there is limited research specifically examining associations between HCAHPS scores and music therapy services. However, associations between music therapy services and patient satisfaction scores on the Press Ganey

Inpatient Survey (PGIS) have been examined. Yinger and Standley (2011), found that patients who received music therapy reported a significant increase in overall satisfaction scores by an average of 3.4 points (86.7 points) compared to those who did not receive music therapy during their stay (83.3 points). Specifically, satisfaction scores were higher on PGIS questions related to nurses and personal issues. These results suggested that music therapy recipients may have felt more satisfied with their nursing care, an important finding considering experiences with nurses have previously been strong indicators of patient satisfaction (Bucco, 2015; Duffy, 1992; Klinkenberg et al., 2011; Larrabee et al., 2004; Mazurenko, et al., 2017; Williams, S.A., 1997; Wolf et al., 1998). Overall, patients in most age groups who received music therapy tended to have patient satisfaction scores above the national average (Yinger & Standley, 2011).

Studies have also indicated that patients were satisfied with the music therapy services they received and were interested in receiving services in the future (F). Additionally, in a study examining music therapy in the emergency room, patients showed interest in receiving music therapy again and also indicated that they would likely recommend music therapy to others (Negrete, 2011). Likewise, after the implementation of music therapy in a medical surgical unit, reoccurring patients continued to request services during their visits (Ball & Kleba, 2010).

As patients tended to report satisfaction with music therapy services and desired to receive the services again, it is plausible that these experiences may impact overall hospital satisfaction. Mandel et al. (2014) found a significant difference between patients who received music therapy services while hospitalized and those who did not receive services. Those who received music therapy were more likely to report on the HCAHPS survey that they would recommend the hospital to others. Similar results have been found among the families of pediatric patients. Those who received music therapy services reported that they were more

likely to recommend the clinic and more likely to continue services there compared to families who did not receive music therapy (Littlefield, 2012). Although Littlefield's (2012) study did not utilize the HCAHPS, these caregivers were also more satisfied with the cleanliness and space layout of the clinic, a topic also addressed in the HCAHPS.

Results from other surveys have found the presence of music to relate with patient satisfaction. Patients who experienced live music in the waiting room, for example, they reported higher satisfaction during the check-in process and a higher likelihood to recommend the clinic than the patients who did not experience the live music (Silverman, Christenson, Golden, & Chaput-McGovern, 2012). Similarly, when patients had the opportunity to listen to their preferred music as a form of distraction while in the emergency room, they stated that they hoped to hear music upon future visits (Tanabe, 2001). If the presence of music has the potential to increase patient satisfaction, it can be expected that providing music therapy services, which provides care that is more individualized and goal-oriented, could be even more influential on patient satisfaction.

Current Study Rationale

Music therapy's relationship to patient satisfaction has been somewhat inconsistent in previous research. Although many studies have demonstrated a positive correlation, not all have seen these same results. In the study by Littlefield (2012), even though families who received music therapy rated some areas of satisfaction higher than the non-music therapy group, their overall patient satisfaction score was slightly lower than the non-music therapy group. The researcher disclosed that these results may not be completely reliable, as most of the responses from the music therapy group came from one clinic, while the non-music therapy group's responses came from three different clinics. Therefore, results only reflected music therapy

participants' experience with that particular clinic and may have been different if there were music therapy participants at the other clinics.

Burns et al. (2015) found that receiving music therapy services did not significantly impact families' satisfaction of their loved one's hospice care. The researchers indicated that their results were consistent with the results of Mandel et al. (2014), suggesting that patient satisfaction is not in any way related with music therapy services. However, Mandel et al. (2014) did find that those who received music therapy were significantly more likely to recommend the hospital to others, even though their overall hospital rating was not significantly higher.

Roseen et al. (2017) also examined effects on HCAHPS by adding music therapy into an urban safety-net hospital. They found that although HCAHPS scores were not higher for those who received music therapy, additional qualitative data revealed that music therapy participants had improved hospital experiences, increased feelings of connection, and improved pain management. This qualitative data was congruent with previous research that demonstrated positive patient satisfaction after receiving music therapy services. While satisfaction with music therapy was not reflected in the HCAHPS results, the researchers concluded that a heterogeneous and small sample, as well as limited music therapy sessions, may have impacted their results.

Parameters

Previous research contained much evidence that the presence of music therapy in hospitals could impact patient satisfaction. However, due to inconsistent results and a lack of studies examining associations with the HCAHPS in particular, further examination of the relationship between HCAHPS scores and music therapy services needed to occur. With the

VBP program now in effect, hospital administrators are more concerned now than ever before about improving HCAHPS scores (Weaver et al., 2017). In the survey conducted by Weaver et al. (2017), almost all participants, who were health administration students and professional health administrators, indicated that they believed music therapy could positively impact patient satisfaction scores. Weaver et al. (2017) concluded that music therapists could positively contribute to the outcomes of all areas addressed in the HCAHPS.

The study by Yinger and Standley (2011) provided essential information for the current study. However, as their study examined patient satisfaction based on the PGIS, there were some limitations and differences. Criticism of the measures used in the PGIS created questions regarding the reliability and validity of patients' responses (Yinger & Standley, 2011; Zusman, 2012). Additionally, their study compared 26 music therapy patients to 909 non-music therapy patients, creating a large discrepancy between groups.

The current study also drew upon research from Mandel et al. (2014), one of two known studies to directly examine music therapy associations with the HCAHPS. However, their study only compared two questions from the HCAHPS with music therapy services, likelihood to recommend the hospital and the overall hospital rating. Because the HCAHPS was designed to comprehensively measure patient satisfaction, only examining patients' scores on these two individual questions presented inconclusive results. Yet, Mandel et al. (2014) found that the likelihood of recommending the hospital to others was significantly higher for those who received music therapy services. If patients who received music therapy services were more willing to recommend the hospital to others, it is plausible that their ratings on other areas of the HCAHPS may have been positively impacted as well, but it is unknown because these other areas were not examined.

The purpose of the current study was to further examine the relationship between HCAHPS scores and music therapy services. Narrative chart notes recorded by the music therapists were also examined as a means to identify key themes related to patient satisfaction and patient experience. As previous research demonstrated, potential impacts of music therapy on HCAHPS scores was plausible, but needed further investigation. Comparing HCAHPS ratings and narrative chart notes gave the researcher a more comprehensive look at how music therapy services and patient satisfaction may be related.

Hypotheses

The hypothesis of the current study was that patients who received music therapy services while in the hospital would have higher HCAHPS scores than those who did not receive music therapy. It was also hypothesized that patients receiving music therapy services would report a higher likelihood to recommend the hospital than patients who did not receive music therapy.

CHAPTER III: METHODS

Setting

Data for this study was collected from three hospitals within a large Midwest health care system. Hospital A was a Level I Trauma Center located in an urban Midwest city. The metropolitan area had a population of approximately 3.6 million people. Hospital A had an estimated 26,000 admissions yearly. The music therapy program was established in 2006 and comprised of 2 Board-Certified Music Therapists (MT-BC) for a total of 1.5 Full-time equivalent (FTE) at the time of the study. The MT-BCs held sessions with approximately 5 patients per day, and they typically offered services to another 5 patients throughout the day who do not participate for various reasons. Some of the reasons patients did not participate in music therapy were because they were sleeping, they declined services, or they were unavailable at the time. The MT-BCs served patients throughout the hospital, including the medical surgical, oncology, neurology, trauma, ICU, and cardiac units.

Hospital B was a community hospital located in a Midwest suburb with a population of approximately 20,000. Hospital B had 73 staff beds and 15 bassinets. The music therapy program was established in 2017 and currently employed an MT-BC at .6FTE when the study was conducted. The MT-BC served approximately 4 patients per day and contacted an additional 4 who did not participate for various reasons similar to Hospital A patients. The music therapy program was present within the medical surgical and obstetrical units.

Hospital C was a 25-bed Critical Access Hospital located in a rural Midwest town of approximately 8,000 people. The music therapy program was established in 2016. The MT-BC at Hospital B also served Hospital C at .4FTE. The MT-BC provided services to approximately 4 patients per day in addition to another 4 patients who did not participate, due to similar reasons

as Hospital A and Hospital B. The MT-BC served patients in the medical surgical and obstetrical units.

As indicated in participants' music therapy charts, MT-BCs reported using numerous music interventions when providing music therapy services, based on assessment and participant preferences. Common interventions used included music-assisted relaxation, singing, instrument play, song discussion, life review, music listening, and co-treatment with massage therapy. Most music therapy services were provided on a one-to-one basis in the patient's hospital room. Family members and other visitors were often present and invited to participate as well. A few patients participated in a music therapy rehabilitation group.

Participants

Participants were previous hospital patients who had completed the HCAHPS upon discharge and who had stayed on an inpatient unit served by music therapy at Hospital A, B, or C. Eligible participants were randomly selected to complete the HCAPS following CMS' established protocol. Under CMS' requirements, hospitals had to submit at least 300 completed HCAHPS each year, unless they did not have 300 eligible patients. For these smaller hospitals, all eligible patients had to be asked to partake in the survey (CMS, 2018a). HCAHPS participants had to be 18 years or older, stay overnight at least one night in inpatient care, not have a primary psychiatric diagnosis upon discharge, and were alive at discharge (CMS, n.d.). Patients who were discharged to hospice, nursing homes, or skilled nursing facilities were not eligible HCAHPS participants. Those who were court or law enforcement patients, had a home address outside the United States, were bound by state regulations preventing them from participation, and requested not to be revealed as a patient or to be surveyed were not eligible to complete the HCAHPS. Additionally, patients at Hospital A, B, and C who indicated that they

did not want their information used for research, as determined by the health care system's exclusion list, were removed from the study sample.

Participants included 349 patients (168 males, 181 females) who stayed at Hospital A, B, or C between January 2018 and December 2018. Participants ranged from 19 years to 90+ years old, and the overall mean age was 65 years old ($SD = 16$). In terms of ethnicity, 92.6% of participants identified as White, 1.7% as Asian or Pacific Islander, 1.7% as Black or African American, 1.4% as Hispanic or Latino, 0.6% as American Indian or Alaska Native, 0.6% as other race, and 1.5% chose not to answer. Medical surgical units held 90.8% of the participants, 5.2% stayed in obstetrics delivery units, and 4.0% were in rehabilitation discharge units.

Music Therapy Group

Participants in the music therapy group were 129 patients (55 males, 74 females) who completed the HCAHPS survey, received music therapy services from an MT-BC at least one time during their hospital stay, and met the inclusion criteria as described above. The average age of participants in the music therapy group was 68 years old ($SD = 17.79$). Participants' Medicare Severity Diagnosis Related Group (MS-DRG), or main reason for hospitalization, varied (see Table 1). They stayed in the hospital for 1 to 36 nights, with an average of 5.67 nights ($SD = 5.78$).

An additional 91 patients were offered music therapy but declined or were unavailable and were, therefore, removed from the study. Patients were typically referred to music therapy if they were experiencing pain, anxiety, or nausea, and/or if they expressed their own interest in receiving music therapy services. Other reasons for referral included procedural support, rehabilitation, confusion, fatigue, psychosocial support, family coping, post-op support, and

breathing support. The length of music therapy sessions varied from 5 to 100 minutes ($M = 29.82$, $SD = 14.01$), and patients received 1 to 4 sessions during their stay.

Non-music Therapy Group

Participants of the non-music therapy group included 220 patients (113 males, 107 females) who did not receive any music therapy services from an MT-BC during their stay but completed the HCAHPS survey and met the inclusion criteria described above. The average age of participants in the non-music therapy group was 66 years old ($SD = 15.30$). Participants had varied MS-DRGs (see Table 1). They stayed in the hospital for 1 to 27 nights, with an average of 3.20 nights ($SD = 3.19$).

Per instructions from the health care system's Institutional Review Board (IRB), participants in the non-music therapy group were randomly selected to form a matched case-control group. A total of 3,394 patients were eligible, and the final 220 patients were randomly selected for participation in the non-music therapy group.

Table 1

Frequency of MS-DRG Categories and LOS Means and Standard Deviations

MS-DRG Diseases & Disorders Category	Percentage in MT Group	Percentage in Non-MT Group	LOS (<i>M</i>)	LOS (<i>SD</i>)
Alcohol/Drug Use & Alcohol/Drug Induced	0.00%	2.27%	4.40	2.30
Blood, Blood Forming Organs, Immunologic Disorders	3.10%	1.82%	7.88	11.43
Circulatory System	6.98%	14.55%	3.54	2.60
Digestive System	14.73%	13.18%	4.021	5.10
Ear, Nose, Mouth, & Throat	0.78%	0.00%	1.00	0.00
Endocrine, Nutritional & Metabolic	2.33%	2.73%	3.00	2.00
Factors Influencing Health Status & Other Contacts with Health Services	0.78%	0.91%	2.33	0.58
Infectious & Parasitic Diseases, Systemic or Unspecified Sites	4.65%	5.91%	5.32	4.42
Injuries, Poisonings & Toxic Effects of Drugs	1.55%	3.18%	6.11	5.67
Kidney & Urinary Tract	5.43%	4.55%	3.24	2.17
Mental Disorders	0.78%	0.00%	5.00	0.00
Musculoskeletal System & Connective Tissue	29.46%	17.73%	2.57	1.42
Nervous System	4.65%	12.27%	3.55	5.09
Non-Extensive Burns	1.55%	0.45%	8.00	5.57
Pregnancy, Childbirth & the Puerperium	3.10%	6.36%	2.78	0.65
Rehabilitation (Unspecified)	7.75%	1.82%	12.8	4.77
Reproductive System	0.78%	1.36%	1.75	0.50
Respiratory System	10.08%	9.09%	4.45	4.05
Skin, Subcutaneous Tissue & Breast	0.78%	1.82%	2.80	0.84
Tracheostomy	0.78%	0.00%	24.00	0.00

Materials

A separate informed consent was not administered by the researcher, as the data analysis was retroactive, and all participants had consented to complete the HCAHPS (Appendix A) and participate in music therapy at the time of occurrence. The HCAHPS tool was implemented in hospitals after extensive psychometric analysis, including reviewing the literature, interviews,

focus groups, public and consumer input, and several pilot studies. A three-state pilot study examined the reliability and validity of the tool (The CAHPS® II Investigators and The AHRQ, 2003). Results of the extensive pilot study led to revisions of the HCAHPS prior to full implementation. The National Quality Forum (NQF), whose mission was to improve health care through measureable outcomes, endorsed the HCAHPS (NQF, 2019). The mail version of the HCAHPS was available in English, Spanish, Russian, Chinese, and Vietnamese (CMS, n.d.). The HCAHPS consisted of 32 questions, 27 of which were non-demographic questions, designated to 8 different subject areas: doctor and nurse communication, hospital staff responsiveness, medication communication, pain management, discharge information, overall hospital rating, and likelihood to recommend the hospital (CMS, 2017). Fourteen HCAHPS questions were used in the data analysis for this study. The other 18 questions were deemed unrelated to the purpose of this study. Eleven of the questions used were based on a 4-point Likert scale from “never” to “always,” one utilized a 4-point Likert scale from “definitely no” to “definitely yes,” and one was a “yes” or “no” question. The overall rating of the hospital utilized an 11-point Likert scale from 0 to 10.

Procedure

As this study was retroactive, patients and health care staff, including MT-BCs, were not aware of study outcomes. The HCAHPS was conducted by the Midwest health care system’s vendor. Those invited to participate were randomly selected following CMS’ requirements and the vendor’s process. Participants received invitation to complete the survey by mail and were provided a postage-paid envelope to return their responses. Per CMS guidelines for administering the HCAHPS, patients were contacted between 48 hours and 6 weeks following their hospitalization to complete the survey.

The health care system's IRB reviewed and approved execution of the study. Patient satisfaction data was queried via the health care system's data services department. All potential participants were first compared to the health care system's research exclusion list, and patients who requested their information not be used for research were removed from the participant list. Participants for the non-music therapy group were then selected through randomization by generating a random number to each patient, sorting by random number, and then selecting the top 220 encounters.

Music therapy data was queried via an Epic Clarity report and billing data that was extracted from the data services department (personal communication with health care system staff, January 4, 2019). A Clarity report was created to include the data details from the music therapy flowsheet and from within EPIC by using note IDs and then filing them into a report. Once this report was created, a data services employee cross compared with the patients who returned an HCAHPS. A list of participants in both groups, along with HCAHPS scores and demographic information was combined with the data from Epic. Narrative chart notes, reason for music therapy referral, and patient pre- and post-pain scores were also included for music therapy participants. All data was de-identified prior to sending it to the researcher and arbitrary ID numbers were assigned for the researcher's use. This data was then sent to the researcher for analysis through Box, a secured on online file sharing system.

The researcher analyzed qualitative data by reviewing all music therapy participants' narrative chart notes that were written by the MT-BCs. The chart notes contained information regarding session observations, outcomes, and patient and family verbal and nonverbal responses to music therapy. To formulate key themes regarding participants' experiences with music therapy, the researcher read all chart notes and highlighted information regarding patient

outcomes that were either observed by the MT-BC or self-reported. The researcher also highlighted information related to the six factors correlated with HCAHPS scores discussed in the literature review: experiences with nurses, hospital environment, pain management, spiritual care, isolation, and hospital size. Comments that participants and family members made about their hospital experience or the music therapy sessions were also highlighted. After reviewing all chart notes, the researcher reexamined the information that had been highlighted and paired related items to formulate the key themes. The total number of times each key theme appeared in the chart notes was recorded.

The researcher utilized IBM® SPSS® Statistics Version 25 to analyze the quantitative data. Six independent samples *t*-tests were conducted to compare participants' responses on the HCAHPS. VBP required that patients provide the most positive response ("top-box") to the question in order for it to qualify toward the incentive payments. Public reports through Medicare.gov were also reported in this manner. Therefore, data analysis was conducted from this perspective. Participants were only included for analysis when they gave a response to all questions within the category.

The researcher conducted an independent samples *t*-test to examine differences in the number of "always" responses participants gave in the categories of care from nurses (Questions 1-4), care from doctors (Questions 5-7), the hospital environment (Questions 8-9), and pain management (Questions 13-14). Independent samples *t*-tests examined differences in the number of times participants gave an overall hospital rating of "9" or "10" (Question 21), as both scores count toward VBP allocations. The number of "Definitely yes" responses regarding likelihood to recommend the hospital (Question 22) was also compared through an independent samples *t*-test. To correct for experiment-wise error, the *a*-level was set at $\alpha = .008$, calculated

based on the 6 independent *t*-tests. The α -level was set at $\alpha = .05$ for all other tests. A Pearson correlational test was conducted to observe whether participants' mean pain change scores (pain difference between pre-music therapy and post-music therapy services) were associated with pain responses on the HCAHPS (Questions 12-14).

An independent samples *t*-test was also utilized to observe differences in length of stay (LOS) between the music therapy and non-music therapy groups. The researcher conducted a paired-samples *t*-test to observe changes in pain for participants who had both pre-music therapy and post-music therapy pain scores recorded in their music therapy chart notes. Review of music therapy chart notes was also conducted in order to extract key themes reported by the MT-BCs regarding patients' experience with music therapy and hospital satisfaction.

CHAPTER IV: RESULTS

HCAHPS

Music therapy participants ($n = 122$) had more “always” responses to questions in the hospital environment category ($M = 1.53$, $SD = 0.65$) than non-music therapy participants ($n = 205$, $M = 1.28$, $SD = 0.78$). A two-tailed independent-samples t -test indicated a statistically significant difference, $t(291.29) = 3.195$, $p = .002$, 95% CI [0.098, 0.412] (see Table 2). Levene’s test indicated unequal variances ($F = 9.37$, $p = 0.002$), so degrees of freedom was adjusted from 325 to 291.29. Further analysis revealed that music therapy participants ($n = 124$) were not more likely to respond “always” to how often their room and bathroom was kept clean (Question 8) ($M = 0.82$, $SD = 0.38$) than non-music therapy participants ($n = 210$, $M = 0.70$, $SD = 0.46$). A two-tailed independent-samples t -test did not indicate a statistically significant difference $t(294.14) = 2.52$, $p = 0.012$, 95% CI [0.03, 0.21]. Levene’s test indicated unequal variances ($F = 26.9$, $p = 0.00$), so degrees of freedom was adjusted from 332 to 294.14. Music therapy participants ($n = 123$) were more likely to respond “always” to how often the area around their room was quiet at night (Question 9), ($M = 0.72$, $SD = 0.45$) than non-music therapy participants ($n = 205$, $M = 0.57$, $SD = 0.50$). A two-tailed independent-samples t -test indicated a statistically significant difference $t(275.74) = 2.79$, $p = 0.006$, 95% CI [0.044, 0.26]. Levene’s test indicated unequal variances ($F = 32.14$, $p = 0.00$), so degrees of freedom was adjusted from 326 to 275.74.

Differences in the number of times participants responded “always” in the care from nurses category (Questions 1-4), care from doctors category (Questions 5-7), and pain management category (Questions 13-14), were not statistically significant (see Table 2). Differences in the number of participants who gave an overall hospital rating (Question 21) of

“9” or “10” was also not statistically significant (see Table 3). Additionally, the number of participants who responded “Definitely yes” to the likelihood of recommending the hospital (Question 22) was also not statistically significant (see Table 4). A Pearson correlational test examining associations between mean pain change scores pre-music therapy and post-music therapy and responses in the pain management category (Questions 13-14) did not yield statistical significance ($r = -.22, n = 35, p = 0.21$, two tails).

For comparison, the researcher also conducted independent *t*-tests using mean scores and a Pearson correlational test using mean pain scores rather than frequency of “top box”-only responses. Results from these tests were similar, with the hospital environment category being statistically significant. Mean scores within the other HCAHPS categories were not statistically significant, nor were the overall hospital ratings or likelihood to recommend the hospital. The Pearson correlational test also did not indicate a significant association.

Table 2

Means and Standard Deviations for Number of “Always” Responses

HCAHPS Category	Music Therapy Group	Non-Music Therapy Group	<i>p</i> * <i>p</i> < .008
Care from nurses	<i>M</i> = 3.24 <i>SD</i> = 1.17	<i>M</i> = 3.13 <i>SD</i> = 1.18	<i>p</i> = 0.46
Care from doctors	<i>M</i> = 2.56 <i>SD</i> = 0.91	<i>M</i> = 2.54 <i>SD</i> = 0.82	<i>p</i> = 0.83
Hospital environment	<i>M</i> = 1.53 <i>SD</i> = 0.65	<i>M</i> = 1.28 <i>SD</i> = 0.78	* <i>p</i> = 0.002
Pain management	<i>M</i> = 1.43 <i>SD</i> = 0.80	<i>M</i> = 1.37 <i>SD</i> = 0.85	<i>p</i> = 0.61

Table 3

Means and Standard Deviations for Number of “9” and “10” Responses

HCAHPS Question	Music Therapy Group	Non-Music Therapy Group	<i>p</i> <i>*p < .008</i>
Overall hospital rating	<i>M</i> = 0.83 <i>SD</i> = 0.38	<i>M</i> = 0.81 <i>SD</i> = 0.39	<i>p</i> = 0.69

Table 4

Means and Standard Deviations for Number of “Definitely yes” Responses

HCAHPS Question	Music Therapy Group	Non-Music Therapy Group	<i>p</i> <i>*p < .008</i>
Likelihood to recommend	<i>M</i> = 0.81 <i>SD</i> = 0.40	<i>M</i> = 0.81 <i>SD</i> = 0.39	<i>p</i> = 0.94

Music Therapy Group

Participants with both pre-music therapy pain scores and post-music therapy pain scores ($n = 42$) self-reported a decrease in pain after receiving music therapy. A paired-samples *t*-test indicated a statistically significant decrease from pre-music therapy ($M = 5.29, SD = 2.48$) to post-music therapy ($M = 3.79, SD = 2.54$), $t(41) = 4.31, p = 0.00, 95\% CI [.78, 2.20]$.

Music therapy participants ($n = 129$) had longer lengths of stay (LOS) ($M = 5.67, SD = 5.78$) compared to non-music therapy participants ($n = 220, M = 3.20, SD = 3.19$). A two-tailed independent-samples *t*-test indicated a statistically significant difference $t(174.65) = 4.47, p = 0.00, 95\% CI [1.38, 3.56]$. Levene’s test indicated unequal variances ($F = 32.71, p = 0.00$), so degrees of freedom was adjusted from 347 to 174.65.

Review of music therapy charts, recorded by the MT-BCs following services, revealed several key themes. A total of 169 visits were reviewed (see Table 5). No negative responses to music therapy services were found within the chart notes.

Table 5

Key Themes Noted in Patients' Chart Following Music Therapy Services

Key Theme	Percentage of Visits
Appreciation to MT-BC for Providing Services	81.07%
Relaxation Needs & Outcomes	46.15%
Increase in Mood & Enjoyable Experience	43.79%
Religious Requests & Discussions	18.34%
Patient-Initiated Requests for Future Services	7.10%
Appreciation to Hospital for Offering Music Therapy Services	4.73%
Hospital Satisfaction/Experience	3.55%

CHAPTER V: DISCUSSION

Results

Results from this study suggested an association between receiving music therapy services and patients' perceptions of the hospital environment, specifically the quietness of the area at night. The chart review revealed that MT-BCs frequently addressed goals for relaxation with patients, patients often requested assistance with relaxation, and patients also commonly reported "feeling better" and having an increase in their relaxation following music therapy. MT-BCs also consistently reported observing decreases in muscle tension, improved breathing, and a relaxed affect following music therapy. Relaxation was regularly being addressed, and it is plausible that with increased relaxation, patients were experiencing improved sleep and were less disturbed by environmental noises that may have been present. Such was the case for Comeaux and Steele-Moses (2013), who found patients to have a significant increase in environmental noise satisfaction following music therapy.

Additionally, patients in this health care system were commonly referred to music therapy when experiencing anxiety. According to the chart review, music therapy services often involved a period of verbal processing. Patients spoke of their personal concerns and emotions to the MT-BCs. This is consistent with previous research that has observed an effectiveness of music therapy to serve as an avenue for communication and connection between patients, family, and staff (Leow et al., 2010; Magill, 2009; Wilson et al., 2016). Music therapy may have aided in decreasing patients' anxiety, also leading to increased relaxation that aided in their quality of sleep.

Although not significant at $p = 0.008$, those in the music therapy group tended to rate that their room and bathroom was "always" kept clean compared to those in the non-music

therapy group. This result is similar to that found by Littlefield (2012). However, it is likely that a confounding variable exists within these findings, as it seems debatable that music therapy would be associated with room cleanliness. This was the first known study to examine a possible relationship between music therapy and satisfaction with hospital cleanliness on the HCAHPS, so future research would need to further investigate what other factors may have led to these results.

Results of the study also indicated a significant decrease in pain for music therapy patients who had pre-music therapy and post-music therapy pain scores. These results confirmed previous research that demonstrated the effectiveness of music therapy for pain management (Ball & Kleba, 2010; Chetta, 1981; Goloff, 1981; Humphries, 2013; Kain et al., 2004; Madson & Silverman, 2010; Mandel et al., 2014; Mondanaro, 2013; Negrete, 2011; Norris et al., 2016). Pain scores were not always captured both before and after music therapy, but qualitative data also revealed that patients experienced decreased pain. Patients reported “feeling better,” that they “forgot about the pain,” and that they appreciated the co-treatment between massage therapy and music therapy. Although a significant correlation was not found between mean pain change and HCAHPS scores regarding pain, previous research has provided ample reason for hospitals to continue investing in patients’ satisfaction with their pain management, as patients who perceived their pain as better managed had increased HCAHPS scores (Mazurenko et al., 2017). The results of this study indicated that music therapy was an effective means to managing patients’ pain, even though HCAHPS scores regarding pain management were not significantly different between groups.

Statistical analysis also revealed that patients who received music therapy had significantly longer stays in the hospital. Table 1 demonstrated that it is unlikely that LOS was

correlated with the MS-DRG, as participants in both groups spanned across many diagnoses. The percentage of patients in the music therapy and non-music therapy group were not evenly divided in every MS-DRG category. However, there did not appear to be a consistent MS-DRG in the music therapy group that might have explained the longer LOS. Rather, participants in the music therapy group likely had longer LOS due to more severe or complicated illnesses. Without reviewing full medical records, it is impossible to know the level of severity of each patient's hospital stay, as the MS-DRGs only provided a brief synopsis of their hospital stay. However, it is plausible that with more severe illnesses, these patients may have experienced increased pain and anxiety, two of the most common reasons for music therapy referral in this study. Because these patients were in the hospital longer, there was also more time for music therapy to be added into their treatment plan. As Slater et al. (2017) suggested, patients with longer stays may have also been referred more frequently as a way to help decrease the monotony that can occur during extended hospital stays.

The meta-analysis by Mazurenko et al. (2017) found that patients with shorter hospitalization stays had higher levels of satisfaction than those with longer LOSs. Because participants in the music therapy group had significantly longer LOSs, it is possible that patient satisfaction may have been impacted by this difference between groups. Although not statistically significant, the music therapy group had slightly higher scores in all HCAHPS categories, except likelihood to recommend, which was equivalent to the non-music therapy group. Perhaps receiving music therapy helped increase satisfaction in patients with longer LOSs, making their level of satisfaction more equal to those who had shorter LOSs. Future research should examine if there are differences in patient satisfaction between those with shorter and longer LOSs when music therapy is provided to all participants.

The null hypothesis regarding hospital recommendation could not be rejected, as those who received music therapy services were not significantly more likely to recommend the hospital than those who did not receive music therapy services. This result is contradictory of findings by Mandel et al. (2014) and Slater et al. (2017). Yinger and Standley (2011) also found higher satisfaction related to nursing care for patients who received music therapy. The same results could not be confirmed in this study. Perhaps the increased LOS in the music therapy group had an impact on these results, but future research would need to confirm this suggestion.

In regard to overall hospital rating, the same results were found in this study as Mandel et al. (2014). Patients who received music therapy did not give a higher overall hospital rating than those in the non-music therapy group. Although overall hospital rating and likelihood to recommend the hospital were not significantly higher for music therapy participants, chart review indicated that MT-BCs were sometimes receivers of information from patients regarding their overall hospital satisfaction. A few MT-BCs reported instances in which patients told them about the positive experience they had with the hospital, as well as their appreciation to the hospital for offering music therapy services. As MT-BCs were not aware of the study, the instances in which this topic was included in the music therapy chart were unplanned. It is possible that other similar discussions occurred but were not recorded in the patient's music therapy chart notes. Future research would need to examine the frequency to which patients' hospital experience and overall satisfaction is disclosed to MT-BCs.

MT-BCs had the opportunity to engage in conversation with patients during the sessions. Music therapy services seemed to provide an avenue for other psychosocial needs to be addressed. It is likely that the discussions with the MT-BC may have been different than those that occurred with doctors and nurses. As patients sometimes disclosed their medical

experiences and hospital satisfaction to the MT-BCs, it appeared that MT-BCs may have been serving as a conduit between nurses and doctors and their patients. This could be valuable to the hospitals. As part of the multidisciplinary team, MT-BCs may need to communicate pertinent information to hospital staff regarding patients' care, requests, and satisfaction, which may have otherwise gone unknown.

Being multidisciplinary, MT-BCs may play an important role working alongside chaplains as well. As indicated by chart review, several patients initiated spiritual discussions and requested religious music. Similar to findings by Wlodarczyk (2007) and Burns et al. (2015), music therapy appeared to serve as an avenue for patients to address spiritual needs and desires. As previous research indicated a relationship between spiritual care and patient satisfaction (Jun et al., 2016; Mazurenko et al., 2017; McNeill et al., 1998), MT-BCs may have a unique ability to assist. In this study, only 5 music therapy patients were visited by a chaplain, while 31 of the music therapy visits included a spiritual element, as noted in the patients' charts. As demand may prevent chaplains from visiting every patient looking for spiritual support, MT-BCs can work alongside chaplains to promote spiritual well-being, while also referring patients that may have otherwise been missed.

Limitations

Several participants who returned the HCHAPS elected to not answer certain questions on the survey. Because of this, it was necessary for the researcher to exclude participants from data analyzes in which they did not answer every question in the category (i.e., care from nurses, care from doctors, hospital environment, and pain management). This created different sample sizes for each analysis and may have contributed to inconclusive results. Eliminating

participants with incomplete responses from the study entirely would have resulted in a much smaller sample size.

Per instructions from the health care system's IRB, the non-music therapy group was randomly selected amongst the 3,394 who were eligible. Although the process for selection was randomized, it is possible that there were still differences between the two groups. Future researchers should consider using a matched case-control group, matched based on demographics, diagnosis, LOS, etc., to better ensure comparison groups are similar. This could also provide further insight as to how music therapy may impact particular demographics' patient satisfaction either differently or similarly to the results in this study. Furthermore, upon receipt of the data, the researcher found that 91 patients intended to be in the music therapy group had to be removed because they did not actually receive music therapy services for various reasons. This led to unequal group sizes, unequal variances, and a loss of statistical power.

Review of music therapy charts provided substantial information regarding patients' music therapy experiences. The researcher of this study was the sole reviewer of the chart notes. Therefore, key themes were formulated based on one individual's review. Furthermore, because chart data was recorded by several MT-BCs, it is likely that there was less continuity in recording between MT-BCs. What was included in the chart was at the discretion of the MT-BC, based on what he or she thought was valuable information, and based on his or her particular hospital's protocols. Additionally, being that this study was retroactive, MT-BCs were not aware of the study when they recorded data in the patients' charts. Although this likely helped reduce bias, prospective research in which the MT-BCs are aware of the study may help provide more continuity in what is recorded in the charts. Specifically, it might be requested that all MT-BCs include any data regarding patients' satisfaction and hospital experience that occurs during the

visit. This study examined potential relationships that may exist between music therapy and patient satisfaction, and a casual effect cannot be assumed, as there are potential confounding variables in existence. The music therapy programs at these hospitals were a part of the Integrative Therapies Department, which also offered massage therapy, acupuncture, and healing touch therapies. Chart review indicated that MT-BCs sometimes co-treated with other therapy disciplines. It is unknown how these other therapies, as well as other services, such as chaplain services, may have impacted patient satisfaction. Previous research indicated that there are many factors that impact patient satisfaction, and therefore, it is likely that patients' other experiences played a role in their satisfaction at these hospitals as well (Mazurenko et al., 2017).

Another potential confounding variable existed due to the fact that HCAHPS was a voluntary survey that was randomly distributed to patients. It is possible that those who chose to complete the HCHAPS survey had strong feelings regarding their satisfaction, either highly positive or highly negative. Those who had an average experience may have been less inclined to complete the survey, creating a lack of representation. Furthermore, because of the VBP incentive payment structure, data analysis was run based on the number of most positive ("top-box") responses. Participants with scores anywhere below the top answer were discredited, regardless if the response was "Usually" or "Never." Future research should examine differences between the most negative, average, and higher than average responses.

Conclusions and Future Research

The results of this study indicated that a relationship between music therapy services and patient satisfaction may exist. However, like previous research, the results are inconclusive. Although some results were consistent with previous research, other results were contradictory. Examining relationships between music therapy and patient satisfaction is relatively new, and a

standard protocol for conducting music therapy and patient satisfaction research has not yet been established. Each study has utilized different methods and measures, making it difficult to create consistent conclusions across research.

With increased focus on patient satisfaction, it is important that music therapists continue to explore how their services impact patients' experiences. However, as similarly noted by Mandel, Davis, and Secic (2019), results from this study suggested that the HCAHPS may not be the most appropriate indicator to study relationships between music therapy and patient satisfaction. As HCAHPS is a national, standardized survey, it did not contain questions specific to music therapy. A standardized assessment tool should be established to specifically address music therapy's impact on patient satisfaction (Mandel et al., 2019; Yinger & Standley, 2011).

For this study, the best indicator that music therapy services were valuable to patients existed within the music therapy charts. In addition to increases in relaxation and decreases in pain, many patients mentioned how music therapy made them "feel better," elevated their mood, and was an enjoyable experience. Furthermore, almost all chart notes indicated that the patients and families expressed gratitude for the services, and some specifically requested additional music therapy visits. These observations demonstrated that music therapy had a positive impact on patients' experiences while in the hospital. Finding a more applicable and comprehensive method that directly measures music therapy's relationship with patient satisfaction will provide additional evidence for the benefits of music therapy within hospital settings.

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APPENDIX A: HCAHPS SURVEY

HCAHPS Survey

SURVEY INSTRUCTIONS

- ◆ You should only fill out this survey if you were the patient during the hospital stay named in the cover letter. Do not fill out this survey if you were not the patient.
- ◆ Answer all the questions by checking the box to the left of your answer.
- ◆ You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:
 - Yes
 - No → *If No, Go to Question 1*

You may notice a number on the survey. This number is used to let us know if you returned your survey so we don't have to send you reminders.
Please note: Questions 1-25 in this survey are part of a national initiative to measure the quality of care in hospitals. OMB #0938-0981

Please answer the questions in this survey about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

YOUR CARE FROM NURSES

1. During this hospital stay, how often did nurses treat you with courtesy and respect?
 - 1 Never
 - 2 Sometimes
 - 3 Usually
 - 4 Always
2. During this hospital stay, how often did nurses listen carefully to you?
 - 1 Never
 - 2 Sometimes
 - 3 Usually
 - 4 Always

3. During this hospital stay, how often did nurses explain things in a way you could understand?
 - 1 Never
 - 2 Sometimes
 - 3 Usually
 - 4 Always
4. During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?
 - 1 Never
 - 2 Sometimes
 - 3 Usually
 - 4 Always
 - 9 I never pressed the call button

YOUR CARE FROM DOCTORS

5. During this hospital stay, how often did doctors treat you with courtesy and respect?
- ¹ Never
² Sometimes
³ Usually
⁴ Always
6. During this hospital stay, how often did doctors listen carefully to you?
- ¹ Never
² Sometimes
³ Usually
⁴ Always
7. During this hospital stay, how often did doctors explain things in a way you could understand?
- ¹ Never
² Sometimes
³ Usually
⁴ Always

THE HOSPITAL ENVIRONMENT

8. During this hospital stay, how often were your room and bathroom kept clean?
- ¹ Never
² Sometimes
³ Usually
⁴ Always
9. During this hospital stay, how often was the area around your room quiet at night?
- ¹ Never
² Sometimes
³ Usually
⁴ Always

YOUR EXPERIENCES IN THIS HOSPITAL

10. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
- ¹ Yes
² No → If No, Go to Question 12
11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
- ¹ Never
² Sometimes
³ Usually
⁴ Always
12. During this hospital stay, did you have any pain?
- ¹ Yes
² No → If No, Go to Question 15
13. During this hospital stay, how often did hospital staff talk with you about how much pain you had?
- ¹ Never
² Sometimes
³ Usually
⁴ Always
14. During this hospital stay, how often did hospital staff talk with you about how to treat your pain?
- ¹ Never
² Sometimes
³ Usually
⁴ Always

15. During this hospital stay, were you given any medicine that you had not taken before?

¹ Yes

² No → If No, Go to Question 18

16. Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?

¹ Never

² Sometimes

³ Usually

⁴ Always

17. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?

¹ Never

² Sometimes

³ Usually

⁴ Always

WHEN YOU LEFT THE HOSPITAL

18. After you left the hospital, did you go directly to your own home, to someone else's home, or to another health facility?

¹ Own home

² Someone else's home

³ Another health facility → If Another, Go to Question 21

19. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

¹ Yes

² No

20. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

¹ Yes

² No

OVERALL RATING OF HOSPITAL

Please answer the following questions about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

21. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?

⁰ 0 Worst hospital possible

¹ 1

² 2

³ 3

⁴ 4

⁵ 5

⁶ 6

⁷ 7

⁸ 8

⁹ 9

¹⁰ 10 Best hospital possible

22. Would you recommend this hospital to your friends and family?

- ¹ Definitely no
² Probably no
³ Probably yes
⁴ Definitely yes

**UNDERSTANDING YOUR CARE
WHEN YOU LEFT THE HOSPITAL**

23. During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.

- ¹ Strongly disagree
² Disagree
³ Agree
⁴ Strongly agree

24. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

- ¹ Strongly disagree
² Disagree
³ Agree
⁴ Strongly agree

25. When I left the hospital, I clearly understood the purpose for taking each of my medications.

- ¹ Strongly disagree
² Disagree
³ Agree
⁴ Strongly agree
⁵ I was not given any medication when I left the hospital

ABOUT YOU

There are only a few remaining items left.

26. During this hospital stay, were you admitted to this hospital through the Emergency Room?

- ¹ Yes
² No

27. In general, how would you rate your overall health?

- ¹ Excellent
² Very good
³ Good
⁴ Fair
⁵ Poor

28. In general, how would you rate your overall mental or emotional health?

- ¹ Excellent
² Very good
³ Good
⁴ Fair
⁵ Poor

29. What is the highest grade or level of school that you have completed?

- ¹ 8th grade or less
² Some high school, but did not graduate
³ High school graduate or GED
⁴ Some college or 2-year degree
⁵ 4-year college graduate
⁶ More than 4-year college degree

30. Are you of Spanish, Hispanic or Latino origin or descent?
- ¹ No, not Spanish/Hispanic/Latino
 - ² Yes, Puerto Rican
 - ³ Yes, Mexican, Mexican American, Chicano
 - ⁴ Yes, Cuban
 - ⁵ Yes, other Spanish/Hispanic/Latino

31. What is your race? Please choose one or more.
- ¹ White
 - ² Black or African American
 - ³ Asian
 - ⁴ Native Hawaiian or other Pacific Islander
 - ⁵ American Indian or Alaska Native

32. What language do you mainly speak at home?
- ¹ English
 - ² Spanish
 - ³ Chinese
 - ⁴ Russian
 - ⁵ Vietnamese
 - ⁶ Portuguese
 - ⁹ Some other language (please print):

THANK YOU

Please return the completed survey in the postage-paid envelope.

[NAME OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

[RETURN ADDRESS OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

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