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The Effect of Vocal Style on Perceived Empathy, Rapport, Patient Engagement, and Competency of Music Therapists

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THE EFFECT OF VOCAL STYLE ON PERCEIVED EMPATHY, RAPPORT, PATIENT ENGAGEMENT, AND COMPETENCY OF MUSIC THERAPISTS

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I wouldn't be here without my faith in Jesus Christ and love from precious parents, Steve and Shereida Jones.

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ABSTRACT

Music therapy is unique due to the integration of music and therapeutic interactions to achieve functional outcomes among clients. The purpose of this study was to investigate if singing with accurate vocal style in a music therapy session affected perceived therapeutic outcomes of a music therapy session, including perceived empathy and competency of music therapists, rapport between patient and therapist, therapeutic value of interactions, and patient engagement. Participants ($N = 42$) were adults 20 – 81 years old who were part of the music ministry at a local religious organization. Participants were randomly assigned to four groups and viewed a series of four videos depicting a mock music therapy session that included excerpts of a gospel, jazz, pop, and country song either with or without vocal style. Participants rated dependent measures on a five-point Likert-type rating scale. Overall results indicated a significant difference between no style and style genres regardless of therapeutic outcome measure or musical genre. Further results showed significant differences in perceived rapport, therapeutic value, and patient engagement in country, jazz, and gospel genres and perceived competency in the jazz genre. Findings suggested that vocal style is important in music therapy practice as it enhances perceived therapeutic outcomes. Implications for practice are discussed.

CHAPTER 1

INTRODUCTION

Music therapy is a growing allied health profession built on two components: therapeutic interactions and the use of music. Therapeutic interactions include the use of therapeutic techniques and interventions to build rapport and reach therapeutic goals. The use of music includes musical interventions to build rapport and reach therapeutic goals. Music therapy is unique due to the integration of music with therapeutic interactions to achieve functional outcomes among clients (Gooding, 2018). Music therapists must consider patient preference, quality of the music interaction, and stylistic accuracy when using music during sessions to ensure meaningful therapeutic outcomes are present. A music therapist's individual skill set paired with personal interactions can highly influence therapeutic outcomes (Kain et al., 2004, Davis, Gfeller, & Thaut, 2008). When musical components are successfully combined with therapeutic techniques, patient engagement in the therapeutic process is maximized (O'Callaghan & Colegrove, 1998; Groene, 2001; Clair, 2002; Cevassco, 2008).

In considering musical interactions, the voice is perhaps one of the most used instruments in music therapy as it is applicable and accessible in a scope of settings and populations (Gregory & Belgrave, 2009). Music therapists must consistently sing music that is preferred by clients, which requires therapists to learn a wide range of music from a variety of music genres and styles (Prickett & Bridges, 2000; VanWeelden & Cevasco, 2007; VanWeelden, Juchniewicz, & Cevasco, 2008; VanWeelden & Cevasco, 2010; Cevasco-Trotter & VanWeelden, 2014). As a result, it is important that the vocal qualities of the music therapist match the patient's preferred genre in order to maximize therapeutic outcomes.

Operational Definitions

Four musical genres were measured in this study to cover an eclectic range of stylistic singing: country, jazz, pop, and gospel. For the purposes of this study, definitions of music genres were adapted from a dissertation by Ginocchio (2006). These include the following:

Pop: Characterized by simple, catchy, and memorable melodies generally accompanied by acoustic, non-distorted or lightly distorted guitar and sometimes synthesizer; the music generally has a lighter or less stressful quality of sound; topics are generally radio friendly.

Country: Music derived from the southern country tradition and gospel music; simple in form; built around simple progressions and plain melodies; commonly uses acoustic, non-distorted, or lightly distorted guitar.

Jazz: Often called New Orleans jazz or Dixieland is performed by small groups using a variety of instruments including piano, drums, guitar or banjo, and various brass or woodwind instruments; featured several moving parts at the same time; improvisation and embellishment is common; developed from ragtime, marches, and blues; generally played at lively tempos over 160 beats per minute.

Gospel: Simple in form; built around simple progressions and plain melodies; topics generally related to faith or family.

Purpose

The purpose of this study was to investigate the effect of singing with accurate vocal style during a music therapy session on perceived therapeutic outcomes, including empathy and competency of the music therapist, rapport between patient and therapist, therapeutic value of interactions, and patient engagement.

Research Questions

1. Does vocal style affect perceived empathy of the music therapist?

2. Does vocal style affect perceived competency of the music therapist?

3. Does vocal style affect perceived rapport between the music therapist and patient?

4. Does vocal style affect the perceived therapeutic value of a music therapy session?

5. Does vocal style affect perceived patient engagement?

CHAPTER 2

REVIEW OF LITERATURE

Therapeutic Interactions

Nonverbal Behaviors

Music therapy is built on two components: therapeutic interactions and music. According to Gooding (2018), both the patient-therapist relationship and the clinical application of the music contribute to patient outcomes. In considering therapeutic interactions, a number of nonverbal behaviors are expected of music therapists to increase patients' positive perceptions of the interaction. These include concepts like proximity, affect, eye contact, gestures, and others. According to Standley and Jones (2007), proximity is a key aspect of therapeutic interactions (p. 24). Jones and Cevasco (2007) compared music therapy students' and professional music therapists' nonverbal behavior and found that professional music therapists varied facial expressions and maintained close proximity to patients significantly more than students. Moreover, when therapists use proximity combined with high affect, participants in group music therapy sessions evidenced positive affect and accuracy of participation (Cevasco, 2010). However, in a comparison of music therapy students' and professional music therapist' nonverbal behavior by Jones and Cevasco (2007), professional music therapists varied facial expressions and maintained close proximity to patients significantly more than students. In addition to proximity and affect, forward trunk leans and high eye contact have been shown to enhance perceived therapist empathy, therapeutic alliance, and treatment credibility (Nia & Jeffrey, 2013). These skills are highly important to include in music therapy interactions since they also influence perceived rapport. In examining preservice music teachers' and therapists' nonverbal behaviors, Darrow and Johnson (2009) suggested that eye contact and the use of

gestures were rated as most important in building rapport. Nonverbal behaviors are vital to utilize as a music therapist because of their ability to enhance therapeutic outcomes like perceived competency of the music therapist, rapport, and therapeutic value.

Empathy and Engagement

Therapists' nonverbal behaviors positively affect therapeutic outcomes but also impact patients' empathy and engagement in music therapy interactions. Though not clinical music therapy, Rabinowitch, Cross, and Burnard (2013) tested emotional empathy of students participating in a music group interaction (MGI) for an entire elementary school year. Results indicated that students' emotional empathy scores were higher for the students who participated in MGI. This demonstrated that music impacted empathy in individuals receiving services, but not if music changes perceived empathy within the therapeutic relationship.

Though evidence of music therapy's influence on perceived empathy is still growing, a large body of research demonstrates music's effect on patient engagement. O'Callaghan and Colegrove (1998) examined engagement in the context of a patient consenting to and experiencing live music therapy services. Findings suggested that patients were more likely to engage in music therapy when (a) they had heard music therapy in the distance before meeting the therapist; (b) their musical preferences were discussed; (c) live music was offered with no further mention of music therapy; and (d) the patients were rated as experiencing a moderate level of physical discomfort (O'Callaghan & Colegrove, 1998). Once patients consent to receiving services, music therapy applications have shown to be effective in increasing music engagement in caregiving and care receiving couples, which may carry over into visitations without music (Clair, 2002). In addition to interactions with caregivers, Hogan and Silverman (2015) found music therapy increased patient engagement by fostering dialogue concerning local

and global stressors and coping skills through the use of coping-infused dialogue through patient-preferred live music (CID-PPLM). Music has shown to encourage engagement in the individual setting, but may also effect group behavior. Groene (2001) revealed that differences in song presentation influenced attention, leaving the group, reading lyrics, complements, and applause in adults with dementia. As evidenced, music therapy is credited for increasing overall engagement in individual and group settings.

Therapist Effect

Though therapists' nonverbal interactions in music therapy positively impacts perceived rapport and patient engagement, results are still dependent on the individual therapist. In studying music therapy as a treatment for preoperative anxiety in children by Kain et al. (2004), researchers concluded that treatment outcomes were linked to therapist effectiveness. In fact, the researchers found a significant difference based on the therapist implementing the intervention. Though the same interventions were used, anxiety was higher for children in one therapist's group, which showed that the outcomes of music therapy may be highly dependent on an individual music therapist's skill. This demonstrated the effect that individual nonverbal behaviors can have on therapeutic outcomes. Additionally, Darrow and Johnson (2009) determined that perceived rapport ratings were not dependent upon nonverbal behaviors alone, but on the verbal behaviors and musical skills. This implied that not only are an individual therapist's skills important, but that the therapist's music skills are also vital in music therapy practice.

Music Interactions

Music Competencies

The American Music Therapy Association (AMTA) is the professional organization dedicated to supporting the music therapy profession through the advancement of music therapy research, training, and professional standards. AMTA sets competency-based standards for education and clinical training, which includes musical competencies. In general, music therapists must "perform appropriate undergraduate repertoire; demonstrate musicianship, [and] technical proficiency" (AMTA, p. 4.1.3, 4.1.4, 4.2). Furthermore, music therapists must demonstrate functional musical skills in voice, piano, guitar and percussion. Competencies call for therapists to "play and sing a basic repertoire of traditional, folk, and popular songs" and "sing in tune with a pleasing quality and adequate volume" (AMTA, 2013). These are competencies for professional-level music therapists; advanced competencies also exist for therapists with extensive professional experience and/or further education and/or training (e.g., receiving clinical supervision, a graduate degree, and/or advanced training). In regards to music and artistic development, therapists with advanced competencies should have skills to improvise in a variety of musical styles, utilize [an] extensive and varied repertoire of popular, folk, and traditional songs, and apply advanced musical skills in the clinical use of at least two required instruments (AMTA, 2015). Musical requirements for advanced practicing music therapists are much more detailed and encompass requirements for a variety of styles.

In contrast, the Certification Board for Music Therapists (CBMT), who provide credentials to music therapists, mention little about musical skills in the Scope of Music Therapy Practice. The scope simply states that music therapists must employ functional skills with voice, keyboard, guitar, and percussion, and recommend that professional development should include

the expansion of music skills (CBMT, 2015). The above competencies from AMTA and CBMT encourage music therapists to successfully apply a variety of musical interventions.

Guitar Training

An important element in competency-based training is the use of the guitar. The guitar is perhaps the second principle instrument behind voice for a music therapist due to its importance, frequent use, and functional application in most clinical settings (Gregory & Belgrave, 2009). Many research studies have evaluated various methods of teaching requisite guitar skills for music therapist, using strategies including behavior contracts (Gooding, 2009), video modeling (Wlodarczyk, 2010), alternate tunings (Leist, 2015), and through the Guitar Songleading Performance Scale (GSPS) (Silverman, 2011). In teaching guitar, a number of studies have examined the importance of guitar accompaniment and style. In a 2001 survey of course offerings in music therapy degree programs, Kennedy revealed that guitar principle students study a variety of popular styles including jazz, country/western, and folk, but that a number schools solely focus on classical repertoire. To emphasize the importance of guitar accompaniment on therapeutic outcomes, Groene (2001) compared the effect of simple vs. complex guitar accompaniment. Results indicated that patients were more engaged in music making in the complex condition, and recommended that music therapy curriculums should require advanced guitar accompaniment skills to enhance observed therapeutic outcomes. Haack and Silverman (2016) completed a similar study with the same music conditions and found that both the simple and complex guitar picking styles increased mood means because both were aesthetically pleasing. This outcome suggests that individual music therapists must be strong, functional musicians to be able to accompany in an aesthetically pleasing manner, no matter how complex the accompaniment may be, in order to reach therapeutic goals.

Vocal Training

Though much research exists on teaching guitar, very little research exists on teaching voice to music therapists, one of the most used instruments in music therapy, or how the voice may affect therapeutic outcomes. There is especially little research on teaching styles other than classical. LoVetri and Weekly (2003) proposed that this was due to contemporary commercial music is only around 100 years old, with most changes taking place in music theater, compared to the several hundred years that classical singing has been in existence. Their survey determined that those teaching contemporary commercial music had neither formal education in teaching it nor professional experience. A 2009 follow-up study showed that little had changed regarding who taught contemporary styles (Weekly & LoVetri, 2009). Similarly, one music therapy study discussed vocal competency requirements, but it is included in the Guitar Songleading Performance Scale and only rated singing with correct pitches and varied singing for music expression (Silverman, 2011). Additionally, Standley and Jones (2007) indicated in music therapy student competency checklists that vocals should be in tune with a pleasing quality (p. 24).

Though few studies discuss how vocal training is taught in music therapy programs, a few studies have observed the impact of the voice in music therapy to change therapeutic outcomes. Low levels of vibrato and the male voice were most preferred in children (LeBlanc & Sherrill, 1986). In regards to vocal range, Cevasco (2008) found that music therapy majors opted to sing in higher keys; however, the range that students preferred to sing did not always match the vocal range of the population, which could perhaps lead to decreased participation in group members. In considering timbre, Silverman and Schwartzberg (2014) determined in patients working on memory recall that participants tended to have more accurate recall during male

voice conditions. Vocal expressivity has also been shown to be an important aspect in music therapy. In a master's thesis measuring listener preference for music therapists' performance of familiar popular songs (Chason, 2014), the author concluded that students should focus more specifically on musical skills like singing and expressiveness rather than attempting to emulate stylistic or rhythmic components of the original recording of a song. These findings also suggested that learning broader stylistic components of a certain genre are important for music therapy students (Walworth, 2003). Evidence implies that singing and vocal style are important in the field of music therapy, but as demonstrated, little research examines if vocal style plays a role in therapeutic outcomes of music therapy sessions. However, research does support the use of patient preferred music to support therapeutic interventions.

Preferences and Repertoire Training

Patient preference is an important aspect of music therapy practice and training since individuals have partialities throughout the lifespan that shape their musical preferences. Even in the early stages of development, Standley and Madsen (1990) discovered that infants could discriminate between their mother's voice and another female voice. As individuals develop, research shows there are certain familiar tunes that enhance learning outcomes in young children (Humpal, 1998). Adulthood brings the peak of musical preferences, including genre familiarity (Tan, 2015) and awareness of the presence of important cultural elements like diction and articulation (Viega, 2016; Hakvoort, 2015). Music preferences can include countless songs and genres since individuals develop preference throughout their entire lives. Regardless, studies have found that therapists can still effectively use patient preferred music to achieve therapeutic goals when broadened to include musical characteristics within specific genres, not just when

using patient-specific songs (Walworth, 2003). Because playing in a certain genre is as effective as using specific songs, repertoire training is a key element in music therapy training.

Though the present study did not focus on a specific population, a large body of literature exists in examining song repertoire for older adults. In comparing music therapy majors' and senior citizens' recognitions, music therapy students knew more songs intended for older adults than the older adults knew (Prickett & Bridges, 2000). As songs intended for older adults did not align with what the therapists knew, VanWeelden and Cevasco (2007) conducted a survey of music therapists reviewing repertoire recommendations for geriatric clients during singing activities. Results indicated that popular music was the style category with the greatest number of song recommendations followed by folk songs, songs from musicals, hymns, and patriotic songs. From these recommendations, the authors conducted a descriptive study of music therapy students' recognition of this popular song repertoire (VanWeelden, Juchniewicz, & Cevasco, 2008). These findings showed that students had previously heard many of the songs, but there were no indications that they could name the song title or decade, which proposed that an important skill for music therapy students is to correctly identify song titles by their melody in order to locate the correct music and lyrics for clinical use. Finally, in a survey which compared geriatric clients and music therapy students, 90% of geriatric clients had heard most of the songs (28 out of 32), as opposed to only 80% of graduate and undergraduate students who had heard even fewer songs (18 to 20 out of 32) (VanWeelden & Cevasco, 2010). In a similar follow-up study of music therapists, the therapists knew songs from the 1900s and 1910s more than any other decade (Cevasco-Trotter & VanWeelden, 2014). These studies solely examine suggested repertoire for therapists, but do not include information on guitar or vocal stylistic elements of the preferred genres and their influence on therapeutic outcomes.

A few studies consider vocal qualities in repertoire training. Moore, Staum, and Brotons (1992) investigated preferences of older adults and determined that slower and moderate tempos were preferred over faster tempos and vocal tessituras most suitable form this group would be between F3 and C5 for women and around an octave lower for men. Similarly, Yinger and Springer (2016) found that songs most frequently used by music therapists with older adult clients tended to be in major keys and that many of them were meant to be performed at a moderate tempo. Both these studies indicate that therapists should be conscious of using appropriate keys for certain populations. Even though this concept is taught to music therapy students, Cevasco (2008) discovered that students still did not put songs in appropriate keys for older adults. Besides these studies, there is no other literature examining vocal qualities in music therapy repertoire training or their effects on therapeutic processes.

Patient Preferred Live Music

Patient preferred live music (PPLM) is a receptive music therapy intervention that is used in a variety of settings for a number of patient goals. Standley (2000) revealed in a meta-analysis of music research in medical treatment settings that PPLM demonstrated the greatest effect size ($ES = 1.40$, $d = 30$), while those using live music presented and chosen by a trained music therapist also showed a reasonably large effect size ($ES = 1.13$, $n = 16$). Since then, Silverman, Letwin, and Nuehring (2016) found that the intervention was widely accepted by a number of authors as an applicable receptive music therapy technique and supported that certain populations may prefer receptive interventions. Results across eight studies included in the review supported PPLM as an applicable intervention for pain, nausea, affective states, and physiological measures (Silverman, Letwin, & Nuehring, 2016). PPLM has also shown benefits in improving quality of life indicators such as anxiety, perception of hospitalization or procedure,

relaxation, and stress (Walworth, Rumana, Nguyen, & Jarred, 2008). In comparing live vs. recorded music therapy with patients undergoing magnetic resonance imaging (MRI), Walworth (2010) proposed that subjects who received live music therapy reported significantly better perception of the MRI procedure and had fewer scans repeated due to movement. PPLM effect physiological measures, but may also have neurological benefits.

Because PPLM is well-documented as an effective intervention, Ramaswami and Silverman (2018) performed a literature review to explore PPLM from a neuroscience perspective. Results signified extensive neuroscience research regarding the brain's neurological response to music, predominantly activating dopamine release and reward systems. This response to music suggested exposure to familiar stimuli and the act of making a choice may both be neurologically reinforcing. However, additional research is required to rationalize PPLM from a neurologic standpoint. To implement PPLM as an effective music therapy intervention, it is important for music therapists to know a large number of songs to meet patients' needs (Cevasco-Trotter, VanWeelden, & Bula, 2014), but also that the vocal style the music therapist utilizes matches the patients' preconceived concepts of what the preferred genre should sound like. Vocal, guitar, and repertoire training aid in establishing knowledge to successfully implement interventions like PPLM. Yet, if the vocal qualities of a music therapist do not match the patients' preferred style, the music may not be maximizing patients' goals. A music therapist's individual musical skill sets may alter the therapeutic outcomes of a patient interaction.

Purpose of Study

The purpose of this study was to investigate if singing with accurate vocal style in a music therapy session affects perceived therapeutic outcomes, including empathy and

competency of the music therapist, rapport between patient and therapist, therapeutic value of interactions, and patient engagement.

CHAPTER 3

METHODS

Participants and Setting

The participants (N = 42) for this study were adults, age range 20 – 81, who were part of the music ministry at a local religious organization in a mid-sized Southeastern city. Members who were board-certified music therapists were excluded from this study. The researcher recruited participants by obtaining permission from the music ministry director and attending a rehearsal to obtain individual consent (see Appendix C).

Data Collection

Therapeutic outcomes were measured using a Likert-type rating scale form created by the researcher (see Appendix A). It included four boxes for each video observed with five ratings for each video: 1) empathy of the music therapist, 2) competency of the music therapist, 3) rapport between patient and therapist, 4) therapeutic value of the interaction, and 5) patient engagement. Each rating used a 1-5 Liker-type scale, with one as "very poor" and five as "excellent." See Table 1 for operational definitions of dependent measures.

The data collection form also included a small demographic section located at the top of the first page asking participants to indicate their age, gender, years participating in music activities (choir, instrument lessons, etc.), and if they had ever worked with a music therapist. All questions required the participants to record their answers in the provided response space.

Equipment

Videos were recorded using a Canon PowerShot SX700 HS camera. Each video was edited for clarity using iMovie on a 2016 MacBook Air. Accompaniment was provided on a classical acoustic guitar.

Design and Procedure

In this two-group quasi-experimental study that was approved by the researcher's academic institution's full committee Institutional Review Board (see Appendix B), participants were randomly divided into four groups and each group was presented a series of four videos depicting a mock music therapy session between a music therapist and one patient. The videos included a one minute clip of the music therapist singing a country, gospel, jazz, and pop song with or without vocal style. Participants heard two genres without style and two genres with style. Genre order was randomized between groups. In this study, vocal style was defined as the ability of the voice to match specific musical elements that are associated with specific musical genres. These vocal elements included inflection, phonation, loudness, etc. After listening to each excerpt, participants were prompted to rate the excerpt using the Likert-type rating scale form.

Song Selection

The vocal repertoire for this study was chosen by the researcher from past clinical practice experience and with two stipulations: 1) within the tempo range of 70 – 90 bpm, and 2) demonstrates stylistic aspects from the represented genre. The songs selected to use for this study were: "Precious Lord" (gospel), "Let's Call the Whole Thing Off" by Ella Fitzgerald and Louis Armstrong (jazz), "With A Little Help from My Friends" by The Beatles (pop), and "Hey Good Lookin'" by Hank Williams (country). The no-style condition was modeled from a study by Butte, Zhang, Song, and Jiange (2008), which found that operatic singing is more chaotic than other singing styles in measures of vocal perturbation. For this study, the vocalist in the no style condition sang with no inflection, no riffs, a high amount of vibrato, and mixed / head voice in a more traditional singing style. In the style conditions, the vocalist included inflection on

appropriate phrases (i.e. country "twang," jazz "breathiness"), more amounts of chest voice, and vocal riffs. See Table 2 for operational definitions of vocal style for each genre. Guitar accompaniments included appropriate strumming patterns for each genre and was the same in both style and no-style conditions, ensuring only vocal styling was changed between the conditions.

Table 1

Dependent therapeutic outcome measures operational definitions

Dependent Measure	Definition
Empathy	Does the therapist understand and share the feelings, ideas, or desires of the patient?*
Competency	Does the therapist demonstrate the ability to successfully and efficiently meet the needs of the patient?
Rapport	How acquainted is the therapist with the patient? How much trust is established between therapist and patient?*
Therapeutic Value	Did music therapy improve the patient's quality of life and/or enhance the patient's wellness?
Engagement	How participatory was the patient in the music therapy session?

**Note: Definition adapted from Hanser (2000)*

Table 2

Vocal style operational definitions

Genre	Characteristics	References
Pop	• Vocal pressure closer to natural phonation • Lower pitch range • More speech-like than other styles • High in vocal shimmer and jitter	Thalen & Sundberg (2001) Butte, Zhang, Song, & Jiang (2008)
Country	• Low in vocal jitter and shimmer • No "speaker's formant" • Speech and singing are similar (including aspects of speaking dialect) • Very little vibrato • Use of higher sub-glottal pressures	Butte, Zhang, Song, & Jiang (2008) Cleveland, Sundberg, and Stone (2001) Leblanc & Sherrill (1986) Stone (2003)
Gospel	• Utilizes "moans, groans," specific scales and flatted notes, variety of melodic and textual improvisation • Concept of *spirit*, which includes high levels of emotion and energy released by performer • Levels of vibrato vary • Many different styles: traditional, southern, inspirational, contemporary • Very pronounced vibrato	Robinson-Martin (2009) Leblanc & Sherrill, (1986)
Jazz	• Vocal pressure closer to natural phonation • Lower pitch range • More speech-like than other styles • Full vibrato in traditional jazz, less vibrato in modern jazz	Thalen & Sundberg (2001) Leblanc & Sherrill (1986)

CHAPTER 4

RESULTS

Raw data were analyzed using VassarStats.net. Five independent t-tests were conducted: one for each therapeutic outcome measure, including perceived empathy, competency, rapport, therapeutic value, and patient engagement. An alpha level of .05 was set *a priori*.

Participant Demographics

Participants ($N = 42$) were adults, age ranging 20 – 81, $M = 55.47$, who were part of a local religious organization music ministry. Of the participants, twelve (28.57%) of the participants were male, 29 (69.04%) were female, and one (2.3%) did not specify. Music experience ranged from one to 74 years, $M = 36.94$ years. Fourteen percent (14.28%) of participants had previous experience working with a music therapist.

Overall Results

Results across all genres and therapeutic outcome measures between vocal style ($M = 4.278$, $SD = .797$) and no style ($M = 3.635$, $SD = 1.030$) groups were calculated. Results indicated a main effect for style with a significant difference between conditions, $t\ (838) = -10.11$, $p < .05$, $d = .69$.

Data Analysis per Research Question

Empathy

Overall results between style and no style in the perceived empathy rating regardless of genre were calculated. Results indicated a significant difference, $t\ (166) = -2.97$, $p < .05$, $d = 4.60$. Each genre was then examined for differences in perceived empathy of the music therapist based on no-style and style conditions. Results indicated there were no significant differences

between groups in any genre. See Table 2 for means and standard deviations and Table 3 for *t* test results and *p* values for respective genres.

Competency

Overall results between style and no style in the perceived competency rating regardless of genre were calculated. Results indicated a significant difference, t (166) = -2.8, $p < .05$, d = .433. Each genre was then examined for differences in perceived competency of the music therapist based on no-style and style conditions. Data indicated there were significant differences in the jazz condition. No other significant differences among genres were found. See Table 2 for means and standard deviations and Table 3 for *t* test results and *p* values for respective genres.

Rapport

Overall results between style and no style in the perceived rapport rating regardless of genre were calculated. Results indicated a significant difference, t (166) = -5.5, $p < .05$, d = .843 Each genre was then examined for differences in perceived rapport between patient and music therapist based on no-style and style conditions. Results indicated there were significant differences in country, jazz, and gospel. No significant differences were found in the pop genre between conditions. See Table 2 for means and standard deviations and Table 3 for *t* test results and *p* values for respective genres.

Therapeutic Value

Overall results between style and no style in the perceived therapeutic value rating regardless of genre were calculated. Results indicated a significant difference, t (166) = -5.88, $p < .05$, d = .908. Each genre was then examined for differences in perceived therapeutic value based on no-style and style conditions. Results indicated there were significant differences in country, jazz, and gospel. No other significant differences were found in the pop genre. See

Table 2 for means and standard deviations and Table 3 for *t* test results and *p* values for respective genres.

Patient Engagement

Overall results between style and no style in the perceived patient engagement rating regardless of genre were calculated. Results indicated a significant difference, $t(166) = -5.91$, $p < .05$, $d = .912$. Each genre was then examined for differences in perceived patient engagement based on no-style and style conditions. Results indicate there were significant differences in country, jazz, and gospel. No significance was found in the pop genre. See Table 2 for means and standard deviations and Table 3 for *t* test results and *p* values for respective genres.

Table 3

Means and standard deviations for respective genres

Genre	Country				Jazz				Pop				Gospel			
	Style		No Style		Style		No Style		Style		No Style		Style		No Style	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Empathy	4.428	.676	4.095	.700	4.380	.589	3.952	.864	4.333	.730	4.238	.700	4.380	.740	3.904	.830
Competency	4.476	.601	4.333	.730	4.523	.0511	4.000	.774	4.523	.511	4.142	.792	4.428	.746	4.333	.577
Rapport	4.333	.730	3.428	.925	4.476	.601	3.428	.870	3.952	.920	4.095	.830	4.142	.963	2.904	.889
Ther. Value	4.285	.783	3.380	.920	4.523	.679	3.190	.980	3.904	.830	3.667	1.110	4.000	1.140	3.000	1.000
Engagement	4.142	.853	3.285	1.101	4.714	.462	3.000	1.183	3.667	.912	3.809	1.123	3.952	1.023	2.523	1.030

Table 4

T test results and p values for respective genres

Genre	Country			Jazz			Pop			Gospel		
	t	*p*	*d*	*t*	*p*	*d*	*t*	*p*	*d*	*t*	*p*	*d*
Empathy	-1.57	.124	-	-1.88	.067	-	-.43	.669	-	-1.96	.056	-
Competency	-0.69	.494	-	-2.59*	.010	0.953	-1.85	.071	-	-.46	.648	-
Rapport	-3.52*	.001	1.086	-4.54*	.001	1.401	.53	.599	-	-4.33*	.001	1.335
Ther. Value	3.43*	.001	1.059	-5.12*	.001	1.581	-.79	.434	-	-3.02*	.004	.9325
Engagement	-2.82*	.007	0.870	-6.18*	.001	1.908	.45	.655	-	-4.51*	.001	1.392

Note: * denotes $p < .05$

CHAPTER 5

DISCUSSION

The purpose of this study was to investigate if singing with accurate vocal style in a music therapy session affects perceived therapeutic outcomes, including empathy and competency of the music therapist, rapport between patient and therapist, therapeutic value of interactions, and patient engagement. These differences were investigated among four different musical genres: jazz, pop, country, and gospel. A main effect was found between style and no-style conditions when evaluating all genres and therapeutic outcome measures, with a medium effect size, $p < .05$, $d = .69$. Furthermore, a significant difference was found for each therapeutic outcome measure between style and no style groups regardless of musical genre. When considering specific genres in relation to perceived rapport between patient and therapist, perceived therapeutic value, and perceived patient engagement in the session, there were significant differences in the jazz, country, and gospel genres. Additionally, vocal style affected perceived competency of the therapist in the jazz genre.

Results from the current investigation suggest that perceived competency of the music therapist was most affected by vocal style in the jazz genre. Therefore, music therapists may need to display advanced demonstrations of style when singing jazz music with patients. Furthermore, there were no significant differences found when specifically examining the pop genre. This could perhaps be due to a wide definition of "popular music." VanWeelden and Cevasco (2007) surveyed music therapists about repertoire choices and found that pop music was the style category with the greatest number of song recommendations, followed by folk songs. This suggests that music therapists regularly use pop. The Beatles song "With A Little Help From My Friends" was used as the pop example in this study. Popular music, in its broadest

sense, is any type of music experienced through mass media (Boyle, Hosterman, & Ramsey, 1981), which means a proliferation of diverse styles could be included under the umbrella of "pop" music. Therefore, someone who prefers more folk-pop or who prefers pop from a different decade may have diverse expectations when comparing vocal styles. The age range of participants in the present study was from 20 – 81 years old, with the mean age of 55. This too may have influenced the lack of significance in the popular genre as the definition of "pop" style may differ in individuals across the generations that were represented by participants.

Given that results from the present study showed a significant difference in terms of therapeutic outcome based on style vs. no style, music therapists should consider implementing vocal style into their music therapy practice to increase therapeutic outcomes. However, music therapists may not be receiving the training needed to effectively execute various styles. Previous research has suggested that music therapists desire greater musical training, including musical repertoire (Pitts & Cevasco, 2013), confidence in music skills and ear training (Clements-Cortes, 2015), vocal health issues (Hendry, 2001), and instrumental applications (Cohen et. al, 1997). Furthermore, previous research has found that music therapists desire more career-specific training. In a survey of music educators and music therapists by Baker and Cohen (2017), both types of professionals expressed doubt that their vocal training addressed techniques specific to their careers. Participants conveyed that university voice educators teach all students the same regardless of major. Moreover, the vocal repertoire they studied in applied voice lessons and classes did not prepare them for their jobs, prompting these professionals to express a desire for more career-focused vocal training. This finding suggests that music therapists may not be trained in terms of what is needed to be successful in the field of music therapy, especially in

regards to singing competencies. More research is needed to determine if current teaching practices are enough, or if the practices should be reevaluated to improve functional vocal skills.

No-style and style conditions varied greatly in this study, yet the voice used was aesthetically pleasing and on-pitch in both conditions. In other words, both conditions displayed acceptable singing in regards to professional competencies. This is similar to results from Haack and Silverman's (2016) guitar study in which both simple and advanced accompaniment measures produced positive responses. This suggests that both pleasant quality and pitch accuracy must be present to achieve successful therapeutic outcomes, regardless of style accuracy. These suggests that stylistic components in genres are important in addition to vocal expressiveness (Chason, 2014).

Limitations

There were several limitations within this study. First, videos produced were made only by using a camera microphone. Though vocal qualities could be clearly heard throughout the videos, there were some distortions and balancing issues that could have been alleviated by using a higher-quality microphone. The video depicted a volunteer mock "patient" who occasionally looked at the camera or smiled at the PI who was filming the interaction. These subtle nonverbal indicators could have slightly influenced viewer's perceptions of the interactions. A second limitation is that this study only utilized the female voice. There are a few studies that compare the effects of male vs. female voices (LeBlanc & Sherrill, 1986; Silverman & Schwartzberg, 2014), so the impact of voice type cannot be determined. It is important to note that this study examined healthy participants' perceptions, which may differ from patients' perception. All participants were also selected from a music ministry, indicating that all participants had previous musical experience and/or training (range 1 – 74 years, $M = 36.94$). This may suggest

that individuals with musical training may detect stylistic elements of singing more readily. Additionally, gospel music was used as a genre in this study, and preferences in the gospel style may be due to bias in the population given that they were participants in a religious organization. Finally, participants were from a wide range of ages (20 – 81, $M = 55.47$), which may have impacted results for this study.

Future Research

Because this study was conducted with non-clinical participants, future research in this area should include work with actual music therapy patients. These patients should be more homogenous in nature (e.g. age, diagnosis, etc.) to increase validity of the principle of stylistic singing. Additionally, future research could examine perceptions of individuals with and without musical training to see if stylistic singing is more important for those who have a greater understanding of musical elements. Applications to certain interventions (e.g. patient preferred live music or the Iso principle) or varying populations (e.g. medical or geriatrics) would also be helpful to include. Aside from therapeutic factors, the effect of accurate vocal style on physiological factors like pain could also be measured in future studies. Additionally, a few studies have found that the male voice yielded different therapeutic results (LeBlanc & Sherrill, 1986; Silverman & Schwartzberg, 2014), so future research could compare differences between vocal style in the male and female voices.

Conclusion

The purpose of this study was to investigate if singing with accurate vocal style in a mock music therapy session affected perceived therapeutic outcomes. Additionally, this study sought to examine differences in vocal style differences among varied genres. Results indicated that vocal style conditions significantly impacted all therapeutic outcome measures across three out

of four genres examined. Data within the current study suggest that music therapists should consider utilizing vocal style within music therapy interactions to increase therapeutic outcome measures like perceived empathy, competency, rapport, therapeutic value, and engagement. While based on outside viewer perceptions, these findings suggest that additional training may be helpful in music therapy training. Next steps for research should examine these outcomes with actual patients receiving music therapy services.

APPENDIX A

DATA COLLECTION TOOL

Age: _____ Gender (circle one): M F Other

Years Participating in Music Activities (Choir, instrument lessons, etc.): _____

Have you ever worked with a music therapist? Yes No

Video #1:

	Very poor				Excellent
Empathy of music therapist	1	2	3	4	5
Competency of the music therapist	1	2	3	4	5
Rapport between patient and therapist	1	2	3	4	5
Therapeutic value of the interaction	1	2	3	4	5
Patient engagement	1	2	3	4	5

Video #2:

	Very poor				Excellent
Empathy of music therapist	1	2	3	4	5
Competency of the music therapist	1	2	3	4	5
Rapport between patient and therapist	1	2	3	4	5
Therapeutic value of the interaction	1	2	3	4	5
Patient engagement	1	2	3	4	5

Video #3:

	Very poor				Excellent
Empathy of music therapist	1	2	3	4	5
Competency of the music therapist	1	2	3	4	5
Rapport between patient and therapist	1	2	3	4	5
Therapeutic value of the interaction	1	2	3	4	5
Patient engagement	1	2	3	4	5

Video #4:

	Very poor				Excellent
Empathy of music therapist	1	2	3	4	5
Competency of the music therapist	1	2	3	4	5
Rapport between patient and therapist	1	2	3	4	5
Therapeutic value of the interaction	1	2	3	4	5
Patient engagement	1	2	3	4	5

Thank you for your participation!

APPENDIX B

IRB APPROVAL LETTER

Florida State UNIVERSITY

Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 01/16/2018

To: Sally Jones [redacted]

Address: [redacted]

Dept.: MUSIC SCHOOL

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
The effect of vocal style on perceived empathy, rapport, patient engagement, and competency of music therapists.

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 two members of the Human Subjects Committee. Your project is determined to be Expedited 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 01/11/2019 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 chairman 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 IRB00000446.

Cc: Lori Gooding [redacted]
HSC No. 2017.22781

APPENDIX C

LETTER OF COOPERATION

FIRST BAPTIST CHURCH
OF TALLAHASSEE

December 6, 2017

To Whom It May Concern:

Please be advised that Sally Ann Jones has my permission to use the members of our Sanctuary Choir and/or our Senior Adult Choir as subjects for her thesis. There are approximately 60 members in the Sanctuary Choir and approximately 40 members of our Senior Adult Choir. We look forward to working with Sally Ann!

Sincerely,

[redacted]

Penny Folsom

Minister of Music

First Baptist Church

[redacted]

108 west college avenue
tallahassee, florida 32301
P: 850.222.5470
F: 850.681.0488
FBC TLH .ORG

APPENDIX D

PARTICIPANT CONSENT FORM

FSU Behavioral Consent Form

The Effect of Vocal Style on Perceived Empathy, Rapport, Patient Engagement, and Competency of Music Therapists

You are invited to be in a research study entitled "The Effect of Vocal Style on Perceived Empathy, Rapport, Patient Engagement, and Competency of Music Therapists." You were selected as a possible participant because you are a part of the music ministry at First Baptist Church. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Sally Ann Jones, a graduate student in the College of Music, Florida State University.

Background Information:

The purpose of this study is to determine if singing with accurate vocal style in a music therapy session affects the perceived empathy and competency of the music therapist, rapport between patient and therapist, therapeutic value of interactions, and patient engagement.

Procedures:

If you agree to be in this study, we would ask you to watch a series of four videos and answer five rating questions on each video. This process should take about 10 minutes.

Risks and benefits of being in the Study:

The study has no known risks. There are no individual benefits to participating in this study, but the information collected may help improve music therapists' understanding of what constitutes effective therapeutic interactions. In addition, researchers will gain a greater understanding of the importance of singing with vocal style in music therapy practice.

Confidentiality:

The records of this study will be kept private and confidential to the extent permitted by law. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University or First Baptist Church of Tallahassee. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Sally Ann Jones. You may ask any question you have now. If you have a question later, you are encouraged to contact her at [redacted] faculty advisor for this study is Dr. Lori Gooding, College of Music, [redacted].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the FSU IRB at 2010 Levy Street, Research Building B, Suite 276, Tallahassee, FL 32306-2742, or 850-644-8633, or by email at humansubjects@fsu.edu

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

_____ _____

Signature Date

_____ _____

Signature of Investigator Date

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BIOGRAPHICAL SKETCH

Name: Sally Ann Jones

Birth: November 20, 1993
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Education: Florida State University
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Master of Music in Music Therapy
Degree Awarded: May 2018

Belmont University
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